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A STUDY OF COORDINATION ABILITIES OF FOLD IMPORTANCE IN JUDO SPORTS

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ABSTRACT

Judo is a high-impact sport that puts a lot of strain on an athlete's body. Injury prevention and treatment may be aided by understanding the link between kinanthropometric factors and injury risk. This examination may uncover possible injury risk factors by analyzing body composition, strength imbalances, joint mobility, and other pertinent parameters. To reduce the incidence and severity of injuries, coaches and sports scientists may employ preventative strategies such as targeted strength and conditioning workouts, flexibility regimens, and nutritional therapies. Judo players that are successful show continual development and progress throughout their careers. Researchers may collect longitudinal data on athletes' physical features by performing a study on kinanthropometric measures. This information may be used to discover trends of physical growth and to assist the construction of long-term training regimens. Coaches and trainers may make educated judgments about training intensity, volume, and approaches to maximize an athlete's physical qualities and assure long-term success.

KEYWORDS: Coordination Abilities, Judo Sports, kinanthropometric factors, flexibility regimens, physical qualities

INTRODUCTION

A sport is as ancient as human civilization and has a global popularity in current times. It is now popular alongside various types of social activities. It has become an essential component of the educational process. Millions of men watch various sports events all around the globe with zeal. Many join in the activity for the pleasure of it or for health, strength, and fitness. To others, it is a lucrative vocation associated with a high level of popularity. Sport has evolved into a massive mass movement and social phenomenon.

David Zahradnk et al. (2012), Coordination ability,is the capacity to accomplish challenging spatiotemporal movement structures swiftly and intentionally. Coordination skills are considered in this context as an outwardly observable representation of the central nervous system's control and regulatory processes of motor activity.

A collection of fundamental coordination skills comprise the coordination abilities complex.

Basic coordination abilities:

Adaptive ability permits adjustments of motor activity on the basis of comparison or anticipation of new or changing situations whilst performing motor activity.

Balance ability is defined as the capacity to maintain the body or its components in a generally steady posture.

Combinatory ability is defined as the capacity to combine incomplete motions into more complex movement structures at the same time.

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Kinesthetic diferentiation ability signifies the capacity to recognize kinematic and dynamic movement characteristics.

Orientation ability is the capacity to recognize a body's or its pieces' location in space and time.

Rhythm ability permits one to understand and express rhythm that is either externally dictated or incorporated within the motor action itself.

Coordination abilities are of two fold importance in sports:

Their higher levels are valuable in and of themselves (a skilled individual is capable of better reactions to the need to change the movement, its variability, speed, or the speed at which the movement is performed). Developing them is a prerequisite for the quality of technical preparation (a good level of coordination abilities enables faster and better acquisition of sports skills).

There are certain distinctions between technical preparation and the development of coordination skills. Precision, technical mastery of a restricted set of needed motor abilities, as well as their automation and stability management, are the goals of technical preparation. Stimulating coordination skills entails exposing children to a variety of motor exercises, with the goal of achieving a certain level of automation rather than absolute mastery. Coordination develops between the ages of 5 and 6 (qualitative elements such as economy, fluency, and accuracy rise) and around the age of 12; peak values of agility markers may be attained between the ages of 17 and 20.

According to Sadri, R.N. (1993), Sports performance is an essential component of an athlete's life. It is critical to the country's physical, physiological, psychological, and social development. Competitive sports are becoming more complex and technical as a distinct career, and with the growth of educational facilities in the nation, more young people are participating in sports on a daily basis. Sports and physical fitness improve an individual's production while also promoting community cohesion and discipline.

Competitive sports have a significant impact on a participant's physical condition, energy, endurance, and mental abilities. Only athletes in peak condition can survive the rigors of a competitive season; only athletes in peak condition can perform to the best of their abilities. As a result, physical education programs prioritize the development of physical fitness and motor skill.

Max. M. N. and Buddy T., 1972.

Technology and science have allowed today's youth to attain physical capacities previously unimaginable. Sports became a cultural phenomena of immense scale and complexity in the twenty-first century, with implications for both the individual and society at large. Sports have always been a component of Civilized Society. The mere creation of sports--their internal customs of all kinds to rituals, and their limitless meshes entangling themselves--serves the aim of teaching, testing, and rewarding. This is more than just amusement, games, and diversions. Athletes, like many religious groups, strive for excellence in athletics. In athletics, like in religion, there are heroes and heroines who serve as role models for striving for perfection, who are respected for what they accomplished, nearly becoming

saints. Sports have the sacred essence of saints.

Running, leaping, and throwing have been a natural part of man's survival from ancient times, whether it was hunting animals for sustenance or escape from wild and dangerous species. However, these activities have recently grown more pleasant and competitive. Leading to a drive to improve one's own movement speed or capacity to compete in such events. The advancement of the twentieth century in all aspects of human existence has exceeded the progress of thousands of years, and sports are now a part of everyday life. It has evolved into a critical component of the whole educational process. Children gain skills for using leisure time, participate in activities that promote healthy living, and all of these endeavors contribute to their physical, social, mental, and emotional health as a result of the well-diversified curriculum. Many factors interact in competitive sports, including physique and health status, psychic values, general physical fitness, technical efficiency, specific, capacity of the organism, tactical skills, and competitive experience. The current state of competitive sports, in which a large number of athletes in the vast majority of sports disciplines come close to breaking world records, demonstrates that great performance in sports is no longer primarily a function of available facilities and is more often than not the result of purely individual efforts. However, the result of well planned, scientifically based advanced training procedures aimed to raise performance standards. It is now necessary to identify and pick a future top athlete's right in childhood or adolescence. It takes several years of intense regular training to acquire an international sports performance level.

Every person or team that competes in a sporting event wants to win because society places a high value on "winning." According to Renews (1972), "performance is the keynote of all sports." Since sports have become a prominent component to demonstrate one's supremacy, the idea of game and sports participation has experienced significant shift.

Sports are any kind of fun competition in which the outcome is decided by physical talent, strategy, or luck. Judo is no exception; it has been classified as a game and a sport since it combines competition, the application of physical abilities, and strategy.

According to Almond (1983), the Judo basic rules of a game identify how the game of Judo is to be played and how winning may be attained. Judo is a combative games sport due to the basic rules of the game.

Sport, like all physical activity, is the consequence of coordinated activation of the relevant skeletal muscles. These muscles generate the forces and power that may be transferred into expert movement by functioning via the lever systems of the human skeleton. The International System of Measurement (the SI) is used to analyze and quantify such physical performance for force (newtons), energy, work, and heat (joules), torque (newton-metres), and power (watts). If exercise is defined as any activity that involves the generating of force by active muscles (Knuttgen & Komi 1992; Knuttgen & Kraemer 1987), the resulting physical performance must be characterized in these terms. Force is defined as everything that alters or tends to

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alter the condition of rest or motion in matter. Work is defined as a force represented by displacement with no temporal constraints. Torque is the ability of a force to cause an item to rotate around an axis. Power is the rate at which work is accomplished or the pace at which metabolic potential energy is converted to work and/or heat. The opposing force in dynamic exercise (e.g. provided by a free weight, exercise machine, or ergometer); isometric force sustained; power (energy expenditure or work performed per second or force times velocity); or velocity of progression (e.g. running, cycling, rowing) can thus be quantified in various situations. Endurance is defined as a person's capacity to sustain either an isometric force or a power level of dynamic exercise for an extended period of time. The second (s) is the fundamental SI unit of time. Power may be measured for a single bodily movement, a sequence of motions, or a large number of repeated movements, as in aerobic exercise. Power may be measured in real time at any moment in a movement or averaged throughout the course of a movement or session of exercise.

varied individuals have varied definitions of fitness. The capacity to manage the physical demands of regular life without severe exhaustion and yet have something in reserve is perhaps the best description of fitness. When it comes to fitness, it is critical to ask yourself, "fit for what?" Any activity/exercise regimen will affect the way different bodily systems function.

The body's ability to adapt to these changes is determined by how well it is prepared for the demands placed on it. If the demands of the activity become too much for a person's bodily systems, they must quit.

When the body is subjected to consistent stresses, it adapts and exercise becomes simpler. This is known as the adaption principle. Fitness is a combination of several distinct physical characteristics. To some degree, everyone need these traits. The degree to which a person has these characteristics impacts their health and athletic ability. There are two types of fitness components: health-related fitness components and motor fitness components (also known as sports-related or skill-related fitness).

Health-related fitness Cardiovascular or aerobic fitness

This is characterized as the capacity to exercise for an extended amount of time without tiring. It is dependent on the ability of the heart, circulatory system, and lungs to satisfy the needs of the body over a long period of time. Aerobic activities engage the cardiovascular and respiratory systems, increasing the efficiency with which oxygen is transported and used to create energy. Aerobic exercise on a regular basis is a wonderful strategy to enhance health. Aerobic exercise is any continuous, rhythmical activity that involves vast muscular groups under low strain. Except during moments of heavy labor, the aerobic energy system meets the majority of the body's energy requirements.

When a person begins to exercise, the working muscles need more oxygen to be given. This additional demand may take up to 3 minutes for the heart, lungs, and circulatory system to satisfy, and in the meanwhile, anaerobic systems will meet the demands. A warm-up serves to mobilize the aerobic system so that it may

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be used in the main activity, and as long as the exercise is continuous and submaximal, the majority of the energy will be generated in this manner.

Muscular strength

Almost every job in daily life requires muscular effort. Some demand brief bursts of strong labor – strength – while others require repeated/longer periods of lighter work – muscular endurance. Muscular strength and endurance are both essential for health and fitness, as well as boosting athletic performance. Muscular strength is the greatest force that a muscle group can produce against resistance. Lift a hefty resistance for a few repetitions to build muscle strength (high load - low reps). The primary result of this sort of exercise is hypertrophy (muscle growth).

Muscular endurance

This is a muscle group's capacity to deliver a submaximal force against a resistance over a protracted length of time. A light resistance should be raised for many repetitions to enhance muscle endurance (low load - high reps). This sort of exercise has the primary impact of increasing capillarisation and the quantity and size of mitochondria.

Flexibility

Flexibility, often known as suppleness, is a measure of a joint's maximal range of motion (ROM). Flexibility is limited to certain joints. Flexibility exercises enhance joint ROM by moving joints slightly beyond their point of resistance - the point at which the muscle contracts and stress is felt. Flexibility is essential for increasing both athletic performance and wellness. Stretching reduces the chance of injury and enables you to utilise your strength throughout a wider range of motion.

Motor (sports-related/skill-related) fitness

This is the capacity to perform well in a certain athletic situation OR the degree of physical fitness necessary for the rigors of frequent sporting engagement. All aspects of health-related fitness are required for athletic performance. Sports fitness is more directly tied to an athlete's ability to execute the abilities required for their sport in an effective and efficient manner.

(1) Agility is the capacity to alter one's body position and direction fast and precisely - to move in a controlled manner while turning, halting, and beginning swiftly. It combines speed, balance, power, and coordination.

(2) Coordination is the capacity to do complicated motor activities that need numerous abilities to be performed in succession - the ability to carry out a series of motions smoothly and effectively.

(3) Power is a synergistic mix of strength and speed. It is described as the capacity to contract muscles quickly and forcefully in a single explosive act. The anaerobic CP system provides the energy for power.

(4) Speed is defined as the capacity to move the body, or a portion of the body, across a certain distance in the smallest amount of time. Different body parts may begin speed, and in certain sports, just one body component is supposed to move quickly. Speed necessitates a rapid delivery of energy to muscles through anaerobic energy sources.

(5) Reaction time is the amount of time it takes to react to a specific stimuli. The time elapsed between the start of a reaction and the end of the

movement is referred to as movement time. The entire length of time between the provided stimulus, the response to it, and the completion of that response is known as response time (response time = reaction time + movement time). When there is just one stimulus and no decisions must be taken, simple response time occurs. When there are several viable replies, choice reaction time arises - greater reaction time.

(6) Balance refers to being conscious of one's body's position in a fast changing physical activity. Static balance is the ability to maintain a posture without moving. Dynamic balance is the ability to maintain a position while moving. Maintaining balance necessitates maintaining the center of gravity of the body above the base of support. The eyes, ears, and proprioceptive organs in joints all work together to preserve balance. These motor abilities may be improved with frequent training.

CONCLUSION

The Pearson Product Movement Method of co-efficient of correlation was used to compute the data relating to each of the specified anthropometric factors and motor fitness variables of male and female Judo players at various levels of involvement. To test the hypothesis, the threshold of significance selected was 0.05, P 0.05. The data analysis indicated that there was a positive insignificant link between height and leg length of as the obtained results (.26 and 0.35) suggested a positive insignificant relationship between the two. A very significant positive association (0.54*) was found between the arm lengths of state and national female judo players. Weight (0.32), Chest circumference (0.32), Abdomen Circumference (0.34), Upper arm circumference (0.23), Forearm circumference (0.36), Thigh circumference (0.31), Calf circumference (0.06), Body Mass Index (0.22), and body fat (0.21) were shown to have an insignificant positive association.

Thigh circumference (0.03), arm length (0.17), leg length (0.26), Chest circumference (0.21), Abdomen Circumference (0.04), Calf circumference (0.23), Body Mass Index (0.19), and body fat (0.13) were similarly shown to have a positive insignificant connection. Height, weight, upper arm circumference, and forearm circumference of state and international female judo players were shown to have a strong significant positive connection. It was also evident that there was a positive insignificant relationship between height, weight, arm length, leg length, Abdomen Circumference, upper arm circumference, forearm circumference, calf circumference, body fat, and body mass index. Chest circumference and thigh circumference of national and international female judo players showed a very significant positive connection.

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