

## **Parallels between Training Parameters of High-Performance Athletes Determining the Long-Term Adaptation of the Body in Various Sports: Case Study on Different Types of Training and Their Gender Conditioning**

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**Abstract :** Gender gap has always been in dispute when comparing records and has been a major factor influencing best performances in various sports. Consequently, our study registers the evolution of the difference between men's and women's best performances within either cyclic or acyclic sports, considering the fact that the training sessions of high performance athletes prove both similarities and differences in long-term adaptation of their body to stress and effort in breaking limits and records. Firstly, for a correct interpretation of the data and tables included in this paper, we must point out that the intense muscular activity has a considerable impact on the structural organization of the organs and systems of the performer's body through the mechanism of motor-visceral reflexes, forming a high working capacity suitable for intense muscular activity. The opportunity to obtain high sports results during the official competitions is due, on the one hand, to the genetic characteristics of the athlete's body, and on the other hand, to the fact that playing professional sports leaves its mark on the vital morphological and functional parameters. The aim of our research is to study the landmarking differences between male and female athletes and their physical development, together with their growing capacity to stand up to the functional training during the competitive period of their annual training cycle. In order to evaluate the physical development of the athletes, the data of the anthropometric screenings obtained at the Olympic Training Center of the selected teams of the Republic of Moldova were interpreted and rated. During the study of physical development in terms of body height and weight, vital capacity, thoracic excursion, maximum force (Fmax), dynamometry of the hand and back, a further evaluation of the physical development indices that allow an evaluation of complex physical development were registered. The interdependence of the results obtained in performance sports with the morphological and functional particularities of the athletes' body is firmly determined and cannot be disputed. Nevertheless, registered data proved that with the increase of the training capacity, the morphological and functional abilities of the female body increase and, in some respects, approach and even slightly surpass the men in certain sports.

**Keywords :** physical development, indices, parameters, active body weight, morphological maturity, physical performance

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