



## **AGE-SPECIFIC DYNAMICS OF ATTACK AND DEFENSE RESPONSE SPEED IN HANDBALL PLAYERS**

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### **Annotation**

Objective of the study was to identify the age-specific dynamics of the response rates in the 10-15 year-old handballball players

**Keywords:** response rate, age peculiarities, junior football players, simple visual-motor response, complex visualmotor response.

### **Introduction**

Team sports, among which is handball, impose high requirements for athletes' individual psychophysiological characteristics. It can be argued that a response rate, as an aspect of the functional state of the nervous system, is the psychophysiological basis of motor activity in handball, and the role of fast-decision making in unexpected extreme situations is growing in importance with age. In experimental psychology, there are empiric materials relating to sensorimotor response in humans. The patterns that express the dependence of the response rate on individual typological qualities, as well as the characteristics of human mental health, were identified earlier. At the same time, the one-time screening of the psychophysiological characteristics of highly-skilled athletes provided a series of case studies, while the data obtained in the children and adolescents were provided without the interpretation of the findings in view of the level of age-related development or sports specialization. The psychophysiological characteristics of the athletes in ontogenesis were virtually unexplored. Experts in sport psychology consider adolescence to be a sensitive period for the development of a number of mental qualities. Thus, 10-15 years is one of the most important age periods in a teenager's life. It is in this period that objective prerequisites for performing complex, previously unavailable motor





tasks are created. In the first half of this period, sensorimotor qualities are developed, in the second half - cognitive ones [5].

Special physical training is a process aimed at developing physical qualities, while mastering technical techniques faster. During the game, his tool is to develop the most important qualities of movement: the ability to move quickly, the ability to quickly get out of motion, the ability to stop quickly after moving: jumping, agility in the game, strength in individual muscle groups develops. For this purpose, special training exercises are used. The first part of the exercise should include exercises to develop speed, agility and jumping. The second part is recommended to give exercises to develop strength and other physical qualities. (In addition to learning the style of play).

All of these types of physical activity are inextricably linked. Inadequate assessment of any type of physical training during training can hinder the development of an athlete's skills. Therefore, it is important to follow the optimal ratio of physical fitness to exercise. Its numerical expression is not a constant measure, but varies depending on the qualifications of the athletes, their individual characteristics, the period of the training process and the current state of the organism. In modern sports training practice, strength training is one of the most important physical qualities of an athlete. Because strength determines a player's speed on the field to a certain extent, the height of the jump. Depending on the nature of the force, we can divide it into absolute force, relative force, "explosive" and "start".

The lack of age-specific qualifying standards for sporting children and adolescents makes it difficult to characterize various aspects of the psychophysiological determination of junior athletes' activities for practical purposes. Thus, it seemed relevant to examine the response rate in its long-term dynamics as an aspect that ensures successful sports activities. To conduct a thorough study of the age-specific dynamics of the response rate and accurately describe the age-specific changes, a longitudinal method is recommended to be used. A longitudinal study is a long-term study of the identified factors in one population, which makes it possible to identify the age-related dynamics and forecast further development.

Objective of the study was to identify the agespecific dynamics of the response rates in the 10-15 year-old football players. Methods and structure of the study. Sampled for the study was a group of male athletes born in 2004 - trainees of the Sports School of Olympic Reserve "VIZ", Yekaterinburg, with 3-5 years of training experience.

Results and discussion. It was found that the simple visual-motor response time in the junior handball players was significantly reduced with age (Table 1). This was particularly evident between 10 and 12 years and 14 and 15 years. On the one hand,





the identified drivers for change are natural age-related psychomotor function improvement processes and, on the other hand - the effects of regular training. The decrease in the standard deviation of the response rate with age also indicates an improvement in the response stability. In addition, with each age period, the response rate decreased from  $5.56 \pm 0.4$  errors in the first test (10-11 years) to  $2.67 \pm 0.29$  errors in the final test (14-15 years). The complex visual-motor response test includes a motor component similar to that in simple visual-motor response, signal detection and decision-making in response to the signal. These parameters can be used to assess the development of the decision-making speed.

To improve your speed, you use cycling exercises that are performed at different maximum speeds, such as running, accelerating, cycling and so on. It is necessary to increase the amplitude of the movement gradually, evenly, so as to maximize the re-acceleration. Here are some more exercises to help you develop speed:

- Perform rapid running on the side, backwards;
- Running with the knees raised and the steps at maximum speed;
- 25-80 m at the tip of the foot, fast jumping;
- Jumping with a short and long rope that rotates at maximum speed: running under or over a spinning rope;
- Sudden change of speed when running medium distances;
- Throwing balls, grenades, tennis balls at a certain time;
- It is important to develop students' sense of time in order to improve their speed response. To this end, trainees are regularly offered three different tasks in a row;
- After completing the speed exercise, the coach announces to the trainees the time spent on the task;
- The time is not announced to the trainee; he must determine the time;
- The trainee should perform the exercise at the given time.

The most important exercises for generating a speed response are movement and sports games.

Exercises to develop speed are given regularly at the beginning of each session.

Endurance training is the body's ability to withstand fatigue that occurs during muscle activity. It is determined by the state of the central nervous system, functional readiness, physical qualities, endurance to motor skills, as well as psychological stability. The level of endurance is assessed by the effectiveness of active actions.

The development of endurance in sports differs between specific and general endurance: General endurance refers to an athlete's ability to perform a task over a long period of time. It is nurtured by a long, straight run, as well as by a series of straight, moving sports nets. (skiing, swimming, cycling, etc.)



Long-term performance of special endurance game techniques should be achieved by holding training games in enhanced areas, extending play time, and reducing rest time between assignments and other exercises. Coordinated endurance develops between two or more players with a complex system of interconnected exercise that leads to fatigue. When working with children, taking into account their capabilities, it is advisable to choose exercises and adhere to the norms of loading, extensive use of pedagogical supervision. The peculiarity of endurance training loads is that the exercises that affect the body of athletes are the same as during the competition, that is, more, and these exercises should be used systematically. Agility training is the complex ability of agility to coordinate the actions of an athlete and to demonstrate their accuracy with a high level of strength and speed. In terms of coordination, good mastery of complex movements is characterized by the ability to correctly assess emerging situations, to adapt to sudden changing conditions, and to successfully solve complex movement tasks. The most important thing for an athlete is to develop coordinated movements without support, movements with the ball in rapidly changing conditions, the ability to maintain balance and maintain direction. The development of agility in unusual conditions (other shells, different placement of obstacles, difficult weather conditions, etc.). Doing regular exercises helps a lot. Acrobatics, gymnastics, and track and field exercises, as well as ball-handling, hooping, goal-scoring, and throw-in techniques, are also considered to be agility-enhancing techniques. The following guidelines should be followed when developing agility:

1. Introduce a new system of exercise.
2. Redesign the lesson according to the circumstances.
3. To control the first signs of overload on the body during movement.
4. Determine the norm of rest time between exercises, depending on the heart rate.

Sports psychologists and experienced coaches believe that without knowing the characteristics of the needs-motivational sphere of a young athlete, it is difficult to "bring" him to competitions, to form a stable, "effective" motivation for achieving success. A coach, armed with information about the personal motivation of his ward, acts as a subtle creator and a true creator of his sports result.

Speaking about motivation, it should be emphasized that it is one of the manifestations of an athlete's personality traits. Leading motivation, like character, is formed throughout a person's life, starting from early childhood. The nature of the motivation for achieving success (the need to be the first in everything, dissatisfaction with the loss, the need for recognition of personal achievements, the propensity for





active motor actions, the position of a leader in communicating with peers, etc.) in childhood is mainly determined by the characteristics of the child's psyche.

Modern sports activities aimed at achieving the highest results in various sports are characterized by a steady and significant increase in sports performance, a significant expenditure by participants in sports competitions not only physical, but also mental energy. According to a number of researchers dealing with this problem, even a very well physically and technically prepared athlete cannot win (for which he is potentially fully prepared) if he has insufficiently developed mental qualities and psychological personality traits necessary for this.

**Conclusions.** It was found that the response rates in junior and adolescent athletes are associated with the age-specific psychophysiological features and tend to improve. The results demonstrated by the successful 10-15-year-old handball players can be used as due reference values in monitoring of the effectiveness of the training process and selection of junior handball players. Age-specific psychophysiological features are essential to the individually-differentiated approach in handball training.

## References

1. Belenko I.S. Psychophysiological characteristics of junior team athletes of different age and fitness. Vestnik TSPU. 2009. no. 3 (81). P. 54-57.
2. Boyko E.I. Age-related changes in reaction time in children and adults. Border problems of psychology and physiology. Moscow: APS RSFSR publ., 1961. pp. 162-169.
3. Grushko A.I., Bochaver K.A. Diagnostics of the motor reaction time in various sport. Sportivny psikholog, 2016. No. 1 (40). pp. 82-87.
4. Guba V.P., Marynich V.V. Comparative analysis of psychophysiological indicators of young football and hockey players. Sportivny psikholog. 2014. No. 2 (33). pp. 68-74.
5. Alimovich F. U. AJMR //AJMR.
6. Farmonov U. TEACHING OF PHYSICS FOR STUDENTS OF NATURAL DIRECTION WITH INNOVATION TECHNOLOGIES //Физико-технологического образование. – 2020. – №. 1.
7. Farmonov U. A. BASIC CONCEPTS AND DEFINITIONS OF SPORTS TOURISM, ESPECIALLY ITS ORGANIZATION //Теория и практика современной науки. – 2019. – №. 5. – С. 21-24.7
8. Farmonov U. A. RESEARCH PARK. – 2021.





9. Farmonov U. A. BASIC CONCEPTS AND DEFINITIONS OF SPORTS TOURISM, ESPECIALLY ITS ORGANIZATION //Теория и практика современной науки. – 2019. – №. 5. – С. 21-24.
10. Alimovichn F. U. The system of training young basketball players at the initial stage of training at school //Asian Journal of Multidimensional Research (AJMR). – 2020. – Т. 9. – №. 11. – С. 93-98.
11. Abdullayev M. J., Berdiyev O. I., Omonova N. R. Methodology Of Organization Of" Physical Education And Sports" Lessons In Higher Educational Institutions //The American journal of social science and education innovations (TAJSSEI) SJIF-5.857 DOI-10.37547/TAJSSEI. – 2021. – Т. 3. – №. 02. – С. 312-320.
12. Junaydulloyevich A. M., Haydarqulovich Q. H. THE DEVELOPMENT OF EFFECTIVE WAYS TO IMPROVE REPRODUCTIVE HEALTH OF MARRIED STUDENT GIRLS //Web of Scientist: International Scientific Research Journal. – 2021. – Т. 2. – №. 04. – С. 249-258.
13. Nurullaev A. R. Methods of developing endurance in students through the use of folk games in physical education classes //ACADEMICIA: An International Multidisciplinary Research Journal. – 2020. – Т. 10. – №. 11. – С. 520-524.
14. Ruzimbaevich N. A., Ruzimbaev M. A. RESEARCH PARK. – 2021.
15. Нуруллаев А. Р. РЕАБИЛИТАЦИЯ СПОРТСМЕНА //Рекомендовано к изданию Советом по качеству УралГУФК Протокол № 8 от 14 мая 2018 г. – 2018. – С. 213.
16. Ruzimbaevich N. A., Ruzimbaev M. A. METHODOLOGICAL METHODS OF TEACHING CHILDREN FOR MOVEMENT ACTIVITIES IN THE PROCESS OF PHYSICAL EDUCATION CLASSES //Web of Scientist: International Scientific Research Journal. – 2021. – Т. 2. – №. 04. – С. 313-322.
17. Нуруллаев А. Р., Гафурова М. Ю., Мансуров Ш. Ш. Деление спортивных занятий на периоды //Педагогическое образование и наука. – 2019. – №. 6. – С. 153-155.
18. Нуруллаев А. Р. Основные формы и сущности экономической демократии //Молодежь XXI века: образование, наука, инновации. – 2017. – С. 227-228
19. A.K. Ibragimov, F.I. Mo'minov. Methodology of optimization of training for young players // International Journal for Innovative Engineering and Management Research Vol 10 Issue 02, Feb 2021 ISSN 2456 – 5083 Page 43-48.
20. Rasulovich R. R. EFFECTIVENESS OF IMPROVING THE TECHNICAL AND TACTICAL MOVEMENTS OF MIDDLE-DISTANCE RUNNERS //E-Conference Globe. – 2021. – С. 309-314.





21. Рахмонов Р. ЎРТА МАСОФАЛАРГА ЮГУРИШДА МУСОБАҚАОЛДИ ТАЙЁРГАРЛИГИНИНГ ТУЗИЛИШИ ВА АСОСИЙ ЖИХАТЛАРИ //ЦЕНТР НАУЧНЫХ ПУБЛИКАЦИЙ (buxdu. uz). – 2020. – Т. 1. – №. 1.
22. Салимов, Г. М., Дустов, Б. А., Фарманов, У. А., & Рахмонов, Р. Р. (2020). Показатели констатирующего этапа экспериментальной работы по физическому развитию учеников 7-10 лет общеобразовательных организаций Узбекистана. Педагогическое образование и наука, (1), 91-97.
23. Рахмонов Р. Р. О „quvchi-yoshlarning jismoniy tayyorgarligini rivojlantirishda o„rta masofaga yugurish dinamikasini tahlil qilish ahamiyati. O`zbekiston Respublikasi xalq na`limi vazirligining ilmiy metodik jurnali. Toshkent. 2020 3-son may-iyun. 78-81-bet. 22.
24. Nematovich K. S. Abduyeva Sitorabonu Savriddin kizi, Fatullayeva Muazzam Azimovna, Kurbanov Shukhrat Kuldoshevich. Using of innovation terms in physical education and sport lessons and their social and educational features //Journal of Critical Reviews. doi. – Т. 10. – С. 470-471.
25. Abdueva S. S. Q. Determining the speed and strength of 14-15 year old handball players in jumping //ACADEMICIA: An International Multidisciplinary Research Journal. – 2020. – Т. 10. – №. 11. – С. 1212-1220.
26. Abdueva S. S., Khurbonov S., Sabirova N. Evolution of physical performance and techniques of handball girls aged 11-12 //International Journal of Advanced Research in Science, Engineering and Technology (IJARSET). – 2019.
27. Abdueva S. S. Activities that increase children's interest in the sport of handball //Innovatsionnoerazvitienauki I obrozovaniemejdunarodnayanauchno-prakticheskayakonferensiya. – 2020.
28. Abdueva S. S. The pedagogical significance of physical culture and sports in the upbringing of a harmoniously developed generation //Integration into the world and connection of sciences| Интеграция в мир и связь наук| Dünyaya inteqrasiya va elmların əlaqəsi ISBN. – С. 978-9952.
29. <https://wos.academiascience.org/index.php/wos/article/view/120>
30. Mansurov S. S. Structure of special and competitive training stages of judoists //ACADEMICIA: An International Multidisciplinary Research Journal. – 2020. – Т. 10. – №. 11. – С. 515-519.
31. Sh M. S., Ruzimbaev M. A. EDUCATIONAL UNION AND PUPIL DEVELOPMENT IN PHYSICAL EDUCATION //Web of Scientist: International Scientific Research Journal. – 2021. – Т. 2. – №. 04. – С. 212-220.





29. Gafurova M. Y. The importance of educational methods in the organization of physical education //ACADEMICIA: An International Multidisciplinary Research Journal. – 2020. – Т. 10. – №. 11. – С. 505-509.
32. Gafurova M. Y. U., Ruzimbaev M. A. METHODS OF TEACHING PUPIL PHYSICAL ACTIVITY IN PHYSICAL EDUCATION CLASSES //Web of Scientist: International Scientific Research Journal. – 2021. – Т. 2. – №. 04. – С. 296-305.
33. Ibragimov A. K. Catalog of training tasks for training special endurance of young girl handball players //ACADEMICIA: An International Multidisciplinary Research Journal. – 2020. – Т. 10. – №. 11. – С. 486-492.
34. Karomatovich I. A., Shokhrub U. Dynamics of jumping development of volleyballers in different ages //Middle European Scientific Bulletin. – 2021. – Т. 11.
35. Ibragimov A. K., Muxiddinovich L. A. INDIVIDUALIZATION OF PSYCHOLOGICAL TRAINING OF QUALIFIED HANDBALL PLAYERS //Web of Scientist: International Scientific Research Journal. – 2021. – Т. 2. – №. 04. – С. 234-241.
36. Ибрагимов А. К. Основа физкультурного образования школьников–знания по физической культуре //Рекомендовано к изданию Советом по качеству УралГУФК Протокол. – 2018. – №. 8. – С. 128.
37. Ibragimov S. E. RESEARCH PARK. – 2021.
38. Ibragimov A. K. DEVELOPING THE PROFESSIONAL COMPETENCE OF TEACHERS AS A PEDAGOGICAL PROBLEM //E-Conference Globe. – 2021. – С. 333-338.
39. Karomatovich I. A., Utkirjonovich E. F. CHARACTERISTICS OF TECHNICAL AND TACTICAL TRAINING METHODOLOGY OF BOXERS //Web of Scientist: International Scientific Research Journal. – 2021. – Т. 2. – №. 05. – С. 27-40.
40. Azimovna, Fatullaeva Muazzam. "RESEARCH PARK." (2021).
41. Azimovna F. M. THE QUALITY ASSESSMENT TECHNOLOGY AND DEVELOPMENT TECHNIQUES IN VOLLEYBALL PLAYERS //Web of Scientist: International Scientific Research Journal. – 2021. – Т. 2. – №. 04. – С. 242-248.
42. Azimovna F. M. Formation of spiritual and moral values of pupils in physical education lessons //Asian Journal of Multidimensional Research (AJMR). – 2020. – Т. 9. – №. 11. – С. 99-103.
43. Muazzam A. F., Farrux A. N. Motivation of students to do sports as part of physical education classes. Academicia. An international multidisciplinary Research Journal. Year: 2020, Volume: 10, Issue: 5. P: 1446-1450 //Online ISSN. – Т. 22497137.





44. Azimovna F. M., Ashrapovich N. F. Motivation of students to do sports as part of physical education classes //ACADEMICIA: An International Multidisciplinary Research Journal. – 2020. – Т. 10. – №. 5. – С. 1446-1450.
45. Fatullayeva M. A. The pedagogical significance of the stages and methods of teaching volleyball //International journal on economics, finance and sustainable development. issn (electronic). – С. 2620-6269.
40. Azimovna F. M. Jismoniy tarbiya va sport mashg 'ulotlari jarayonida aqliy tarbiya va uning ahamiyati. Integration into the world and connection of sciences. – 2020.
46. Ergashovich S. A., Nasullaevich F. A. Professional training of future teachers of physical education //ACADEMICIA: An International Multidisciplinary Research Journal. – 2020. – Т. 10. – №. 11. – С. 510-514.
47. Sattorov A. E. Possibilities of Professional Culture Future Physical Training Teachers //Eastern European Scientific Journal. – 2018. – №. 2.
48. Sattorov A. E., Saidov G. K. IMPROVING THE TRAINING ELEMENTS IN PRIMARY TRAINING GROUPS OF SPORTS SCHOOLS //Web of Scientist: International Scientific Research Journal. – 2021. – Т. 2. – №. 05. – С. 737-746.
49. Алламуродов Б. Н., Сатторов А. Э. об использовании компьютерных технологий при решении задач технического характера //Современные Web-технологии в цифровом образовании: значение, возможности, реализация. – 2019. – С. 172-175.
50. Сатторов А. Э., Махмадалиев Э. Ш. о роли информационно-технологических дисциплин в подготовке будущих специалистов //Поведенческие теории и практика российской науки. – 2021. – С. 87-88.
51. Muxitdinova Nigora Mexriddinovna Covering physical education issues in the first step Curriculum International Engineering Journal for Research & Development 2022.05.01 с 1-7
52. N.M. Muxitdinova Physical educational activities with children educational methods and organizations used in organization general description of them Middle European scientific bulletin 498 с 2021 12 май
53. Jalolovich S. J. Physical training and sports are the main tool in the formation of a healthy lifestyle //Web of Scientist: International Scientific Research Journal. – 2021. – Т. 2. – №. 04. – С. 267-272.
54. Jalolovich S. J. Aspects of the formation of a healthy lifestyle among students by means of physical culture //Asian Journal of Multidimensional Research (AJMR). – 2020. – Т. 9. – №. 11. – С. 108-111.





55.Шохимов Ж. Ж. Дистанционное образование-новый этап обучения //Проблемы педагогики. – 2021. – №. 3 (54). – С. 13-14.

56.Jonibek S. SWOT ANALYSIS IN THE STRUCTURE OF INFORMATION TECHNOLOGIES OF PHYSICAL EDUCATION //Web of Scientist: International Scientific Research Journal. – 2021. – Т. 2. – №. 05. – С. 131-139.

