

Professional paper

THE IMPORTANCE OF SELECTION IN BASKETBALL

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Abstrakt: The selection for top basketball achievements implies accurately defined goals, criteria, time periods and methods of realization. Talent identification is the first step in the process of planning, programming and realization of selection and training processes. Selection criteria are conditioned in multidisciplinary way, and have to cover the entire anthropological plane of a basketball player. The crucial aspects for top basketball results are morphological body type, genetic predisposition, functional and motor abilities, specific technical and tactical abilities, psychological and sociological characteristics and complex abilities of a basketball player, as a synthesis of all of the above. The complexity of talent identification process and the defining of selection criteria implicitly require involvement of certain types of professionals: basketball coaches (experts for physical, technical and tactical preparation), doctors specializing in various areas, biomechanics, kinesiologists, and psychologists. This paper presents selection goals, talent identification processes and realization subjects.

Key words: *selection, basketball, talent identification.*

INTRODUCTION

The long-term program of selection and quality development of young basketball players, through the processes of talent identification and training technology, aims at preparing young players for senior training and competition demands (Trunić, 2007). Since the ability to play top-quality basketball depends

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on polyvalent qualities of basketball players, it is clear that the prerequisite for top results in modern basketball is timely talent identification. Predisposed children should be monitored at all stages of anthropological development, and optimally prepared in line with their age characteristics. The competitive result of the selected child-basketball player is a reflection of their real potential.

That is why systematic influence should be made on their development abilities and attributes throughout the multiannual sports preparation process on all levels of their sports specialization, and they should also be taught specific motor skills.

Talent identification at the initial stage of organized basketball training aims at precisely determining which motor abilities, psychological attributes, as well as technical and tactical knowledge should be systematically stimulated by means of training influences. On the other side, continued control of training effects reduces the risk of injuries and represents a condition for optimal sports development of a child-basketball player.

Basketball practice demands timely selection process and the analysis of potential abilities of young basketball players in order to enable the realization of the complete potential of basketball players in senior competition rank. The process of talent identification and selection in basketball involves an evaluation of abilities, attributes, knowledge, skill and habits significant for a successful basketball career.

Selection benefits

The goals of diagnostic procedures in different anthropological aspects are useful for: the identification of children and directing them to basketball as sport, the direction and specialization for specific roles in a team (from 1 to 5), the selection of basketball players at higher selection stages at certain age- or quality-specified categories, and the creation of a composition of basketball teams (the selection of club and representation teams). The priority of science in basketball (from the diagnostic aspect) is to perfect measuring instruments and methods for the improvement of quality of diagnostic procedure implementation and the prediction of sports preparation results. The diagnostics of the initial state of motor, functional abilities and morphological characteristics represents a training programming base with conditioning, as well as technical and tactical content. The goals, tasks and time dynamics of their realization are determined based on these indicators. The second, but equally important goal of the diagnostic procedures in basketball is: a selective correction of training plan and program at all stages of basketball preparation, the control of effects of applied training technology, and the analysis of the development state of certain organic systems, abilities and skills, as well as habits in play. An insight into how much a young basketball player deviates from the expected, planned or desired test values is gained based on these procedures. The gained information is used to select and

direct children according to a specific quality group in basketball, for training plan and program optimization, and they also enable the monitoring of the growth and development of certain attributes, abilities and knowledge (Trunić, 2007).

There are numerous reasons why testing (the diagnostics of the level of training) holds vital importance for sports scientists, coaches and sports people. The most significant reasons are: to identify talented children and direct them toward basketball; the identification of “strong and weak points” in the individual structure of anthropological abilities; the monitoring of development (progress) dynamics in all aspects of the level of training; getting feedback about the effects of the applied training technology; the education of coaches and sports people; the prediction of success at competitions. Talent could be characterized as “a specific characteristic of an individual or an outstanding predisposition for certain function(s)” (Mladenović, 2011). In order to develop specific and outstanding predispositions of children for top basketball achievements into abilities, it is crucial to apply adequate training technology at all stages of anthropological and basketball development (Trinić, 2006). The basic characteristics of talent are: complex nature, determination by genetic factors, partial covertness of the attributes necessary for success in basketball at an early age, and the existence of early indicators for certain abilities.

The genetic conditionality of anthropological factors

The implementation of human genetics in basketball has a relatively short historical development, but its understanding and application have become a very significant component in the selection of children for top-quality basketball. Having in mind that very complex and dynamic transformations of anthropological abilities and characteristics of young basketball players take place during the training process in basketball, a particular stress is placed on the priority of the following goals of talent identification process: the detection of attributes, the abilities and characteristics of the anthropological status of children that are under genetic control and transferring inheritance; a selection of resources, methods and load for all age categories in order to achieve an adequate transformation of anthropological status; the identification of limits and advantages in terms of the transformations of certain primary and relevant anthropological abilities for basketball, and later for a position in a basketball team.

The heritability coefficient of **anthropological characteristics** represents the size of variance of every anthropological attribute influenced by genetic components (genotype), i.e. the unchangeable part of the variance. Holtzinger's ratio, i.e. Holtzinger's heritability coefficient (H^2) is used for that purpose.

Morphological characteristics showed rather high genetic conditionality. The highest one is found in the dimensionality of skeleton ($H^2 = .98$), while a somewhat lower one exists in body voluminosity ($H^2 = .90$), and the lowest one is found in fat tissue ($H^2 = .50$). However, skeletal musculature holds crucial

importance for success in basketball, and is considered to be the basis for potential motor ability.

Functional abilities are also under the influence of hereditary abilities, which are not of equal size for all abilities ($H^2 = .60-.80$). A higher degree of genetic conditionality was noted in cardiovascular system compared to respiratory system.

Motor abilities are still at the stage of empirical research, so it is very hard to make any conclusions with certainty, because they show great differences, which are most likely caused by the implementation of different methods.

However, the prevailing opinions are those that speed ($H^2 = .90-.95$), explosive power, coordination, balance and precision ($H^2 = .80-.85$), as primary determinants of success in top-quality basketball are very saturated. In the examination of the ontogenetic development of individuals, it was found that motor abilities are mostly developed at the age from 10 to 17, but also that the periods of the highest boost of certain motor abilities are not equal. The highest growth of speed is achieved at the age of 10-13, of strength at 13-17 years, explosive power at the age of 12-13, aerobic stamina from 10-13, and anaerobic stamina from 13-16 years.

Cognitive abilities are also genetically limited, because their heritability coefficient is very high ($H^2 = .85-.92$). Development reaches its maximum at about 16 years of age and is maintained up to the age of 25, after which it starts decreasing.

Conative characteristics show that the heritability coefficient of normal conative characteristics is rather low ($H^2 = .50$), which means that they can be developed, especially at younger age. However, the heritability coefficient of pathological conative characteristics is quite high ($H^2 = .80-.85$), and research has shown that even the latest therapeutic procedures and treatment methods cannot definitely reduce pathological factors. What can most often be done is to reduce some of the pathological factors to a tolerable extent, and it is very difficult to reduce them to a normal level (Malina, Bouchard, Bar-Orr, 2004).

Not knowing and not following adequate fundamental genetic rules and conditionalities will not only result in a lack of optimal desired transformations of anthropological characteristics, but inadequate actions during management of sports people and manifestation of maximum abilities may have undesired consequences on the physical and mental health of sports people.

THE SELECTION LEVELS IN BASKETBALL

The goals of implementation of diagnostic procedures in basketball selection are: to detect weaknesses and individual variations of children, to monitor response to training, to educate coaches and basketball players, to predict competitive potential, to monitor the impact of the environment to growth and

development, to monitor potential injuries caused by basketball, to understand children's acute responses to training. Due to the given reasons, it is clear that talent identification in basketball is not solely related to the beginnings of organized basketball training, but represents a continuous activity of experts on different age and competitive levels of basketball players. This means that selection processes in basketball should be realized on multiple levels. (Trunić & Mladenović, 2014a):

- An initial selection at the beginning of organized basketball training (ages 7-8; mini-basket).
- A selection at the age of 12 (competitive age of younger pioneers).
- A selection at the age of 14 (competitive age of pioneers).
- A selection at the age of 16 with introduction of the criteria for position in game (1-5).
- A selection at the age of 18 with emphasis on the criteria of international standards.

Talent identification for top-quality basketball achievements should be realized much sooner than it is currently done. The beginning of organized training or inclusion into mini-basket programs (from the age of 6 to 8) is the right time to make the first step in basketball selection. That is the time when it is already possible to notice indicators that can provide information whether children have the potential to become top basketball players or not. That is an initial step with the following long-term goals: the early identification of children's performances desirable in basketball, the prediction of future playing potential of children, the selection of players who will be able to fulfill future basketball demands (when the selected children become seniors), a focus on the players who can develop properly in team surroundings, team selection according to positions and roles in the team, a selection on the level of clubs, national team (representation) a selection for different ages. Precisely defined and realized goals of selection process are efficient from the economic aspect, because that way player base is reduced to those with predispositions necessary for success. It is much easier to include new players on higher selection levels than to eliminate players from an enormous base (as is usually done in practice). Such approach also boosts confidence of the selected children, which is important for the development of an emotionally stable personality at the age when it is formed. The inclusion of the selected children into organized basketball environments also takes the competitive character of training to a higher level, which leads to faster development on all basketball levels.

The structure of team of experts for the planning and realization of selection process

Only competent staff and qualified persons can define children's future in basketball and in life with limited possibility of error. Therefore, experts from various domains (doctors specializing in different areas, biomechanics, kinesiologists,

psychologists, conditioning coaches, experts for technical and tactical preparation) need to manage the process of selection in basketball (Trunić, 2007).

Genius players cannot be recognized by a coach and people with narrow and low level of knowledge, experience and anticipation. The demand of basketball prognostics is that future top players become better than the top players today. For that reason, only coaches with a vision, who use multidisciplinary knowledge, can approach such a complex process as selection in a creative, synthetic way.

Generally speaking, the subject of their interest should be the following fields: defining a profile or model of a successful basketball player in the future, the analysis of player activity during play, the prediction of basketball development from the conditioning as well as technical and tactical aspect, the defining the selection criteria, the comparison of the selected children with the anthropological characteristics of the model, the planning and realization of an adequate training technology with all age categories of the selected children, periodical diagnostics and the control of the development of young basketball players and comparison with planned tendencies (Mladenović & Trunić, 2014b).

The analysis of player activity during play and the tendencies of basketball development

Observed from the current perspective, it is assumed that the future changes in basketball will be made in the following directions: approaching the FIBA rules to the NBA rules: moving three-point line from 6,75 m to 7,24 m, playing 4 quarters of 12 minutes, most likely increasing the number of personal fouls to 6 per player; toward tendency to maintain balance between all stages of the course of the game (defense, offense and transition in both directions); improving controlled transition defenses and controlled transition offenses; individual and team adaptation to various systems and changes of the tempo of the game; the need to execute basketball technique at a maximum speed alongside high levels of tactical manifestation at all stages of the game; the tendency (still present) of continuous crossing of outer players from perimetric into the inner space, and the crossing of inner players into outer offense zones in order to additionally burden the defense defending from outer shots and movements in both directions; the retention of ball progress; the prevention and protraction of movement and passing lines; the prevention of breach of front defense line in all zones of the court; conditioning the opponent to play longer in transition offense; preventing quick shot in transition offense and conditioning opponent to score from play 5:5 on the center of the court. The analysis of players' movement structure during games is a component that must be taken into account in the process of planning training technology in basketball.

Basketball is composed of the following types of movement: fast and precise movement in small space, opposition to the opponent, precise

implementation of technical and tactical elements in the conditions of time and space limitations, exclusively acyclic movements, alternative or variable intensity dominated by the abilities of explosive power, coordination, speed, agility, flexibility, functional demands in terms of anaerobic and aerobic stamina, high demands of the CNS. The volume of basketball players' activity during play is set into 4 quarters that last 10 or 12 minutes (FIBA or NBA rules, respectively), with breaks of 2 minutes between quarters and 15 minutes during halftime.

The analysis of movement structure during play shows that players move in the following way: standing or walking for about 4 minutes, jogging for around 4 minutes, medium-intensity running (pulse at 130-155) for around 4 minutes, sprinting for around 3 minutes, side movement in basketball posture of low or medium intensity for about 9 minutes, intense movement in basketball posture for around 2 minutes, jumping for around 75 seconds. During play, the type of movement is changed every two seconds. The complex and changeable structure of movement is manifested through around 1000 different movements during the course of a game. This information provides us with concrete tasks to plan training technology and conduct player selection for top-quality basketball.

Further play analysis defines around 105 maximum intensity efforts during the game with players exercising high-intensity activities every 21 second. In regard to the direction of movement, analysis shows that side movement occupies 31% and that movement in basketball posture lasts from 1 to 4 seconds. Two thirds of movement is intense movement. Sprints last from 1 to 5 seconds. Low-intensity jumps (shots or jumps without opponent pressure) take up around 30% of the total number of jumps. Medium-intensity jumps (a majority of jump shots with defense and block of jump shots) occupy around 45% and high-intensity jumps (blocks or jump shots against defense) take up around 25%. The average number of jumps is 85 (around 65 by backs, 80 by forwards and around 120 by centers).

The analysis of the scope of activities during games shows that NBA basketball players run between 5.5 and 9 km (depending on the game tempo) over the course of a game. As for the typical injuries that occur during basketball activities, about 52% of them are lower extremity fractures (the most common one is the fracture of heel and metatarsal bone; Mc Clay et al. 1994); 92% of injuries are those of one foot. The given data explicitly show that basketball is an intermittent or interval sport, with high-intensity activities of changeable movement direction. The stated description of the activities directs toward stamina training through the development programs of aerobic stamina and the development of specific stamina through interval specific basketball exercise. A well-planned development program must not jeopardize the development of lower extremity's explosive power, as the most important motor ability for top-quality basketball achievements (Trunić, 2014).

Observing the shortening of offense from 30 to 24 seconds, the following activity variations occurred: before the rule change, a professional basketball player realized an average of 105 high-intensity periods per game, with a recovery period of around 21 second; whereby, 95% of sprints took less than 4 seconds (an average of 1.7 seconds). With the change of rule, the number of offenses increased by around 20%, but the average duration of high-intensity periods remained unchanged.

Further analyses show that the ability for repeated high-intensity periods (**RSA- repeated sprint ability**), not speed stamina, represents a very significant determinant of condition preparedness of basketball players. The change of rules led to an increase of such activities, a drop of recovery period between two high-intensity periods, which boosts the significance of aerobic abilities in basketball. In addition, it seems that the importance of anaerobic (speed) stamina is still reducing. Rather, it can be said that the importance of this ability is placed in real terms (it is a significant, but not the most important ability). The results of a decade-long monitoring of basketball players (Cormery et al, 2008) confirm the increase of basketball players' aerobic abilities under the impact of the rule change (VO₂max- 8%, anaerobic threshold - 12,8 %). The change mostly impacted backs. Therefore, aerobic ability is gaining greater importance.

The criteria of selection for basketball players

Defining selection criteria, i.e. the variables that will particularly be taken into account in the process of selection is one of the hardest steps, because potential errors may be difficult to correct in later training stages. Therefore, the first step in talent identification and the profiling of a top basketball player in the future is to precisely determine which anthropological characteristic differ top basketball players from the less successful ones. (Mladenović & Trunić, 2014c). An imperative is to precisely define the type and structure of movement in basketball, the nature of the functional and motor needs of basketball players, the psychological characteristics of players as individuals and in interaction with team mates, opponents, coach, referees, audience, and players' technical and tactical activities during play. Predicting the development of basketball as a sport and defining selection criteria entails all anthropological categories:

1. The morphological characteristics of basketball players
2. The functional abilities of basketball players
3. The motor abilities of basketball players
4. The specific technical and tactical abilities of basketball players
5. The psychological and social characteristics of all participants in basketball

Multilateral approach is the only way to reduce errors, as a normal phenomenon in the process of selection in basketball. The studies conducted by

Delextrat et al (2008), who engaged in the comparative analysis of elite and non-elite basketball players taking into account motor abilities, led to the conclusion that top players differ in explosive power, agility, the isokinetic strength of knees and the absolute strength of upper body. The factors that lead to success in basketball are above all related to **anaerobic power**, not **capacity**. A training recommendation would be: to dedicate more attention to short-term maximum-intensity activities. Top players have the following functional qualities: acceleration, explosive power, agility and, increasingly, aerobic stamina. Consequently, selection must take into account the following characteristics of basketball players:

- Health status: personal, family and sports anamnesis, EKG and heart US, TA of left and right arm, pulse, tonsils, teeth, balance skin.
- Blood test results: RBC, HGB, HCT, MCV, MCH, RDW, PLT, MPV, PCT, PDW.
- Biochemical monitoring: glucose, cholesterol, triglycerides, urea, creatinine, AST, ALT, proteins, iron, total bilirubin, direct bilirubin.
- Anthropometric measures: body mass, body height, seating height, extremity length, foot length, chest and extremity perimeters, thickness of skin wrinkles or subcutaneous fat tissue, bone spans, arm and hand span (with age percentiles).
- Body composition: body mass index (BMI), the percentage of bone and muscle in total body mass.
- Biological age: determining bone age (Greulich-Pyle, Fels, Tanner).
- Functional abilities: spirometry during inaction, ergospirometric stress test (HR max and estimate of HR max, stress EKG, TA max, VO2 max, lactates during inaction, after 4 minutes and 10 minutes of recovery, maximum multilevel 20-m shuttle run test. Speed stamina: RAST - Running Anaerobic Sprint test.
- Muscle characteristics: typization of muscle fibers (biopsy vs. Bosco Ergojump), measuring cross section of a muscle.
- Motor abilities: flexibility (split with left and right leg, deep bend), speed (10m sprint, 10m sprint from flying start, 20m sprint), agility (T-test, running forward 10m, running back 10m, side running 20m); strength: CMJ (jump from semi-squat with hands on hips, jump with semi-squat with arm swing, seven jumps in a row with hands on hips), standing long jump, standing high jump, explosive power of one leg, 1RM bench press, deep squat, seated shoulder lift, a seated 2kg medicine ball throw, the repetitive strength of abdominal region and lower back.
- Psychological characteristics: ACSI-Athletic Coping Skills Inventory, TEOSQ-Task and Ego Orientation in Sport Questionnaire, General Self-Efficacy (GSE), Sport-Confidence Inventory (SCI), Sport Competition Anxiety Test (SCAT), CSAI-2 Competitive State Anxiety Inventory, test F1 – the speed of perceptual identification

and differentiation, D-48, test matrix, Raven's progressive matrices in color, brick test.

- The situational success of basketball players; defense: the control of defense position and the level of pressure in defense, the level of assistance, defense on player with ball and without ball, rotation in defense, winning balls, jumping success, defense from fast breaks, polyvalence in defense; offense: ball control, the ability to pass, breakthrough with ball, forcing personal errors, movement without ball, the ability to set up blocks and open from blocks, the quality of play in transitional offense, polyvalence in offense.
- Complex abilities: "talent" to learn motor and verbal material, work ethics, "basketball IQ", anticipation, efficiency in situational conditions, the ability to recognize situations and make decisions.

As mentioned before, in order to act in a timely manner and identify children's potentials that should be brought to the level of exact abilities to play top-quality basketball with adequate training, it is essential to conduct periodical testing of basketball players, both at the beginning and in later stages of training. Therefore, to determine their current status, the potential of the selected abilities, the effects of prior training, and gain direction for further planning of training technology, one should make a selection of tests relevant for the estimation of real value of basketball players on all morphological and competitive levels. For that reason, battery of tests must treat: health status, body sizes and composition, aerobic ability, anaerobic ability and capacity, flexibility, muscular characteristics, biochemical monitoring (Trunić & Mladenović, 2014c).

Anthropometric measures and body structure as selection criteria for basketball

Anthropometric measures and body structure that have to be selection criteria are: body mass, body height, seating height, extremity length, chest and extremity perimeters, thickness of skin wrinkles or subcutaneous fat tissue, bone spans, arm and hand span. Measuring body structure includes: BMI, the percentage of bone and muscle in total body mass.

Determining biological age – In the process of talent identification and training of younger categories of basketball players, it is crucial to determine biological age of children, since children, and especially tall ones, who are selected for basketball, are shown as heterogeneous in relation to biological age. Since training groups in basketball are usually formed from children of different chronological age (usually children of two birth years are put together), and there is a difference of biological age, fatal errors can be made in talent assessment and training. Experience has shown that numerous top basketball players were biologically behind their chronological groups, and that the

selection of accelerants at an early stage of organized training usually led to errors in selection. Because of this, it is crucial to determine the biological age of children and young basketball players during selection processes on different levels. The methods used for this are: determining bone age (Greulich-Pyle, Fels, Tanner), determining pubescence (Tanner, Ross & Marfell-Jones, Johnson et al.), and measuring biochemical markers (DHEAS). When the testing results come in, it is imperative to sort young basketball players into groups according to their biological, not chronological age (Trunić & Mladenović, 2014a).

Functional abilities as selection criteria for basketball

Anaerobic capacity – Basketball players' activities during training and competitive activities are, above all, anaerobic. It was mentioned before that the factors that differ elite basketball players from the less successful ones are determined by anaerobic capacity. It is clear that testing anaerobic capacity of children and young basketball players represents one of the most important criteria of talent identification and additional selection at later stages of training. However, the movement structure and the character of activities during play provide precise information which components of anaerobic capacity should be tested to get indicators which are compatible with playing activities. Of course, starting a dribble, making the first step in offense and defense, as well as jumping ability are conditioned by the speed and explosive abilities of players, and they need to be prioritized in selective and diagnostic procedures. The battery of tests in basketball needs to valorize abilities: measuring speed (5, 10, 20 m), agility (505 run, zig-zag), speed stamina (WAnT, RAST, 60-sec VJ), strength (DJ, CMJ, VJ) and specific tests with ball on basketball court. Success factors in basketball from the aspect of general motor abilities that need to be diagnosed and monitored are (Trunić, 2007): lower extremity explosive power (standing long jump, standing high jump, the explosive power of one leg, intermuscular leg balance: Counter Movement Jump Test), the explosive power of arms and shoulders (isolated throw of "heavy – medicine ball that weighs 2-5 kg), static strength (endurance in pull-ups...), repetitive strength through body core strength, (abdominal region and lower back, push-ups...), the speed of sensory-motor reaction to visual or audio signals, coordination, the variable exercise of technical and tactical elements in play conditions, eye-hand coordination when shooting or passing the ball, "timing", the anticipation of opponents' and team mates' intentions, fast change of subjects in the field of perception, the coordination of movement stereotype change...), flexibility; active and passive, the prevention of injuries (indirect methods; deep bend, Cureton, etc., direct methods; goniometer, FL-Photography...).

Aerobic stamina – standard tests and methods are used to estimate the level of aerobic ability, and they measure maximal oxygen uptake (VO₂ max),

anaerobic threshold (AnT, VT, OBLA), mechanical efficiency (running efficiency), oxygen kinetics, spirometry, multi-component testing, as well as heart frequency measuring and EKG. The current tests are: 20-m Multistage Fitness Test, Shuttle-run Test, Beep Test (Leger & Lambert 1982). Maximum multi-level 20-m shuttle run stress test is simple, brief and allows testing of multiple persons at the same time. It enables the estimation of maximal oxygen uptake (VO₂ max), and the activity is identical to competitive circumstances. The required equipment includes 20m of dry, flat surface, a stopwatch and an audio recording. Examinees follow the audio tape (disc) signal, and when it sounds off, they touch the marked band on 20m with their foot. The signal frequency and the examinees' speed increased by 0.5 km/h every 2 minutes. The test is over when an examinee is not capable of following the signal from the tape.

Muscular characteristics and biochemical monitoring in the process of selection in basketball

Muscular characteristics – Explosive and fast movements, very saturated by the time and space component of limitation and reaction in the conditions of technical and tactical outsmarting, imply precisely defined muscular characteristics of basketball players (Bosco, 1997). Since the degree of genetic conditioning of muscular characteristics is high, it is of great importance to assess children's potential in a timely and adequate manner. The assessment and measuring of muscular characteristics is conducted by: the typization of muscle fibers (biopsy vs. Bosco Ergojump), measuring cross section of muscles, measuring muscular capillarization, analyzing enzymes (i.e. PFK, hexokinase, SDH), and measuring substrate concentration (i.e. glycogen, lactates).

Biochemical monitoring is intended for the diagnostics of physiological processes that take place in body before, during and after training and competitive efforts, but also serves to assess the metabolic characteristics of basketball players (as a significant component in the process of talent identification). Whether a child can endure the demands of top-quality basketball, and whether their metabolism can answer to the energy and motor characteristics of training and competitive activities is found based on the results of biochemical monitoring, which should encompass: measuring metabolites and substrates (lactates, free amino acids, fatty acids, glycerol, glucose...), hormonal status (catecholamines, cortisol, insulin, GH...), immunology indicators (immunoglobulins...), water and electrolyte balance.

Psychological characteristics as the selection criteria for top basketball achievements

The assessment of psychological characteristics of children in the process of selection and basketball players at later stages of their career is a factor

that largely determines the possibility to achieve success in basketball. Just like with the previously mentioned abilities, it is important to understand that the results of psychological diagnostics must be used in the initial selection for talent identification, as well as at later stages of training, in order to see the impact of (in)adequate training on the development of personality of sportspeople. Today's basketball has been brought to high levels of interest in various fields, there are numerous commercial competitions and challenges offered by basketball, so it is clear that only persons with adequate psychological and sociological characteristics can achieve success. Success factors in basketball in terms of psychological abilities are: high levels of emotional stability, behavior without neurotic characteristics, tendency to dominate, frustration tolerance ability, a low level of competitive anxiety, pronounced drive for sports achievements, controlled aggression ability, high levels of crystallized intelligence, developed perceptive abilities, strong ego, high levels of self-confidence, pronounced motivation factor, socialization and team work ability (Mladenović, 2011). The tests that can be used for the diagnostics of psychological and sociological characteristics are: test of general intellectual ability D-48, test of general intellectual abilities –test matrix, Raven's progressive matrices in color - RPM, test of perceptive abilities – brick test, SCAT and STAI tests for assessment of trait and state of anxiety, etc. (Mladenović & Trunić, 2014c).

Specific basketball abilities as criterion for top-quality basketball

The assessment of specific basketball abilities – the assessment of real potential and quality of a basketball player also encompasses the detection of the extent to which technical and tactical elements of offense and defense have been learnt, as well as the possibility of their implementation in situational conditions. Of course, the assessment of basketball knowledge cannot be conducted at the initial stage of basketball practice, because children are not trained enough, but at later stages it becomes one of the dominant selection criteria on the level of clubs and representation (Trunić, 2007). An initial testing should assess the speed of learning and precision of imitation of the demonstrated technical and tactical elements, which indirectly indicates children's intelligence and coordination abilities. In later selection processes, (at the age of 12, 14, 16, 18) the extent of acquisition of specific basketball motor functions becomes the crucial criterion for the selection of players according to the positions and roles in the team. Specific basketball abilities that should be valorized through selective and training process can be divided into (Trunić, 2014.):

- Defense abilities and skills (parallel and diagonal basketball posture and movement, defense on player with ball, defense from dribble and breakthrough, defense on player without ball, defense from fast break, low-post defense, defense from blocks on player with or without ball, defense on the side of ball and the side of assistance, blocking the hoop ...)

- Offense abilities and skills (ball control, dribble, passing and catching, pivoting, moving without ball, demarcation, different types of shots, solving handicap situations, using blocks, offensive jump, individual, group and collective tactics).

The assessment of complex abilities of basketball players implies the implementation of the synthetic principle on all the given criteria. When evaluating the given abilities from all previously described anthropological areas, the synthesis of the obtained results is required. It is clear that there is no certainty about which selection criteria are more important than others, but what is certain is that a greater fund of information and knowledge greatly reduces the probability of error in the assessment of talent and selection of players in later selection processes. In order to make good use of the obtained information, experts from all fields need to reach conclusions, i.e. process the information from all relevant fields adequately before making a decision about the selection of children. From that perspective, it can be concluded that it is necessary to define complex abilities (which represent synthesis and adequate relations of certain anthropological fields), which treat the notion of talent more comprehensively. Maximum achievements in basketball are not realized by players with maximum values of all treated variables, but players with balanced relations and an adequate correlation between abilities from all the given fields. The decisions made in those situations need to be a result of cooperation and agreement between experts from all fields and coaches (competent and experienced). That provides a realistic assessment of the current state of selected children, and offers precise notes for planning and programming training process on all age and competitive levels. A proposal for the definition of complex abilities could include the following elements (Trunić & Mladenović, 2014a):

- “Talent” to learning motor and verbal material
- Work ethics
- Basketball IQ
- Anticipation ability
- Technical and tactical abilities for all five positions in the team (1-5)
- The influence of conditioning abilities to basketball skills
- Efficiency in situational conditions
- The ability to recognize situations and make decisions
- Knowing one’s own virtues and flaws
- The speed of tactical thinking

CONCLUSION

By analyzing the given criteria and tendencies of basketball development, it is clear that successful basketball players in the future will be polyvalent players with developed abilities for which they have genetic

predisposition from all anthropological aspects. The strategy to create top basketball players in the future must be based on: the study and analysis of the structure of competitive and training activity in basketball, creating a strategically oriented profile of a successful basketball player in the future, and finding a way for his improvement quality-wise, diagnosing the individual initial and potential characteristics and abilities of future successful basketball players, comparing the individual characteristics of the selected children with the characteristics of an actual profile, creating a training strategy with goals, tasks, periodization and the necessary material and technical conditions for realization, the operational programming of training with the selection of means, methods and load as part of long-term, medium-term and short-term planning, the transversal and longitudinal control of training effects, and the potential correction of the process of training.

Summing up the research results related to the selection process in basketball from all relevant anthropological aspects, it is clear that successful basketball players in the future will be polyvalent players. The beginning of lab selection for top-quality basketball is recommended for children aged seven. Those children are organized socially and on a higher level for the first time. They have already achieved certain psychological and physical maturity, which enables the beginning of training and communication on a higher level. Gifted children usually mature and develop faster, more commonly psychologically than physically. Another important reason to start the training process in basketball at the age of 7-8 is that before that age children do not possess the ability to estimate the characteristics (speed, height and depth orientation in space) of the flight of the objects in sagittal plane (ball). It is worth keeping in mind that the training process of talented children takes longer due to the need to perfect basic basketball motor features on the highest possible level (Trunić & Mladenović, 2014b).

The given approach to the talent identification process in basketball could find practical application in the following segments of basketball training technology and management:

- Directing young players (especially at specialization stage) to certain primary and secondary positions and roles in play, by examining the current success of play on certain positions,
- Player selection within certain positions in team,
- Monitoring the state of situational efficiency according to positions in team,
- The monitoring and control of training effects,
- Selecting individual and team play according to team dispositions,
- Shaping the picture about a player and their special qualities,
- Selecting training programs that enable perfection of strong and correction of weak points of play,

- Player comparison according to positions in play within their team and in relation to the players on the same positions in other teams (provided that their roles are precisely defined),
- Comparing the changes of a player's situational efficiency at different stages of their career,
- Motivating players to conduct self-estimation during training and competitive activities,
- Creating new ideas in the assessment of children's predispositions for basketball,
- Analyzing management administration of a basketball team from the aspect of competitive success,
- Finding an economically justified way to manage a basketball club,
- Distributing basketball players as products of successful prognostics into better and economically stronger clubs and counties, for an adequate financial compensation.

The prognostics and strategy of creating top basketball players in the future needs to have a starting point in lab selection and be based on rationalization and optimization of training technology, constructed and implemented by coaches-experts. The given approach is imperatively based on specific conditioning, which will contribute to high levels of technical and tactical manifestation, with a particular stress on players' creativity for the sake of the given goal, and as a synthesis of maximally developed dispositions from all anthropological aspects. The basic postulates of training for top basketball achievements should be: children-basketball players should "learn the game", not the affairs on the positions they play; "early specialization" should not be allowed; selection and training of children with genetic predispositions for basketball; continuous optimization of training and competitive loads, respect of morphological and functional, motor and psychological periods of development in all age categories, to train basketball players in situational conditions, to provide "the magic of the game" to children for motivational, educational and innovative reasons.

Regardless of future criteria in the assessment of success of players and teams in basketball, a vital distance will always be made by "specific differences" between players and teams, which will be determined by nuances in play and conduct that will be noticed only by rare people. A high level of all abilities significant for basketball – above all a harmony of different qualitative characteristics, attributes, knowledge and skills – is what makes top players and teams dominant. All those included in talent identification and selection are tasked with finding innovative methods in all segments of basketball, especially prognostics, as a "cradle" for basketball players in the future.

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