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INFLUENCE OF EXTREME SPORTS ON THE LEVEL OF DEVELOPMENT OF COORDINATION ABILITIES

The aim of work was to identify the development level of coordination abilities of sportsmen that are involved in extreme sports. Analysis of recent publications indicates that more than 50% of students in school have weakened health, the level of physical preparation among students is getting lower, and more than a half of the drafted into the army can't fulfill the necessary standards, thereby increasing rates of alcohol and drug use among young people point to a sharp increase in youth crime [2; 4; 6; 7]. This condition is caused by the fact that in our country the health potential of physical culture, especially in the sphere of positive moral and volitional qualities of young people during the years of reforms was clearly underestimated by both the authorities and the community. The study was attended by 25 extreme sportsmen (rollers, parkourers, BMX, scooterers, skateboarders) aged 15-22 years with experience training ranged from 3 to 4 years. The lowest number of mistakes in determining 10 lines of different lengths made skateboarders that showed the high level of reproducing of linear space. Assessing the development level of static balance (Yarotskyi method) it was found that parkourers have higher indices in comparison with the sportsmen of other kinds of extreme sports. The highest level of dynamic balance (Bess method) was identified in the group of skateboarders that gave them an opportunity to perform a variety of acrobatic tricks on skateboards. The best capacity for rational expression and restructure of actions in specific environments and the development of motor memory showed skateboarders and freestyle athletes, respectively. The study revealed that extreme sports contribute to the development of high coordination skills. The most effective in influencing on the development level of these characteristics of coordination skills were parkour, skateboarding and BMX.

Keywords: sportsmen, coordination abilities, extreme sports.

Ковальчук Лідія Валеріївна, Ткачівська Інна Михайлівна, Лісовський Богдан Петрович. Вплив екстремальних видів спорту на рівень розвитку координаційних здібностей.

Завдання роботи становило у виявленні рівень розвитку координаційних здібностей спортсменів, що займаються екстремальними видами спорту. У дослідженні прийняло участь 25 спортсменів-екстремалів (роллери, паркурушки, BMX, скутеристи, скетбордери) віком від 15-22 років зі стажем тренування від 3 до 4 років. Встановлено, що найменшу кількість помилок при визначенні розміру 10 ліній різної довжини допустили скейтбордисти, свідченням чого, є високий рівень відтворення лінійного простору. Оцінюючи рівень розвитку статичної рівноваги (методика Яроцького) спортсмени паркурушки мають вищі показники у порівнянні із спортсменами інших видів екстремального спорту. Найвищий рівень динамічної рівноваги (методика Бесса) був виявлений у спортсменів-скейтбордистів, що дає їм можливість виконувати найрізноманітніші акробатичні трюки на скейт дошці. Найкращу здібність до раціонального прояву і перебудови дій у конкретних умовах та найбільшу кількість часу на три перекиди вперед спостерігалось у скейтбордистів та спортсменів фрістайлу, відповідно. Проведене дослідження дозволило встановити, що екстремальні види спорту сприяють високому розвитку координаційних здібностей. При цьому найбільш ефективними щодо впливу на рівень розвитку зазначених характеристик координаційних здібностей виявилися паркуру, скейтборду та BMX.

Ключові слова: спортсмени, координаційні здібності, екстремальні види спорту.

PROBLEM DEFINITION AND ITS CONNECTION WITH THE IMPORTANT SCIENTIFIC TASKS, ANALYSIS OF RESULTS OF RECENT STUDIES.

Under the physical abilities are understood socially conditioned totalities of biological and psychical qualities of a person that show his physical readiness to fulfill active motor activity.

Physical abilities differ from other abilities by that fact that they can be revealed only during the solution of motor tasks through motor actions. Motor actions that are used for the solution of motor tasks can be performed by each individual in a different way. Some of them show high rate of the fulfillment of movements, other people show higher accuracy of their kinematic characteristics.

Coordinating abilities – are one of the essential features of motor training of people. Appropriate level of its development is the guarantee of success in different kinds of sport especially in those where the final result is conditioned by the technical preparedness. In our opinion extreme sports (BMX, skateboarding, parkour, etc) belong to these kinds of motor activity.

Most kinds of extreme sports are practiced in natural environment and they are connected with reaching heights and depth, this is the struggle with the elements (fire, wind, water, etc). In this struggle a person contests with himself, checks his psychophysical qualities, makes a step into something unexplored. For extreme sports it is very important to orient in space quickly, differentiate muscular senses and regulate the level of muscular tension, react to signals of outdoor environment, vestibular resistance. Sportsmen should have sense of rhythm, ability to relax muscles arbitrarily, ability to cooperate in a changing environment quickly and expediently, the ability to maintain static and dynamic balance.

Analysis of recent publications indicates that more than 50% of students in school have weakened health, the level of physical preparation among students is getting lower, and more than a half of the drafted into the army can't fulfill the necessary standards, thereby increasing rates of alcohol and drug use among young people point to a sharp increase in youth crime [2; 4; 6; 7]. This condition is

caused by the fact that in our country the health potential of physical culture, especially in the sphere of positive moral and volitional qualities of young people during the years of reforms was clearly underestimated by both the authorities and the community. Researches [3; 5; 10] indicate that due to the development of information revolution, the reduction in physical activity and a significant increase in neuropsychic overload, today's youth become more interested in extreme sports.

Material and methods. The aim of the study – is to identify the level of coordination abilities of extreme sportsmen.

To achieve this aim we used the following methods: theoretical analysis and synthesis of scientific and methodological sources; testing of coordination skills, shuttle run with moving cubes in a spiral; running with changes in way of moving; "stall bars"; rating sense of time; ability to control the orientation in space; stability control equilibrium (static and dynamic); mathematical and statistical analysis of quantitative data.

In the study were involved 25 extreme sportsmen (5 – rollers, 5 – parkourers, 5 – BMX, 5 – scooterers, 5 – skateboarders) aged 15-22 years from Ivano-Frankivsk. Experience training ranged from 3 to 4 years. Members previously were not engaged in other sports. Control of ability to evaluation and regulation capacity for space-time and dynamic parameters of movements were determined by tests: shuttle run with moving cubes in a spiral, running with changes in the way moving, "stall bars" rating sense of time. Test "stall bars" – requires the development of high-speed, time and amplitude characteristics of movements of the whole body, and its kinematic chains.

Results and discussion. It was identified that the average result of overcoming the extreme distance on the ladder is $787,64 \pm 182,33$ cm (tab. 1). Also it was determined that the high level of time and amplitude of movements have 20% of sportsmen, average – 52% and low – 28%.

In the test "assessment of sense of time" the result was determined by 5s and 30s. The average value for 5s is $0,42 \pm 0,91$ s; for 30 seconds – $1,93 \pm 4,17$ s. Moreover, 48% of respondents have no sense of time, 36% – have a typical sense and 20% – excessive sense for 5 s. In 30s test the results were as follows: 20% – no sense of time, 52% – typical and 28% of extreme sportsmen have excessive sense of time. In the basis of the ability control to the orientation in space should be motor tasks that require rapid assessment of the situation and response to it with rational actions. We used such tests as: walking on a straight line with your eyes closed and reproduction of linear space.

During the walking with closed eyes at a distance of 15 m average result of deviation from a straight line of sportsmen was $0,53 \pm 0,43$ cm (tab. 1). During the performance of test 58.3% of extreme sportsmen turned to the right side, 41.7% – to the left, no one could do this test without problems.

Table 1 1

Testing results of different types of coordination of extreme sportsmen (n=25)

№	Title of test	Average index	Deviations
1	Shuttle run with moving cubes in a spiral, s	28,59	1,47
2	Running with changes in the way of moving, s	11,48	0,69
3	Stall bars, sm	787,6	182,3
4	Assessment of sense of time in 5 s	0,42	0,91
5	Assessment of sense of time in 30 s	1,93	4,17
6	Walking in a straight line with closed eyes, sm	0,53	0,43
7	Reproduction of linear space, amount of errors	3,24	1,61
8	Static balance by Yarotskyi method, s	58,96	41,6
9	Dynamic balance by Bess method, amount of errors	2,56	2,27
10	Three forward rolls, s	3,25	0,74

In determining of 10 lines of different lengths (from 3 to 12 mm), limited by vertical dashes extreme sportsmen on average made $3,24 \pm 1,61$ errors (tab. 2), thus 87% of the answers were correct. Analyzing the individual indices of youths we can see that no one performed tests without errors, the lowest amount of mistakes in the research – 1 made 4 extreme sportsmen, the biggest amount – 6 errors made two participants.

Static and dynamic balance was determined using Yarotskyi test and Bess test. Assessing the level of development of static balance by Yarotskyi method (tab. 2) it was found that the average time of continuous rotation of the head with closed eyes was $58,96 \pm 41,6$ s. It should be noted that a small number of sportsmen have satisfactory marks. The greatest number of marks "excellent" received 72% of young people.

It is also important to note the high level of dynamic balance of extreme sportsmen by Bess method. The task of the participants is to go 10 circles jumping (1 to 10), and in each circle he should fix his position during 5 seconds. On average, young men made $2,56 \pm 2,27$ errors (tab. 2), that is 91% of the exercise was correct. Analyzing individual indicators, we can see that 4 sportsmen performed the test with no mistakes, the lowest amount of mistakes in the research – 1, made 6 participants, the biggest – 8 mistakes, one participant of the research.

The basis for coordinated control is the determining the capacity for rational expression and restructuring actions in specific contexts of motor task performance, such results can be obtained with the help of the test "three forward rolls." Thus, high levels of coordinated movements were seen in 68% of extreme sportsmen, 28% - average level and 4% – low. Average amount of time

of three forward rolls was $3,25 \pm 0,74$.

In addition to determining the general level of coordination the comparative analysis of development level of different types of coordination in these subgroups was determined.

At the end of the research we found that in the test "shuttle run with moving cubes in a spiral" best average indices showed BMX sportsmen $27,9 \pm 0,29$, worst – $29,2 \pm 1,08$ – parkourers.

Average index of running with changes in the way of moving was as follows: the best – $10,77 \pm 0,22$ – skateboarders and the worst – $12,24 \pm 0,18$ – BMX riders (tab.2).

The best speed, time and amplitude movements of the whole body, and its kinematic chains in the test "stall bars", have the skateboarders, the second place have parkourers and the last – rollers with the result $523 \pm 14,5$ sm (tab.2). Correlation between the points that were determined by a specific formula is as follows: 40% of parkourers and skateboarders have an excellent level, good – 60% – parkour, BMX, scooter and skateboard and unsatisfactory level have only freestyle rollers – 20%.

In assessing the sense of time, such as reproducing the length of running in 5s BMX riders showed the best level, close to success were also skateboarders and parkourers.

In assessing the sense of time, such as reproducing the length of running in 30 good results showed BMX riders and rollers. Also, using this test we can determine such indices as low sense of time, typical deviations and excessive deviation of time. As a result of calculations we found that 60% of skaters and parkourers have low sense of time in test for 5 s, 60% of scooters and BMX have a typical sense in reproducing of running for 5 seconds and excessive sense – 40% of freestylers. The test for correct reproducing of running for 30 seconds results were located in such way: low sense – 40% – freestyle and BMX, typical sense – 80% – scooters, excessive showed parkourers and skateboarders – 60%, respectively.

During the walking with closed eyes at a distance of 15 m the average result of deviation from the straight line was $0,24 \pm 0,07$ sm – freestyle, $0,89 \pm 0,3$ sm – parkour, $0,37 \pm 0,11$ sm – BMX, $0,58 \pm 0,11$ sm – scooters, $0,59 \pm 0,20$ – skateboarders (tab.2).

So the best result in orientation in space showed rollers and BMX riders – it says about the high abilities to assess the situation quickly and respond to it by the appropriate actions.

The lowest number of mistakes in determining the 10 lines of different lengths (from 3 to 12 mm) made skateboarders $1,8 \pm 0,37$, that shows the high level of reproducing of linear space, the worst result $5,2 \pm 0,37$ mistakes made scooterers (tab.2).

Assessing the development level of static balance by Yarotskyi method (tab.2) it was found that parkourers have higher indices in comparison with the sportsmen of other kinds of extreme sports. It should be noted that a small number of sportsmen have satisfactory marks. The greatest number of marks "excellent" got BMX – 100%, parkourers and skateboarders 80% respectively. As for the dynamic balance by Bess method, the lowest number of errors made skateboarders $0,8 \pm 0,37$ errors (tab. 2). This gives them an opportunity to perform a variety of acrobatic tricks on skateboard. The greatest number of mistakes made rollers (freestyle). This is explained by that fact that rollers of this type perform a variety of technical and tactical elements on a flat horizontal platform, unlike other extreme sports.

The best capacity for rational expression and restructure of actions in specific environments and the development of motor memory showed again skateboarders with the result $2,61 \pm 0,15$ s. This enables them to perform technical elements such as "Ollie", "Nollie" and others.

Table 2

Development level indices of coordination abilities of extreme sportsmen of different kinds of sports (n = 25)

№	Test	Kinds of extreme sports				
		Freestyle	Parkour	BMX	Scooter	Skateboard
1	Shuttle run with moving of cubes, s	28,13±0,24	29,2±1,08	27,9±0,29	28,7±0,19	28,9±0,99
2	Running with the changes in the way of moving, s	11,15±0,17	11,1±0,07	12,24±0,18	12,17±0,10	10,77±0,22
3	"Stall bars", sm	523±14,5	947±47,2	818±36,5	696±22,1	954±50
4	Assessment of sense of time, 5s	0,76±0,68	0,39±0,38	-0,10±0,15	0,67±0,34	0,39±0,38
5	Assessment of sense of time, 30s	1,3±1,3	5,34±1,5	-0,012±0,71	-1,55±2,44	4,58±1,21
6	Walking in a straight line with closed eyes, sm	0,24±0,07	0,89±0,3	0,37±0,11	0,58±0,11	0,59±0,20
7	Reproducing of linear space, amount of mistakes	3,6±0,4	3,2±0,86	2,4±0,50	5,2±0,37	1,8±0,37
8	Yarotskyi method	36,6±2,8	85,2±25,4	65±14,1	29±4,5	79±23,9
9	Bess method, amount of mistakes	6±0,7	1,2±0,3	1±0,31	3,8±0,37	0,8±0,37
10	Three forward rolls, s	4,31±0,2	2,95±0,06	2,97±0,08	3,46±0,45	2,61±0,15
11	Staying power of arms, kg	140±6,4	124±9,13	142±3,39	112±4,6	150±11,5
12	Staying power of legs, kg	159±6,4	124±9,13	142±3,39	112±4,6	150±11,5

The greatest amount of time on three forward rolls has spent freestylers $4,31 \pm 0,2s$. (tab 2.). Also in this test, we have identified three levels of coordination of movements. High levels showed parkourers, BMX riders and skateboarders –100%, average level – freestylers and scooterers and only one roller showed low level.

CONCLUSION

Thus, our study revealed that extreme sports (parkour, BMX, freestyle, skateboarding, scootering) contribute to the development of high coordination abilities (orientation in space, evaluation and regulation of space, time and dynamic characteristics of movements, saving of static and dynamic balance). The most effective in influencing on the level of these characteristics of coordination skills were parkour, skateboarding and BMX.

PROSPECTS OF FURTHER RESEARCHES. To conduct a comparative analysis of the development of coordination skills between athletes of different extreme sports.

ЛІТЕРАТУРА

1. Боген М.М. Навчання рухових дій / М. М. Боген. – К.: Фізична культура і спорт, 2005. – 234 с.
2. Бондарь А.А. Методика совершенствования координационных способностей баскетболистов средствами компьютерных технологий: автореф. дис. на соискание научн. степени канд. пед. наук. – Москва, 2011. – 26 с.
3. Загорко І. П. Фізична підготовка (інструктивно-методичні матеріали до практичних занять) / Загорко І.П., Шаповалов Б. Б., Журавель О. В. – К.: РВВ КЮІ МВС, 2005. – 20с.
4. Карпова, О. П. Экстремальные виды спорта как модель адаптации в условиях психоэмоционального стресса / О.П. Карпова // [http:// www.psychiatry.ua/articles/ paper033.htm](http://www.psychiatry.ua/articles/paper033.htm)
5. Лебедев, В.И. Экстремальная психология / В.И. Лебедев. – М.: Юнити, 2001. – 431с.
6. Психомоторика: контроль та оцінка розвитку: [Навчальний посібник] / Л.П. Сергієнко, Н.Г. Чекмарьова, В.А. Хаджинов. – Харків: ОВС, 2012. – 270 с.
7. Романенко В. А. Диагностика двигательных способностей : [Учебное пособие] / В. А. Романенко. – Донецк : ДонНУ, 2005. – 290 с.
8. Сергієнко Л. П. Тестування рухових здібностей школярів / Л.П. Сергієнко. – Київ : Олімпійська література, 2002. – 438 с.
9. Davis P. O. Officer Fitness and Readiness / P. O. Davis // The Law Enforcement Trainer. – Volume 17, number 4. – P. 33–37.
10. Tsatsoline P. Strength Training and Testing on the Force: a SWAT Instructor's Notes / P. Tsatsoline // The Law Enforcement Trainer. – Volume 17, number 4. – P. 1.

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АЙСЕДОРА ДУНКАН – ЖИТТЯ ТА ХОРЕОГРАФІЧНА ДІЯЛЬНІСТЬ

У статті проаналізовано життєвий шлях та творча діяльність відомої танцівниці Айседори Дункан, яка була однією з засновниць сучасного танцю. Вона намагалась реалізувати в танцювальних рухах свої внутрішні емоції, думки, переживання, відкидаючи ті обмеження, які існували у класичних танцях, всі танці виконувалися нею у легкій, прозорій туніці та босоніж. Після Жовтневої Революції у Росії А.Дункан у 1921 року відкрила у Москві школу сучасних танців для дітей пролетаріату. Оригінальна хореографічна система А.Дункан, як вважають фахівці спорту, була покладена в основу художньої гімнастики, синхронного плавання, фігурного катання на ковзанах, а також широко використовується в заняттях ритмічною гімнастикою та хореотерапією.

Ключові слова: Айседора Дункан, хореографія, сучасний танець, діти, молодь, музика.

А.Э.Вильчовская. Айседора Дункан – жизнь и хореографическая деятельность

В статье проанализированы жизненный путь и творческая деятельность известной танцовщицы Айседоры Дункан, которая была одной из основательниц современного танца. Она реализовывала в танцевальных движениях свои внутренние переживания, эмоции и мысли, отбрасывая ограничения, которые существовали в классических танцах, эти танцы выполнялись в легкой, прозрачной тунике и босиком.

Благодаря своим индивидуальным психо-физическим качествам А.Дункан достигла высокого мастерства в передаче зрителям своих мыслей, чувств, настроения, внутренних переживаний. Она не использовала условных жестов и поз классического балета и выполняла в танцах реальные движения.

После Октябрьской Революции в России А.Дункан в 1921 году открыла в Москве школу современного танца для детей из пролетарских семей. В том же году она вышла замуж за известного поэта Сергея Есенина, совместная жизнь с ним длилась всего два года. В 1927 году А.Дункан трагически погибла в Ницце – Франция.

Оригинальная хореографическая система А. Дункан, как считают специалисты спорта, была положена в основу художественной гимнастики, синхронного плавания, фигурного катания на коньках, а также широко используется в занятиях ритмической гимнастики и хореотерапии.

Ключевые слова: Айседора Дункан, хореография, современный танец, дети, молодежь, музыка.

A. Vilchovska. Isadora Duncan Isadora Duncan – life and choreographic actives.

The article analyzes the life and activities of creative famous dancer Isadora Duncan which was by one the founders of