

Early adolescence is the fastest development period between childhood and adulthood. It is understood that this situation is important in determining the differences between ages in terms of academic and sports studies in adolescence development. It should be remembered that differences in the motor power of individuals, especially in early adolescence (11-14 years), may affect athletes' athletic achievement and future athlete training levels. In this case, some physical fitness tests are required to better monitor the health and education levels of individuals in childhood and adolescence. It is seen that these tests are widely used especially in childhood and adolescence.



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SPORTS AND TALENT SELECTION IN EARLY ADOLESCENCE

Edited by Ahmet Uzun

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PREFACE

Early adolescence is the fastest development period between childhood and adulthood. It is understood that this situation is important in determining the differences between ages in terms of academic and sports studies in adolescence development. It should be remembered that differences in the motor power of individuals, especially in early adolescence (11-14 years), may affect athletes' athletic achievement and future athlete training levels. In this case, some physical fitness tests are required to better monitor the health and education levels of individuals in childhood and adolescence. It is seen that these tests are widely used especially in childhood and adolescence. In general, it is worth investigating the ability selection measurements and physical properties that can provide information about the suitability of the individual in early adolescence. The purpose of this book is to draw attention to issues related to early adolescence.

Assoc. Prof. Dr. Ahmet Uzun

Editor

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***THE RELATIONSHIP BETWEEN TALENT
IDENTIFICATION IN SPORTS AND KINESTHETIC
INTELLIGENCE AND PHYSICAL SELF-ESTEEM IN
CHILDREN AGED 8-10 YEARS***

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Introduction

Societies that saw the necessity and importance of sports to be a part of everyday life believed in the need to meet sports at an early age, not just to produce success, but to have a vibrant and healthy generation (Gökdemir, 1991). Sports should enter kid life at an early age as it will play an important role in the child's growth, maturation, cognitive development and socialization(Murathı, 1997). In sports branches, the training age to start the branch, the most productive age range in this branch, the possible first successes with an efficient training, has been revealed by many researches. For this reason, early and accurate selection of talent in sport is of great importance for sustainable sporting efficiency (Sevim, 1995). Important developments in all sports branches are the product of the evaluation of the basic and unique body structure and kinesiological self-structure of the athletes. From this point of view, it is considered important to

examine physical properties and performance profiles, which are important factors in talent selection and sports orientation(Heimer, Misigoj ve Medved, 1988).

The ability, a complex trait, is genetically innate, exhibits a complex structure, and is observed to be influenced by environmental conditions (Kozel, 1996). However, while intelligence determines the concept of intelligence by conducting “intelligence quotient” that implies what determines the concept of intelligence is the current level of the intelligence and takes the functions and performance as metrics, others define intelligence as the ability of one’s learning skills (Saban, 2014).

Gardner also criticizes the traditional understanding that human intelligence can be evaluated objectively, stating that intelligence cannot be explained by a single factor within its own structure, and that there are many abilities affecting this field (Saban, 2014). Each of the areas of intelligence has its own importance in different ways and starting from this, individuals ' abilities and capacities have been discovered, measured and classified. Research reveals the fact that the learning environment for intelligence development is more important than participation to be accurate and effective (Demirgan, 2006). The 8 types of intelligence that Gardner asserts are verbal intelligence, social intelligence, spatial intelligence, intrinsic intelligence, musical intelligence, natural intelligence, numerical intelligence, and kinesthetic intelligence. From these areas of intelligence, the field of kinesthetic intelligence means that “one can use one's whole

body or certain organs of his body to find a solution to a problem, build a model, or produce a product." The field of kinesthetic intelligence includes some physical abilities such as coordination, balance, strength, flexibility, and speed, as well as psychomotor traits that enable all of these abilities to work together (Saban, 2014).

Physical self-respectability, often addressed by researchers, is an important construct of self-confidence and overall self-perception. At the same time, overall self-perception is one of the major factors affecting participation in sport. The physical self or physical perception is an important element of self-confidence and self-concept (Aşçı, Gökmen, Tiryaki, Aşçı and Zorba 1993). Human creates his self by combining his primitive, simple, individual accumulations directly obtained by himself. So a person who says," I'm tall " will compare himself to other people because of the height variable and make a classification for himself. The act of self-acceptance is similar to self-respect in terms of being the emotional dimension of one's self-perception. But self-acceptance is treated and assessed more broadly than an attitude of self-respect. In addition to the fact that the individual likes his own body and thinks that he can be physically self-sufficient, it is common for the perceived physical competence to be at a high level, as well as the results of the thought of being good and the basic building blocks of the concept of self, such as self-respect (Kuru & Baştug 2008).

In general, ability selection measurements and physical characteristics that can give information about the individual's self-fitness are worth investigating, in addition to how the individual perceives himself, the relationship between kinesthetic intelligence fields.

What is the Concept of Ability?

The concept of ability is a field which is recently discussed by several science fields ; especially in relation to the psychological, pedagogical and sociological situations of children (Muratlı, 1997). Ability is described as the power which is inborn. In another definition, it is mentioned as the inborn ability to learn or do anything while explaining the ability (Özal, 2003). Ability, according to sports science; is a collection of features that are above normal in a certain area but not yet fully developed (Röthig, 1972).Sports science,examines the concept of talent in sports by considering situations such as social environment, psychological conditions etc (Muratlı, 1997). Sporting ability is considered as a dynamic potential that develops in terms of quality and quantity according to the environmental conditions, but on the other hand, with the absence of these factors, it can also gradually disappear (Muratlı, Şahin ve Kalyoncu 2005).

What is Ability Selection?

One of the most important areas of contemporary sports is to have the ability of directing talented athletes to a regular training process. All children can dance, sing. However, only few

of them , can achieve advanced skills in these areas. For this reason, as same as in arts, in sports,it should be pioneered to discover talented children and their age of starting sports. Reaching a high level of success in sports shows a close relationship with early orientation to sports(Bompa, 2009).

International sport successes are an area where developments can be achieved in political and economic aspects in order for countries to gain prestige and see their own borders. Many countries,understanding the importance of this,have invested in sports at a very early age and have recently demonstrated their results with their sports success in international arenas. The most important factor in these achievements is the fact that children act meticulously and systematically in the early detection of the age they start to sports and their guidance of this by means of combining the infrastructure , the coach and the technology olmaktaydı (Murathı, 1997).

Significant developments in all sports branches are a product of the evaluation of basic and specific anthropometric and kinesiological characters of athletes (Heimer, Misigoj ve Medved, 1988). Body size and it's ratio, physics and body composition are important factors that affect physical performance (Maud & Foster, 1995). From this point of view, it is considered important to examine the physical properties and performance profiles, which are important factors in talent selection and directing to sports.

The Types of Ability

In physical education and sports literature, opinions about mobility were initially focused on first hand skills, but later on, It is understood that the subject of skill is not only about hand but there are other factors in mobility(Muratlı, 1997).

There are 3 opinions about mobility:

1- Static Ability Concept

2- Concept of Ability Related to Learning Theory

3-Dynamic Ability Selection

Static Ability Concept

The concept of static talent advocates that success in sports can be largely inherited and it's developments are depend on the growth of the glands. Researchers confirmed this idea with the studies that they've applied on twins. This idea was opposed later on. The common aspect of the criticisms can be expressed as “The effect of the environment and the psychological experiments of the people with their genetic characteristics cannot be distinguished from each other with certain lines”. In a study by Zackiorskij, he argues that motoric features such as speed can be inherited, single twins are more compatible than double twins, and the upper limits of success can be achieved by inheritance. In line with all criticisms, the idea that heredity plays an important role in achieving sporting success is advocated (Muratlı, 1997).

Concept of Ability Related to Learning Theory

According to this view which was advocated by the founder of behavioral psychology J.B. Watson and the psychologist J.P. Pawl, coordination ability emerges with the increase of physiological harmony between human movements, nervous system, sensory organs and muscles. This is the case where movements are often repeated and automated. According to this theory, sportive ability is a feature that can be developed depending on the conditioned reflexes that occur with repetitions done at regular intervals (Muratlı, 1997).

Dynamic Ability Selection

In the understanding of dynamic talent, sports ability, environmental factors and genetic features are intertwined. In recent years, this understanding have been adopted by most of sports scientists. For this reason ,it shouldn't be guaranteed that the talent is innate. The feature of ability may not improve as same as the way it shows improvement. Sportive talent should be handled and be investigated together in ,heredity, environment and psychological environment (Muratlı, 1997).

Ability Determination Criteria

There are two main determination criterias:

- Natural Selection
- Scientific Selection

Natural Selection

It's the individuals tendency to a sports branch as a result of his school traditions , the sports branch that his family want and their approaches to it. The percentage of success in the sports branch chosen by natural selection has proven that the child is more successful than a randomly selected sports branch. For this reason, it's seems that the development in the sports branch he chose is mostly slow due to the fact that it's not his ideal sports (Bompa, 2009).

Scientific Selection

The scientific selection method is used in individuals who are determined by the coach and have a natural talent for a particular sport in which they are expected to be successful. The reason why this method is more acceptable than the natural selection method is that it takes less time to obtain high efficiency in the individual. Scannings can be made to discover the dominant featurein sports such as length, height, weight, speed, response time, coordination. Thanks to scientific selection method, skilled individuals can be directed to an appropriate sport (Bompa, 2009).

Criteria Used in Talent Selection

Talent selection and orientation is valid for the understanding that wants to get high efficiency from sports. There is no need to turn to this method in the understanding of recreative sports. In these selection studies, the psychological features of the athletes are as important as their special biological profiles.

Different prerequisites are searched for talent selection and different factors that determine the efficiency in education are used. Talent selection and orientation are in question for a high performance sports understanding. In fact, talent search creates the request profile of sports types according to these factors and the selection is specific to a sports type. However, if an individual in the sport has biological disabilities and does not have sufficient training opportunities in the skills required, it may not be enough to have the natural ability of that sport branch. Therefore, determining scientific talent is vital to achieve high efficiency in sports (Muratlı, 1997). In these selection studies, personal, biological profiles and psychological conditions of athletes are more prominent Factors effective in determining the talent selection are:

1-Constitutional Features (such as Health status, Anthropometric features)

2-Conditional Motoric Features

3-Technomotoric Features

4-Learning Ability

5-Productivity Readiness

6-Cognitive Features or Abilities

7-Emotional Features

8-Social Factors

Health

The issue of health is a definite requirement for all individuals participating in the training. For this reason, an individual is supposed be checked before starting sports anywhere. Attention should be paid as the functional status of the individual (ability to move arms and legs, etc.) will be a criterion in the selection of dynamic and stationary sports(Bompa, 2009).

Biometric Properties

Biometric features or anthropometric features of the individual provide an important advantage for some sports (Basketball, volleyball etc.). For this reason, biometric properties are accepted as one of the main criteria for efficiency determination. Height and weight or length of organs are among the prominent features in some sports. On the other hand, it is hard to predict the growth and development dynamics of the individual in the first part of the ability determination for sports (gymnastics, swimming) that are started between the ages of 4-6. For this reason, it should be taken into consideration whether the physical development of the individual is compatible with the sport in the first stage of talent determination. In the older age, wrist and hand radiography can be used to measure whether growth is complete or not (Bompa, 2009).

Heredity

Inheritance is a very complex biological structure in addition to its major role in training efficiency. Although they can

change some of their characteristics through education, training and social settings, children are tend to inherit the biological and psychological characteristics of their parents (Bompa, 2009).

Distribution of Muscle Fibers

It is assumed that the red and white muscle fiber ratios in the human body are genetically determined. The tasks and the functions of the fibres in similar shapes in metabolism are different. In studies requiring aerobic endurance, red (slow twitching) muscle fibers have better structures. On the other hand, it is white (fast twitching) muscle fibers that have a more suitable structure for short and intensive studies with anaerobic properties. In the light of this information, it can be predicted that athletes with a high level of red life will achieve more success in sports requiring endurance. In the structures where white muscle fiber is more dominant, it is thought that the athlete will be more successful in sports where speed and strength are effective. With the biopsy technique, these two muscle fiber ratios can be found in the muscle tissue and it can be determined in which sports branch the athlete will perform better (Bompa, 2009).

Sports Places and Seasons

The location and climate of the athlete may be a limiting factor in the sport in which they are selected. For this reason, if the selected sports lacks a place and equipment that the athlete can do (canoeing in a place where is no water), it would make sense to direct the athlete to a more appropriate sport (Bompa, 2009).

Stages of Talent Identification

In studies conducted, it has been observed that there are no big differences between the stages of talent selection. In many sources, the talent determination phase is grouped under 3 main topics (Aydos, Yaman, Pekel ve Bayraktar, 2010).

First Stage of Talent Identification

In talent determination, the first stage usually occurs before the adolescence (3-10 years old) (Bompa, 2009). This phase is also called ‘preselection’. In preselection, the aim is to reach as many children and young people as possible and pass them through this phase many times. In the choices to be made in untrained children, it is necessary to focus on the overall sportive efficiency of the child. The important thing in the first phase is that the tests are repeatedly applied and concluded. At this stage, parameters that will determine branch-specific efficiency should not be applied. In the pre-selection, it is necessary to focus on three important issues. First of all, it should be determined if the child has a limiting condition while doing sports. Then, easy measurements such as body mass index should be able to comment on the child's physical development. Finally, it should be ensured that situations that may predominate in the child are revealed by heredity (Aydos vd, 2010).

The Second Stage of Talent Identification

It is considered as the most important phase of the election. This stage is used in children who have previously and regularly

trained. In adolescence or later, it is applied between the ages of 9-10 for gymnastics, figure skating and swimming branches, 10-15 for girls and 10-17 for boys in other sports (Dragan, 1978).In the second phase, the techniques, biometric and functional dynamics should be evaluated as the body reaches the characteristics of the sport previously given and the harmony and level required by that branch. The most exciting part of this phase to the coach is the child's biometric changes during adolescence.

Consequently, hereditary deficiencies, problems arising from anatomical or functional deficiencies are an important factor in talent determination. At the same time, athletes should be subjected to comprehensive psychological tests at this stage and it should be followed whether they have the psychological features required for the given sport and athlete profiles should be created (Aydos vd., 2010).

The Third Stage of Talent Identification

This stage generally concerns national team candidates. This phase should be completely objective and closely related to the requirements and characteristics of the branch. While examining the athlete, the health of the athlete, the athlete's attitude towards training and competitions, and ways to deal with stress should be recorded. While an objective assessment is made, these evaluations should be strengthened with medical and psychological tests (Aydos vd., 2010).Motor tests for a particular type of sport create more favorable personal prerequisites. Test

batteries performed after many engine tests are applied for this purpose. Sample test is given below.

Table 1. An example of a criterion used in talent selection. (Aydos, L., Yaman, M., Pekel, H., A., Bayraktar, I. (2010). *Atletizmde Türkiye norm değerleri*, Ankara.)

Category	Parameter	Test
PHYSIQUE	Height Length	Height Length
	Body Weight	Body Weight
	Body Composition	Body Fat Percentage
FITNESS	Arm Length and Endurance	Push Up
	Arm Force	Health Ball Throw
	Body Strength and Stamina	Stand Up Test
	Leg Strength and Endurance	Half Squat Test
	Leg Power	Long Jump by Standing
ATLETİK YETENEK	Aerobic Capacity	1.600 m.
	Speed	50 m. Running
	Mobility	Side Step Test
	Flexibility	Sit-Reach Test

Early Recognition of Sportive Ability

Children's talent choices first begin in physical education classes at school and sports events in clubs.

1. Eliminating children in themselves, in matches between schools.
2. At critical points where suitability to sports or branch is determined during special competitions,
3. Two-stage evaluation should be used in the elections to be held. In the first stage, general sportive talent selection should be made. In the second stage, the selected children should be directed to a specific branch considering that they can improve themselves.
4. The existing abilities of the children should be revealed with various tests and the development of the children should be followed with the trainings
5. Attention should be paid to the fact that the genetic characteristics of the child are the determining factors in achieving high efficiency in the sports branch to be selected.

Some starting ages for various sports are stated below.

Table 2. The age of starting various sports. . (Bompa T. O.,(2009). Antrenman kuramı ve yöntemi, Ankara: Spor.)

Sports	The age of starting sports practice	The age of starting private training	The age of starting high efficiency training
Athletics	10-12	13-14	18-23
Basketball	7-8	10-12	20-25
Boxing	13-14	15-16	20-25

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	14-15	16-17	21-24
Bicycle			
Diving	6-7	8-10	18-22
Fencing	7-8	10-12	20-25
Gymnastics(Female)	6-7	10-11	14-18
Gymnastics (men)	6-7	12-14	18-24
Rowing	12-14	16-18	22-24
Skiing	6-7	10-11	20-24
Football	10-12	11-13	18-24
Swimming	3-7	10-12	16-18
Tennis	6-8	12-14	22-25
Volleyball	11-12	14-15	20-25
Weightlifting	11-13	15-16	21-28
Wrestling	13-14	15-16	24-28

Examples from Some Countries in Directing Talent

Models were created to use talent selection and orientation in education. It is seen that the models applied in the researches are carried out in parallel with the country education. Eastern countries are leading the way in talent selection. Boarding sports schools are located in many old eastern countries and in many Western European countries (Bompa, 2009).

Germany Model

Programs have been implemented in the "Talent development classes" project in public high schools in Germany since 1978-79 academic year to train elite athletes. The purpose of this program is to carry out all of them together by providing social and sports development of the child together with teaching. It is necessary to ensure the gradual development of the children rather than their sporty success. Scientific guidance and measurements in boarding in Germany are supervised and guided by sports faculties at universities. In these studies, awareness of the conditional characteristics of children, diagnosis of coordinative skills, analysis of their behavior in competitions, medical measurements and sociological evaluations are made (Aydos vd., 2010).

Russia Model

Until 2000, talent determination was done in Russia between the ages of 10-11 and children who were found talented were sent to boarding schools. With the fall of the former Soviet Union, the concept of clubism in Russia decreased and local competitions started to come to the fore (Aydos vd., 2010).

UK Model

England has made radical changes in the course hours and content in physical education and sports education as per the school-club cooperation, which has played a major role in training performance athletes since 2004. Sports schools that specialize in

their own fields have collaborated with schools in the region. According to the system in force, the sports education of children is supported with the clubs provided by the system. As a result of these studies, the clubs take talented children in schools as licensed athletes. The UK also has many project studies on talent determination and selection, and obesity, carried out by the ministry(Aydos vd., 2010).

What is the Concept of Intelligence?

Throughout history, the concept of intelligence has been defined differently by many scientists. “According to Ibn Sina, intelligence arises both separately from the learning process and by learning the information that perceptions from the outside world give to people. According to Galton, individual differences arise from differences in sensory abilities, the sharper the individual's senses, the sharper his intelligence. According to Cattel, who first introduced the concept of intelligence testing, the differences in sensory acuity and response speed reflect the difference in mental functions. According to Binet, it manifests itself in complex high-level processes such as intelligence, comprehension, judgment, reasoning. With the new definitions, new theories and opinions about intelligence are introduced (Selçuk, Kayılı ve Okut, 2004). While only the skills in the numerical and verbal fields were accepted as intelligence, in the future, it was accepted that intelligence could not be limited to only two fields and a definition of multifunctional intelligence started to be taken into consideration more (Bektaş, 2007).

What is Multiple Intelligence Theory?

The multiple intelligence theory developed by Gardner has been at the center of research since it began to be used in education. In line with the multiple intelligence theory, arrangements have been developed for methods and practices used in education, and a positive development has been achieved in the learning level of children with the application to children in education life. As a result of what the multiple intelligence theory shows us, intelligence areas are divided into many areas and each has different importance. Based on the intelligence areas brought by the theory, the abilities and capacities of the students are started to be discovered. On the basis of all the work done in this direction , the question "How can we prepare the generations that will come to the developing and changing technology age?" is included. According to the results of the researches, it was determined that learning environment and learning style are more important than the participation of individuals in intelligence development(Demirhan, 2006).

"Multiple Intelligence Theory" has emerged as a product of the research conducted by Gardner at the University of Harward within the scope of "project zero", on the development of mental capacities of normal and gifted children and on brain disorders caused by damage to the brain. It has been observed that individuals who have difficulties in doing an activity in line with the damage occurring in different parts of their brain, are supported by other parts of the brain and closed this gap. Project

zero offers different approaches to program development and evaluation for primary school years and pre-school education. The project's assumption is “every child has the potential to develop in one or more areas” (Gardner, 1993). Gardner did not have a single fixed mind; It emphasizes that intelligence cannot be measured with a single test and therefore it cannot be predicted in which area the individual's success at school will be in the future (Lemlech, 2004).

Areas of Multiple Intelligence Theory

Verbal-Language Intelligence

As a result of the researches, it was revealed that the field of intelligence, which was examined the most within the framework of multiple intelligence theory, was the language field. When the field of language intelligence is examined, one's ability to use his native language and the concepts, and the ability to easily learn and use foreign languages come to mind. Individuals with strong language intelligence enjoy word games. In addition, they use such methods to understand the issues better. These individuals are skilled at reading books, talking and looking at events critically (Ergin, 2008). Vocabulary of children with strong language intelligence is broad and communication skills are highly developed. They are successful in memory and memorization method. In individuals with verbal language intelligence predominance, the subject can be requested in the

form of a story, reports can be written, and they can make presentations (Demirel, 2006).

Logical Mathematical Intelligence

The logical-mathematical intelligence field is dominant in individuals who have the ability to think abstractly, to establish a cause-effect relationship in the face of events, to use deductive and inductive methods, and to use numbers effectively. Students with strong logical mathematical intelligence , have an advanced level of curiosity. They have problem solving abilities and they constantly look for cause-and-effect relationships in the face of events. They enjoy playing games that require thinking skills (Ergin, 2008). Students with logical mathematical intelligence should be brainstormed in teaching a subject, problems should be solved by creating a cause-effect relationship by conducting experiments, and activities where they can work with numbers should be organized (Yavuz, 2004).

Visual-Spatial Intelligence

Students with visual-spatial intelligence are sensitive to colors. Art aspects are dominant. It is seen that they often make scribbles in their books and notebooks. They have the ability to paint, they are dreamers. They are sensitive to visual details and their ability to navigate is highly developed. They can easily read maps, tables and diagrams(Yavuz, 2004). They can think of pictures, shapes, with three-dimensional drawings, and they are sensitive to phenomena such as location, time, color, shape,

pattern, and relationships between these phenomena. For students with visual-spatial intelligence, the learning process should be encrypted with colors and shapes in the education of a subject, and concept maps, images, maps and diagrams should be used (Demirel, 2006).

Musical-Rhythmic Intelligence

People with dominant musical rhythmic intelligence have a developed sense of rhythm. They express the flow of events in a musical language. They sing, they're interested in musical instruments, and it's easy to memorize songs and keep their melodies in mind. They recognize rhythmic concepts. They are disturbed by noisy environments(Saban, 2002). While teaching a subject to students with this intelligence, the subject can be told accompanied by background music, the student can be asked to compose a song about the subject, they can be asked to tell their feelings about the subject with music, rhythm, they can be asked to find and sing songs about the subject, music, sound recorders, cassette players can be used in the lesson (Demirel, 2006).

Bodily-Kinesthetic Intelligence

Individuals whose physical kinesthetic intelligence is dominant have the ability to use their body movements correctly while expressing themselves, to use their body in a coordinated manner, and to operate the body and mind in harmony (Ergin, 2008). Individuals with this intelligence are constantly active, their small muscle groups are developed and they can use their

body in a coordinated manner and are at the forefront of sports activities. Their hand skills are also developed (Saban, 2002). In the education of students with this intelligence, environments where they can comprehend learning areas by touching and living should be prepared. Materials that can be learned with concrete objects can be developed, activities that require manual skills can be prepared, lessons can be taught in the open air, excursions can be organized, drama can be made, and subjects can be taught with materials such as jigsaw (Yavuz, 2004).

Interpersonal Social Intelligence

Interpersonal social intelligence is the capacity to work in collaboration, to establish emotionality, to use communication elements effectively, to have leadership and friendship skills (Saban, 2002). The social environment of students with strong interpersonal social intelligence is quite wide. They play an active and important role in group work. They like to talk and listen. They are cared about by the people around them, and they have an important place in the society (Ergin, 2008). While subjects are taught to students with strong interpersonal social intelligence, activities such as group club activities, team games, theater, brainstorming, discussion groups should be organized (Yavuz, 2004).

Inner Intelligence

Individuals whose inner intelligence is dominant can express their feelings clearly. They have the ability to take positive

or negative lessons from events and act freely. They have high self-esteem and self-reliance. They like to work on their own, they have realistic goals, they have at least one hobby they don't talk about much, they do personal studies while learning, they can evaluate themselves in a realistic way (Saban, 2002). While subjects are taught to students with strong inner intelligence; daily printing activities, imagination activities, goal setting activities, silent studies, self-evaluation activities, debates, individualized teaching activities can be organized (Yavuz, 2004).

Nature Intelligence

In individuals with dominant nature intelligence, a sense of curiosity has developed about natural events (Ergin, 2008). They are interested in the creatures. Children with strong natural intelligence enjoy viewing living creatures in nature (Saban, 2002). They are curious about environmental issues and their environmental consciousness has developed. They like to do gardening, nature trips, watching documentaries. While subjects are taught to students with strong nature intelligence, nature walks, field trips can be organized, they can be made to relate to different living species, and videos related to nature can be watched (Yavuz, 2004).

Existential Intelligence

Existential intelligence is the capacity of individuals to ask and seek answers to where they see themselves in the world and how they define their place in the world. This type of intelligence

is not a type of intelligence that covers any religion. Students with strong existential intelligence ask some questions to themselves such as: "Who am I?", "What will happen to us in the future?", "How was the world centuries ago, how will it be in the future?", "Is there life on other planets?", "What will happen to us after we die?", "Why do we live?" They think about such questions. It can be treated selectively. Its use in practice and theory is not very suitable for teaching lessons, such as the use of other types of intelligence. In the classroom, students are asked to look at the events with a scientific, mathematical, historical, literary and artistic existential perspective regarding the fields of the subjects they deal with (Akboy, 2005).

What is Kinesthetic Intelligence?

This type of intelligence is about using one's body language and movement coordination. Using body language along with some physical features such as coordination, balance, flexibility, and speed are based on improving body awareness (Çamliyer vd., 2004). In this approach, it is argued that mental and physical activities are related to each other. It is also defined as the ability to share the whole body or parts of the body while searching for a solution, learning or creating a new skill. It is very important for those who have this kind of intelligence to talk while moving, to express their feelings using body language, to take part in a game (Çamliyer vd., 2004). Learning habits can be gained by making and repeating experiments related to the taught subject or skill (Tuğrul & Duran, 2003). Students' learning fields affect their

learning processes. The most important element of the learning field is the environment. In the development of kinesthetic intelligence, kinesthetic intelligence will not develop if active children are restricted in the environment they enter or when the individual is contacted with hyperactive approaches. Students with kinesthetic intelligence learn better with active participation. They remember what was done more than what was said (Yavuz, 2004). We learn by observing the outside world, imitating the behavior and behavior of others, communicating with others, and touching objects. We communicate with other people by interacting with the body language, imitating their movements and in many different ways. The motor skills of individuals with kinesthetics are reinforced. They respond quickly to the environment and they are balanced. This ensures good physical performance and improved balance (Demirel, 1999).

When we look at someone who has developed kinesthetic intelligence field, it is stated that they behave like :"When he laughs, he laughs with his whole body, when he cry he can sob his heart out". They are also not afraid to show all their emotions." (Gün,2007). The kinesthetic communication channel is the first communication channel of living things. Those with developed intelligence do chat for different reasons than audiovisual. For them, dialogue is a tool to turn words, images into emotions. "Life exists with emotions". "Kinesthetics breathe deeply from the abdomen. Just like pure kinesthetic babies. People with kinesthetic intelligence are prone to sudden movements because they are in

contact with their bodies. The best dancers come from kinesthetics because the muscles are flexible. Panomimists are kinesthetics that express emotions with bodily expressions. The business areas of kinesthetics are wide. They can choose the jobs such as; psychologist, physical therapist, social worker, dancer, actor, carpenter, professional athlete, sociologist, anthropologist, public relations specialist, tourist, consultant, salesperson, therapist, advertiser, etc. Moreover, the most successful motivationalists are people with advanced kinesthetic dimension" (Gün,2007).

Physical-kinesthetic intelligence has three dimensions:

These are;

1. Skillful control of body movements,
2. To be able to orient objects competently,
3. To create harmony and harmony between body and mind.

Our kinesthetic intelligence comes into play when we need to have good intuition about what's going on when we're talking to a person or when we enter a room. When we buy a piece of soil or paint brush, the speaking order is in our kinesthetic intelligence. This intelligence field is used in sports activities that require the individual to use his entire body (Bruetsch, 1998). They enjoy participating in and practicing sports branches. Success rates are high, using typewriters, drawing lines, repairing things and doing something using their hands. Kinesthetic individuals like to use and touch gestures and gestures a lot when talking. They can

understand other people easily and accurately. Bodily kinesthetic individuals are called hyperactive because they cannot sit somewhere for a long time (Kuru, 2001). Such students require a different learning environment from verbal-linguistic or logical-mathematical students. Sometimes they want their subjects to be taught based on movement. Emotionality in the classroom is more important in physical-kinesthetic students,because their awareness of their bodies and environment is higher. If the emotional environment is negative, learning will also be negative for them (Selçuk vd., 2004). Physical kinesthetic intelligence field is more active in physical education lessons. Other branch teachers have difficulties trying to connect students with physical kinesthetic intelligence to their field subjects. It is also not fair to use the physical-kinesthetic intelligence field, which is not preferred to be used in other classes other than Physical Education courses, only in physical education classes. Because students who do not know the limits of their body and cannot use their body cannot be expected to be successful in physical education classes (Kuru, 2001).

Physical Self-Perception and Physical Self-esteem

The individual's body characteristics, intelligence level and abilities, temperament, character, social characteristics and the concept of "self" that he develops form the personality of the person. It is the self that allows him to do the necessary behaviors such as sustaining his life and protecting himself (Güney, S. 1998) . Body factor affects self-concept development. The person's own

body is closely related to his thoughts. The height, hair structure, weight, eye color, general body proportions of the person are among the important factors affecting the sense of personal competence (Gültekin, 2002). The first condition of body perception is to program the movements and make them compatible with each other (Tavacıoğlu, 1999). In the internal body perception, there are situations such as pain, feeling, change of posture, thirst. External body perception involves the individual's perception of different body parts with their visual and auditory senses (Uğur, 1996). In the process of gaining body image, individuals want to see the model considered as the ideal body under the influence of culture. This way of thinking puts the individual's body structure in a thought pattern and has a significant effect on the individual's perception of his own body. This ideal body structure is usually determined by society, family and peer groups (Kulaksızoglu, 1999).

Especially in adolescence, the individual needs to accept himself physically and psychologically and gain a correct identity. Individuals should be allowed to develop a sense of value in their habitats because the individual should be able to express himself in the society with pride and confidence (Kuru & Baştug 2008). It also has an important role in the socialization of children, protection from bad habits and raising their living standards in their entire life (Tunay, 2008).

Self-esteem is the understanding of what is good and precious for the individual when he is expressing himself

(Whitehead, 1995). According to Gültekin(2002)'s statement, Coopersmith defines self-acceptance as the person finds himself valuable. Self-acceptance is similar to self-esteem in terms of being the emotional dimension of self-perception, but it is characterized as a more dimensional attitude than self-esteem. Self-acceptance is a prerequisite for self-esteem (Matli,1996). It is expected that the basic structures of the self are high, as well as the level of self-esteem, as the individual sees himself physically sufficient or thinks that he is perceived by others like that. The most appropriate way to obtain efficiency from the physical fitness process in young people is physical education programs and sports activities. It has been concluded that physical self-perception can be classified regarding the selection and participation of physical activity. It is known that being in a good physical condition affects psychological development (Kuru, Baştug 2008).

Physical Self-esteem and Sports Relationship

There is a need for an improved muscle and skeletal structure for sports and good coordination to ensure movement integrity. In addition, it is very important not to give up despite various mental, physical and physical obstacles and to maintain motivation, which is one of the most important factors of training. Sportive activities have positive effects on the person. It shapes the character . Team sports teach cooperation .In individual sports, however, it improves discipline and enables to express negative

impulses such as aggression naturally and in accordance with the rules (Koruç & Bayar, 1989)

Physical self-perception is one of the important building blocks of self-confidence and self-concept, and it is considered as the most important component of the multi-factor and hierarchical self-perception structure that is affected by the participation of the body in the psychomotor dimension components (strength, endurance, physical appearance, etc.) (Aşçı & Kin, 1998).

Explanation and measurement of the concept of physical self caused many discussion topics in the scientific literature. Some authors examined the concept of self in perspective and needed to examine the components of physical self-perception (Fox & Arsh, 2002).

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EXAMPLES OF TESTS APPLIED IN EARLY ADOLESCENCE

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Introduction

It has been reported that current and future obesity, cardiovascular diseases, skeletal and mental health are correlated with high physical fitness levels and better health-related results in childhood and adolescence (Francisco B Ortega, Ruiz, Castillo, & Sjöström, 2008).

Adolescence is the development period where biological, cognitive and physiological changes between childhood and adulthood are the most rapid. Adolescence is a period when the individual's anatomical and physiological changes are at maximum level and they sometimes experience various problems in adaptation to these changes. In these period, some problems may occur as a result of the excessive use due to the imbalance in strength and flexibility of muscles throughout the development (Düzung & Baltacı, 2009). Structural and genetical differences in health-related physical fitness parts are affected from regular physical activity and health level in this development period (Ekelund et al., 2001; Malina, 2007).

In this case, some physical fitness tests are required to better follow-up the health and training levels of individuals in childhood and adolescence (F. B. Ortega et al., 2011).

Physical fitness levels were reported by over 100 studies from 40 countries (F. B. Ortega et al., 2011). In current literature, health has a strong relationship between other physical fitness components, skeletal fitness and speed/agility in children and adolescents.

Performance of children is evidently lower than adults. This partly indicates that a child's ability to perform short-term high intensity workouts or to generate mechanical energy from chemical energy sources during the exercise (Tomkinson & Olds, 2007). When the literature is reviewed (Düzung & Baltacı, 2009; Ekelund et al., 2001; Malina, 2007; F. B. Ortega et al., 2011; Francisco B Ortega et al., 2008) it can be seen that certain tests are commonly used in relation to childhood and adolescence particularly.

Although there are various tests to be applied on children and adolescent individuals, it can be seen that the focus is generally on certain common tests in Europe (Austria, Belgium, France, Germany, Greece, Hungary, Italy, Spain and Sweden) and the world (Ekelund et al., 2001; Malina, 2007; Matsudo, Matsudo, Rezende, & Raso, 2015; F. B. Ortega et al., 2011; Francisco B Ortega et al., 2008).

Height and Body Weight Measurements

Body Weight must be measured by a digital scale with 0.01 kg accuracy. It must be ensured that subjects are barefoot and do not have clothes that might add weight, and measurement result will be noted in “kg”.

Height measurements are made by the subject standing straight against a metal bar that is fixed on the digital stage or the floor. During the measurement, head must be straight, soles of the feet must be planted on the scale flatly, knees must not be bent, heels must touch each other, and the body must stand upright. Height can be noted in “cm” or “m”.

Body Mass Index (BMI) values must be determined by $BMI = \text{Weight (kg)} / (\text{Height})^2$ formula. (F. B. Ortega et al., 2011; Zorba, 2005).

Sit and Reach Test

The body is stretched forwards as much as possible in sitting position. For measurement, a crate with a sliding ruler and divisions with 0-50 cm intervals is used. The subject sits with feet open and reclined against the crate without bending knees, leans forward without bending knees, slowly pushes the ruler as far as possible with fingertips, and the final point is noted. The test is applied twice, and the best result is noted (Pekel, Bağcı, Onay, Balçıcı, & Pepe, 2006).



Figure 1. Sit and Reach Test

Standing long jump

Standing long jump test is another test that is frequently used to determine lower extremity explosive power performance (T. A. Miller, 2012). This test, which measures explosive power, consists of the following steps: the subject stands behind the start line with feet shoulder width apart, jumps as far as they can with two feet, and stands without falling. The test is repeated 3 times with short intervals, and the farthest distance is noted in “cm” (Kamar, 2003; Koç, Pulur, & Karabulut, 2011; T. A. Miller, 2012).

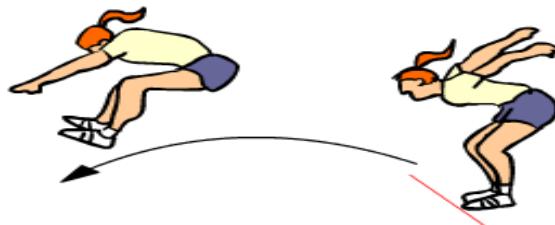


Figure 2. Standing long jump

Vertical Jump Test

Vertical jump test is one of the most common tests used in measurement of power and explosiveness. Vertical jump test measures the ability to jump quickly to vertical direction (T. A. Miller, 2012). Vertical jump test is performed by the subject jumping as high as possible with two feet on the platform hung on the wall. Before the test, normal arm's length of the subject is determined in front of the test platform. At the end of the test, the difference between jump distance of the subject and arm's length is determined and vertical jump distance is noted in cm. Participants repeat the test twice, and the best result is noted (Kahraman & Şahan, 2019; T. A. Miller, 2012; Nieman, 2010).

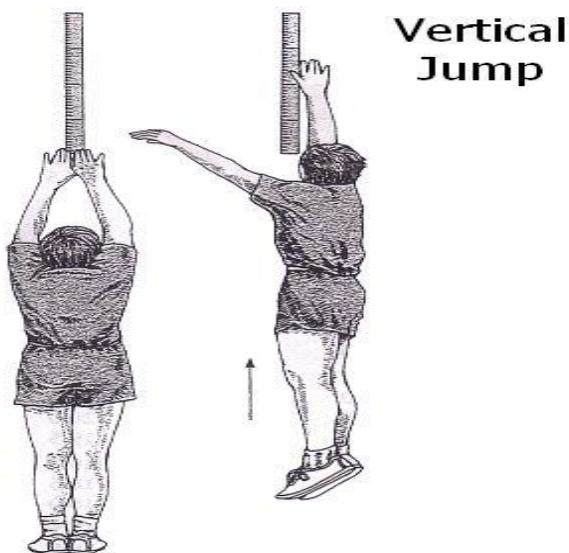


Figure 3. Vertical Jump Test

Flexed Arm Hang Test

A round horizontal bar with 2,5 cm diameter is prepared at a height to allow the subject to reach without jumping. The subject is asked to hold the bar with the thumb below and other fingers at the top of the bar with the researcher providing help until the chin reaches below the bar level. The participant is asked to hold the bar as long as possible without lowering their chin below the bar, and the test ends at the moment the eyes drop below the bar. The duration between the researcher releasing the participant and the moment when the eyes go below the bar is recorded (Güçlüöver, Şahin, Gülü, & Esen, 2019).

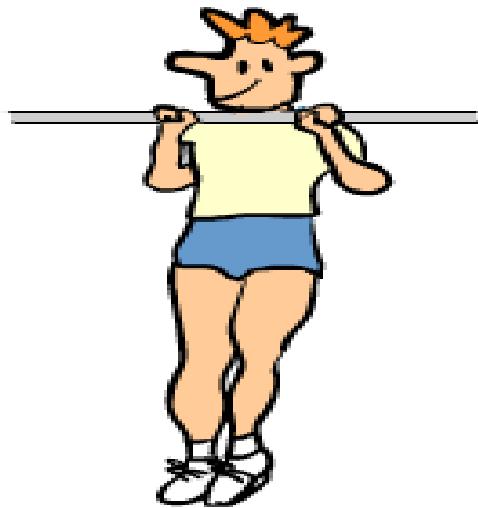


Figure 4. Flexed Arm Hang Test

Hand Grip Strength

Hand dynamometer (Takei, Japan) is adjusted to the hand of the subject, and measurement is made by applying grip strength without bending the arm from the elbow. Both hands are measured twice, and the best result is recorded (Aydos & Kürkçü, 1997; Çelik, Günay, & Aksu, 2013).



Figure 5. Hand Grip Strength

Sit-Up Test

The participant takes sit-up position with feet stable, back straight and hands on the neck, and asked to do sit-ups for 30 seconds upon start command of the researcher. Number of sit-ups is noted (Kahraman & Şahan, 2019).

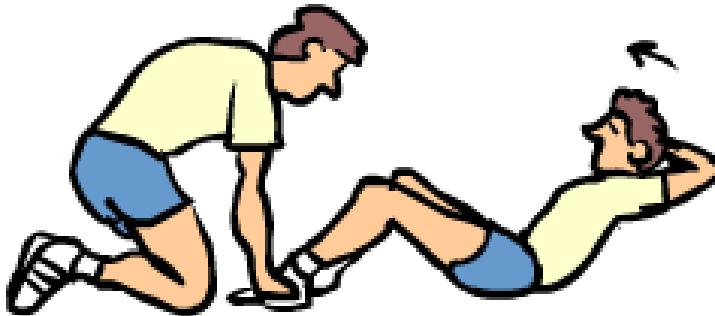


Figure 6. Sit-Up Test

4x10 Sit-Up Run

Two parallel lines are drawn with 10 m between. Participants run from the start line to the other line and return back as fast as possible. A wooden block is placed behind the start and finish lines. The subject sprints from the start line, goes to the other line, takes the wooden blocks, returns as fast as possible, puts down the wooden block and grabs the other block. The subject starts upon command and the measurement starts. The stopwatch stops when 40m is completed (Calatayud et al., 2017; De Oliveira, Seabra, Freitas, Eisenmann, & Maia, 2014; Ramachandran, Paul, Cyrus, Lakshmikanth, & Kumar, 2018).

20 m Sprint

The purpose is to determine speed. Subjects sprint 20 m with maximal speed with high start in a 20 m area. The sprint duration is measured by stopwatch in seconds. Participants repeat

the test twice, and the best result is noted (Alikhajeh, Rahimi, Fazeli, & Fazeli, 2012; Kivrak & Zorlu, 2019; Özdemir, 2013).

2.4 km Run Test

Subjects start the test after 2 laps of (400*2) warm-up and 4 minutes of rest in the running track. Subjects run 2.4 km (6 laps for 400m track) in the shortest time possible. Stopwatch stops when 6 laps are completed for 400m track. The duration is noted. (Govindasamy, Ismail, & Thor, 2015; Mackenzie, 2005; Ramírez-Campillo et al., 2014).

20 m Sit-Up Run Test

It is a common test used to measure maximal oxygen consumption. There is a VO₂ max value specified for each level achieved. Results are interpreted based on this value. This test includes a continuous run between 2 lines with 20 m intervals in time between recorded beeps. The test consists of 40 m straight run with 180° turns in every 10 meter, and 20 m slalom run between cones. The time between the recorded beep decreases each minute (level). The test consists of 23 levels, each lasting for 1 minute. It starts with 8,5 km/hour speed and comprises of sit-up series which increase by 0,5 km/hour at every level. Single beep indicates that sit-ups end, 3 beeps means that the next level started. The athlete warms up for 5-10 minutes before the test. The athlete must plant their foot on or beyond the 20 m line at the end of each sit-up. If the athlete reaches the end of the sit-up before the beep, they must wait for the beep sound and continue running. The test

ends if the athlete cannot catch the sit-up for 2 or 3 times straight. Level and number of sit-ups are noted (Günay, Tamer, & Cicioğlu, 2013; Hazır, Mahir, & Açıkgada, 2010).



Figure 7. 20 m Sit-Up Run Test

Hexagonal Obstacle Test

Agility values of athletes are measured in seconds for time they jump with both feet to each edge of the center of the hexagon drawn with 120° angle and 66 cm edges on non-slip surface until they complete 3 laps (18 jumps) and return to the start point. Test starts with start command from point B, and ends when the athlete jumps from point A to the center point at the end of 3rd lap. The athletes are asked to look in the same direction and not to step on edge lines of the hexagons. Test is repeated three times, and the best result is noted (Mackenzie, 2005; Orhan, Pulur, & Erol, 2008)

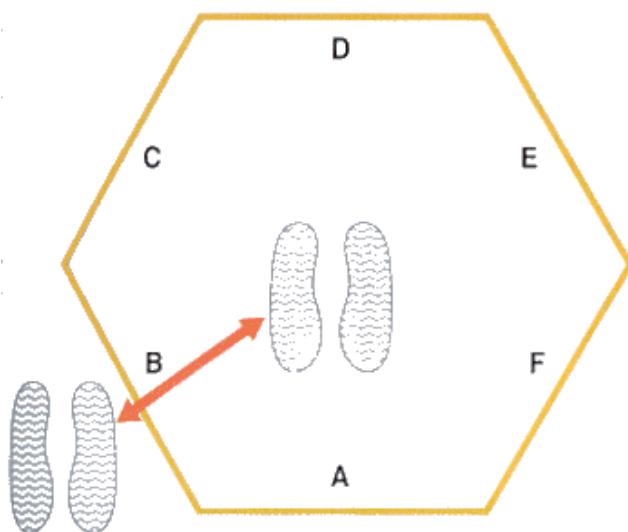


Figure 8. Hexagonal Obstacle Test

Illinois Agility Test

Illinois Agility Test is a very common test applied in order to determine the development of speed and agility of the athlete. Test track (5 m width, 10 m length) consists of four cones placed on a straight line with 3.3 m intervals. After the test track is prepared, two-gate photocell electronic stopwatch systems with 0.01 second measurement accuracy are placed at the start and end. After the subjects are provided with required explanations about the tests, they are allowed to make 3 attempts in low speed. Afterwards, subjects perform 5-6 minutes of warmup and stretching exercises in low speed they prefer. Subjects start in facedown position from start line with hands in contact with the ground at shoulder level. The duration for completing the track is

recorded in seconds. The test is repeated twice after full rest, and the better time is noted (Mackenzie, 2005; M. G. Miller, Herniman, Ricard, Cheatham, & Michael, 2006).

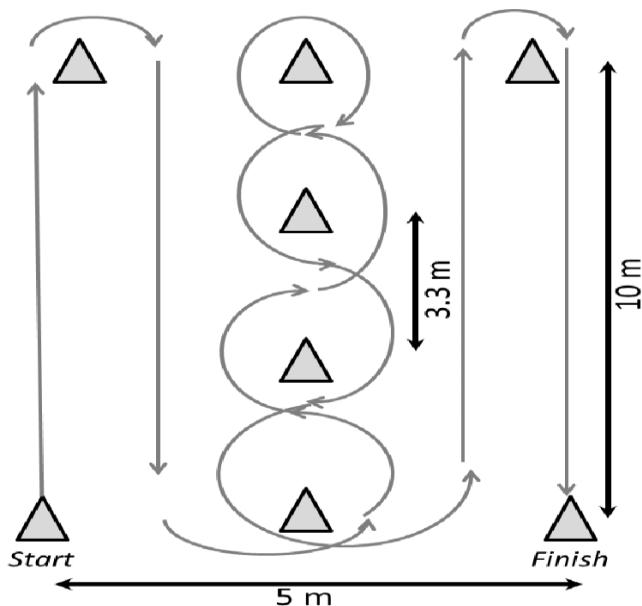


Figure 9. Illinois Agility Test

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FUNCTIONAL PERFORMANCE EVALUATION IN FEMALE AND MALE PLAYERS

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INTRODUCTION

Due to the playing field characteristics and different loading variables during the match, Football is known to be dependent on the adequacy of the physical and physiological features (Köklü et al., 2009). In football, technical and tactical skill features directly affect the outcome of a successful match, while high-intensity athletic performance is associated with the development of its motoric features (Stolen et al., 2005; Mohr et al., 2008; Shephard, 1999). Reilly et al. (2000) stated that a number of physical and anthropometric prerequisites are required to compete at the elite level in football. Performance and success in football are related to strength, height, body weight, balance, agility, flexibility and some motor levels (Günay et al., 1994).

Balance is an important motor feature for success in daily life and sports activities (Murphy et al., 2003). Dynamic balance is considered to be a safe and accurate exercise of many sports movements (Gibson & Pick, 2000), which are defined as the individual's ability to protect the center of mass during one leg movement (Ramírez-Campillo et al., 2015). Dynamic balance is

an essential part of the performance in a football match where players have repetitive and one-sided movements such as sudden acceleration and deceleration, rapid change of direction, kick and jump (Bressel et al., 2007; Paillard et al., 2006).

Agility is known as a locomotor skill that allows the player to maintain motor control in vertical or horizontal direction, to suddenly stop and change direction (Verstegen & Marcello, 2001). In general, it is the main determinant of the ability to change direction and sudden stop ability at high speed and tempo in non-dynamic sports such as basketball, football and tennis (hockey etc.) (Reilly et al., 2000). Agility development will cause the development of other features such as visual processing in addition to dynamic balance and rhythm in players (Ellis et al., 2000).

Flexibility is important for the muscle's ability to extend along the range of motion and also for sporty performance (Lopes, 2017; Demirel et al., 2004). It is stated that some factors such as joint structure, body weight, age, sex and body flexibility, muscle strength and sports branch relatively affect flexibility (Shariat et al., 2017; Düzgün & Baltacı, 2009). Due to the difference in muscle and ligament characteristics, flexibility differs among individuals. Connective tissues are higher in men than women, making women more flexible than men (Nalçakan, 2001).

Speed is one of the main determinants of performance in sports and football, and with its complex structure such as

movement and reaction speed, it is one of the basic motor features that complement physical, perceptual skills and tactical factors. With its general definition, Sürat moves a person from one place to another at the highest speed, and with the development of motor coordination, although it is an innate feature, it is possible to develop to a small but effective level (Ekblom, 1986; Atilla & Mehmet, 2008).

Another important factor that remains important for coaches and is indispensable for scientific studies between football and sports branches is performance analysis (Groom, Cushion, & Nelson, 2011; Hodges & Franks, 2002; Stratton, Reilly, Williams & Richardson, 2004; Lago , 2009). According to Balsom (1994), objective tests should be developed and applied in terms of athletic performance in football in order to determine the strengths and weaknesses of the players' physical performance profiles. In team sports such as football, the most important variables in measuring performance are physical condition, technical and tactical performance. However, due to the complexity of football, it is also important to evaluate each of these variables objectively (Rösch et al., 2000).

Recently, physical and physiological performance expected from male and female elite players has been reported to be similar (Stolen et al., 2005). In competitions, female players were reported to cover less than high intensity compared to male players who matched their age and competition level (Krustrup, Mohr, Ellingsgaard & Bangsbo, 2005). Considering the high

match demands of elite football and reported increases in match density (Stolen et al., 2005), players of both sexes should be selected and trained to deal with physical stress. However, due to the complexity of football, it is important to evaluate each of these variables objectively.

The purpose of our study in this direction is to evaluate the functional performance of male and female players.

MATERIAL AND METHODS

Sample Group

Female (n = 15) players with a mean age of 18.1 ± 3.6 and male (n =) players with a mean age of 16.1 ± 1 , a total of 30 players playing in the youth category of province Konya amateur football league have participated as volunteers in this study. In this study, cross-sectional study model was used. In the study, (height length, body weight, body mass index, waist / hip ratio), speed (30 meter speed test), agility (T Dril), balance (Y-Balance test) and flexibility (v-sit down) features parameters are examined. In the measurements, special attention was paid to warm-up and cool-down exercises. Football players participating in the study were informed about the tests to be applied and the purpose of the study, and a voluntary participation consent form was signed. The study was carried out by the Helsinki Declaration Principles.

Anthropometric Measurements

The lengths of the subjects were measured with a stadiometer (SECA, Germany) with a sensitivity of 0.01 m with bare feet, and their body weights were measured with electronic scales (SECA, Germany) with a sensitivity of 0.1 kg according to standard techniques with only shorts and T-shirts on them. Waist and hip circumference was measured with tape measure in anatomical posture. Their BMIs were calculated ($BMI = \text{Body weight (kg)} / \text{Height length (m}^2)$).

30m Speed Test

The players completed the test 1 meter behind the starting point, in a standing start position, without any command. Photocells were placed at the starting and finish points of the 30 m course. The test consists of 2 maximal sprints with a 3-minute rest interval. The highest rating was recorded from 2 replicates. The measurement was made with Newtest 2000 brand photocell.



Figure 1. T Drill Agility Test

V-Sit-Reach Flexibility Test

By marking a straight line 30 cm long as the starting line, the measuring line with a precision of 0.1 mm and a length of 60-80 cm is placed at right angles to the starting line and 30-40 cm on both sides. The point where the starting and measuring lines intersect is accepted as "0" and, the legs were adjusted to 30 cm apart from the heels as V, and the highest distance the player reached was recorded in cm after 3 attempts (Hui & Yuen, 2000)



Figure 2. V-Sit-Reach Flexibility Test

T Dril Agility Test

The test, also known as the T test, is a test consisting of 4 points formed in the shape of a T with a length of 10m and a width of 10m, and is completed by covering a total distance of 40m. Subjects must touch the funnels 1, 2 and 3 during the test and are intended to complete this series as soon as possible. In this test,

the player always looks in the same direction. The change of direction must be completed by running from the start point to the funnel 1, from the funnel 1 to the funnel 2, from the funnel 2 to the funnel 3, and from the funnel 3 to the funnel 1, back to the start point by running backwards (back pedal). The athletes performed 3 maximum running repetitions with full rest during this test and the best time of the athlete in the test result was recorded.

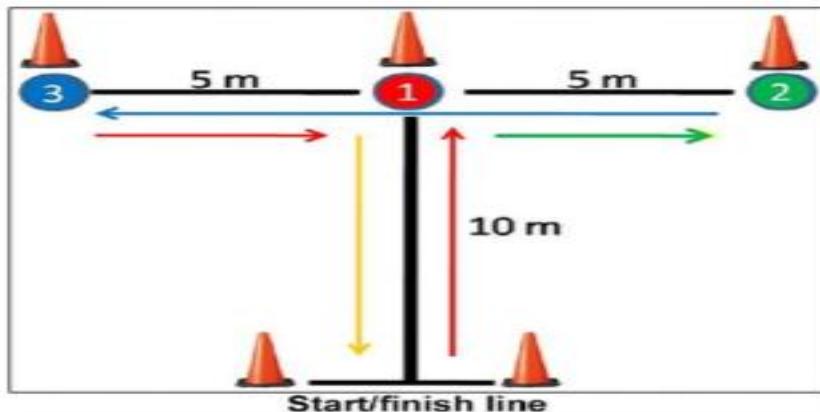


Figure 3: T Drill Agility Test

Y-Balance Test

In the Y-Balance test, athletes were positioned on the floor with bare feet in the '0' point where the tape measure placed in the anterior, posterolateral and posteromedial directions intersect. The measurement was made bilaterally, right and left feet separately. Leg length of the athletes was recorded in cm by measuring

bilaterally from the anterior superior milia point to the distal part of the medial malleolus in the supine position. During the measurement, the athletes were asked to touch as far as possible the tip of the foot in the air, with the hands on the iliac, on one foot, so that the heel does not stand off the ground. Before the measurement, athletes were given verbal and practical information about the test. The separation of the hands from the iliac and the removal of the heel from the ground was accepted as a mistake. Twice measurements were taken in all directions for the right and left legs, and the highest score was recorded in cm.

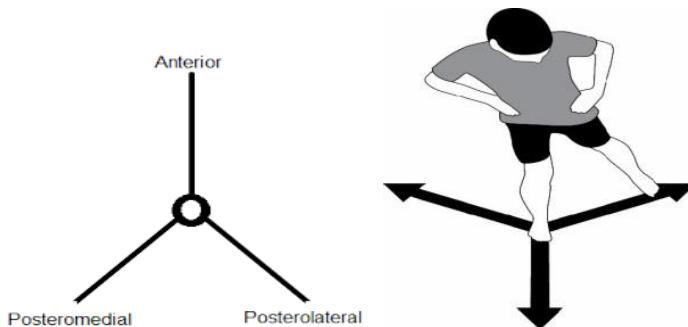


Figure 4. Y-Balance Test

Y-Balance Test Scoring: Y- Balance test is a test in which power, flexibility, neuromuscular control, stability, range of motion, proprioception and balance parameters can be measured (Gonell, Romero & Soler, 2015). Measurements for the right and left legs are made bilaterally. The total length of the three directions is divided by the length of the leg divided by three, multiplied by 100, and the combined y balance test score is found

(Shaffer et al., 2013). Before the test, during the anatomical posture, leg lengths are measured with a tape measure between iliac creast and malleolus, and the corrected leg length is calculated.

Y-Balance test can be calculated with 3 separate formulas. In our study, formula 2 was used.

1. Absolute reach distance (cm) = (Reach 1 + Reach 2 + Reach 3) / 3

2. Compound reach distance (%) = sum of 3 reach directions / 3 times the length of the limb * 100

3. Relative (normalized) range (%) = Absolute range / limb length * 100 (Walker, 2016).

Analysis Of Data

The data obtained as a result of the measurements made in our study are presented as mean and standard deviation. Kolmogorov Smirnov test was used for normal distribution analysis of the data. In order to determine the correlation, Pearson Correlation analysis was performed among the data with normal distribution, while the Spearmen Test Battery was used for the data without normal distribution. In the tests performed using the SPSS 2012 statistical package program, $p < 0.05$ was accepted as the level of significance.

FINDINGS

Some descriptive demographic and anthropometric features of male and female players participating in our study, are presented in Table 1.

Table 1. Descriptive demographic and anthropometric properties of male and female players participating in our study

Group	Female (n=15)	Male (n=15)
Age (years)	$18,1 \pm 3,6$	$16,1 \pm 1$
Height (m)	$165,3 \pm 4,3$	$172,9 \pm 7,2$
Body Weight (kg)	$55,9 \pm 5$	$61,3 \pm 10,8$
Body Mass Index (kg / m²)	$20,5 \pm 1,63$	$20,4 \pm 2,7$
Leg length (cm)	$89,5 \pm 3,9$	$97,6 \pm 4$
Waist Circumference (cm)	$70,9 \pm 3,7$	$73,3 \pm 5,4$
Hip Circumference (cm)	$95,6 \pm 4,2$	$90,3 \pm 7,2$
Waist / Hip ratio	$0,74 \pm 0,04$	$0,8 \pm 0,06$

Performance values of male and female players participating in the study, measured as a result of flexibility, sprint, agility and balance tests, are shown in 'Table 2'.

Table 2. Field performance test values of male and female players participating in our study

Group	Female (n=15)	Male (n=15)
Flexibility (cm)	$60,5 \pm 11,4$	$46,5 \pm 17,4$
Sprint (sec)	$5,5 \pm 1,4$	$4,7 \pm 0,4$
Agility (sec)	$12,9 \pm 1$	$11,3 \pm 0,7$
Balance (Right)	$83,6 \pm 6,5$	$87,7 \pm 6,3$
Balance (Left)	$81,8 \pm 5,2$	$88,9 \pm 6,1$

The relationship between leg length, waist, hip circumference and waist hip ratio of male and female players, and sprint and agility are shown in "Table 3". No relation was found between leg length, waist, hip circumference, waist hip ratio and sprint and agility performances ($p > 0.05$) in female players. On the other hand, while a negative relationship was observed in male between sprint performance and hip circumference and a positive ratio with waist hip ratio ($p < 0.05$), no relation was observed with leg length and waist circumference ($p > 0.05$) in male players.

Table 3. Relationship between leg length, waist, hip circumference and waist hip ratio of spinal and agility performances of male and female players participating in our study (r values)

Group	Female (n=15)		Male (n=15)	
	Sprint	Agility	Sprint	Agility
Leg size	0,42	-0,26	-0,30	0,28
Waist Circumference	-0,04	0,22	0,35	0,14
Hip Circumference	-0,00	0,13	-0,58*	0,10
Waist-Hip Ratio	-0,24	0,15	0,71*	-0,83

*p<0,05

The relationship between leg length, waist, hip circumference and waist hip ratio and flexibility and balance test values of male and female players are shown in "Table 4". As a result of the statistical analysis, while a negative relationship was observed between the hip circumference and the right balance test ($p < 0.05$), there was no relationship between the left balance and flexibility test, leg length, waist, hip circumference and waist hip ratio ($p > 0.05$) in female players. On the other hand, a negative

relationship was observed between waist circumference and left and right balance performance ($p < 0.05$) in male players. There was no relationship between flexibility performance and leg length, hip, waist circumference and waist-hip ratio ($p > 0.05$) in male players.

Table 4. Relationship between leg length, waist, hip circumference and waist hip ratio and their flexibility and balance performances (r values) of the male and female players participating in our study

Group	Female (n=15)			Male (n=15)		
	Balance		Flexibility	Balance		Flexibility
	Right	Left		Right	Left	
Leg size	0,98	0,32	-0,23	0,19	0,29	-0,13
Waist Circumference	-0,21	0,58	0,48	-	-	0,13
Hip Circumference	-	0,58*	0,32	0,48	-0,12	-
Waist-Hip Ratio	0,21	0,12	0,01	-0,33	-	-0,18

* $p < 0,05$

The relation between flexibility, sprint, agility and balance test performance values of female players are shown in "Table 5". As a result of the statistical analysis, a negative relationship was observed between the right balance and flexibility, and the left balance was positive ($p < 0.05$) in female players. No relationship

was observed with sprint and agility performance values ($p>0.05$).

Table 5. Relationship of sprint, flexibility, agility and balance test performance values of female players participating in our study (r values)

Test	Flexibility	Sprint	Agility	Balance (right)	Balance (left)
Flexibility	-	-0,47	-0,08	-0,53*	-0,40
Sprint	-0,47	-	0,29	-0,11	0,13
Agility	-0,08	0,29	-	-0,22	-0,18
Balance (right)	-0,53*	-0,11	-0,22	-	0,83*
Balance (left)	-0,40	0,13	-0,18	0,83*	-

* $p<0,05$

The relationship flexibility, sprint, agility and balance test performance values of the male players are shown in "Table 6". While there is a negative relation between flexibility performance and agility performance values of male players, there is a positive relationship between right balance and left balance values ($p <0.05$). No relationship was observed between Sprint performance and other field tests ($p> 0.05$).

Table 6. Relationship between sprint, flexibility, agility and balance test performance values of male players participating in our study (r values)

Test	Flexibilit y	Sprin t	Agilit y	Balanc e (right)	Balanc e (left)
Flexibilit y	-	-0,24	-0,62*	0,17	0,08
Sprint	-0,24	-	0,31	-0,46	-0,42
Agility	-0,62*	0,31	-	-0,16	0,12
Balance (right)	0,17	-0,46	-0,16	-	0,85*
Balance (left)	0,08	-0,42	0,12	0,85*	-

*p<0,05

DISCUSSION AND CONCLUSION

In football, there are differences in a certain level of competition in terms of motor characteristics and morphological characteristics by gender (Mujika et al., 2009). Therefore, in this study, it was aimed to evaluate motor performance in male and female players. In the results of our study, it was determined that there was no relationship between leg length, waist, hip circumference, waist-hip ratio and speed and agility performances in female players, but there was negative relationship between speed performance and hip circumference and positive relationship between waist-hip ratio in male players ($p > 0.05$)

(table 3). When Table 4 was examined, it was understood that there was a negative relationship between hip circumference and right balance test in female players and, it was concluded that there was a negative relationship between waist circumference and left and right balance performance in male players. In addition, no relationship was found between flexibility performance and leg length, hip, waist circumference and waist-hip ratio in male players ($p > 0.05$). The main difference of speed from agility, is the frequency of movement (Atilla & Mehmet, 2008; Yaşar, 2006). The definition of speed is defined by Travis as multiplying the stride length with the stride frequency and, it has been stated in the literature by Brown (2009) that, it is related to stride length to increase the velocity. The differences determined between the literature and the results of our study are that, the selection of players is made with random natural selection and the development of football-specific anthropometric features is not sufficiently important. Sisic et al. (2015) reported that, agility performance in basketball players does not have a strong relationship with anthropometric properties, but there is a negative relationship between leg length and agility performance. They also stated that anthropometric criteria could be used as the agility determining factor. Silvestre et al. (2006) reported that, body fat ratio was positively associated with speed performance at $r = 0.60$ level in football players. In addition, the results of the study in which Görgülü (2015) examined the effect of body composition elements on agility performance, is similar to the results of our study. In the study where Çon et al. (2012) examined the effect of

flexibility and body composition values on vertical jump performance in volleyball players, they reported a negative relationship between flexibility and body composition values of both male and female volleyball players. In a study comparing some physical and motoric features of players in the professional and amateur leagues, it was found that the difference between anthropometric properties, body weight, flexibility and 30 meter speed values was not statistically significant (Besler et al., 2010). Sekulic et al. (2013) reported that, there is a significant relationship between speed and agility in female and male plauyers and, agility is associated with speed and strength in female players and with balance in male players. As a result of the study examining the effects of dynamic and static balance on speed and agility parameters, it was stated that, except for the relationship between 30 m speed values and balance parameter and agility test values, no relation could be determined between speed and agility values and dynamic and static balance parameters (Çakmak, 2019).

In the results regarding the motor characteristics of our study, it was determined that there was no relation between some motor performance characteristics of male and female players, but only negative correlation between right balance and flexibility and positive relationship with right balance and left balance in female players. (Table 5) ($p > 0.05$). Many studies in the literature have reported that elite football players shows unilateral balance ability comparing with non-elite players and other sports branches

(Bressel et al., 2007; Butler et al., 2013; Butler et al., 2012). In addition, Arslan (2018) stated that, there has been an increase in agility, speed and dynamic balance performance data from the age of 11 in parallel with growth and development. In addition, it was determined in our study that there was a negative relationship between flexibility performance and agility performance values of male players, and also it was concluded that there was a positive relationship between right balance and left balance values both in male and female players (Table 6). Çelik (2016) investigated the effects of balance on agility in football players and reported that, it was found that balance scores had no effect on agility performance. However, Akıncı et al. 2019 reported that, there is a relationship between agility and dynamic balance in young football players. Eser (2019), who examines by gender the relationship between the speed of change of direction, force, balance and speed, states that there is a relationship between 30m speed and agility in male and female players and, that there is no statistically significant difference between agility and balance values. He also said that agility and motor characteristics are gender-independent. Sever & Arslanoğlu (2016) reported that, football players' agility, acceleration and speed velocity skills have not been strongly correlated with each other in the study where they examine the relationship between age-related agility, acceleration, speed and maximum speed. Gökhan et al. (2015) examined the relationship between Amateur Football players' leg strength and speed values and stated that, there is no relationship between 30m speed and flexibility parameters. Hazar &

Taşmektepligil (2008), reported in their study in which they examined the effects of balance and flexibility on agility in the pre-pubertal period, that there is a statistically significant relationship between agility and balance, but there is no statistically significant relationship between agility and flexibility.

As a result, it was determined that there is a negative relationship between sprint performance and hip circumference in male players, but a positive relationship with waist-hip ratio but, the relationship between hip circumference and right balance test in females and waist circumference in males and both right and left balance performance, was found to be negative. It has been observed that there is a negative relationship between the right balance and flexibility tests and a positive relationship with the left balance in female players. In addition, it was concluded that there is a negative relationship between flexibility and agility and a positive relationship between right and left balance values in male players.

All results of our study are limited to the participant players' background. Therefore, the results of our study are thought to provide an objective view in future research by preparing programs for scientific studies and for coaches with average values for their motor performance levels in similar age groups and genders. In addition, it can be suggested that the evaluation of anthropometric and motor characteristics may be beneficial together in terms of talent selection and performance analysis.

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READING THE IMPACT OF COVID-19 ON SPORTS AND SOCIAL LIFE

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The arise of COVID-19

COVID-19, caused by the virus called SARS-CoV2, has been globally recognized as an infectious disease that threatens the world population. The virus was first seen in Wuhan, China in December 2019 and spread to the whole world in a very short time. This virus, which mainly occurs with symptoms such as cough, breathing failure, high fever and weakness, has threatened human life with fatal effects in the following stages. In this context, the epidemic was accepted by the World Health Organization (WHO) as a pandemic all over the world on 11 March 2020 and restrictive macro measures were started to be implemented (Pessoa vd., 2020). Until this date, a total of 4296 people died due to COVID-19 in the world and 3.67 million positive cases were identified as of 7 May (Escardio, 2020).

Apart from that, while detected cases decreased in early March in China, it has been determined that positive cases increase and death rates based on this increase gradually in Korea, Iran, Italy, France, England and Turkey (Cnbc, 2020).

According to an article published in the New York Times, the mortality rate of this virus which shows its effect in Europe is 65% in the UK and 67% in Spain, but it is surprisingly low in Germany with 4%. It is thought that this may result from the implementation of preventive health measures and early diagnosis and treatment (Wu, Katz and Peltier, 2020).

When the epidemiological features of the virus were analyzed, it was found that the incubation period is approximately 2-14 days and generally showed its effect within this period. In particular, it is known that it directly affects those working in the field of health and those who are in direct contact with positive cases and, it is considered to pose a major risk for them. Italy is one of the countries most affected by the virus in Europe. Test results of 16.991 healthcare professionals who are working in the Italian National Health system were positive. According to the gender distribution, cases were determined as 66.8% female and 33.2% male. Until April 17, 119 doctors died, while such a high mortality rate was not seen in another country in the world (Lapolla vd., 2020).

According to the data announced by the Health Commission of the People's Republic of China, the number of

health personnel, whose COVID-19 test results were positive, was determined as 3387 people. This figure constitutes 4.4% of the total number of cases in the country. The number of health workers who lost their lives is 23 people. This number is very low compared to Italy (Anand vd., 2020). In the continuation of the process, the United States took the first rank in the world with the announced number of cases and mortality rates. In the pandemic process, the elderly, pregnant women, people with chronic diseases and homeless people were mostly exposed to this virus and were included in the risk group (Courtenay and Perera, 2020). In addition, it has been found that people suffering from obesity, metabolic diseases and respiratory disorders have a higher risk of getting COVID-19 compared to other people (Biswas vd., 2010).

COVID-19 and Social Restrictions

COVID-19, which influenced the whole world, negatively affected social life in terms of psychology and sociology (Jennings and Arras, 2016). As a result of these negative effects, most macro measures of modern times were taken to prevent the spread of the disease (Congar, 2020). Within the scope of these measures, full lockdown was declared in some countries while some declared as partially and, national and international travels stopped and people applied protective measures in terms of social isolation (Yavuz, 2020). In addition, due to the fact that this virus can be transmitted by inhalation of the droplets scattered as a result of coughing and sneezing,

measures such as making it mandatory to wear masks, restricting working hours in official offices, canceling mass organizations, and closing schools, places of worship and entertainment centers, are actualized in the shortest time (Aassve vd., 2020).

Governments have made medical aid in cooperation and coordination while making political decisions on the fight against COVID 19 (WHO, 2020). It has been observed that governments support each other in providing protective equipment, diagnostic tests, drugs, respirators and social and professional needs (UNESCO, 2020).

COVID-19 and Sport Activities

While the world is struggling with COVID-19, another sector influenced by pandemics is sports organizations. Therefore, COVID-19 has a significant impact on sports competitions, as well as on social life. While some of the biggest sports events in the world were organized for 2020, the highly anticipated Euro 2020 Football tournament was postponed.

The International Olympic committee would hold the Tokyo 2020 Olympics this summer, but with decisions supported by athletes and related nations, it decided to postpone the games until 2021 (The Guardian, 2020). Similarly, the Australian Formula 1 Grand Prix has been postponed its fixtures with Bahrain and Vietnam until the second announcement. In addition, it was aimed to prevent the spread of the disease by making decisions about cancellations and delays in all attempts

regarding golf, tennis, athletics, basketball, rugby, cycling, boxing, ice skating fixtures (The Independent, 2020).

For example, 2020 Tokyo Olympics, World Indoor Athletics Championships, Formula 1 races, Tennis Tournaments, Boxing matches, American Basketball League (NBA) matches, Marathons (Amsterdam, Paris, Barcelona, London, Tokyo and Boston), football matches (South American Football Championship, European Football Championship, Premier League, UEFA Champions League matches and European League matches, FIFA Asian World Cup, opening of professional football leagues season in China, Japan and South Korea) and 2nd Down Syndrome World Sports Games, postponed to another date or has been canceled (Anadolu Ajansı, 2020). Indeed, while it has been announced that sports competitions in Turkey will be played without terrace for a specific time, after a short time, it was announced that all handball, volleyball, basketball, football and other leagues were postponed within the scope of the precautionary measures (TRTSPOR, 2020). In addition, by stopping domestic and foreign organizations in 62 sports branches that belong to our country, national athletes at the camp abroad, were quickly returned to Turkey (Yeniakit, 2020:19).

Impact of Covid-19 on Sports Economy

The COVID-19 virus has affected the education, industry, transportation, tourism and sports economy, social and

commercial fields, especially in the health sector. Considering the sports factor within its impact dimension, it emerges as an important sector in economic, cultural and commercial manner (Aygün and Murathan, 2020).

The fact that sports, which is a social institution, has a growing structure within the economic and cultural organizations, has made it necessary to re-evaluate this social phenomenon by considering the changing economic and social conditions of the world. We cannot isolate the sports-specific changes from the economic and cultural changes in the world. It is a part of the whole that affects and is affected by living in relationship with those other than itself (Talimciler, 2002).

Due to the unstoppable spread of new types of corona virus at home and abroad, news about the virus found in athletes, coaches and managers in various branches, caused postponement or cancellation of sports events.

The reason for this situation is that the corona virus epidemic touches almost every corner of the increasingly globalized and interconnected world and has the potential to be far beyond what is expected psychologically and economically (Brown and Horton, 2020).

For this reason, after the cancellation of Turkey and the European leagues, the sports media, has been adversely affected compared to other media categories. Unless the firms in this category develop a different content approach, it seems

inevitable that the negative trend continues (Deloitte, 2020).

The loss of advertising and sponsorship income is estimated to be around 2.15 billion US dollars due to the postponement of the Olympics, the world's largest sports events. In addition, the amount spent for the new Olympic stadium in Tokyo is estimated to reach 277 million US Dollars. Japanese officials predict that the total cost of delaying the games will exceed 3 billion US Dollars. Beyond being negatively affected by athletes in terms of health, the financial impact of delaying the Olympics is expected to be felt worldwide (Dichter, 2020). While NBA's current broadcasting agreement was made for 24 billion US Dollars for 9 years, 12 billion US Dollar worth of broadcasting agreements were signed last year for the Premier League for 3 years. A broadcast agreement for the MLB league exceeding 5 billion US Dollars for 7 years has been signed (Hall, 2020). This amount is estimated to be 410 million US Dollars in Turkish football super league. Therefore, the cessation of all these leagues means that these revenues cannot be obtained. Since Covid-19's spread to Europe, five major leagues have lost 4 billion euros. The British Premier League's revenue loss in the media industry is estimated to be approximately 800 million Euros (Chiliz, 2020).

If we look at it from a different perspective, the Summer Olympic Games which are considered as the most important multi-sporting event in the sports world, is severely affected by the negative outbreak. Although Tokyo 2020 has been postponed

for a year later, discussions continue intensely behind the scenes on how the organization's additional costs will be covered and whether or not this epidemic will continue in 2021. While Toshiro Muto, Chairman of the Tokyo 2020 Organizing Committee, emphasizes that it is not possible to certainly say that the games will not be made in 2021 (Mc Innes, 2020), Dick Pound, member of the International Olympic Committee (IOC) stated that if the games cannot be held in 2021, it will not be possible to postpone again (Dichter, 2020).

Physiological impacts of COVID-19

Corona viruses (COV) are a large family of viruses that cause a variety of diseases such as common cold or Middle East Respiratory Syndrome (MERS) and, to more serious diseases such as Severe Acute Respiratory Syndrome (SARS) (T.C. Sağlık Bakanlığı, 2020).

The clinical picture of this virus in adults can range from colds, bronchitis, pneumonia, severe acute respiratory distress syndrome (ARDS) and multiple organ failure resulting in death.

Covid-19 has negative effects on heart disease, hypertension, diabetes, cancer and chronic respiratory disease, and cardiovascular diseases affected by sedentary life. Of course, this process along with some problems as an excuse, has caused people to sedentary life in the quarantine process (Özdemir and Pala, 2020).

Leisure physical activity has a negative relationship

between cardiovascular diseases, age, gender and the person himself (Cheng vd., 2018). With this negative relationship, it has great risks on individuals with serious diseases such as diabetes, cancer, osteoporosis and cardiovascular (Lippi and Sanchis-Gomar, 2020). However, this negative relationship led to recovery due to a regular physical exercise (Engeseth vd., 2018).

In a study conducted by Wahid et al. (2016) with a total of 36 researchers and more than three million subjects followed for an average period of 12 years, it was concluded that achieving the physical activity levels recommended by WHO, was associated with a 17% cardiovascular risk (Wahid vd., 2016).

Harmful effects also came with the sudden cessation of physical activities that may occur after sudden quarantine. Depending on inactivity, rapid insulin resistance in muscle tissue and decreased use of muscle glucose have been associated with muscle atrophy. It has also been found that in response to physical exercise, many beneficial metabolic and cardiovascular adaptations can be lost with only two weeks of inactivity, negatively affecting aerobic capacity or increasing blood pressure. Reduced energy consumption of unused muscles causes metabolic substrates to be redistributed to the liver, where atherogenic lipoproteins can be produced. Thus, it accelerates atherosclerotic disease by supporting obesity and lipid accumulation in blood vessels (Charansonney, 2011). Another factor is that sudden reduction or stopping of physical activity can lead to decreased blood circulation and coronary perfusion

(Thompson vd., 2007).

These losses in aerobic performance reduce cardiovascular function and muscle metabolic potential. Especially in VO₂Max, a significant reduction has been described when excluding training between 2 and 4 weeks (Neufer vd., 1987). Therefore, one of the biggest factors affecting the physiological structure is the effect on the respiratory system.

Many young people with COVID-19 infection suffer from a relatively mild illness and recover almost completely within 5–7 days. However, in the future, there is a clear risk of increased disruption of the respiratory system between days 7 and 9, and it is recommended that individuals require more intensive medical care as a result of developing more comprehensive and lower respiratory system indicators. Athletes with respiratory tract infections also develop other complications from returning to intense exercises because they have been worried about possible risks for a long time. The most important of these risks is the risk of myocardial or myocardial damage, which can be quite significant in the current outbreak. Data published from the COVID-19 infection coordination show a definite prevalence of the number of cases with myocardial damage, troponin increase and myocarditis (James, Mike and Martin, 2020).

Actual Data

Actual data of COVID-19 which affects the whole world and its distribution rates according to continents are given in detail. 7.553.182 people were infected and 423.349 people died from December 2019 when the first case was detected up to 13 June 2020. The number of positive cases determined by continents are given below.

Americas: 3.638.525

Europe: 2.378.958

Middle East: 737.641

Southeast Asia: 439.348

North Pacific: 196.715

161.254 people's COVID-19 test results were found to be positive in Africa.

When the number of positive cases and mortality rates are calculated, the top 10 countries in the world has been updated as US (2.010.391), Brazil (802.828), Russia (520.129), India (308.993), UK (292.954), Spain (243.209), Italy (236 305), Peru (214 788), Germany (186

022), Iran (182 045) and Turkey (175 218) (WHO, 2020).

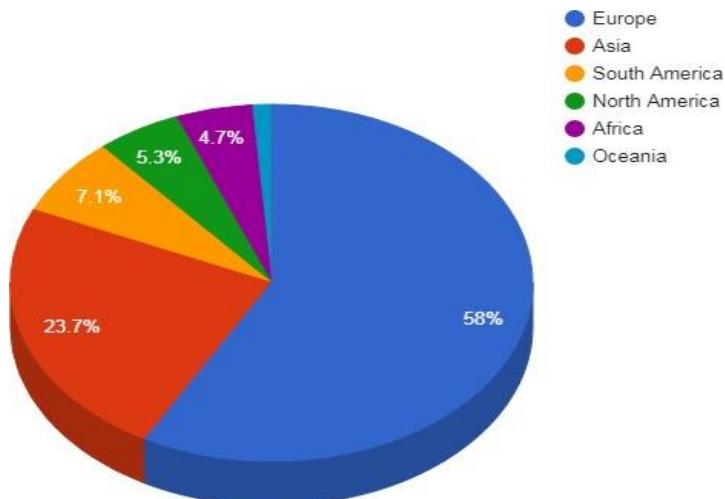


Figure 1. Positive case rates by continents (Escardio, 2020).

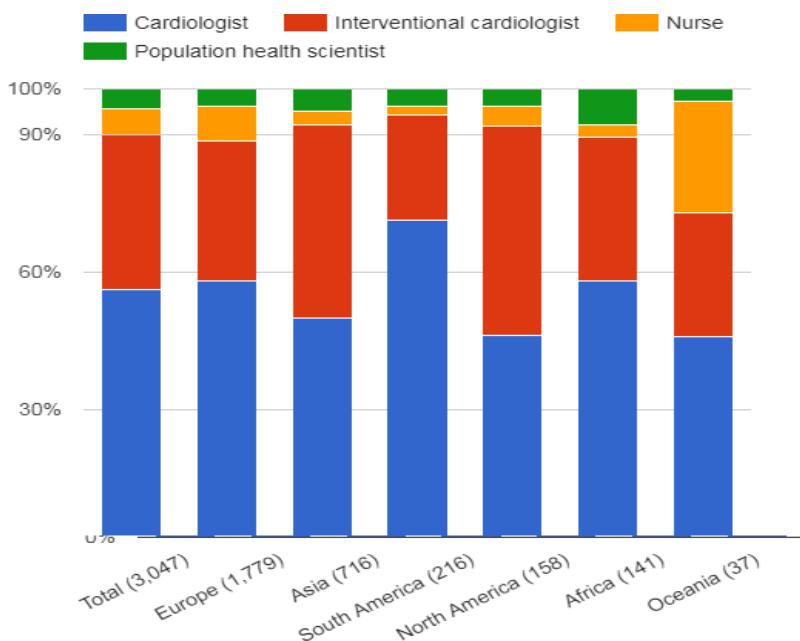


Figure 2. Health Professionals Mortality by Continents (European Society of Cardiology, 2020)

Conclusion and Recommendations

COVID-19, which influenced the whole world, caused a serious change in all areas from economy to sports and tourism to health. The emergence of the virus in China and its spread all over the world in a short time also affected people psychologically. It is thought that the application of lockdown in a macro way, especially due to social isolation, may lead to new diseases, negative attitudes and behaviors in both children and older individuals. People with chronic illnesses have been away from both health services and social life, and the negative reflections of this situation will appear in following days. We are faced with countries trying to evacuate their citizens from foreign countries as soon as possible, efforts to manage the health system in the most effective and controlled way, and a process in which interstate dialogues develop. In particular, the fact that states have closed their borders to protect themselves has significantly reduced international cooperation.

Although it took about 7 months since the appearance of COVID-19, it showed that the flow of life will not be the same and controlled life will continue for a certain period of time due to the lack of definitive solutions for the treatment of the virus.

In this process, the sports community has faced the postponement of both economic sociocultural and important organizations. In particular, the postponement of the Tokyo Olympic Games to the next year had an adverse effect on athletes

and coaches. Many athletes' happiness to get tickets to the Olympics has been replaced by uncertainties. Along with sports, the education and training process has also been disrupted and the distance education model has been implemented. With the developing technology, education has gained a new dimension and has prepared the ground for the adoption and implementation of this approach for the coming years.

The statements of all the world leaders that they express frequently, such as "Nothing will be the same anymore" and adaptation to the new world order, are discussed by experts in various fields and it is seen that policies towards increasing professional functionality are being prepared. The effects on athletes both for countries and individually by shifting to digital in sports sector and the limitation of participation in organizations is an issue of concern.

As a result, it is predicted that daily life and business life which have been going on for years, will be replaced by a new order and structure. In this context, it is anticipated that until the development of the antivirus therapy and its widespread use, controlled life will continue effectively throughout the world.

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