

# ТЕОРІЯ І МЕТОДИКА ПІДГОТОВКИ СПОРТСМЕНІВ

## The issue of drop out of talented young athletes in olympic sports: reasons and solutions

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**Анотація.** Юні професійні атлети беруть активну участь у змаганнях, у тому числі у Юнацьких Олімпійських іграх, головною метою яких є залучення молодих спортсменів до олімпійського руху, їх психологічна підготовка до майбутніх викликів, пов'язаних з участю у міжнародних спортивних змаганнях, та відбір талановитих атлетів для участі у майбутніх Олімпійських іграх. *Мета.* Вивчити причини передчасного завершення спортивної кар'єри та фактори підготовки, що забезпечують спортивне довголіття юних атлетів в олімпійських видах спорту. *Методи.* Аналіз даних, порівняння, систематизація, узагальнення. *Результати.* Аналіз спортивної кар'єри юних спортсменів після досягнення ними високих результатів на Юнацьких Олімпійських іграх показує, що не більше 5% з них досягають успіхів у зрілому віці і продовжують спортивну кар'єру. Примусова підготовка юних талановитих атлетів і використання для цього програм підготовки дорослих спортсменів може підвищити ризик отримання травм, зруйнувати ідеали та мрії, призвести до дискредитації Юнацьких Олімпійських ігор. Крім того, цей період пов'язаний з вибором майбутньої кар'єри (уподобання можуть зміщуватися зі спорту в інші сфери), зміною інтересів і потреб спортсменів. У цей період основна увага спортивних функціонерів, спеціалістів, тренерів має бути приділена характеристиці особливостей підготовки юних спортсменів у системі багаторічного вдосконалення цілям майбутньої спортивної кар'єри (досягнення високих спортивних результатів на Олімпійських іграх), підвищення кваліфікації в галузі олімпійського спорту (спеціальна освіта, соціальна адаптація, готовність до майбутнього життя).

**Ключові слова:** олімпійський спорт, Юнацькі Олімпійські ігри, юні спортсмени, тренер, тренування, підготовка.

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### THE ISSUE OF DROP OUT OF TALENTED YOUNG ATHLETES IN OLYMPIC SPORTS: REASONS AND SOLUTIONS

**Abstract.** Young professional athletes take an active part in competitions, including the Youth Olympic Games, the main purpose of which is to attract young athletes to the Olympic movement, to provide them with psychological preparation for future challenges associated with participation in international sports competitions, and to select talented athletes for participation in the upcoming Olympic Games. *Objective.* To study the reasons for premature termination of a sports career and training factors ensuring long-lasting sporting activity of young athletes in Olympic sports. *Methods.* Data analysis, comparison, systematization, and generalisation. *Results.* An analysis of the sports careers of young athletes after achieving high performance at the Youth Olympic Games shows that no more than 5% of them achieve success in adulthood and continue their sports careers. Forced training of young talented athletes and the use in their preparation

**Introduction.** The foundations for future achievements of athletes and the duration of athletic career are laid in children's and youth sports. By the age of 15, young athletes are already actively involved in competitive events, including participation in the Youth Olympic Games (YOG), the main idea of which is the introduction of Olympic values in the life of young people, sports promotion, international cooperation, expansion of sports relationship with culture and art [6], and selection of young talents to participate in future Olympic Games [9].

However, the analysis of best sporting practice shows that intensive centralized training according to the standards adopted for adult athletes preparing for the Olympics was organized for young athletes to participate in these major international competitions in most sports [14, 16]. Naturally, this was the reason for the forced training of young athletes with all the ensuing consequences including the violation of the principles of multi-year training [14, 16], health risks, injuries and disease [10], loss of prospects for the future sports career, premature end of it [14, 16], and, as the final result, discrediting the Youth Olympic Games.

Also it should be noticed, that intensive psyche-physical preparation is realized during important psychological growth in adolescents, that can lead to difficult psyche-emotional states [32].

This is especially evident in sports that require large amounts of strength training, such as weightlifting, artistic gymnastics, track and field athletics [4, 21]. Therefore, the training process should be based on strong sports and pedagogical foundations, whereas the issues regarding psyche-physiological and psyche-sociological development require additional research.

**Aim.** To study the reasons of premature end of a sports career and prepara-

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of training programs for adult athlete can increase the risk of injury, destroy ideals and dreams, and discredit the Youth Olympic Games. In addition, this period is associated with the choice of a future career (preferences may shift from sports to other areas) and changes in athletes' interests and needs. During this period, the main attention of sports officials, experts, and coaches should be paid to the characteristics of the training of young athletes in the system of long-term improvement, to future sports career goals (achieving high sports performance at the Olympic Games), training in Olympic sports (special education, social adaptation, and readiness for future life).

**Keywords:** Olympic sport, Youth Olympic Games, young athletes, coach, training, preparation.

tion factors that ensure athletic longevity of young athletes in Olympic sports.

**Methods.** Data analysis, comparison, systematization, generalization.

**Results.** The time from 15 to 18 years is a critical period in the development when there is a choice between playing sports and choosing a profession, the need for training, and further career building (Allen, 2003). According to Konttinen et al. (2006), in Finland, the number of active athletes is reduced by 4 times during the age period from 15 to 18, a similar situation occurs in other countries [17].

From 2010 it was 3 YOG (Singapore-2010, Nanjing-2014, Buenos Aires-2018) and 3 Winter YOG (Innsbruck-2012, Lillehammer-2016, Lausanne-2020), where 670 and 216 gold medalists were total. According to the statistical data just 35 winners of Youth Olympic Games (5,2 %) got gold medals on the Olympic Games and 4 winners of Winter Youth Olympic Games (1,9 %) – on Winter Olympic Games (Table 1). Those winners of YOG and OG presents such kinds of sport: swimming (10 athletes), gymnastics (4 athletes), taekwondo (3 athletes), boxing, canoe-

ing, shooting, table tennis, weightlifting, short track (2 athletes each), athletics, basketball, fencing, field hockey, judo, trampoline, rugby sevens, wrestling, ski jumping, snowboarding (1 athlete each).

Clearly, winners of the III Winter YOG in Lausanne-2020 had no chance yet to participate in the Winter OG, but just three winners of I Winter YOG and one winner of II Winter YOG wone gold medals on Winter Olympic Games. According to the results 18 winners of the I YOG won gold medals on Olympic Games, 12 winners of the II YOG and 5 winners of the III YOG.

15 athletes (38,5 %) won in Olympic Games 2 years later after participation in YOG, 19 athletes (48,7 %) – 6 years later and 4 athletes (10,3 %) – 10 years later. And one unique athlete Rūta Meilutytė, who won Olympic Games in London-2012 in swimming and after 2 years won YOG in Nanjing-2014.

That's mean more than a half of athletes should continue training for a long period (6–10 years) to achieve first highest results in adult sport of highest achievement. But mostly young athletes don't show great results in adulthood and stop their sport career.

There is opinion, that the substitution of systematic multi-year training for the highest sporting performance in the optimal age range by the forced preparation of adolescents and youth for competitions in age groups leads in practice to the massive drop-out rate of promising young athletes from sports [28, 33].

The reasons for stopping sport career in the age period from 15 to 18:

- lack of prospects in elite sports;
- injuries, overtraining, burnout;
- lack of readiness for overloads, that is in elite sport;
- choosing education and career in other spere;
- conflicts with coaches or managers;
- parental prohibition;
- lack of motivation, changed interests and needs;
- problems with daily schedule.

In elite sport athletes have 10–12 trainings per week 2–3 hours each. That take a lot of time, doesn't allow to study or work properly. Successful multi-year training involves 10-year-long efforts with the total volume of work amounted to 10,000 hours [29, 36].

Tendency for the end of a sports career in young age attracted the attention of coaches and researchers to the issue of designing a multi-year training plan focused on achieving high performance in the age range optimal for the sport [9, 35]. Over the years, researchers from different countries have carried out numerous studies concerning the structure of the training process for athletes in different sports [4, 35, 38, 40].

**Table 1.** List of Youth Olympic Games and Winter Youth Olympic Games, who won Olympic gold medals [42, modified by the authors]

Athlete	Sport	YOG	OG
Chad le Clos	Swimming	2010 Singapore (1 <sup>a</sup> ) <sup>2</sup>	2012 London (1)
Robeisy Ramirez	Boxing	2010 Singapore (1) <sup>2</sup>	2012 London (1)
			2016 Rio de Janeiro (1)
Ksenia Dudkina	Rhythmic gymnastics	2010 Singapore (1) <sup>2</sup>	2012 London (1)
Alina Makarenko	Rhythmic gymnastics	2010 Singapore (1) <sup>2</sup>	2012 London (1)
Karolina Sevastyanova	Rhythmic gymnastics	2010 Singapore (1) <sup>2</sup>	2012 London (1)
Kim Jang-mi	Shooting	2010 Singapore (1) <sup>2</sup>	2012 London (1)
Jade Jones	Taekwondo	2010 Singapore (1) <sup>2</sup>	2012 London (1)
			2016 Rio de Janeiro (1)

Table 1.

Athlete	Sport	YOG	OG
Madison Wilson	Swimming	2010 Singapore (1) <sup>6</sup>	2016 Rio de Janeiro (1) 2020 Tokyo (1)
Emma McKeon	Swimming	2010 Singapore (1) <sup>6</sup>	2016 Rio de Janeiro (1) 2020 Tokyo (4)
Tony Yoka	Boxing	2010 Singapore (1) <sup>6</sup>	2016 Rio de Janeiro (1)
Yana Egorian	Fencing	2010 Singapore (2) <sup>6</sup>	2016 Rio de Janeiro (2)
Zheng Shuyin	Taekwondo	2010 Singapore (1) <sup>6</sup>	2016 Rio de Janeiro (1)
Deng Wei	Weightlifting	2010 Singapore (1) <sup>6</sup>	2016 Rio de Janeiro (1)
Nijat Rahimov	Weightlifting	2010 Singapore (1) <sup>6</sup>	2016 Rio de Janeiro (1)
Jessica Fox	Canoeing	2010 Singapore (1) <sup>10</sup>	2020 Tokyo (1)
Marloes Keetels	Field hockey	2010 Singapore (1) <sup>10</sup>	2020 Tokyo (1)
Mariya Lasitskene	Athletics	2010 Singapore (1) <sup>10</sup>	2020 Tokyo (1)
Sándor Tótká	Canoeing	2010 Singapore (1) <sup>10</sup>	2020 Tokyo (1)
Rūta Meilutytė	Swimming	2014 Nanjing (2)	2012 London (1)
Hifumi Abe	Judo	2014 Nanjing (1) <sup>6</sup>	2020 Tokyo (1)
Napheesa Collier	Basketball	2014 Nanjing (1) <sup>6</sup>	2020 Tokyo (1)
Fan Zhendong	Table tennis	2014 Nanjing (2) <sup>6</sup>	2020 Tokyo (1)
Mayu Mukaida	Wrestling	2014 Nanjing (1) <sup>6</sup>	2020 Tokyo (1)
Nikita Nagornyy	Gymnastics	2014 Nanjing (3) <sup>6</sup>	2020 Tokyo (1)
Evgeny Rylov	Swimming	2014 Nanjing (3) <sup>6</sup>	2020 Tokyo (2)
Panipak Wongpattanakit	Taekwondo	2014 Nanjing (1) <sup>6</sup>	2020 Tokyo (1)
Duncan Scott	Swimming	2014 Nanjing (1) <sup>6</sup>	2020 Tokyo (1)
Yang Haoran	Shooting	2014 Nanjing (1) <sup>6</sup>	2020 Tokyo (1)
Zhang Yufei	Swimming	2014 Nanjing (3) <sup>6</sup>	2020 Tokyo (2)
Zhu Xueying	Trampoline	2014 Nanjing (1) <sup>6</sup>	2020 Tokyo (1)
Kaylee McKeown	Swimming	2018 Buenos Aires (1) <sup>2</sup>	2020 Tokyo (3)
Kristóf Milák	Swimming	2018 Buenos Aires (3) <sup>2</sup>	2020 Tokyo (1)
Risi Pouri-Lane	Rugby sevens	2018 Buenos Aires (1) <sup>2</sup>	2020 Tokyo (1)
Sun Yingsha	Table tennis	2018 Buenos Aires (2) <sup>2</sup>	2020 Tokyo (1)
Yang Junxuan	Swimming	2018 Buenos Aires (2) <sup>2</sup>	2020 Tokyo (1)
Shim Suk-hee	Short track	2012 Innsbruck (2) <sup>2</sup>	2014 Sochi (1) 2018 Pyeongchang (1)
Andreas Wellinger	Ski jumping	2012 Innsbruck (1) <sup>2</sup>	2014 Sochi (1) 2018 Pyeongchang (1)
Lim Hyo-jun	Short track	2012 Innsbruck (1) <sup>6</sup>	2018 Pyeongchang (1)
Chloe Kim	Snowboarding	2016 Lillehammer (2) <sup>2</sup>	2018 Pyeongchang (1)

Note. <sup>3</sup> – number of gold medals is indicated in parentheses; <sup>2, 6, 10</sup> – number of years between participation in YOG and winning first Olympic gold medal

The study of the patterns and principles underlying the multi-year training of athletes was widely developed back in the 1950s–1960s [25]. Numerous studies conducted in this area of knowledge have related to the identification of the optimal age to start practicing various sports, the time period required to achieve the highest sporting performance [33, 35], the general structure of the process of multi-year preparation, its division into stages, phases or periods with corresponding goals, objectives, and content [22, 31, 34].

The issues related to designing a multi-year training plan were organically linked to the stages of age-related development [9], gender differences in training, sensitive periods for the development of motor abilities and the formation of various dimensions of preparedness [36, 40]. The processes associated with the improvement of multi-year training were organically intertwined with the search for talented athletes, selection of the most promising of them for in-depth specialization in a chosen sport [8], the training environment and competitive activity of athletes [36].

Let's take a closer look at the stages of long-term training that young athletes go through. During the preparation for the Youth Olympic Games, most athletes are at the stage of specialized basic training (the end of puberty – for girls after 13-14 years old, for boys – 14-15 years old). If children were involved in sports at the age of 11-12 and older, the beginning of this stage of long-term preparation will be delayed by 2-3 years [36].

The end of the pubertal period gives grounds for increasing the total training loads and for change in the training process's orientation. The entire preparation process takes on a more specialized character.

Forced training of young athletes leads to increasing the likelihood of injuries and illnesses, including bone fractures, overtraining syndrome, delayed menarche, amenorrhea, growth restriction, depression, and eating disorders [32].

At this stage, intensive competitive practice should not be accompanied by narrow specialization and intense

special preparation for specific competitions [35]. Whereas coaches begin intensive, targeted training for the Youth Olympic Games, often using typical for adult athletes training programs.

The main task of the next stage of preparation for the highest achievements is to bring the athlete to the level of highest achievements. The duration of a stage, depending on the specifics of the sport and the individual characteristics of the athlete, is usually 2–4 years. In some sports (for example, in gymnastics, swimming), the beginning of this stage usually coincides with the end of puberty period, in most others it occurs at the age of 17–19 years. The end of the period, if possible, should coincide with the age zone, which is optimal for achieving the highest results.

The total values of the volume and intensity of training work practically reach the maximum values, heavy loads are planned, the number of classes in weekly microcycles can reach 10–12 and more, competitive practice and the volume of special psychological, tactical and integral training increase sharply [36].

Only after the end of the Youth Olympic Games should the purposeful preparation for the highest achievements with high training loads begin. This is confirmed by the data in Table 1, where it is indicated that more than half of the winners of the Youth Olympic Games achieve success in the Olympic Games only after 6–10 years (at the stage of maximum realization of individual capabilities). But some of the athletes and their parents perceive the victory at the YOG as the highest achievement and do not want to spend several years preparing for the highest achievements in adult sports.

Despite the detailed study of many issues on the topic of this proposal, the developing and substantiating of the sports and technological foundations for training athletes aged 15 to 18 in Olympic sports are still needed.

However, success in elite sports depends not only on athletic excellence, but also on psychological readiness for excessive physical load and participation in competitions. Therefore, elite athletes must have a high level of stress

tolerance, self-discipline, and motivation for success [12, 16, 18, 41]. Nevertheless, these athletes are adolescents who are going through a critical stage of development. According to E. Erickson, the unsuccessful passage through adolescence may result in the inability to choose a career or continue education and the inability to establish strong, trusting relationships [3].

Understanding the characteristics of adolescence is complicated by the impact of the social environment on the mental state of modern adolescents born in the period from the mid-1990s to the mid-2000s [11].

According to research, members of this generation are educated, have excellent technological skills, are pragmatic, independent in opinions, curious, and are able to quickly process visual information [15]. Negative features include instability of attention, selfishness, lack of communication skills, and focus on quick results [11, 15]. There are difficulties in teaching basic skills and technologies to adolescent athletes, decreased motivation to train and participate in competitions, excessive parental involvement in the training process, and decreased trainer authority [30].

According to all this, the young athletes' preparation should be based on physical and psyche-social coaching as systematic process. According to the American Coaching Patterns course [19] coaching models emphasize sports administration, coaching methods, sports medicine, strength and conditioning, sports psychology, and athlete development. Coaching in sports is an objective-based way to achieve maximum performance in competitions through fundamental changes in the attitudes and behavior of athletes produced on the basis of their constant responsibility and awareness of all actions [23].

According to J. Lyle [23], sports coaching is a way to achieve maximum results in competitions through fundamental changes in the attitudes and behavior of athletes based on their constant responsibility and awareness of all actions.

In the literature, there is also term «mentoring». Unlike coaching, mentoring is focused on achieving the general

development and psychological support. This is effective if the relationship is informal, ongoing and long-term, and the mentor fulfills the roles of an accepting friend, an example model, and adversary [7].

To increase the effectiveness of the adolescent athletes training process, the authors recommend establishing trusting relationships with children and their parents, practicing goal setting, taking into account the needs and expectations of adolescents, teaching them communication and stress tolerance skills, explaining briefly and clearly, and creating conditions for retaining attention and interest [14, 15, 43].

Therefore, the elite young athletes' preparation becomes obvious as a technology (strategy) and principles of the relationship between a trainer and a trainee [13, 24, 37].

**Concluding.** The factual array of scientific information indicates the reality of the drop-outting problem of promising young athletes from Olympic sports and the necessity of the system of long-term preparation revision.

The reasons of young athletes' drop-outting from Olympic sport include methodological (periodization, intensity of loads, forcing of preparation, etc.) as well as psyche-social aspects (fiches of psyche-social adolescents' development).

Main factors, which would contribute to the solution of drop-outting problem of promising young athletes from Olympic sports, on our opinion, is:

- optimization of the long-term training system, excluding the forcing of training, high loads in puberty period, the use of training programs for adolescents that are typical for adults, active preparation for competitive activity at the stage of specialized basic training;
- coordination of relationships, communication and work between coaches, athletes and parents;
- general goal-setting and determination of real prospects;
- coordination between coaches and a sports psychologist in the aspect of career guidance, education, communication, prevention of addictive behavior and the successful passage of an age crisis;

- psychological support of elite athletes on the problems of psychoemotional self-regulation and self-identification;
- training of coaches to conduct a coaching session with an assessment of the real situation and awareness of the goal, determining the level of self-esteem, brainstorming and jointly formulating conclusions, ways to achieve goals and overcome possible obstacles, setting deadlines;
- development of distance schooling and special sports education in order to achieve knowledge and early professionalization.

This will contribute to both successful career building in the system of Olympic sports and the formation of a harmonious, psychologically mature personality of an athlete in the future.

Thoughtful adherence to the principles of preparation, which ensures the solution of the tasks of the training process, prevention of all negative events and formation of the psycho-emotional state of athletes, ensuring their interest in being in the system of Olympic sports, a steady interest in intense sports training and competitive activity, and focus on a sustainable sports career will become the basis for further research.

## LITERATURE

1. Afremow J. The young champion's mind: how to think, train, and thrive like an elite athlete. Rodale Kids; 2018. 224 p.
2. Allen JB. Social motivation in youth sport. *Journal of Sport and Exercise Psychology*. 2003;25(4):551-567.
3. Avdulova T. Psychology of adolescence. Moscow: Yurayt; 2019. 394 p.
4. Bompá TO, Buzzichelli C. Periodization: theory and methodology of training. *Human kinetics*, 2018. 392 p.
5. Bompá TO, Carrera M. Conditioning young athletes. *Human Kinetics*; 2015. 304 p.
6. Bulatova MM. Your Olympic guide. Kyiv; 2017. 144 p.
7. Castro SL, Scandura TA, Williams EA. Validity of Scandura and Ragins' (1993) multidimensional mentoring measure: An evaluation and refinement. Paper presented at the meeting of the Southern Management Association, San Antonio; TX. 2005.
8. Dempster S. It takes talent to manage talent (Part2): A cross-discipline look at long term athlete development. *The Coach*. 2005;27:39-42.
9. Dick F. Athlete career – from potential to success. *Legkoatleticheskiy vestnik IAAF*. 2013;1-2:47-54.
10. DiFiori JP, Benjamin HJ, Brenner JS, et al. Overuse injuries and burnout in youth sports: a position statement from the American Medical Society for Sports Medicine. *Br J Sports Med*. 2014;48:287-288.
11. Dwivedula R, Singh P, Azaran M. Gen Z: Where are we now, and future pathways. *Human Resource Management*. 2019;XXII (2):28-40.
12. Farrey T. Game on: How the pressure to win at all costs endangers youth sports, and what parents can do about it. ESPN; 2009.
13. Fry M, Gano-Overway L, Guivernau M, Kim MS, Newton M. A coach's guide to maximizing the youth sport experience: work hard, be kind. Routledge; 2019. 222 p.
14. Gilbert W. Coaching better every season: A year-round system for athlete development and program success. *Human Kinetics*; 2016. 424 p.
15. Gould D, Nalepa J, Mignano M. Coaching Generation Z athletes. *Journal of Applied Sport Psychology*. 2020;32:104-120.
16. Holt NL, ed. Positive youth development through sport. Routledge; 2016.
17. Hyman M. The most expensive game in town: The rising cost of youth sports and the toll on today's families. Beacon Press; 2012.
18. Huber JJ. Applying educational psychology in coaching athletes. Champaign, IL: Human Kinetics; 2013. 440 p.
19. Johnson SR, Wojnar PJ, Price WJ, Foley TJ, Moon JR, Esposito EN, Cromartie FJ. A coach's responsibility: Learning how to prepare athletes for peak performance. *Sport Journal*. 2011;14 (1):1-3.
20. Konttinen N, Toskala A, Laakso L, Konttinen R. The interaction of goal orientation and perceived competence in predicting sustained participation in competitive sports: A longitudinal study of track and field youth athletes. *Participation in Track and Field Sports*; 2006. P. 1-18.
21. Kozlova EK. Training of highly qualified athletes in the conditions of professionalization of track and field athletics [monograph]. Kyiv: Olympic Literature; 2012. 368 p.
22. Kristiansen E, Parent MM, Houlihan B. Elite youth sport policy and management: A comparative analysis. London: Routledge; 2016. 326 p.
23. Lyle J. Sports coaching concepts. A framework for coaches' behavior. London: Routledge Taylor & Francis Group; 2002.
24. MacGregor D. The youth sports coaching guide. Page Publishing, Inc.; 2020. 262 p.
25. Matveev LP. The problem of periodization of sports training. Moscow: Physical culture and sports; 1964. 248 p.
26. McCarthy J, Berghols L, Bartlett M. Re-designing youth sport: change the game. Routledge; 2016. 192 p.
27. Merkel DL. Youth sport: positive and negative impact on young athletes. *Journal of Sports Medicine*. 2013;4:151.
28. Myer GD, Jayanthi N, Difiiori JP, Faigenbaum AD, Kiefer AW, Logerstedt D, Micheli LJ. Sport specialization, part I: does early sports specialization increase negative outcomes and reduce the opportunity for success in young athletes? *Sports health*. 2015;7(5):437-442.
29. Nikitushkin VG. Modern training of young athletes. Moscow: Sovetskiy Sport; 2009. 112 p.
30. O'Sullivan J. Every Moment matters: how the world's best coaches inspire their athletes and build championship. Changing the Game Project; 2019. 356 p.
31. Ozolin NG. Coach's handbook: The science of winning. Moscow: Astrel; 2006. 864 p.
32. Patel DP, Pratt HD. Child neurodevelopment and sport participation. In: D.P. Patel, D.E. Greydanus and R.J. Baker, eds., *Sports medicine*, 1st ed. McGraw, Hill Companies; 2009. P. 2-45.
33. Platonov V, Bolshakova I. Forcing the long-term training of athletes and the Youth Olympic Games. *Science in Olympic sports*. 2013;2: 37-42.

34. Platonov V, Kozlova O, Pavlenko Yu, Vorobiova A, Kozlov K, Sanauov Zh. Structure and content of the stage of immediate preparation of athletes to main competitions of the year (Olympic Games, World Championships). Kyiv: Olympic Literature, 2020. 226 p.

35. Platonov VN. Periodization of sports training. General theory and its practical application. Kyiv: Olympic Literature; 2013. 624 p.

36. Platonov VN. Fundamentals of training athletes in Olympic sports. Handbook of the trainer: in 2 vol. Moscow: OOO "PRINTLETO". Vol. 2: 2021. 608 p.

37. Schempp PG, McCullick B, Berger B, Elliott J. Mentoring relationships in sport from the protégé's perspective. International Journal of Evidence Based Coaching and Mentoring. 2017;15(1):152-169.

38. Siff MC. Supertraining. 6th ed. Denever, CO: Supertraining institute; 2003. 496 p.

39. Tumanyan GS. Champion training strategy: coach's handbook. Moscow: Sovetskiy Sport; 2006. 496 p.

40. Volkov LV. Theory and methods of children's and youth sports. 2nd ed. Kyiv: Osvita Ukrainy; 2016. 464 p.

41. Vysochina N, Vorobiova A, Vasylenko M, Vysochin Ph. Volitional qualities of athletes and their influence on competitive activities. Journal of Physical Education and Sport; 2018;18(1):230-234.

42. Wikipedia, 2021. List of Youth Olympic Games gold medalists who won Olympic gold medals [Internet]. Available at: [https://en.wikipedia.org/wiki/List\\_of\\_Youth\\_Olympic\\_Games\\_gold\\_medalists\\_who\\_won\\_Olympic\\_gold\\_medals](https://en.wikipedia.org/wiki/List_of_Youth_Olympic_Games_gold_medalists_who_won_Olympic_gold_medals)

43. Winkelman NC. The language of coaching: the art and science of teaching movement. Human Kinetics Publishers, 2020. 336 p.

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