



## **Analysis of the physical condition profile of athletes in Tangerang City's Measurable Sports Branch as Part of the Porprov Banten 2022 Preparation: Descriptive study**

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### **Abstract**

The study was conducted from August to October 2022. The data collection was taken at the Tangerang City Fort Stadium. The research sample is Tangerang City Athletes who will be prepared in Porprov Banten 2022. The instruments of this study are (1) an Anthropometric Test consisting of height (cm) and Weight (kg), (2) a Biomotor Ability Test or Physical ability consisting of a Flexibility Test with cm units, an Explosive power test of limb muscles using Vertical Jump with centimeters (cm) assessment unit, Abdominal muscle strength test with Push-ups with the unit of assessment of the number of performed in 1 minute. Data analysis techniques in this study use Descriptive Analysis. The method used in this study is Descriptive Quantitative and is an approach to finding the answer to the problem through the formulation of the problem that has been formulated, namely the Profile of the Physical Condition of Tangerang City Athletes in the Context of Preparing for Porprov Banten 2022 which is seen from the physical profile that is tested and measured is Anthropometry, and Biomotor components.

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## INTRODUCTION

Almost all sports place a high value on physical fitness. So that the level of physical freshness and functioning capacity of the body's tools is better, physical activity needs to be arranged properly and systematically. Strength is one of the four fundamental physical abilities and one of the most crucial since it affects how well an athlete moves. Athletes can move rapidly, handle certain loads, and maintain a stable body position with the help of strong muscles.

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as early as feasible thanks to these supporting scientific studies.

Bompa stated that physical, technical, tactical, and mental training are the four areas of training that need to be properly addressed and trained in (Bompa and Buzzichelli 2019). The physical training component is more important because it forms the basis of an accomplishment-based sport (Flow, Ph.D. and Arus 2018; Magill and Anderson 2016). Physical fitness is a crucial component in practically all sports (H. Indrawira, U. Maslikah, G. Jariono, H. Nugroho 2021; Hermawan et al. 2020; Jariono et al. 2020; Ruslan 2011). So that the level of physical freshness and functioning capacity of the body's tools is better, physical activity needs to be arranged properly and systematically. Strength is one of the four fundamental physical abilities and one of the most crucial since it affects how well an athlete moves. Athletes can move rapidly, handle certain loads, and maintain a stable body position with the help of strong muscles.

Many unanswered issues about technical aspects, such as the selection of athletes through physical condition tests, and those concerning the growth of athletic success and sports coaches in our country, will be resolved by the information gleaned from the conducted research. It is hoped that the answers to the questions raised by the research's findings will help advance Indonesia's sporting prowess. This study aimed to identify Tangerang City's Measurable Sports Athletes' Physical Condition Profile.

## METHODS

The quantitative descriptive methodology used in this study is a study that gathers data from survey results obtained from data from tests and

measurements, which include physical condition tests that assess endurance, agility, and speed as well as the power and strength of the abdominal and leg muscles. In this study, descriptive analysis of percentages was employed to statistically analyze the data. Following the collection of the data, analysis of the data to conclude the study was carried out using quantitative descriptive analysis techniques with percentages of data using descriptive analysis of frequencies using formulas where  $P = \frac{F}{N} \times 100\%$  where P is the desired percentage, F is the frequency, and N is the number of samples, with an overall descriptive analysis of frequency using Microsoft Excel 2019.

### Participants

In this study, 30 athletes from Tangerang City were the population and samples; there were 15 sons and 15 daughters among them. Purposive sampling was used to choose the samples. This study was conducted in the Fort Stadium, which is located at 72 Jalan Taman Makam Pahlawan Tangerang in Sukaasih Kec. Sukaasih Kec Tangerang Rt.001 Rw.002. On August 5, 2022, in Tangerang, Tangerang-Banten City.

### Sampling Procedures

The following sampling procedures were used in this study: I before the Banten Provincial Porprov 2022, researchers randomly selected a sample of athletes from Tangerang City by taking into account the sex characteristics of a population of 50 people; (ii) after the sample was filled, the researcher and the team performed anthropometric tests and measurements and assessed the participants' physical conditions; and (iii) samples were taken as the basis for the study.

### Materials and Apparatus

Weight scales are used in this study as one of the tools and materials to assess weight. Closely measured body using a scale that measures weight in kilograms; (ii) height measurements taken while standing (vertically) with the legs extended and the head and neck upright; (iii) physical condition tests using the sit-and-reach test, the explosive bending test, and the tape measure; and (iv) flexibility measurements were taken using the explosive bending test and the squat test.

### Procedures

Anthropometric measuring tests and physical conditions make up the technique for gathering research information on the physical condition profile of Tangerang city athletes in front of Porprov Banten 2022. The instruments used in this study are (1) anthropometric tests, which measure body weight (kg) and height (cm), (2) Biomotor ability tests, or physical abilities, which measure flexibility in cm units, explosive power in limb muscles measured by a vertical jump measured in centimeters (cm), and abdominal muscle strength measured by a sit-up measured in numbers performed in one minute.

### Design or Data Analysis

A descriptive analysis of percentages was employed in this study's data analysis. After the data were collected, the process of employing quantitative descriptive analysis methodologies and total data analysis with Microsoft Excel 2019 was then continued to derive conclusions from the study.

## RESULT

### 1. Data description

The following histogram shows the average values and standard deviations for the physical condition based on the results

of a descriptive analysis of the frequency concerning the test and measurement of height and weight:

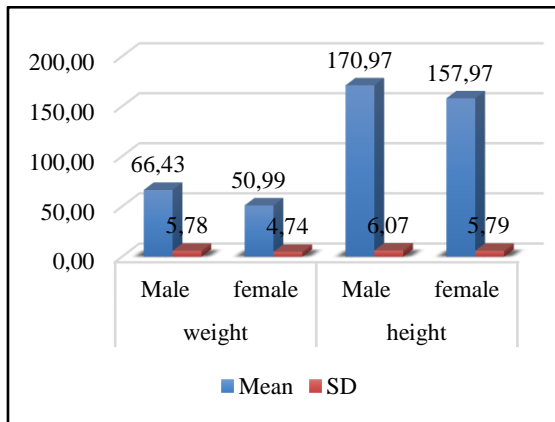


Figure 1. Male and female average height and weight histograms, together with their standard deviations

According to figure 1, the average value for males in terms of anthropometry for weight indicators was 66.43 kg, whereas the average value for princesses was 50.99 kg. For sons, the standard deviation is 5.78, and for princesses, it is 4.74. The average height indication for sons was 170.97 cm, whilst the average height indicator for princesses was 157.97 cm. Sons' standard deviation is 6.07, whereas that of princesses is 5.79. Additionally, tests for flexibility, limb-explosive power, and abdominal muscle strength are part of the examination of physical condition. The findings of the data analysis are shown in the following table:

Table 1. the average value and standard deviation of the male and female physical condition as determined by a descriptive analysis

Variable	Physical condition	
	Mean	SD
Flexibility	Male	33.57
	Female	29.73

Leg muscle explosive power	Male	33.70	4.96
	Female	28.67	4.86
Abdominal muscle strength	Male	39.80	5.19
	Female	22.07	2.99

Based on data from table 1 about the athletes from tangerang city's physical profile in advance of porprov banten 2022. The physical condition profile includes the following tests: (i) flexibility, where sons scored an average of 33.57 cm while princesses scored 29.73 cm. Standard deviation for sons is 5.04 and for princesses is 5.60; (ii) the average value of the explosive power of the limb muscles obtained was 33.70 cm for sons and 28.67 cm for princesses. The average abdominal muscular strength for sons was 39.80, while the average for princesses was 22.07. The standard deviation for the son is 4.96, while the standard deviation for the princess is 4.86. Male standard deviation is 5.19, whereas the female is 2.99

## DISCUSSION

The physical profiles evaluated and assessed are anthropometric and physical condition components, which seek to support the research findings. The results of the examination of the physical condition profile of tangerang city athletes in preparation for porprov banten 2022 are seen from the physical profiles. In essence, these elements demand attention to technological advancements and a constant training debriefing process. So that the research's findings can assist athletes of all genders and help them perform better.

This study was carried out to ascertain the physical condition profile of tangerang city athletes in preparation for porprov banten 2022. Some of the initial study values will be put into the literature

to create resource manuals for sports coaches and scientists. Sports accomplishments will undoubtedly profit from the development of sports science, which is the foundation for the discipline's philosophy. One of the anthropometric variables is that height is an anthropometric factor, as a study of measures of the human body connected to the dimensions of bones, muscles, and adipose tissue (fat) has now produced its insights for sports science.

Athletes must also be in top physical shape to compete in any sport, especially achievement sports (azhari, subarjah, and tafaqur 2022; batty et al. 2022; smith et al. 2022; yanti, gustian, and gani 2022; zhou et al. 2022). Every exceptional sports person must be in the required physical shape. The results of this study corroborate findings from other investigations, including work by various researchers, (adegoke et al. 2022; cherif et al. 2022; dah et al. 2022; delhi 2022; kang et al. 2022). The results of this study demonstrate that, in addition to the social, psychological, and athlete accomplishment-related elements, anthropometric variables and standards of physical fitness impact quality achievement.

According to (adegoke et al. 2022; ashley-martin et al. 2021; hu et al. 2022; kennedy et al. 2021; sophie et al. 2022) anthropometry is the study of the numerical characteristics of the human body, such as its size, shape, and strength, and how to use these characteristics to solve design-related problems. Anthropometry is the study and measurement of the dimensions of the human body. The measuring of body proportions or other physical characteristics that are significant for garment design is known as anthropometry.

According to (martins et al. 2022; östenberg et al. 2022; pradas et al. 2022;

williams et al. 2022) physical freshness is a talent that is directly tied to the demands of a specific activity. In reality, a variety of variables interact to affect athletic success. Ability is one of the most crucial components of physical condition, thus processing and assessment are required to ascertain whether improvements have been made. Since each sport has different physical requirements. Different and distinct physical skills are required for each particular activity or discipline

## CONCLUSION

The results of this study can be used to conclude that one way to evaluate an athlete's accomplishments is to understand their physical makeup in advance of the 2022 banten provincial championships. Nevertheless, it is important to carry out further research on the level of physical fitness, environmental factors, psychosocial issues, athlete psychology, and the enhancement of athlete performance.

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## REFERENCES

- Adegoke, Oluseyi, Oluwadamilola O. Ojo, Obianuju B. Ozoh, Ayesha O. Akinkugbe, Ifedayo A. Odeniyi, Babawale T. Bello, Osigwe P. Agabi, And Njideka U. Okubadejo. 2022. "The Impact Of Sex On Blood Pressure And

- Anthropometry Trajectories From Early Adulthood In A Nigerian Population : Insights Into Women's Cardiovascular Disease Risk Across The Lifespan.” *Bmc Women’s Health* 1–9. Doi: 10.1186/S12905-022-01888-7.
- Arus, Ph.D., Emeric, And Emeric Arus. 2018. *The Fundamentals Of Biomechanics*.
- Ashley-Martin, Jillian, Lora Iannotti, Carolyn Lesorogol, Charles E. Hilton, Charles Owuor Olungah, Theodore Zava, Belinda L. Needham, Yuhan Cui, Eleanor Brindle, Bilinda Straight, Lora Iannotti, Carolyn Lesorogol, Charles E. Hilton, Charles Owuor Olungah, Theodore Zava, Belinda L. Needham, Yuhan Cui, And Eleanor Brindle. 2021. “Heavy Metal Blood Concentrations In Association With Sociocultural Characteristics , Anthropometry And Anemia Among Kenyan Adolescents.” *International Journal Of Environmental Health Research* 00(00):1–15. Doi: 10.1080/09603123.2021.1929871.
- Azhari, Ahmad Saepul, Herman Subarjah, And Muhammad Tafaqur. 2022. “The Effect Of Skipping Exercise On Improving The Physical Condition Component In Badminton Sport.” Pp. 1–8 In *The International Conference Of Sport For Development Andpeace*.
- Batty, G. David, Ian J. Deary, Drew Altschul, G. David Batty, Ian J. Deary, And Drew Altschul Pre-Pandemic. 2022. “Annals Of Medicine Pre-Pandemic Mental And Physical Health As Predictors Of Covid-19 Vaccine Hesitancy : Evidence From A Uk-Wide Cohort Study.” *Annals Of Medicine* 54(1):274–82. Doi: 10.1080/07853890.2022.2027007.
- Bompa, T. O., And Carlo A. Buzzichelli. 2019. *Periodization: Theory And Methodology Of Training*. Vol. 53.
- Cherif, Moncef, Mohamed Ahmed, Karim Bannour, Majed M. Alhumaid, Mounira Ben, Marwa Khammassi, And Abdallah Aouidet. 2022. “Heliyon Anthropometry , Body Composition , And Athletic Performance In Speci Fi C Fi Eld Tests In Paralympic Athletes With Different Disabilities.” *Heliyon* 8(February):E09023. Doi: 10.1016/J.Heliyon.2022.E09023.
- Dah, Clarisse, Ali Sié, Mamadou Bountogo, Valentin Boudo, Elodie Lebas, Fanice Nyatigo, Benjamin F. Arnold, Kieran S. O. Brien, And Catherine E. Oldenburg. 2022. “How Does Baseline Anthropometry Affect Anthropometric Outcomes In Children Receiving Treatment For Severe Acute Malnutrition ? A Secondary Analysis Of A Randomized Controlled Trial.” *Wiley* (July 2021). Doi: 10.1111/Mcn.13329.
- Delhi, New. 2022. “Effect Of Maternal Supplementation With Two Different Doses Of Vitamin.” *Indian Pediatrics* 59(April).
- Donie. 2017. “Kepemimpinan Pelatih Dalam Pembinaan Olahraga Prestasi.” *Journal Fik Unp*.
- Fitri, Yulia, Nunung Sri Mulyani, Eva Fitrianiingsih, And Suryana Suryana. 2016. “Pengaruh Pemberian Aktivitas Fisik (Aerobic Exercise) Terhadap Tekanan Darah, Imt Dan Rlpp Pada Wanita Obesitas.” *Action: Aceh Nutrition Journal* 1(2):105. Doi: 10.30867/Action.V1i2.19.
- Giriwijoyo, S., & Sidik, D. Z. 2009. “Dasar-Dasar Fisiologi Pelatihan Fisik (Meningkatkan Kemampuan Anaerobik Dan Kemampuan Aerobik).” *Jurnal Kepeleatihan Olahraga*.
- H. Indrawira, U. Maslikah, G. Jariono, H. Nugroho, I. Hermawan. 2021. “Pelatihan Dan Penyusunan Latihan Fisik Pada Anggota Komando Strategis Angkatan Darat ( Kostrad ).” *Jurnal Altifani : Penelitian Dan Pengabdian Kepada Masyarakat* 1(1):27–34. Doi: 10.25008/Altifani.V1i1.115.
- Hermawan, Iwan, Uzizatun Maslikah, Mustafa Masyhur, And Gatot Jariono. 2020. “Pelatihan Kondisi Fisik Pelatih Cabang Olahraga Kota Depok Jawa Barat Dalam Menghadapi Persiapan Porprov 2022.” *Prosiding Seminar Nasional Pengabdian Kepada Masyarakat 2020 (Snppm-2020)* 1(1):371–80.
- Hu, Jun, Yongbin Jiang, Hui Shen, Limin Ding, Xiaopao Xu, And Wenjun Wu. 2022. “Metabolic Abnormalities In Chinese Adults ?” *Wiley* (March). Doi: 10.1002/Dmrr.3580.

- Jamalong, Ahmad. 2014. "Peningkatan Prestasi Olahraga Nasional Secara Dini Melalui Pusat Pembinaan Dan Latihan Pelajar (Pplp) Dan Pusat Pembinaan Dan Latihan Mahasiswa (Pplm)." *Jurnal Pendidikan Olahraga*. Doi: <http://dx.doi.org/10.31571/jpo.v3i2.127>.
- Jariono, Gatot, Nursubekti Nursubekti, Pungki Indarto, Singgih Hendarto, Haris Nugroho, And Fahmy Fachrezy. 2020. "Analisis Kondisi Fisik Menggunakan Software Kinovea Pada Atlet Taekwondo Dojang Mahameru Surakarta." *Transformasi: Jurnal Pengabdian Masyarakat*. Doi: [10.20414/transformasi.v16i2.2635](https://doi.org/10.20414/transformasi.v16i2.2635).
- Kang, Yunhee, Lee Shu, Fune Wu, Saijuddin Shaikh, Hasmot Ali, Abu Ahmed Shamim, Parul Christian, And Alain Labrique. 2022. "Birth Anthropometry Predicts Neonatal And Infant Mortality In Rural Bangladesh: A Focus On Circumferential Measurements." *Am J Clin Nutr* 1334–43.
- Kennedy, Samantha, Brooke Smith, Sima Sobhiyeh, Marcelline E. Dechenaud, Michael Wong, Nisa Kelly, John Shepherd, And Steven B. Heyms. 2021. "Digital Anthropometric Evaluation Of Young Children: Comparison To Results Acquired With Conventional Anthropometry." *European Journal Of Clinical Nutrition*. Doi: [10.1038/s41430-021-00938-x](https://doi.org/10.1038/s41430-021-00938-x).
- Magill, Richard A., And David I. Anderson. 2016. *Motor Learning And Control: Concepts And Applications*. Eleventh E. United States: Mc Graw Hill Education.
- Martins, Francisco, Krzysztof Przednowek, C. França, Helder Lopes, Marcelo De Maio Nascimento, Hugo Sarmento, Adilson Marques, Andreas Ihle, Ricardo Henriques, And É. R. 2022. "Predictive Modeling Of Injury Risk Based On Body Composition And Selected Physical Fitness Tests For Elite Football Players." *Journal Of Clinical Medicine* Article 11(4923):1–14. Doi: <https://doi.org/10.3390/jcm11164923>.
- Östenberg, Anna Hafsteinsson, Anton Enberg, Haris Pojskic, Barbara Gilic, Damir Sekulic, And Marie Alricsson. 2022. "Association Between Physical Fitness , Physical Activity Level And Sense Of Coherence In Swedish Adolescents ; An Analysis Of Age And Sex Differences." *International Journal Of Environmental Research And Public Health* 19(12841):1–13. Doi: <https://doi.org/10.3390/ijerph191912841>.
- Pradas, Francisco, Ana De Torre, Alejandro Moreno-Azze, Juan Francisco, And Miguel Á. Ortega-Zayas. 2022. "Analysis Of Specific Physical Fitness In High-Level Table Tennis Players — Sex Differences." *International Journal Of Environmental Research And Public Health* 19(5119). Doi: <https://doi.org/10.3390/ijerph19095119>.
- Ruslan. 2011. "Meningkatkan Kondisi Fisik Atlet Pusat Pendidikan." Ilara.
- Smith, Pierre, Kristiaan Proesmans, Dieter Van Cauteren, Stefaan Demarest, Sabine Drieskens, Robby De Pauw, Laura Cornelissen, Karin De Ridder, And Rana Charafeddine. 2022. "Post Covid - 19 Condition And Its Physical , Mental And Social Implications : Protocol Of A 2 - Year Longitudinal Cohort Study In The Belgian Adult Population." *Archives Of Public Health* 1–12. Doi: [10.1186/s13690-022-00906-2](https://doi.org/10.1186/s13690-022-00906-2).
- Sophie, E., S. Helene, U. Lydia, K. Michael, Sophie E. Kastberg, Helene S. Lund, Rolfe Lydia U. Kaduka, Martine Paquette, Alexis Baas, Jon J. Rasmussen, And Dirk L. Christensen. 2022. "Hepatic Steatosis Is Associated With Anthropometry , Cardio- - Metabolic Disease Risk , Sex , Age And Urbanisation , But Not With Ethnicity In Adult Kenyans." *Trop Med Int Health*. Doi: [10.1111/tmi.13696](https://doi.org/10.1111/tmi.13696).
- Tangkudung James. 2006. "Kepelatihan Olahraga 'Pembinaan Prestasi Olahraga.'" Jakarta: Cerdas Jaya.
- Williams, Ryan A., Simon B. Cooper, Karah J. Dring, Lorna Hatch, John G. Morris, Feng Hua Sun, And Mary E. Nevill. 2022. "Physical Fitness , Physical Activity And Adiposity : Associations With Risk Factors For Cardiometabolic Disease And Cognitive Function Across

- Adolescence.” *Bmc Pediatrics* 1–15.  
Doi: 10.1186/S12887-022-03118-3.
- Yanti, Novi, Uray Gustian, And Ruslan Abdul Gani. 2022. “Journal Sport Area Analysis Of The Vo2max Physical Condition Of Tarung Derajat Athletes Through Yoyo Test : Preparation For Pre-Pon Xx.” *Journal Sport Area* 7(1):125–33. Doi: [https://doi.org/10.25299/sportarea.2022.Vol7\(1\).6717](https://doi.org/10.25299/sportarea.2022.Vol7(1).6717) Copyright.
- Zhou, Kai, Hongbo Chi, Jing Wang, Yufen Zheng, Juan Pan, Die Yu, Jiaqin Xu, Hongguo Zhu, Jun Li, Shiyong Chen, Xinzhuan Zhao, Xiaomai Wu, Bo Shen, Tao-Hsin Tung, And Chengwen Luo. 2022. “Physical Condition , Psychological Status , And Posttraumatic Stress Disorder Among Recovered Covid- Subjects : A Mediation Analysis.” *Frontiers In Phychiatry* 13(918679). Doi: 10.3389/Fpsyt.2022.918679.