

**ANALISIS POSISI PEMAIN BERDASARKAN KAJIAN  
ANTROPOMETRIK, FISIK, DAN TEKNIK TERHADAP PERFORMA  
BERMAIN BOLABASKET**

**DISERTASI**

**Diajukan untuk memenuhi sebagian syarat untuk  
memperoleh gelar Doktor Pendidikan Olahraga**



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2021**

## Pernyataan Keaslian Disertasi dan Bebas Plagiarisme

Dengan ini saya menyatakan bahwa disertasi dengan judul "**Analisis Posisi Pemain Berdasarkan Kajian Anthropometrik, Fisik, dan Teknik terhadap Performa Bermain Bolabasket**" ini beserta seluruh isinya adalah benar-benar karya saya sendiri. Saya tidak melakukan penjiplakan atau pengutipan dengan cara-cara yang tidak sesuai dengan etika ilmu yang berlaku dalam masyarakat keilmuan. Atas pernyataan ini, saya siap menanggung risiko/sanksi apabila di kemudian hari ditemukan adanya pelanggaran etika keilmuan atau ada klaim dari pihak lain terhadap keaslian karya saya ini.

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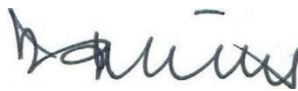
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## ABSTRAK

### **Analisis Posisi Pemain Berdasarkan Kajian Anthropometrik, Fisik, dan Teknik Terhadap Performa Bermain Bolabasket**

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Tujuan penelitian ini adalah untuk menganalisis posisi pemain berdasarkan kajian anthropometrik, fisik, dan teknik terhadap performa bermain bolabasket. Metode penelitian yang digunakan adalah metode kuantitatif dengan pendekatan deskriptif. Populasi penelitian adalah atlet bolabasket di Jawa Barat. Sedangkan sampel penelitian sebanyak 20 putra dan 20 putri. Instrumen yang digunakan adalah tes anthropometrik tinggi badan (*stature meter*), kekuatan tungkai (*wall sit*), kecepatan (sprint 20 meter), kelincahan (*illinois agility test*), power tungkai (*vertical jump*), daya tahan kecepatan (*bleep test*), *passing (passing test)*, *under ring (under ring test)*, *shooting (shooting test)*, *lay up shoot (lay up shoot test)*, dan *dribbling (illinois dribbling test)*. Hasil penelitian ini adalah terdapat perbedaan yang signifikan setiap posisi pemain berdasarkan kajian anthropometrik. Tidak terdapat perbedaan yang signifikan setiap posisi pemain berdasarkan kajian fisik dan teknik. Terdapat pengaruh secara parsial dan simultan antara posisi pemain berdasarkan kajian anthropometrik, fisik, dan teknik terhadap performa bermain bolabasket.



## ABSTRACT

### **Analysis of Player Position Based on Anthropometric, Physical, and Technical Studies on the Performance of Playing Basketball**

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The purpose of this study was to analyze the player's position based on anthropometric, physical, and technical studies of basketball performance. The research method used is a quantitative method with a descriptive approach. The study population was basketball athletes in West Java. While the research sample was 20 male and 20 female. The instruments used were anthropometric height test (*stature meter*), leg strength (wall sit), speed (20 meter sprint), agility (illinois agility test), leg power (vertical jump), speed endurance (bleep test), passing (passing test), under ring (under ring test), shooting (shooting test), lay up shoot (lay up shoot test), and dribbling (Illinois dribbling test). The results of this study are that there are significant differences in each player's position based on the anthropometric study. There is no significant difference for each player's position based on physical and technical studies. There is a partial and simultaneous influence between the player's position based on anthropometric, physical and technical studies on playing basketball performance.



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## DAFTAR PUSTAKA

### Sumber Buku:

- Anastasiadis, M. (2006). *The Basketball Training*. Athens, IN: Elvekalt EPE.
- Anshel, M. H., dkk. (1991). *Dictionary of the Sport and Exercice Sciences*. UK: Human Kinetics Publishers (UK) Ltd.
- Bach, Greg. (2007). *Coaching Basketball For Dummies*. Wiley Publishing, Inc., Indianapolis, Indiana.
- Bompa, Tudor, O. (1994). *Theory and Methodology of Training*. Kendal/Hunt Publising.
- Dirjen Olahraga Depdiknas. (2004). *Pedoman Mekanisme Koordinasi Pembinaan Olahraga Kesegaran Jasmani dan Kelembagaan Olahraga*. Jakarta.
- FIBA. (2018). *Official Basketball Ruler*. FIBA Central Board.
- Fixx, James, F. (1985). *Maximum Sports Performance*. Random House, New York.
- Fraenkel. J.R. Norman, Wallen. and Helen, Kyun. (2012) *How to Design and Evaluate Research in Education*. New York: McGraw-Hill.
- Haree, Dietrich. (1982). *Principles of Sports Training*. Sportverlag, Berlin.
- Harsono. (1991). *Coaching dan Aspek-Aspek Psikologis dalam Coaching*. Jakarta: CV. Tambak Kusuma.
- Harsono, (2000). *Perencanaan Program Latihan*. Bandung PT Remaja Rosdakarya.
- Harsono. (2016). *Latihan Kondisi Fisik (untuk atlet dan kesehatan)*. FCI.0012-05-2016.
- Harsono. (2017). *Kepelatihan Olahraga (Teori dan Methodologi)*. Bandung: PT. Remaja Rosdakarya.
- Hoeger, Werner, WK. (1988). *Principles and Laboratories for Physical Fitness and Wellness*. Morton Publishing Company, Englewood, Colorado.
- Negulescu, C. Popescu, F. Moanta, A. dkk. (1997). *Metodica învăŃării Ńi perfecŃionării tehnicii Ńi tacticii jocului de baschet*. BucureŃti: ANEFS.
- Pate, Russel, R. Mc, Clenaghan, Bruce. & Rotella, Robert. (1984). *Scientific Foundations of Coaching*. Saunders College Publishing, New York.



- Peltola, Esa. (1992). *Talent identification*. (FSI by IAAF 7:3; 7-12. 1992).
- Peraturan Presiden Nomor 95. (2017). *Peningkatan Prestasi Olahraga Nasional*. Lembaran Negara Republik Indonesia Tahun 2017 Nomor 221.
- Special Olympics Basketball Coaching Guide. (2007). Teaching Basketball Skills.
- Sugiyono. (2018). *Metode Penelitian Kombinasi (Mixed Methods)*, Cetakan ke-10, Bandung: Alfabeta.
- Sugiyono. (2019). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*, Cetakan ke-1, Bandung: Alfabeta.
- Suharsimi, A. 2006. *Prosedur Penelitian Suatu Pendekatan Praktik*, Cetakan ke-XIII, Yogyakarta: Rineka Cipta.
- Supono, R. (1970). *Pengetahuan Bola Basket*. Jakarta: Direktorat Jenderal Pemuda dan Olah Raga.
- Undang – Undang No 3. (2005). *Sistem Keolahragaan Nasional*.
- Wignjosoebroto, S. ( 2008).. *Ergonomi Studi Gerak dan Waktu*, Surabaya, Guna Widya.
- Yudiana, Y. Hidayat, Y. Mulyana, B. (2017). *Menuju Jabar Kahiji Jabar Ngahiji: Sebuah Refleksi Manajemen Olahraga Kontemporer*. Jakarta: Gramedia Widiasarana.

### **Sumber Jurnal:**

- Aekland, T.R. Schreiner, A.B. & Kerr, D. (1997). *Absolute size and proportionality characteristics of world championship female basketball players*. Journal of Sports Sciences 15 (5):485-90.
- Ajay, Pal, Bhadu. & Poonam, Singh. (2017). *Comparison of Speed in Basketball players according to their playing position*. International Journal of Yoga, Physiotherapy and Physical Education Online ISSN: 2456-5067; Impact Factor: RJIF 5.24 www.sportsjournal.in Volume 2; Issue 3; May 2017; Page No. 52-53.
- Apostolidis, N., Nassis, G.P., Bolatoglou, T., & Geladas, N.D. (2004). *Physiological and technical characteristics of elite young basketball players*. Journal of Sports Medicine and Physical Fitness, 44, 157-163.
- Bale, P. (1991). *Anthropometric, body composition and performance variables of young elite female basketball players*. J Sports Med Phys Fitness 31: 173-177, 1991.

- Bayios, IA. Bergeles, NK. Apostolidis, NG. Noutsos, KS. Koskolou, MD. (2006). *Anthropometric, body composition and somatotype differences of Greek elite female basketball, volleyball and handball players*. *J Sport Med Phys Fit*, 2006; 46: 271–280.
- Bazmara, M. & Jafari, S. (2013). *Journal of Basic and Applied Scientific Research* 3 981-986.
- Ben, Abdelkrim, N. El, Fazaa, S. El, Ati, J. (2007). *Time-motion analysis and physiological data of elite under-19-year-old basketball players during competition*. *Br J Sports Med*. 2007;41(2):69-75.
- Ben, Abdelkrim, N., Chaouachi, A., Chamari, K., Chtara, M., & Castagna, C. (2010). *Positional role and competitive-level differences in elite-level men's basketball players*. *Journal of Strength and Conditioning Research*, 24, 1346-1355.
- Bielik, V. & E. Tomanek. (2009). *Hodnotenie úrovne kondičných schopností z hľadiska špecifickosti pohybového zaťaženia v športových hrách*. [Fitness assessment from aspect of specific motoric load in sport games] In: *Zborník vedeckých prác Katedry hier FTVŠ UK č. 12*. Bratislava: FTVŠ UK, PEEM, 15-23. ISBN 978-80-8113-007-6.
- Christian, Swann, A. Aidan, Moran, B. David, Piggott, C. (2014). *Defining elite athletes: Issues in the study of expert performance in sport psychology*. *Psychology of Sport and Exercise* (2014), <http://dx.doi.org/10.1016/j.psychsport.2014.07.004>.
- Cormery, B. Marcil, M. & Bouvard, M. (2008). *Rule change incidence on physiological characteristics of elite basketball players: a 10year-period investigation*. *Br. J. Sports Med.*, 42(1):25-30.
- Davide Ferioli, Ermanno Rampinini, Andrea Bosio, Antonio La Torre, Matteo Azzolini & Aaron J. Coutts. (2018): *The physical profile of adult male basketball players: Differences between competitive levels and playing positions*, *Journal of Sports Sciences*, DOI: 10.1080/02640414.2018.1469241.
- Delextrat, A., & Cohen, D. (2008). *Physiological testing of basketball players: toward a standard evaluation of anaerobic fitness*. *Journal of Strength and Conditioning Research*, 22, 1066-1072.
- Delextrat, Anne. Cohen, Daniel. (2009). *Strength, Power, Speed, and Agility of Women Basketball Players According to Playing Position*. *Journal of Strength and Conditioning Research*; Oct 2009; 23, 7; Biological Science Collection.

- Deprez, D., Franssen, J., Boone, J., Lenoir, M., Philippaerts, R., & Vaeyens, R. (2015). *Characteristics of high-level youth soccer players: Variation by playing position*. *Journal of Sports Sciences*, 33(3), 243–254.
- Dezman, B. (1996). *Kineziologija*, 28.37.
- Dezman, B. Trninić, S. Dizdarević, D. (2001). *Expert model of decision-making system for efficient orientation of basketball players to positions and roles in the game-empirical verification*. *Collegium Antropol*, 2001; 25(1): 141-152.
- Dezman, B. and Erculj, F. (2005). *Kondicijska priprava v kosarki [Conditioning for basketball]*. Ljubljana, Slovenia: Faculty of Sport, Institute of Sport, 2005.
- Donna O'Connor, Paul Larkin, & Mark Williams. (2016). *European Journal of Sport Science*. Vol. 16, No. 7, 837–844, <http://dx.doi.org/10.1080/17461391.2016.1151945>.
- Dragan, Marinković. & Slobodan, Pavlović. (2013). *FACTA UNIVERSITATIS Series: Physical Education and Sport* Vol. 11, No 1, 2013, pp. 73 – 80.
- Erculj, F. and Dezman, B. (1995). *Unterschiedliche anthropometrische und motorische Dimensionen bei 13- und 14-jährigen Basketballspielerinnen, die auf verschiedenen Spielpositionen spielen*. In: *Proceedings of an International Conference on Science in Sports Team Games*. Bergier, J, ed. Biala Podlaska, Poland: Instytut Wychowania Fizycznego I Sportu, 1995, pp. 216–223.
- Erculj, F. dkk. (2004). *Differences between playing positions in some motor ability tests of young female basketball players*. In: *Proceedings of 8th Annual Congress of the European College of Sport Science*. Salzburg: University of Salzburg, Institute of Sport Science, 292–293. [online] Publikované 3.4.2004. [citované 4.2.2015]. Dostupné z <<http://www.facta.junis.ni.ac.rs/pe/pe201103/pe201103-07.pdf>>
- Erculj, F. Blas, M. & Brac'ic, M. (2010). *Physical Demands on Young Elite European Female Basketball Players with Special Reference to Speed, Agility, Explosive Strenth, and Take Off Power*. *Journal of Strength and Conditioning Research* 2010 National Strength and Conditioning Association.
- Eric, J, Drinkwater. David, B, Pyne. and Michael, J, McKenna. (2008). *Design and Interpretation of Anthropometric and Fitness Testing of Basketball Players*. *Sports Med* 2008; 38 (7): 565-578. 0112-1642/08/0007-0565/\$48.00/0 © 2008 Adis Data Information BV. All rights reserved.

- Foran, B. & R, Pound. (2007). *Complete conditioning for basketball*. National Basketball Conditioning Coaches Association. Human Kinetics. ISBN-13 978-0-73605784-4.
- Harris, GR. Stone, MH. O'Bryan, HS. Proulx, CM. & Johnson, RI. (2000). *Short Term Performance Effects of High Speed, High Force or combined weight Training*. J Strenth Cond Res 14: 14 – 20.
- Haris, Pojskic. Vlatko, Separovic. Melika, Muratovic. & Edin, Uzicanin. (2014). *Morphological Differences of Elite Bosnian Basketball Players According to Team Position*. Int. J. Morphol., 32(2):690-694.
- Hoare, D, G. & Hunt, P. (1999a). *The junior basketball talent identification project: part 1- anthropometric (physical) & physiological profiles. X's and O's*, 6(1), 16-17.
- Hoare, D, G. & Hunt, P. (1999b). *The junior basketball talent identification project: part 2- predicting player performance from test results. X's and O's*, 6(2), 16-18.
- Hoare, D, G. (1997). *Talent Identification for Junior netball players*. Unpublished Coaches Report.
- Hoare, D, G. & Warr, C, R. (2000). *Talent identification and women's soccer: An experience*. Journal of Sport Sciences, 18, 751-758.
- Hoare, D.G. (2000). *Predicting success in junior elite basketball players – the contribution of anthropometric and physiological attributes*. J Sci Med in Sport, 2000; 3(4): 391–405.
- Hoffman, J.R, dkk (1996). *Relationship between athletic performance tests and playing time in elite collage basketball players*. Journal of strength and conditioning research, 10(2), 67-71.
- Hoffman, JR. Epstein, S. Einbinder, M. Weinstein, Y. (2000). *A comparison between the wingate anaerobic power test to both vertical jump and line drill tests in basketball players*. J Strength Cond Res. 2000;14(3):261-64
- James A. Kirkup, David D. Rowlands, David V. Thiel. (2014). *The 2014 conference of the International Sports Engineering Association*. Procedia Engineering 72 ( 2014 ) 108 – 113.
- Jayanthi, N,A. Pinkham, C. Durazo-Arivu, R. Dugas, L. Luke, A. (2011). *The risks of sports specialization and rapid growth in young athletes*. Clin J Sports Med. 2011;21(2):157.
- Jayanthi, N,A. Courtney, Pinkham. Lara, Dugas. Brittany, Patrick. & Cynthia, LaBella. (2013). *Sports Specialization in Young Athletes: Evidence-Based Recommendations*. For reprints and permission queries, please visit SAGE's Web site at <http://www.sagepub.com/journalsPermissions.nav>.

- Jelicic, M. Sekulic', D. & Marinovic', M. (2002). *Anthropometric characteristics of high level European junior basketball players*. Coll. Antropol., 26(Suppl.):69-76.
- João, Henrique, Gomes. dkk (2017). *Relationship between physical fitness and gamerelated statistics in elite professional basketball players: Regular season vs. Playoffs*. Motriz, Rio Claro, v.23 n.2, 2017, e101626 published in volume 23, number 2, 2017, DOI: 10.1590/s1980-6574201700020004, and identification: e101626.
- Joseph Baker, Steve Copley & Jörg Schorer (eds.). (2012). *Talent Identification and Development in Sport: International Perspectives: Book Review by Simon Jenkins*. International Journal of Sports Science & Coaching Volume 7 · Number 1 · 2012.
- Karalejic, M. Jakovljenic, S. and Macura, M. (2011). *Anthropometric characteristics and technical skills of 12 and 14 year old basketball players*. Journal of Sports and Physical Education Fitness, 51: 103-110.
- Karol, Gryko. Anna, Kopiczko. Kazimierz, Mikołajec. Petr, Stasny. & Martin, Musalek. (2018). *Anthropometric Variables and Somatotype of Young and Professional Male Basketball Players*. 2018 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).
- Karol, Gryko. Petr, Stastny. Anna, Kopiczko. Kazimierz, Mikołajec. Ondrej, Pecha. Krzysztof, Perkowski. (2019). *Can Anthropometric Variables and Maturation Predict the Playing Position in Youth Basketball Players?.* Journal of Human Kinetics volume 69/2019, 109-123 DOI: 10.2478/hukin-2019-0005. Section II - Exercise Physiology & Sports Medicine.
- Ketut, Yoda, I. (2020). *Peran Olahraga dalam Membangun SDM Unggul di Era Revolusi Industri 4.0*. Jurnal IKA Vol. 18, No. 1, Maret 2020 ISSN 1829-5282.
- LaMonte, MJ. McKinney, JT. Quinn, SM. Bainbridge, CN. and Eisenman, PA. (1999). *Comparison of physical and physiological variables for female college basketball players*. J Strength Cond Res 13: 264-270, 1999.
- Laplaud, D. Hug, F. & Menier, R. (2004). *Training Induced Changes in Aerobic Aptitudes of Professional Basketball Players*. Int J Sport Med 25: 103 – 108.

- Latin, R. W. Berg, K. & Baechle, T. (1994). *Physical and performance characteristics of NCAA division I male basketball players*. J. Strength Cond. Res., 8(4):214-8.
- Macura, P. dkk. (2013). *Zápasové vnútorné zaťaženie basketbalistov podľa hráčskych funkcií. [Game inside load of different player's posts in male basketball]*. In: Zborník vedeckých prác Katedry športových hier FTVŠ UK č. 21. Bratislava: FTVŠ UK, ICM AGENCY, 4-17. ISBN 978-80-89257-62-1.
- Malina, R.M. (2010). *Early sport specialization: roots, effectiveness, risks*. Curr Sports Med Rep. 2010;9(6):364-371.
- Miftari, F. Selimi, M. Salihu, H. (2018). *Diferences In Some Anthropometric Parameters Between Basketball, Handball and Volleyball Elite Athlete in Kosovo*. Bulletin of the Transilvania University of Braşov Series IX: Sciences of Human Kinetics • Vol. 11 (60) No. 1 - 2018.
- Mihaela, Chicomba. (2009). *Technical Training – a Fundamental Component of Sports Training in The Basketball Game*. Bulletin of the Transilvania University of Braşov Vol. 2 (51) - 2009 Series VIII: Art Sport.
- Mital, Anil. & Kumar Shrawan. (1998). Human muscle strength definitions, measurement, and usage: Part I - Guidelines for the practitioner1. International Journal of Industrial Ergonomics 22 (1998) 101—121.
- Montgomery, P. Pyne, D. Hopkins, W. Dorman, J. Cook, K. Minahan, C. (2008). *The effect of recovery strategies on physical performance and cumulative fatigue in competitive basketball*. J Sport Sci, 2008; 26(11): 1135-1145.
- Moreira, A. (2008). *Testes de campo para monitorar desempenho, fadiga e recuperação em basquetebolistas de alto rendimento*. Rev Educ Fís/UEM. 2008;19(2):241-50
- Nazim, Razali. Aida, Mustapha. Faiz, Ahmad, Yatim. Ruhaya, Ab, Aziz. (2017). *IOP Conf. Series: Materials Science and Engineering* **226** (2017) 012087 doi:10.1088/1757-899X/226/1/012087.
- Nidhal, Ben, Abdelkrim. Anis, Chaouachi. Karim, Chamari. Mokhtar, Chtara. & Carlo, Castagna. (2010). *Positional Role and Competitive Level Differences in Elite Level Men'a Basketball Players*. Journal of Strength and Conditioning Research; May 2010; 24, 5; Biological Science Collection. pg. 1346.
- Nikolas, Apostolidis. Zacharakis, Emmanouil. (2015). *The influence of the anthropometric characteristics and handgrip strength on the technical skills of young basketball players*. Journal of Physical Education and Sport

® (JPES), 15(2), Art 50, pp.330 - 337, 2015 online ISSN: 2247 - 806X; p-ISSN: 2247 – 8051; ISSN - L = 2247 - 8051 © JPES.

- Ostojic, S.M. Mazic, S. Dikic, N. (2006). *Profiling in basketball: physical and physiological characteristics of elite players*. J Strength Cond Res, 2006; 20(4): 740–744 doi:10.1519/R-15944.1.
- Patrícia, Coutinho. Isabel, Mesquita & António, M, Fonseca. (2016). *Talent development in sport: A critical review of pathways to expert performance*. International Journal of Sports Science & Coaching 2016, Vol. 11(2) 279–293 ! The Author (s) 2016 Reprints and permissions: sagepub.co.uk/journalsPermissions.nav DOI: 10.1177/1747954116637499 spo.sagepub.com.
- Petrovic, M. Ramos, J. Šolaja, M. Golik-Peric, D. Obradovic, B. (2013). *Influence of anthropometric characteristics on jumping performance in young basketball players in the British Basketball League*. Sport Scientific & Practical Aspects, 2013; 10(2): 31–34.
- Prafull, Kamble. Vandana, S. Daulatabad, P, S. and Baji. (2012). *Study of anthropological parameters, body composition, strength & endurance in Basketball players*. Int J Biol Med Res. ; 3(1): 1404-1406.
- Richard, Kucsá. Peter, Mačura. (2015). *Physical Characteristics Of Female Basketball Players According To Playing Position*. Acta Facultatis Educationis Physicae Universitatis Comenianae: Vol. 55 No 1 2015.
- Rodrigues, Alonso, M. Fernandes, Garcia, B. Perez, Landaluce, J. & Terrados, N. (2003). *Blood Lactate and Heart Rate During National and International Woman's Basketball*. J Sports Med Phys Fitness 43: 432 – 436.
- Rusdiana, A., Supriyatna, A. (2015). *Pengembangan Alat Ukur Kecepatan Lari Berbasis Mikrokontroler dengan Interfacing Personal Computer*. Jurnal Terapan Ilmu KeOlahraga 2015 Vol.02 No.02 Halaman 34-39.
- Sallet, P. Perrier, D. Ferret, J. M. Vitelli, V. & Baverel, G. (2005). *Physiological differences in professional basketball players as a function of playing position and level of play*. J. Sports Med. Phys. Fitness, 45(3):291-4.
- Sanne, Cornelia, Maria, te. & Wierike., dkk (2014). *Role of maturity timing in selection procedures and in the specialisation of playing positions in youth basketball*. Journal of Sports Sciences, <http://dx.doi.org/10.1080/02640414.2014.942684>.
- Spurgeon, J.H., Spurgeon, N.L., & Giese, W.tC. (1981). *Measures of body size and form of elite female basketball players*. Medicine Sport 15:192-200.
- Stojanovic, E., Stojiljkovic, N., Scanlan, A. T., Dalbo, V. J., Berkelmans, D. M., & Milanovic, Z. (2018). *The activity demands and physiological responses*

- encountered during basketball match-play: A systematic review. Sports Medicine*, 48(1), 111–135.
- Stone, N. (2007). *Physiological Response to Sport-Specific Aerobic Interval Training in High School Male Basketball Players*. Auckland, New Zealand: Auckland University of Technology, School of Sport and Recreation, 2007.
- Taylor, J. (2004). *A tactical metabolic training model for collegiate basketball*. *Strength and conditioning journal*, 26(5), 22-29.
- Thomson, J. (1994). Inside players. In: KRAUSE J. (Ed.): *Coaching basketball*. (Masters Press, Indianapolis).
- Tsitskaris, G. Theoharopoulos, A. & Garefis, A. (2003). *Speed, speed dribble and agility of male basketball players playing in different positions*. *J. Hum. Mov. Stud.*, 45(1):21-30.
- Trninic, S. (1996). *Analysis and teaching-learning the basketball game*. In Croat. (Vikta, Pula, 1996).
- Trninic, S. Selekcija, Priprema. Vođenje, košarkaša. & momčadi. (2006) *The selection, preparation and guiding basketball players and teams*. 953-97019-2-9.
- Trninic, S. D, Dizdar. Z, Jaklinovic - Fressl. (1999). *Kinesiology*, 31.16.
- Trninic, S. & D, Dizdar. (2000). *System of the Performance Evaluation Criteria Weighted per Positions in the Basketball Game*. *Coll. Antropol.* 24 (2000) 1: 217–234 UDC 572.5:796.323 Original scientific paper.
- Vaquera Alejandro., dkk (2015). *Anthropometric Characteristics of Spanish Professional Basketball Players*. *Journal of Human Kinetics* volume 46/2015, 99-106 DOI: 10.1515/hukin-2015-0038.
- Vuckovic, I. Mekic, M. (2009). *Morfological characteristics of basketball players from playing position aspect*. In 1st International Scientific Conference. Exercise and Quality of Life. Proceedings book. Editor Mikalacki M. University of Novi Sad, 309-316; 2009.
- Wooten, M. (1992). *Coaching basketball successfully*. (Leisure Press, Champaign, IL).
- Ziv, G., & Lidor, R. (2009). *Physical attributes, physiological characteristics, on-court performances and nutritional strategies of female and male basketball players*. *Sports Medicine*, 39 (7), 547–568.
- Ziv, G., & Lidor, R. (2010). *Vertical jump in female and male basketball players—A review of observational and experimental studies*. *Journal of Science and Medicine in Sport*, 13(3), 332–339.



Zwierko, T. and Lesiakowski, P. (2007). *Selected parameters of speed performance of basketball players with different sport experience levels*. Stud Phys Cult Tourism 14: 307–312, 2007.

### **Sumber Lain:**

Detiksport. (2017). *Pemerintah Akan Bagi Empat Level Atlet Elite untuk Pelatnas 2018*. <https://sport.detik.com/>.

Dewayani, M. (2013). *Statistik itu penting dalam olahraga*. Diambil dari: [http://www.kompasiana.com/keiramaunakea/statistik-itu-penting-dalam-olahraga\\_552e17416ea834a3378b45a4](http://www.kompasiana.com/keiramaunakea/statistik-itu-penting-dalam-olahraga_552e17416ea834a3378b45a4) (22 September 2013 14:15:09)

Hugo, Karin. (2004). *A Model for Talent Identification and Development for Team Sports in South Africa*. Dissertation presented for the degree of Doctor in Sport Science at the University of Stellenbosch.

Sulistyaningrum, S, W. (2020). *Urgensi Revisi Peraturan Presiden No. 95 Tahun 2017 Tentang Peningkatan Prestasi Olahraga Nasional*. Kementerian PPN/Bapenas. Direktorat Keluarga, Perempuan, Anak, Pemuda dan Olahraga.

Trninic, S. (1995). *Structural analysis of knowledge in the basketball game*. Ph. D. Thesis. In Croat. (Faculty of Physical Education, Zagreb, 1995).