



Analysis of Selected Physical Fitness Variables Among Participants of Taekwondo

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ABSTRACT

The objective of this study was to analyze the physical fitness variables among taekwondo players from different schools in Coimbatore. To achieve this aim, a total of sixty players were randomly selected from various schools in Coimbatore, Tamil Nadu, and their ages ranged between 12 and 17 years. The participants were divided into two equal groups: thirty subjects in the 54-58 weight group and thirty subjects in the 58-63 weight group. The collected data underwent statistical analysis using an independent 't' test, which aimed to identify significant improvements in the selected variables. The analysis revealed a noteworthy enhancement in both the 54-58 weight group and the 58-63 weight group.

Keywords: 54-58 weight groups, 58-63 weight groups, agility, reaction time and leg explosive power

INTRODUCTION

Taekwondo, a traditional Korean martial art, has evolved over centuries to become a globally recognized and practiced sport. With its dynamic techniques, emphasis on discipline, and philosophical foundations, taekwondo offers a rich tapestry of physical, mental, and cultural dimensions. This introductory article delves into the origins, techniques, training methodologies, and cultural significance of taekwondo, shedding light on its journey from ancient tradition to modern sport. Taekwondo, often referred to as the "way of the foot and fist," is more than just a martial art; it embodies a way of life deeply rooted in Korean history and culture. This article seeks to provide an all-encompassing introduction to taekwondo, exploring its historical roots, core principles, training techniques, and its contemporary status as a global sport. Tracing its origins back to Korea's ancient kingdoms, taekwondo draws inspiration from various Korean martial arts, Chinese martial arts, and indigenous combat systems. The historical development of taekwondo is marked by a fusion of martial techniques, philosophical influences, and cultural exchanges, culminating in the formation of the modern taekwondo we recognize today. Central to taekwondo is a set of guiding principles that emphasize integrity, respect, perseverance, self-control, and indomitable spirit. These principles extend beyond the training mat and influence practitioners' behavior and interactions in their daily lives, fostering a holistic approach to personal development. Taekwondo is renowned for its explosive and high-flying kicking techniques, which showcase the practitioner's flexibility, precision, and power. Training encompasses a diverse range of activities, including forms (poomsae), sparring (kyorugi), self-defense techniques, and breaking (kyukpa). Each of these elements contributes to a well-rounded skillset and a balanced physical conditioning. Taekwondo employs a colored belt ranking system to signify a practitioner's level of expertise and experience. Advancement through the belt ranks reflects not only technical proficiency but also personal growth and commitment to the art's principles. In the mid-20th century, taekwondo transitioned from a local practice to an internationally recognized sport. Its inclusion in the Olympic Games further accelerated its global reach and popularity. This section explores how taekwondo's cultural underpinnings remain integral even as it becomes a prominent sport on the world stage. Beyond its traditional roots, taekwondo has found applications in various fields, including self-defense, fitness, and therapeutic practices. Its emphasis on discipline, focus, and physical conditioning makes it a valuable tool for individuals seeking personal growth and well-being. Taekwondo's journey from its historical origins to its modern status as a global sport is a testament to its enduring appeal and relevance. With its amalgamation of physical prowess, mental discipline, and cultural heritage, taekwondo continues to captivate practitioners and enthusiasts alike, fostering a sense of unity and respect across cultures. In this article serves as a comprehensive introduction to the multifaceted world of taekwondo, offering readers a glimpse into the rich history, philosophy, techniques, and contemporary significance of this remarkable martial art.

Physical fitness stands as a cornerstone of human well-being and vitality, encompassing a multifaceted interplay of physiological, psychological, and lifestyle factors. This introductory article embarks on a comprehensive exploration of the concept of physical fitness, delving into its significance, components, measurement methodologies, and the profound impact it has on individuals' overall quality of life. By shedding light on the intricate relationship between physical fitness and health, this article aims to provide a foundational understanding for researchers and readers alike. In an era marked by sedentary lifestyles and increasing health concerns, the importance of physical fitness cannot be overstated. This article seeks to provide a comprehensive introduction to the multifaceted realm of physical fitness, underscoring its role in promoting holistic well-being and optimal functioning. Physical fitness encompasses more than just physical strength; it encompasses a holistic state of well-rounded health. This section delves into the various

dimensions of physical fitness, including cardiovascular endurance, muscular strength and endurance, flexibility, and body composition. By understanding the interconnectedness of these components, we can better grasp the overall fitness profile of an individual.

CRITERION MEASURES

The following tests were used to measure the selected variables.

1. Agility was measured by Shuttle run, the unit of measurement was in seconds. (Singh, 1984)
2. Hand Eye Co-ordination was measured by using alternative hand wall toss test (Mackenzie, B 2009). The unit of measurement was in seconds.
3. Explosive Power was measured by Vertical jump, the unit of measurement was in centimeters. (Shine.com).

METHODS

In pursuit of the study's objective, a total of 30 taekwondo participants in the 54-58 weight range and 30 participants in the 58-63 weight range were purposefully selected from various schools in Coimbatore, Tamil Nadu. The age of the subjects ranged between 12 and 17 years. These selected taekwondo participants underwent assessment based on physical fitness variables. After the selection process, the chosen 30 participants in the 54-58 weight range and the 30 participants in the 58-63 weight range were evenly divided into two groups. The first group was designated as Group – I, comprising the 54-58 weight range participants, while the second group was named Group-II, consisting of participants in the 58-63 weight range.

STATISTICAL ANALYSIS

The descriptive calculation and 't' test will be computed. The level of significance will set at 0.05 level of confident.

TABLE 4.1

COMPUTATION OF 'T' RATIO BETWEEN 54-58 WEIGHT GROUPS, 58-63 WEIGHT GROUPS ON PHYSICAL FITNESS VARIABLES

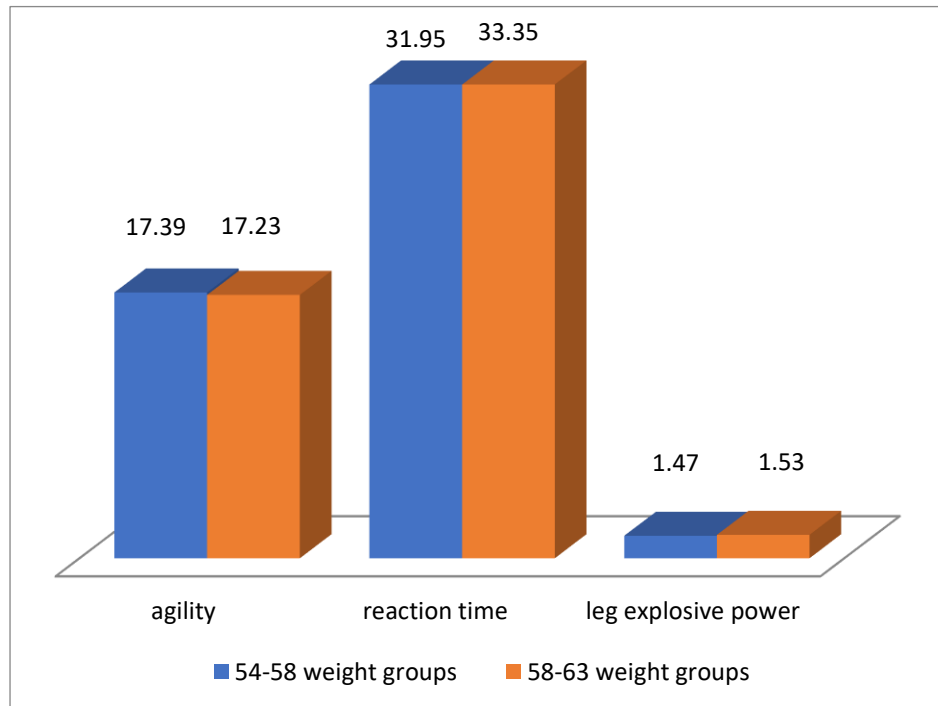
Variable	Group	N	Mean	Standard deviation	Standard Error Mean	t-ratio
Agility	54-58 weight groups	30	17.39	1.68	0.30	4.16*
	58-63 weight groups	30	17.23	2.09	0.38	
Reaction time	54-58 weight groups	30	31.95	0.58	0.65	3.21*
	58-63 weight groups	30	33.35	1.02	0.45	
Leg explosive power	54-58 weight groups	30	1.47	1.20	0.78	5.39*
	58-63 weight groups	30	1.53	1.05	0.55	

*Significant at 0.05 level of confidence (2.14) 1 and 14

Table 4.1 shows The mean agility scores were 17.39 for the 54-58 weight groups and 17.23 for the 58-63 weight groups. The calculated "t" ratio value of 4.16 exceeded the critical table value of 2.04 for degrees of freedom 1 and 29, signifying significance at the 0.05 confidence level. Regarding reaction time, the mean values for the 54-58 weight groups and 58-63 weight groups were 31.95 and 33.35, respectively. The obtained "t" ratio value of 3.21 was higher than the required table value of 2.04 for degrees of freedom 1 and 29, indicating significance at the 0.05 confidence level. For leg explosive power, the mean values in the 54-58 weight groups and 58-63 weight groups were 1.47 and 1.53, respectively. The calculated "t" ratio value of 4.16 was greater than the critical table value of 2.04 for degrees of freedom 1 and 29, demonstrating significance at the 0.05 confidence level. Additionally, the study highlights that the 54-58 weight groups exhibited a longer reaction time compared to the 58-63 weight groups. Furthermore, the study indicates that the 58-63 weight groups displayed higher levels of agility and leg explosive power in comparison to the 54-58 weight groups. The mean value of 54-58 weight groups and 58-63 weight groups on agility, reaction time and leg explosive power were graphically represented in figure I.

FIGURE I

Graphical Representation on Mean Values of 54-58 weight groups and 58-63 weight groups on agility, reaction time and leg explosive power



DISCUSSION AND FINDINGS

The findings of the present study indicate a significant disparity in agility between the groups with weights ranging from 54 to 58 and 58 to 63. Specifically, the 58-63 weight groups demonstrated a higher level of agility compared to the 54-58 weight groups.

Furthermore, the study also uncovers that the 58-63 weight groups exhibited superior agility in contrast to the 54-58 weight groups.

Likewise, the study's outcomes demonstrate a significant divergence in reaction time between the two weight groups: 54-58 and 58-63. Notably, the 54-58 weight groups displayed a longer reaction time than the 58-63 weight groups.

Additionally, the results obtained from this study reveal a significant variance in leg explosive power between the weight groups of 54-58 and 58-63. Remarkably, the 58-63 weight groups showcased a higher level of leg explosive power than the 54-58 weight groups.

CONCLUSIONS

Based on the results and discussion made into the previous chapter, the Following conclusions have been made:

1. The study's conclusion indicates a notable distinction in agility between the weight groups of 54-58 and 58-63.
2. The study's findings establish a significant contrast in reaction time between the weight groups of 54-58 and 58-63.
3. The study's outcomes highlight a substantial discrepancy in leg explosive power between the weight groups of 54-58 and 58-63.
4. The study concludes that the 54-58 weight groups exhibited superior reaction time compared to the 58-63 weight groups.
5. It was concluded that 58-63 weight groups had better agility and leg explosive power than 54-58 weight groups.

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