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AGE IN BOXERS SPEED-STRENGTH ADJECTIVES AND OPTIMAL METHODS FOR PARALLEL DEVELOPMENT OF ENDURANCE .

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Abstract: This article explores the optimal methods for the parallel (concurrent) development of speed-power qualities and endurance in the physical training process of young boxers. The high dynamics of combat in modern boxing require athletes to possess both high speed and explosive power, as well as specific endurance to maintain this tempo throughout all rounds. The paper analyzes interval and circuit training methods, block periodization, and the volume of specific workloads that enable the balanced development of these two contrasting functional qualities within a single training system. The results of the study serve as methodological recommendations for enhancing the functional capacity of young boxers and designing training process efficiency.

Keywords: young boxers, speed-power qualities, special endurance, parallel development, interval training, workload volume, functional fitness, circuit method.

Login Modern amateur and professional boxing his/ her own extremely high dynamics, movements intensity and tactical of struggles sharpness with separated International in competitions successful participation to grow young from boxers not only perfect technical-tactical skill , maybe physical of adjectives each other harmonic and at an optimal level It also requires development . In boxing victory provider main functional the foundation is speed-strength adjectives (of blows) explosive strength , legs movement and reaction maximum speed) and special endurance (of the organism) high intensive the work rounds during without reducing continue bring to take However , modern sports training in the methodology this two leader quality one of time in itself , i.e. parallel development serious functional to the opposition (competitor) to effect) arrival scientific known from sources . Physiological point in terms of endurance to increase aimed at far term aerobic downloads in the muscles oxidation processes activate , slowly contractile (ST) muscle of fibers hypertrophy reason On the contrary , speed - strength exercises anaerobic-glycolytic and phosphagen to mechanisms relying on , fast contractile (FT) muscle of fibers work requires efficiency .

This two opposite physical quality one preparation in the phase wrong when planned , the loads each other denial to reduce or young athlete organism extreme to a state of exhaustion (overtraining) fall observed . Especially , 14-16 year olds boxers organism ontogenesis active hormonal and in the growth (somatic) stage that was because of the downloads imbalanced , heart-blood vein and musculoskeletal system damage not delivered without distribution pedagogical in terms of extreme responsible is considered . Today on the day young boxers in training speed-strength and endurance parallel development of qualities safe and effective microcycle models , download intensity and rest intervals scientific based biological proportions working exit necessity current problem become remains . This of the research purpose — youth boxers in the body the laws of adaptation in consideration received without , endurance indicators

without reducing , speed-strength opportunities maximum to the level take outgoing parallel training methods optimization and their pedagogical efficiency based on from giving consists of .

Learning level. In sports various in the direction physical parallel development of qualities and their organism functional to systems mutual impact problem sports biology and training methodology the most controversial from the topics one This is The first fundamental turn in the direction **R.C. Hickson (1980)** name with related is , it is power and aerobic endurance their training one at the time take to go in the body opposite adaptive adaptations to the surface to bring and individually power indicators growth efficiency noticeable at the level interference *effect* or competitor effect) experimental based on gave .

Later , modern molecular biology and Western sports methodology representatives (e.g. , **K. Baar , 2014; K. Hakkinen , 2016**) of this the process cell at the level explaining They gave . Their to research far away term endurance downloads in the muscles The enzyme **AMPK** (adenosine monophosphate-activated protein kinase) activates mitochondria biogenesis strengthens , but it is a muscle hypertrophy and explosive power for responsible was **mTOR** (receptor of rapamycin) in mammals target) signal path brakes . Nevertheless , boxing such as situational and in associative sports this two quality separated without (separately in blocks) of development possibility no , because boxer dynamic battle during both equal to the system relies on .

Eastern Europe and in sports schools of the CIS countries , in particular boxing in the methodology physical adjectives harmonic harmony issues **LP Matveyev , YV Verkhoshansky** and **VN Platonov** 's periodization conceptual in models studied . YV Verkhoshansky its own " block" in the " periodization " system downloads through concentration competitor the effect aside to pass offer did if , VN Platonov one training or microcycle within initially speed-strength (central nerve system tireless in case), then and glycolytic and aerobic endurance exercises of execution pedagogical sequence algorithms scientific in terms of working came out .

Uzbekistan boxing of the school world in the field leadership scientific and methodological in terms of in supply our republic of scientists services Professor **RD** Khalmukhamedov his/ her own many annual scientific and practical in their research boxers many annual preparation stages management , downloads size and intensity athletes age , gender and weight categories looking at modeling issues systematic accordingly research His scientific conclusions young boxers organism functional reserves in increasing endurance and power of the loads rational ratio right to mark service Also , our republic researchers by young boxers explosive and blow strength increase , balance and coordination adjectives improvement and special endurance control to do according to effective pedagogical systems offer done .

Home part . Age boxers many annual preparation in the system speed-strength adjectives and special endurance in parallel developmental sports pedagogy and sports biochemistry the most complicated from problems one is considered . This of the problem practical solution find and offer being done methodical approaches pedagogical efficiency justification for the purpose for six months special scientific and pedagogical experiment organization was and The research was conducted . object as Bukhara State University sports club and specialized children and in sports schools regular busy coming ten four and ten six young between total twenty four person young boxer attraction The participants all first and to the second sports category has to be , physically preparation indicators , functional cases and weight categories according to mutual similar was two to the group , that is ten two from a person consists of control and research to groups separated . Control in the group green leaves traditional based on the training program weekly downloads continue they did , in this speed-strength and endurance exercises one lesson within mixture or sequence to the laws strict compliance not done without was given . Research in the

group and from our side working released , cell level adaptation to the laws and hormonal changes to the period based optimized parallel training program into practice current was done .

Experiment during boxers physical qualities clear assessment for special test methods used . Foot muscles explosive power and reactive ability in determining from the place standing to the length jump and eight kilogram heavy filler head the ball two support forward maximum to the distance throw tests was used . Speed and speed-power opportunities measurement for thirty per meter high from the start running and ten seconds during boxing in the bag given maximum blows number record The boxer was the most important feature was special endurance quality assessment and three minute one round during combative at a pace given total clear blows number through done increased , general endurance level and thousand five face per meter cross country running time with measured . Obtained all initial results both in the group too statistic difference not to do of experience right organization that was done showed .

Research to the group implementation parallel training of the program central idea weekly microcycle within to each other opposite was functional signaling pathways collision to minimize It is known that aerobic endurance downloads enzymes at the level explosive power development brakes . This negative the effect aside to pass for weekly six daily plan separately loading to blocks Monday day , i.e. rest from the day then central nerve system complete restored in stages only alactate-anaerobic and plyometric exercises Done . Age boxers forty-fifty centimeter high altitude from obstacles jump , immediately high at a pace up aspiration , weight thirty-forty percent was barbell from the chest maximum at speed flick push such as explosive exercises they did it , rest in it intervals neuromuscular system complete restoration for two or three up to the minute extended . Tuesday day and boxing battle to the dynamics suitable accordingly high high-intensity interval training (HIIT) methodology current Boxers boxing in bags thirty seconds during maximum intensity with series blows giving , then thirty seconds during light foot movements with actively rested and this cycle every round three times repeatedly , total three round organization reached .

Microcycle in the middle , that is Wednesday day homeostasis restoration and in the muscles collected milk acid to break up low intensity for the purpose aerobic cross country running and slowly fast tactical school lessons organization was done , this and teenagers organism extreme fatigue to the state fall from remaining protection Thursday day speed-strength adjectives aggravated gloves and resistance indicator rubber shock absorbers using in special sports elements continue delivered if , Friday day free and conditional sparring matches through special endurance borders from the test was held . One training within both loading to be given necessary was in cases and , strictly pedagogical to the rule compliance done : first next , fatigue symptoms not been at the time speed and explosive power exercises passed , endurance exercises and only lesson main part of second half , that is finally postponed because tired in the muscles explosive actions formation ineffective and injury the risk increasing factor is considered .

Six monthly systematic experiment in the end taken final indicators Student's t- test using mathematical-statistical from analysis When transferred , we recommend of the optimal parallel methodology achieved traditional to the methodology than fundamentally effective that proven . Traditional in the program busy control physical fitness in the group adjectives grown up although , this shifts statistic in terms of reliable at the level In particular , control in the group from the place to the length jump indicator only two whole from ten one percent grown up if , research in the group this explosive quality five whole from ten nine percent enough and high reliability level also showed that per second maximum speed in the test research group boxers own blows number ten eight whole from ten three percent to increase successful they were , this and neuromuscular reaction noticeable at the level from growing up evidence gives .

The most main achievement boxing battle efficiency determinant special endurance in the index manifestation It was . Three minute total blows number research in the group average two

face forty two by two two face eighty to four enough , absolutely growth ten seven whole from ten five percentage organization did , although control in the group this indicator four whole from ten nine percent around limited One thousand five left . face per meter cross country running time for research in the group twenty five per second shortened , general functional of opportunities expanded confirmed . This positive of changes physiological basis from that consists of parallel loadings weekly in a microcycle rational modeling , that is speed exercises with intensive endurance lessons between twenty four and forty eight hourly biological breaks to be given organism to the cells download right acceptance without contradiction adaptation harvest to do opportunity created .

General aerobic of the foundation right growth speed-strength from downloads then muscles faster recovery provided and as a result one quality second of quality growth stop Especially , on four and ten six old teenagers organism ontogenetic in terms of high plasticity , active hormonal to develop and high to adaptability has that offer done pedagogical of the methodology practical impact strength further accelerated and young boxers readiness quality in terms of new to the stage take It came out .

Research during taken final results and their comparative analysis young boxers physical preparation in the system speed-strength adjectives and special parallel development of endurance methodology fundamentally again seeing exit the necessity shows . Sports biology and training in the methodology traditional in a way there is " competitor " effect " or of downloads mutual negative impact problem , this young in the group downloads composition right when modeled eliminate to be practical in terms of proven . Control in the group record low growth pace , especially the legs muscles explosive power and maximum speed indicators braking RC Hickson and K. Baar such as west Parallel training of scientists during cell signaling pathways collision regarding theoretical conclusions complete confirms . Control in the group traditional in approach aerobic and anaerobic of downloads one lesson or short term microcycle within rational without breaks interfering muscle in the fibers one of time It has both oxidative and glycolytic processes to stimulate attempt organism functional adaptation reactions confusingly sent and expected fruit did not give .

On the contrary , research in the group achieved high indicators , in particular , ten per second speed in the test ten eight whole from ten three percent and three minute special endurance in the indicator ten seven whole from ten five percentage absolute growth , offer parallel modeling of the program biological and pedagogical in terms of right since it was built evidence These results our republic boxing scientific of the school famous representative , Professor RD Khalmukhamedov young boxers organism functional reserves in increasing downloads intensity and size young to the characteristics looking at strict stratification and harmony storage regarding scientific concepts with complete is in harmony . Our in our program weekly microcycle within plyometric (explosive) exercises Monday day — central nerve system complete restored in stages given due to , neuromuscular synapses conductivity and fast shrinking muscle of fibers reactivity maximum at the level activated . Tuesday on the day high High -intensity interval training (HIIT) on Monday daily alactate to the foundation relied on without it , the organism to lactate endurance border expanded .

This in process Wednesday per day low- intensity placed aerobic loading and technician lessons conceptual importance has Sports physiology point from this point of view , light aerobic day past two of the day heavy glycolytic decomposition products , especially hydrogen ions and milk acid from muscles oxygenated oxidation through fast to drive service did and physical of adjectives supercompensation to the phase exit provided by VN Platonov and Y.V. Verkhoshansky such as Methodists one training within initially speed , then endurance exercises to give in order compliance teenagers also do nerve system fatigue and extreme overtraining syndrome complete eliminate reached .

Conclusion : Age boxers training in the process speed-strength adjectives and special parallel development of endurance the problem scientific and pedagogical in terms of study and practical from experience transfer as a result following to conclusions First , in traditional sports methodology there is was , that is endurance of the loads explosive power indicators braking " competitor " regarding "effect " problem teenager boxers in preparation of downloads biological and pedagogical to the laws strict compliance if not done obvious manifestation will be . Traditional program based on mixture and unsystematic training take went control in the group explosive power and reaction growth low speed limitedness this obvious confirms .

Secondly , weekly microcycle within opposite physical adjectives developer exercises separately functional to blocks separation and they between at least twenty four hourly biological breaks storage offer parallel training of the methodology high pedagogical efficiency This approach research in the group boxers short term explosive blow to give speed ten eight whole from ten three percent , most the main thing is three minute round during combative the pace storage ability (special) endurance) ten seven whole from ten five percent to increase opportunity gave . This is one quality the other one denial without , on the contrary , harmonic in a way together development possible shows .

Third , one training lesson physical within the framework in parallel formation of adjectives initially central nerve system tired in stages plyometric and speed lessons transition , endurance downloads and training finally leave system teenagers organism neuromuscular from fatigue and from injuries complete protection to do Microcycle between aerobic recovery day and homeostasis stabilization and supercompensation phase activation important factor become service did .

Fourth , ten four and ten six old teenagers organism to oneself inherent ontogenetic plasticity , active hormonal and somatic growth period this rational parallel loading acceptance to do functional in terms of complete ready that proved . Obtained to the results relying on , young boxers special physical readiness in increasing plyometric exercises with high high-intensity interval training (HIIT) weekly in a microcycle systematic and in parallel alternately sports schools to apply and supreme education institutions boxing sections to practice wide current to grow recommendation is being done .

References :

1. Shukhratovna RS Young in boxers reaction speed and decision acceptance skills to develop neuropedagogical mechanisms // education, upbringing and innovations magazine. - 2025. - T. 2. - no. 3. - S. 91-94.
2. Fakhriddinovich QF Importance of Weight Categories and History of Changes in Weightlifting //Vital Annex: International Journal of Novel Research in Advanced Sciences. - 2023. - T. 2. - no. 3. - S. 165-172.
3. Odiljon son of AO Boxers initial preparation in the phase technical-tactical movements development // obrazovanie science oath innovative ideas in mire - 2025. - T. 80. - no. 1. - S. 300-305.
4. Karaboyev FF et al. The advantage of interactive methods in improving the quality of the educational system //pedagogical sciences and teaching methods. - 2023. - T. 2. - no. 19. - S. 42-45.
5. Fakhriddinovich KF The importance of psychological preparation in improving the methodology of using general and special training tools in increasing the physical preparation of weightlifters //Journal of new century innovations. - 2025. - T. 79. - no. 1. – S. 283-287.

6. Ibragimov MM RAZVITIE SKOROSTNO-SILOVYX KACHESTV STUDENTOV-BOKSEROV // Teoretiko-metodologicheskie base I methodological and practical aspect . - 2025. - P. 53.
7. Ibragimov MM RAZVITIE FUNKTSIONALNOGO KACHESTVA STUDENTOV-BOKSEROV // Teoretiko-methodologicheskie base I methodological and practical aspect . - 2025. - P. 48.
8. Muhammadovich IM IMPROVE THE LEVEL OF PHYSICAL FITNESS BY INCREASING THE TRAINING EFFICIENCY OF BOXERS // SHOKH LIBRARY. - 2025. - T. 1. - no. 10.
9. Koraboev FF Pravilnyi basement I application means general I special physical podgotovki u tyajeloatletov // Teoretiko-metodologicheskie base I methodological and practical aspect . - 2025. - P. 67.
10. Koraboev FF Improvement physical preparedness weightlifter through perfection methodological usage means in general I special training // Teoretiko-methodologicheskie base I methodological and practical aspects . - 2025. - P. 62.
11. Xamroyev B.X. Qadimgi jamoaviy sport o‘yinlarining ildizlari va zamonaviy sport turlari bilan mushtarak jihatlari. INTER EDUCATION & GLOBAL STUDY Ilmiy-nazariy va metodik jurnal, ISSN 2992-9024 (online) 2024, №5.-B.249-259.
12. Xamroyev B.X. The Impact Of National Games, Which Are Traditional Sports Games, But Not Included In The Category Of Olympic Games, On The Genepond Of The Uzbekistan People. International journal of artificial intelligence, (2025) №03.Vol. 5.-P 1268-1271
13. Khamroyev Behruz Khalimovich Scientific and methodological bases of the use of national games in physical education. Journal of multidisciplinary sciences and innovations. shokh library, 2025. 127-130 p.
14. Khamroyev Behruz Khalimovich Improvement And Optimization Of Modern Sports Games Of The Eastern Peoples International Conference on Advance Research in Humanities, Sciences and Education. 2024. 167-176 p.
15. Khamroyev Behruz Khalimovich Methodology of using modern information and communication technologies in physical education lessons. Shokh Articles Library, 2026 288-291 p.
16. Khamroyev B.Kh. The classification of team sports in the ethno genesis formation of Uzbek people. European Journal of Innovation in Nonformal Education (EJINE),2024. ISSN: 2795-8612.-P 163-166.