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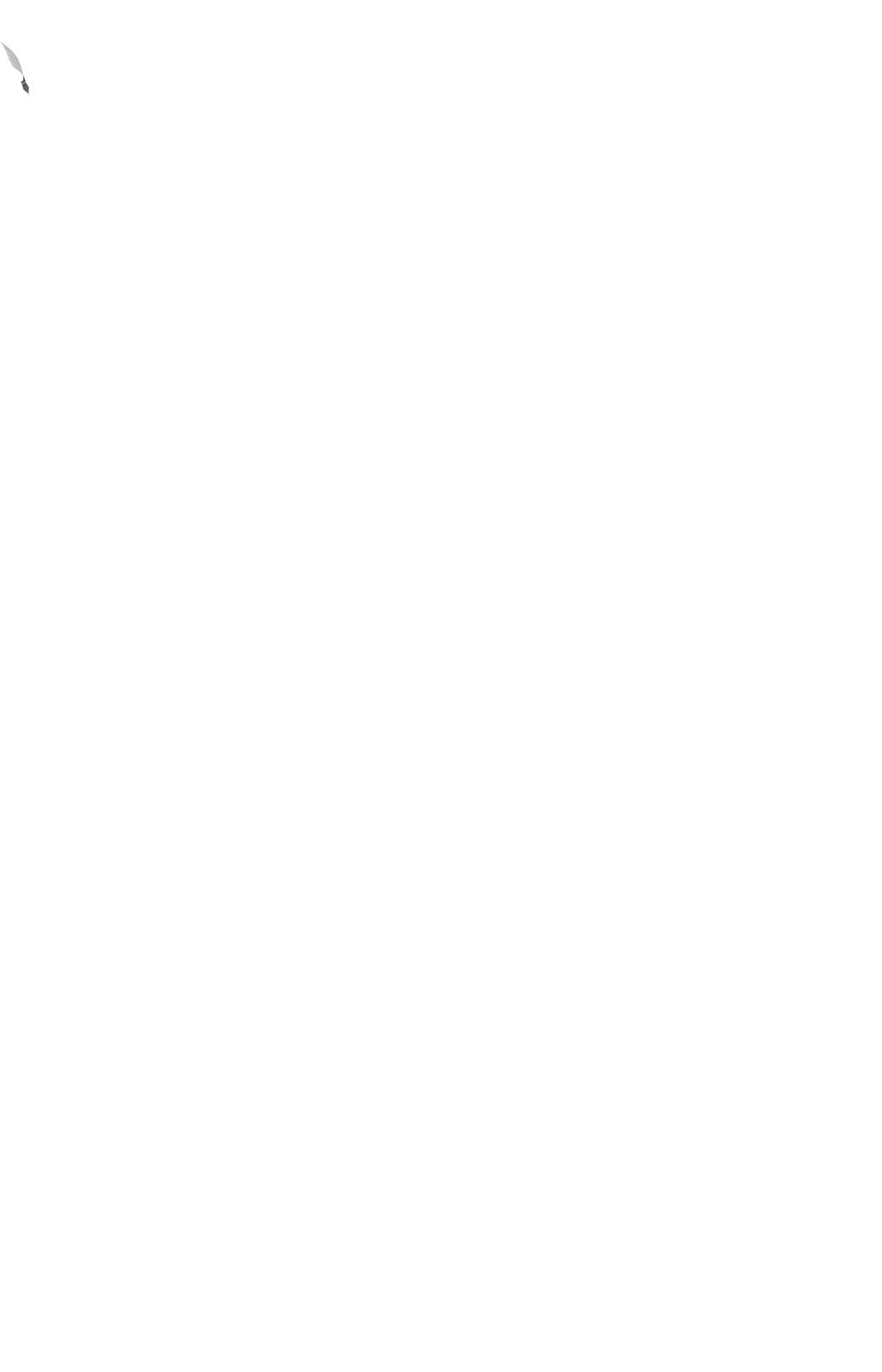
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Chapter 1

WINTER SPORTS AND SKI RESORTS OPPORTUNITIES IN TURKEY

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Introduction

Today, sports have become a versatile and dimensional phenomenon in terms of its benefits and application reasons. It is effective in the development of personality and character traits by improving human and mental health, facilitating the adaptation to the environment by providing knowledge, skills and talent, providing solidarity, cohesion and peace in the international arena, combating, feeling excitement, competing and prevailing. are defined as the activities carried out (Yetim, 2014).

While the physical development of the individual is important for motor development, mental development and social development in terms of personality traits, it can be said that it has an impact in a wide area such as education, environment, promotion, economy and tourism. Turkey, where the geographic location and amenities as in terms mountain tourism has significant potential (Somuncu, 2002). “Winter sports” constitute the most weighted part of tourism and sports activities carried out in mountain tourism and mountain sports cases. In the beginning, mountaineering, which was carried out in the form of climbing and skiing, became a winter tourism movement, especially climbing, hiking and skiing. In this way, winter mountain sports centres have become increasingly tourist attractions.

Winter tourism, depending on the snowfall in the mountains can receive snow in the height of the sport (snow skiing) is a type of tourism gaining weight (Doganer, 2001). It is seen that the number of new winter tourism-oriented destinations is increasing rapidly around the world. According to 2017 data, there are 2000 winter tourism destinations and 125 million skiing tourists in 80 countries (Vanat, 2018; Evren & Kozak, 2018).

Changes in the international tourism market and tourist profile have led to the creation of new destinations

in the world tourism market and a shift from mass tourism to sustainable and alternative tourism has started. Sport tourism is a type of tourism which is a travel destination for a limited time away from home environment, where sport is performed in a destination characterized by unique sets of rules of physical courage and competition in games (Hinch & Higham, 2011).

Winter tourism is directly proportional to the length of the season and the length of time the snow stays on the ground. One of the necessary elements for a region with the potential of winter tourism to utilize this potential is accommodation and transportation. In addition, landscape, flora, cultural values, as well as factors such as mechanical facilities, food and beverage, entertainment units are the most important elements that increase the attractiveness of winter tourism (Incekara, 1998).

Approximately 55.0% of the surface area of Turkey is a country covered with 1500-3000 meters altitude in the mountainous area. Beydaglari, Taurus Mountains, Balkans, Aladag Mountains, Munzurlar Mountains, Cilo and Sat Mountains and Kackar Mountains have the same height and the same flora as they occur in the same time period as the Alps in Europe. However, these mountains are 2-3 times bigger than the Alp mountains (Incekara, 1998).

All of this information, Turkey is thought to be an important country within the scope of winter tourism. In the study, the current situation of the winter sports center in Turkey (transport, runways, hotels) attempted to establish about resources.

Method

In the study, the tourism potential of winter tourism center in Turkey and the role of the tourist attractiveness of tourism in Turkey were investigated. Examined alternative

tourist resources of Turkey and their importance in terms of winter tourism in Turkey were examined. There are a total of 29 ski resort in Turkey, according to data from Turkish Ski Federation. In this research, 10 ski resorts which are prominent in terms of their potential and possibilities were examined.

In the research, document analysis method, which is one of the qualitative research methods, was used as data collection tool. Turkey's ski to examine in detail from many different sources, document analysis method is preferred. Document analysis involves the analysis of written materials containing information about the subjects to be investigated. Document review is defined as a systematic review of existing records or documents as data sources (Yildirim and Simsek, 2006).

Results

Uludag Ski Resort (Bursa)

The Ski Center is located on the Uludag Mountain, the highest mountain of the Marmara Region. The lowest point is 1750 meters and the highest part is 2435 meters in Uludag Ski Center, the peak point is 2543 meters. The highest point of the Hotels Area is 2000 meters. One of the largest winter sports centers Uludag is home to a large number of the domestic and foreign tourists every year. The entertainment and competition organizations organized throughout the season increase the interest in the territory.

In addition, Uludag has been able to skip all the tracks with a single ski pass with the agreement made by the hotels since 2013. In this way, it is possible to benefit from almost all the tracks with the free ski pass card get from the hotels.

Transportation: Uludag Ski Center is 40 kilometres away from Bursa city center, 240 kilometres from Istanbul and 380 kilometres from Ankara. It is also only 330 kilometres away from Izmir, and it is very convenient to reach Uludag, which is located between the 3 major cities and within the borders of the 4th largest city. It is possible to reach the summit of Uludag by using the cable car line departing from Bursa Center.

Hotels: Uludag is divided into two regions unlike other ski resorts.

Uludag 1st Zone: Uludag is said to be an entertainment center. Uludag is not only a ski resort, but also an entertainment center has great demand from customers. Most of the entertainment organizations are held in the first region. There are 15 hotels in the area.

Uludag 2nd Zone: The second region consisting of modern and luxurious hotels offers a quieter and more peaceful environment. Due to its proximity to challenging ski runs, it attracts professional skiers. Most of the hotels in both regions offer breakfast and dinner. There are also 5 hotels in Zone 2.

Ski Runs: There are 24 ski runs in Uludag Ski Center and these ski runs offer different opportunities like sports, skiing, snowboarding and cross country. There are 24 lifts and 7 t-bars in the ski center, of which 9 are ski lifts, 10 are ski lifts, and 1 is a cable car. One of the longest runways of Uludag is the “Tutyeli” Runway. The average length of this track is 2750 meters and offers a long-term, uninterrupted skiing opportunity. There are a total of 20 tracks in the center, 10 blue, 5 red, 5 black. Total runway lengths are around 60 km.

Ski Runs: There are a total of 18 ski lifts and ski lifts in 2 main ski areas, while a total of 25 ski runs with varying degrees of inclination and difficulty. Total runway lengths are around 40 km. The snow park in the center attracts not only skiers but also snowboarders. The suitable area that can be skied in Kartalkaya Ski Center is between 1850-2200 m. The climate of the region is semi-temperate. Kartalkaya ski resort and its surroundings are full of pine forests. The dominant wind direction is west and northwest.



Figure 2. Kartalkaya Ski Maps (tripadvisor.com, 2019)

Kartepe Ski Resort (Kocaeli)

Kartepe Ski Center is located on the eastern border of Kocaeli province, at the heights of the Samanlı Mountains, the third highest point of the Marmara region between Izmit and Sapanca Lake. The region is named after Kartepe district of Kocaeli province. Skiing activities start at the end of December and continue until the end of February. The high interest in the region is due to the fact that it is close to Istanbul and there are many alternatives for extreme sports. Kartepe Ski Center, which is the highest point of 1699 meters, is a preferred

of ropeway system in Erciyes ski facilities, there are 18 mechanical facilities and 34 runways according to difficulty levels. The longest runway within the facility is 4210 meters long and the shortest runway is 230 meters long. The facility has blue (13), red (16) and black (6) difficulty levels depending on the degree of difficulty and has a capacity of carrying 26,750 people per hour.

Transportation: There are many transportation options to the facility in Kayseri. It is 25 km from Kayseri airport and can be reached from the airport. Erciyes is located expeditions all over the airport as well as Turkey that Ankara (Capital) to the distance between the Erciyes ski resort 347 km.

Hotels: There are 8 different options in the ski resort. It is particularly busy at weekends and must be booked in advance. Most on-site hotels have airport transfers.

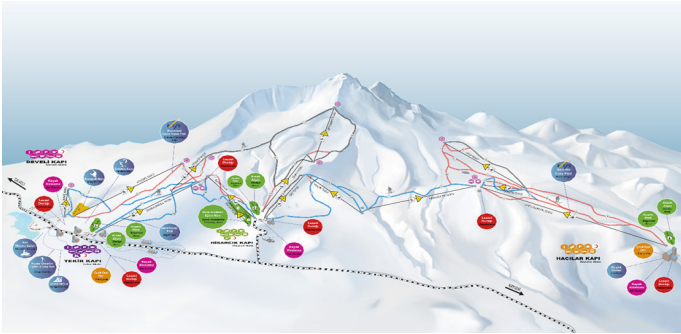


Figure 5. Erciyes Ski Map (kayserierciyes.com.tr; 2019)

Sarikamis Ski Resort (Kars)

Sarikamis Ski Center is located within the borders of Kars province in the Eastern Anatolia region. The highest point is 3,000 meters high in the mountains located in Allahuekber facility is one of Turkey's major ski and outdoor sports centers. The crystal snow quality in the

3185 m are located in the south of Erzurum and extend in the east-west direction. The period between December and May is the best time for skiing in the Palandoken ski resort, which is covered with snow for 150 days a year. The ski resort of Palandoken has a capacity of 32,000 skiers per day. The ski runs at the Palandoken Ski Resort are among the longest and steepest ski runs in the world. The longest runway is 13 km. The total length of the ski runs is 28 km. There are a total of 19 runways in the facilities according to different difficulty levels, blue (8), red (8) and black (3). In addition, there are 4 natural tracks in the facility. Each of these tracks has different difficulty levels. 5 ski lifts (total 4500 person / hour capacity) 1 ski lift (300 person / hour capacity) 2 baby lifts (1800 person capacity) 1 gondola lift (1500 person capacity) serves in the ski center.

Transportation: Erzurum Airport, which is open to international flights, has direct flights from different countries of the world and daily scheduled flights from cities such as Istanbul, Ankara and Izmir. Erzurum Airport and ski center are about 15 km away.

Hotels: There are accommodation options for every budget in the ski resort. In addition to 4 and 5 star hotels with a capacity of 6,000 people, it is possible to find ski resorts and facilities that offer daily accommodation.

Hotels: Saklikent, 477 detached houses, 1 hotel, 1 pension with a complete sports complex. Accommodation in the ski resort is included in the bed and breakfast.

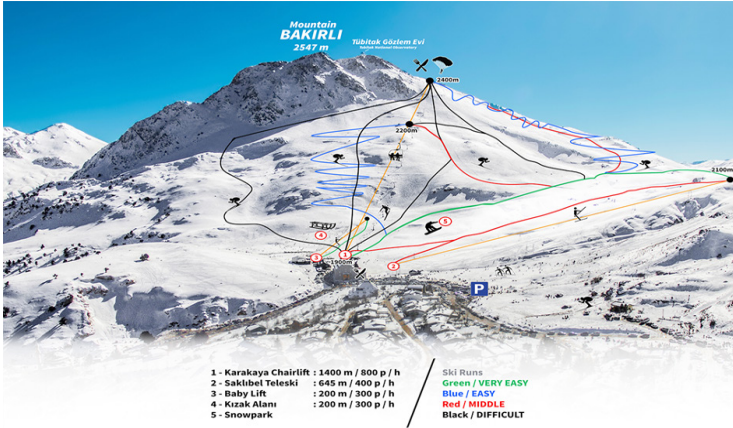


Figure 8. Saklikent Ski Map(saklikentim.com, 2019)

Ergan Ski Resort (Erzincan)

Ergan Ski Center is located within the boundary of Erzincan province in Eastern Anatolia region. Ergan Mountain Winter Sports Tourism Center ski area; 1,800 m, 2,662 m, 2,455 m, has a cable car and ski resort of Turkey 's longest lift in length. Carrying capacity of 2,700 people per hour ski lift system and new technologies hour cable car system with a carrying capacity of 1,000 people Ergan Mountain Winter Sports Tourism Center, one of Turkey's major ski resorts. There are a total of 4 ski runs in Ergan ski resort. The longest runway within the facility is 2862 meters and the shortest runway is 1363 meters. The highest peak in the plant has an altitude of 2540.

Transportation: Ergan ski resort facilities are 1 km from Erzincan city center and 17 km from Erzincan airport. In addition, Erzincan airport is open to direct

carrying capacity of 3400 people per hour in ski facilities (chairlift, tele ski, babylift, etc.).

Transportation: Davraz Ski Center is convenient for road transportation. It is 26 km to Isparta city, 30 km to Egirdir District Center, 150 km to Antalya, 450 km to Ankara, 420 km to Izmir and 650 km to Istanbul.

Hotels: There are 3 different accommodation options in the ski center with a total capacity of 419 beds. Hotels provide access to the city center.

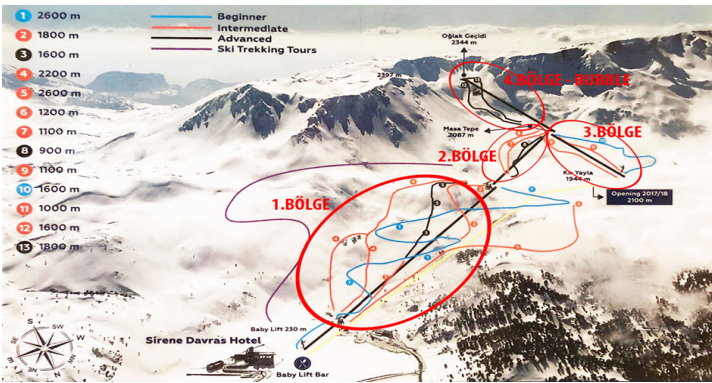


Figure 10. Davraz Ski Map(davraz.com, 2019)

Conclusion

As a result, it is seen that is found in every aspect of the sufficient and natural beauty with ski resort in Turkey. According to the ski centers in European countries, the price was at a lower level and to make it more comfortable skiing center of Turkey as an important winter tourism has come to the forward. Later in the period, the advent of winter tourism in Turkey and will be a valuable option for ski lovers are expressed.

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Chapter 2

ELASTIC BAND EXERCISES

Kenan ERDAĐI

Sport activities apart from competitions are suggested to all people for a healthier life. It's known that 40% of the population of the USA follows regular exercises and that the rate is quite low in our country (Zorba 1999). We all know the fact that technological advances have caused malnutritional habits and less physical movement, which in turn resulted in sedentary lifestyle as an adverse result. Sedentary lifestyle increases the risks of cardiovascular diseases, deformation in joints, vertebral disorders, stress, depression and many other problems. These adverse results make individuals do sport activities to proceed their physical and mental health (Şimşek and Katırcı 2011). Along with psychological, sociological, cultural and global advantages, doing sports regularly is also known to have numerous positive effects on muscles, bones, joints and cardiovascular functions and the systems of respiration, digestion and urinary (Bouchard and Despres, 1995). With the help of athletic exercises, strength parameters are known to increase. A wide variety of the term "strength" in sports has been defined and classified in various types of sports. According to Holmann, strength is "either the contraction or the endurance of muscles against a resistance" (Sevim 2002). Strength is both the ability to have power and the basic element of sports activities as well as being the basic component of performance in recreational activities. Moreover, it has a critical role in maintaining an efficient and productive daily life (Tamer 1995) . Sevim (2002) quotes the strength definition of Meusel "strength is one of the basic characteristics of mankind and it helps people move a mass (either through his physical weight or through a sports instrument), deal with or reacts to a resistance". At this point, we can mention two different kinds of strength: "general strength" when general physical strength apart from any kind of athletic purpose is meant and "specific strength" which is used to

describe physical strength enhanced or developed for a specific type of sports (Dündar 1996).

Types of Strength Exercises

Strength Exercises with Classical Weights

When classical weight exercises are mentioned, weightlifting exercises come front in general and the base of these exercises depends on a set of repetitions and continues to in accordance with these repetitions. In this method, the maximal strength of an individual is detected, then, at different times with different strength range, either with the help of free weight or resistance machines, general or functional muscular groups are exercised (Hartmann and Tünnemann 1989).

Strength Exercises with Body Weight

In this kind of strength exercises, an individual uses only his/her own body weight instead of any extra weights. These trainings are mostly recommended to individuals who have just started strength exercises (Soydan 2006).

Core Strength Exercises

Core exercises help to develop muscular balance and strength. Specific exercises are embedded in these exercises for the control and stabilization of the movements of stomach, waist and thighs. The reinforcement of the core parts of the body is important not only for athletic performance, but also for a good-looking body posture (Willardson, 2007). Core exercises can be maintained with body weight on a stable base or with different equipment on a moving base (Karacaoğlu and Kayapinar, 2015).

Strength Exercises with Elastic Bands

Elastic bands (thera-band) are used for various purposes such as during rehabilitation period after an injury, to increase functional capabilities and capacities

of elders, patients with chronic diseases and athletes. The resistance of elastic bands increases the strength of muscular groups for which they are used and causes a hypertrophic effect on the same group of muscles (Page and Ellenbecker 2005).

Elastic Bands

Elastic bands used for resistance trainings have many different names such as tubing, thera-band, elastic band and resistance bands. The most important feature of thera-bands, which distinguishes them from other resistance machines, is that they are capable of working independently of gravity. The resistance of these bands is more about tensile strength than gravity. As thera-bands stretch, the level of resistance increases (Page and Ellenbecker 2011). The level of difficulty varies depending on the resistance level measures of stretch (Table 1). Furthermore, the color of the band shows the level of resistance. These bands have eight different colors showing the range of difficulty levels. The colors used from the least difficult to the most are as follows, respectively: beige, yellow, red, green, blue, black, silver and gold. The difficulty level of thera-band with beige color is very easy. In exercises to recover muscular strength, this band is initially suggested. The difficulty level of yellow band is easy. The resistance level of red band is medium. For exercises to keep body fit, women are suggested to use yellow or red bands. Green bands are thick and their difficulty level is high, whereas blue bands are thicker with higher level of difficulty. Blue and green bands have a higher level of resistance. They are mostly suggested to men. The resistance level of black bands is very difficult. Silver colored thera-bands are extra thick with quite higher level of difficulty. Gold thera-bands have maximum thickness with maximum resistance level. Thera-bands with black, silver and gold colors are suggested to athletes (Yolcu 2010, Baltacı et

al. 2003). The chart 1 and 2 shows difficulty levels of these bands, that is, the level of resistance when they are stretched. The resistance level varies depending on their colors (Baltacı et al. 2003).

Renk	Direnç	Kuvvet-uzama ilişkisi (%100)
Ten rengi (bej)	Çok Kolay	0,5 kg
Sarı	Kolay	1,3 kg
Kırmızı	Orta	1,8 kg
Yeşil	Zor	2,3 kg
Mavi	Oldukça Zor	3,2 kg
Siyah	Çok Zor	4,4 kg
Gümüş	Süper Zor	6,0 kg
Altın	Maksimum Zor	9,8 kg

Chart 1: Elastic bands and their level of difficulty.

Resistance (kg) Thera-Band color scale for exercise bands

	Sarı	Kırmızı	Yeşil	Mavi	Siyah	Gümüş	Altın
25 %	0,5	0,7	0,9	1,3	1,6	2,3	3,6
50 %	0,8	1,2	1,5	2,1	2,9	3,9	6,3
75 %	1,1	1,5	1,9	2,7	3,7	5,0	8,2
100 %	1,3	1,8	2,3	3,2	4,4	6,0	9,8
125 %	1,5	2,0	2,6	3,7	5,0	6,9	11,2
150 %	1,8	2,2	3,0	4,1	5,6	7,8	12,5
175 %	2,0	2,5	3,3	4,6	6,1	8,6	13,8
200 %	2,2	2,7	3,6	5,0	6,7	9,5	15,2
225 %	2,4	2,9	4,0	5,5	7,4	10,5	16,6
250 %	2,6	3,2	4,4	6,0	8,0	11,5	18,2

Chart 2: The resistance values depending on stretch.

Exercises Tubing

For strength recovery, no physiological and biomechanical differences exist between tubing and bands. They are similar to elastic bands. The preference is up to the user. With four different colors, tubing is frequently used for strength development of lower and upper extremity and body muscles (Page and Ellenbecker 2011).

Purposes of Elastic Band Exercises

Elastic bands are often used to provide treatment and muscular development after an injury, to increase endurance for long-term strength exercises, to regulate posture exercises that require low resistance with many repetitions of an exercise (Baltacı et al. 2003). Moreover, elastic bands are also used for motor dysfunctions, balancing and walking problems, cardiorespiratory disorders and athletic purposes (Martins et al. 2015).

Advantages of Elastic Band Exercises

<ul style="list-style-type: none"> • More economical compared to resistance machines 	<ul style="list-style-type: none"> • Easy and practical to use
<ul style="list-style-type: none"> • Removes momentum 	<ul style="list-style-type: none"> • Provides physical mobility and full body movement
<ul style="list-style-type: none"> • Long-lasting 	<ul style="list-style-type: none"> • Required level of resistance can be set.
<ul style="list-style-type: none"> • Safe to use at all ages 	<ul style="list-style-type: none"> • Can be used in different exercises for mobility and strength development.
<ul style="list-style-type: none"> • Good to be used in exercises to regain strength. 	<ul style="list-style-type: none"> • Suitable for specific and general trainings

<ul style="list-style-type: none"> • Can be used in athlete trainings 	<ul style="list-style-type: none"> • Minimizes the risk of athletic injuries.
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(Master et al. 2009)

Disadvantages of Elastic Band Exercises

It has been reported that elastic bands and tubing with the same color produced by different manufacturers might have different levels of resistance. That's why, producers are suggested to attach a chart showing the resistance level of their own product. Although elastic bands are known to be advantageous during exercises, they have some disadvantages as it's difficult to control the volume of resistance during a training (Buscher et al. 2006, Page and Ellenbecker 2011, Simoneau et al. 2001). Elastic bands can wear out, be damaged by sharp items or unfastened during exercises and might cause injuries (Page and Ellenbecker 2011).

Suggestions Regarding Elastic Band Exercises

<ul style="list-style-type: none"> • The most suitable band with specific personal resistance level should be selected. 	<ul style="list-style-type: none"> • Exercises should be slow and accompanied.
<ul style="list-style-type: none"> • If the band is to be fastened on a base, the ties should not be loose. 	<ul style="list-style-type: none"> • No sharp items should be carried on hands and arms during exercises.
<ul style="list-style-type: none"> • Some users might be allergic to bands. 	<ul style="list-style-type: none"> • Elastic bands should be kept off sunlight and heat and carried in special cases.
<ul style="list-style-type: none"> • Elastic bands can be washed under tap water with soap. 	<ul style="list-style-type: none"> • Elastic bands should be used with gloves.

-
- Elastic bands should not be kept in stretched position for a long time.
 - While stretching, the bands should be kept far from head and face. If the exercise requires such position, goggles should be used. It's not good to use short or shortened bands.
-

(Buscher et al. 2006; Dođaner, 2012, Page and Ellenbecker 2005).

Selecting the Right Band

Before selection of the band, the resistance of the band, the muscular area for the band activity, physical characteristics, the level of exercise, the age, gender and overall health of the user should be considered (Baltacı et al. 2003). The right band should be selected depending on general conditions of the user because the band selected should allow the user to repeat training for 15 times (Buscher et al. 2006; Dođaner, 2012). Beige and yellow bands are generally used for treatment (post-operation use). Red and green bands are generally used for exercises for women. For men, green and blue ones are preferred and as the level of condition increases, it's better to use black bands. Silver and gold bands are suitable for exercises for sports of competition (Buscher et al. 2006).

Uses of Elastic Bands

In addition to their contribution to strength development, elastic bands are also helpful for the development of motor skills. Furthermore, another advantage of elastic bands is that they can be used by individuals at any age (Page and Ellenbecker, 2005). As the exercises done by elastic bands, which are easy to carry

and use, are economical and safe, they are used frequently in order to develop muscular strength, flexibility and balance of all individuals regardless of their age (Zion AS et al. 2003; Martins et al. 2015). It's reported that the use of elastic bands and rubber tubing contributes to increase strength and power parameter values of the young, elder, patients and athletes (Anderson et al. 1992; Jette et al.1997; Mikesky et al. 1994; O'Brien, 1992; Verill et al.1992). It is also reported that elastic band exercises are frequently suggested to develop endurance for long-term strength exercises, to regulate posture exercises that require low resistance with many repetitions of the exercise, to boost general capability and to develop muscles during rehabilitation period after injuries (Baltacı et al. 2003).

In literature, there are various studies of different authors regarding the use of elastic bands. It's stated that in addition to the use of elastic bands in physical treatment and rehabilitation, they are also used to increase functional capacities of individuals (the elder and sedentary) and to develop functional capacities of athletes. Umut (2017) reported that after thera-band strength trainings with basketball players, shot performances along with all biomotor capacities of the athletes increased. Moreover, the researcher stated that he observed quite different results in variables of push-up, sit-up, flexibility, standing long jump and speed of the athletes and that the addition of thera-band strength exercises into seasonal basketball trainings might affect the success of the athletes. In their study, Yolcu, (2010) followed 8-week thera-band exercises with footballer kids aged U-11 and U-12 and the researcher reported that at the end of the exercises, the strength parameters of knee extension of the players were boosted. Also, the researcher mentioned that as the cost of elastic bands is much lower and the use is much more practical than resistance machines, elastic bands might be preferred for muscular strength development in kids.

Erdağı et al. (2019) studied the effects of 12-week elastic band exercises on muscular volume of psoas, iliacus and quadratus lumborum along with athletic performance of olympic-style weightlifting athletes. The researchers reported that at the end of twelve weeks, total weight lift increase of the female and male athletes is higher than the total weight lift of the control groups ($p < 0.001$). Furthermore, the researchers also stated that to develop posterior abdominal muscle walls, the addition of elastic band exercises into the general weightlifting trainings of the athletes will increase the volume of these muscles and positively affect the performance of the athletes. Apart from seasonal football trainings of elite male footballers, the addition of 15-week motor control trainings was reported to increase the cross-sectional area of iliopsoas, sartorius and gluteus medius muscles and this increase decreased backpain complaints of the athletes (Mendis et al. 2013). Biçer et al. (2015) studied the effects of elastic band exercises on strength parameters of healthy individuals. After 8-week elastic band exercises, the researchers reported significant increases in back, leg, right handgrip, and left handgrip strength parameters and better movements of squat, calf press, butterfly, bench press, biceps dumbbell curl, and shoulder press. After the same researchers compared the variables between elastic band users and control groups, they also declared that they found significant increases in squat, calf press, butterfly, bench press, biceps dumbbell curl, and shoulder press movements of the elastic band users. Consequently, they reported that elastic band exercises followed by male athletes possess positive effects on strength parameters of athletes. Colado et al. (2012) used weight machines, elastic bands, and aquatic devices in their study aiming to develop body composition and physical capacity of old female individuals and they stated that trainings with different instruments cause a great deal of increase in

body composition and physical capacity of old female individuals. The same researchers declared that after elastic band exercises, they observed increases in test values of fat mass, fat-free mass of the left arm and right arm, knee push-up test, squat test and crunch of the females. Cheol et al. (2016) studied elders living in rural community and found out the effects of elastic band exercises on balance, gait function, flexibility and fall efficacy of these individuals. The study included two different groups and the researchers followed 8-week general physical therapy and elastic band exercise with one group and only general physical therapy with the other group. At the end of eight weeks, it was declared that elastic band exercises caused significantly positive effects on balance, gait function, flexibility and fall efficacy of elders in both groups.

How to Use Elastic Bands

During exercises, elastic bands should be placed not to slip off hands and feet and cause injuries. Double winding helps to fix the band on hands and feet (Buscher et al. 2006).

Hand Use of Elastic Bands

While using an elastic band by a hand, the band should be placed on the palm and winded around the little finger and grasped tightly. If the aim is to arrange the length of the band, the band should be winded around the hand again. While using the band by both hands, the band should be placed on palms and the ends are held between the thumbs and index fingers. Then, the hands are introverted and the band is winded around the hands and grasped tightly (Buscher et al. 2006), (Figure 1).

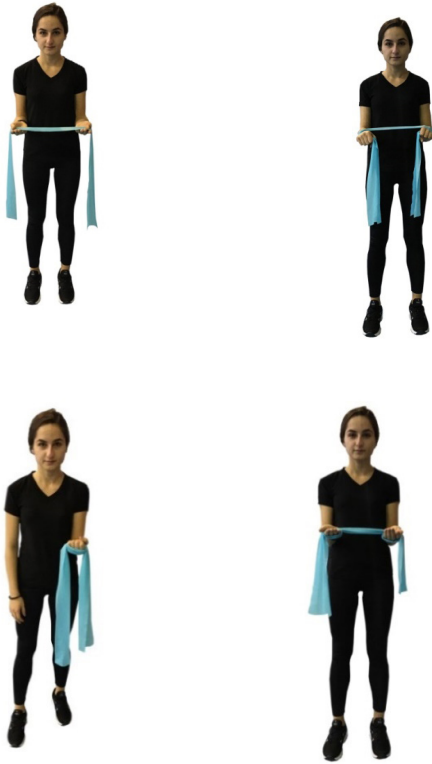


Figure 1. Hand Use of Elastic Bands

Foot Use of Elastic Bands

While using elastic bands by foot, the user steps on the middle of the band and holds the ends by hands. If the elastic band is to be used in different positions of foot, both ends of the band are fastened tightly and the band is put on a foot, then the exercise is followed by the other foot (Buscher et al. 2006), (Figure 2.).

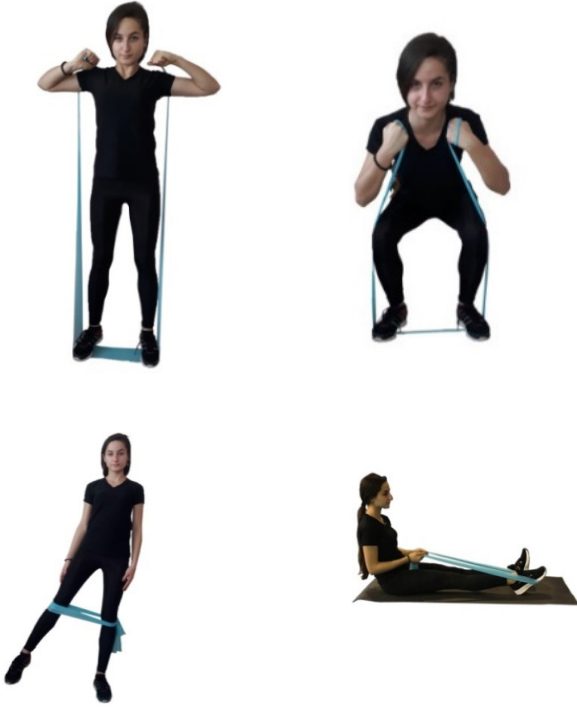
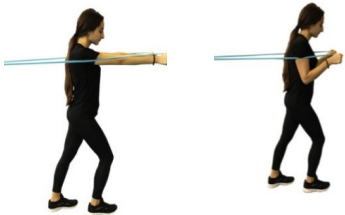




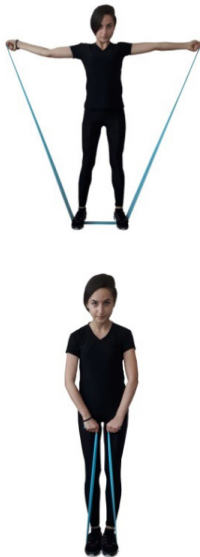
Figure 2. Foot Use of Elastic Bands


Elastic Band Exercises for Lower and Upper Extremity and Trunk Muscle

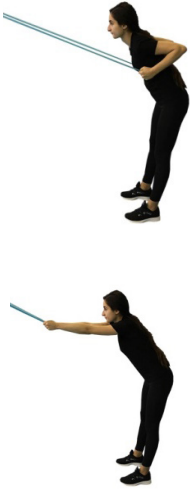
	<p style="text-align: center;">Chest Press</p> <ul style="list-style-type: none"> • Attach elastic band to secure object at shoulder level. • Sit or stand as shown. • Hold elastic band in hands, arms out from side, elbows bent, as shown. • Push forward, straightening elbows. <p>Slowly return to start position and repeat.</p>
<p>Active muscle groups</p> <ul style="list-style-type: none"> • Agonist muscle: M. pectoralis major, , m. triceps brachii, m. serratus anterior. • Sinerjist muscles: M. deltoideus (anterior deltoid), m. triceps brachii, m. serratus anterior, m. coracobrachialis, m. biceps brachii (short head). • Stabilizör muscles: M. biceps brachii, m. brachialis, m. brachioradialis, wrist flexors muscles, abdominal muscles. 	


	<p style="text-align: center;">Biceps Curl</p> <ul style="list-style-type: none">• Fix the elastic band under your feet.• Grasp elastic band in hands, , arms straight.• Pull upward, bending at elbows.• Keep trunk straight.• Slowly return to start position and repeat.
<p style="text-align: center;">Active muscle groups</p> <ul style="list-style-type: none">• Agonist muscle: M. biceps brachii (short head).• Sinerjist muscles: M. brachialis, m. brachioradialis, m. pronator teres.• Stabilizör muscles: M. erector spinae, m. levator scapulae, m. trapezius, m. rhomboideus, wrist flexors muscles.	



	<h3>Triceps Extensions</h3> <ul style="list-style-type: none">• Move one foot slightly in front of the other and place the center of the band under the foot at the back.• Bring handles together straight up above the top of your head.• Slowly lower handles behind the back of your head until elbows are bent 90 degrees, keeping elbows close to the side of your head.• Press hands back up overhead slowly.
<h3>Active muscle groups</h3> <ul style="list-style-type: none">• Agonist muscle: M. triceps brachii.• Sinerjist muscles: M. anconeus.• Stabilizör muscles: Abdominal muscles, m.latissimus dorsi, m.subscapularis, m. infraspinatus, m. teres major, m. multifidus (spinal erector), m. tansverse abdominis.	

	<p style="text-align: center;">Lateral Raise</p> <ul style="list-style-type: none">• Stand on elastic band.• Hold elastic band in both hands.• Begin with arms at sides.• Keep elbows straight and lift arms to shoulder level.• Slowly lower and repeat.
<p style="text-align: center;">Active muscle groups</p> <ul style="list-style-type: none">• Agonist muscle: M. deltoideus.• Sinerjist muscles: M. triceps brachii, m. trapezius, m. supraspinatus.• Stabilizör muscles: M. erector spinae, abdominal muscles.	

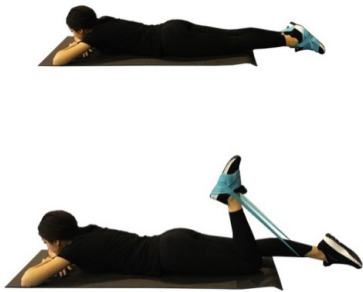
	<p style="text-align: center;">Upright Row</p> <ul style="list-style-type: none">• Stand on elastic.• Grasp elastic in both hands in front of hips, elbows straight.• Lift upward toward chin, bending elbows.• Keep hands close to chest.• Slowly lower and repeat.
<p style="text-align: center;">Active muscle groups</p> <ul style="list-style-type: none">• Agonist muscle: M. trapezius (superior fibers).• Sinerjist muscles: M. levator scapulae.• Stabilizör muscles: M. erector spinae, wrist flexors muscles, m. subscapularis, m. infraspinatus, m. teres minor, abdominal muscles, m. multifidus.	


	<p style="text-align: center;">Lat Pull Down</p> <ul style="list-style-type: none"> • Attach elastic overhead to secure object. • Grasp elastic in hands as shown. • Pull down, bending elbows, squeezing shoulder blades together. • Slowly return to start position and repeat.
<p style="text-align: center;">Active muscle groups</p> <ul style="list-style-type: none"> • Agonist muscle: M. latissimus dorsi. • Sinerjist muscles: M. teres major, m. deltoideus (posterior deltoid), m. pectoralis major (costal division), m. rhomboideuss, m. trapezius (medial fibers, inferior fibers), m. brachialis, m. brachioradialis, m. biceps brachii. • Stabilizör muscles: Abdominal muscles, m. levator scapulae, wrist flexors muscles, m. subscapularis, m. infraspinatus, m. teres minor, m. supraspinatus, m. erector spinae. 	

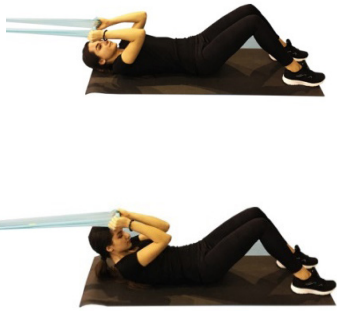
	<p style="text-align: center;">Squat</p> <ul style="list-style-type: none">• Stand on both legs.• Hold elastic band in both hands.• Place elastic band under feet.• Bend the knees more than 90 degrees.• Pull to add tension to elastic band.• Straighten knees.• Slowly repeat.
<p style="text-align: center;">Active muscle groups</p> <ul style="list-style-type: none">• Agonist muscle: M. semimembranosus, m. semitendinosus, m. biceps femoris (short head), m. biceps femoris (long head).• Sinerjist muscles: M. gastrocnemius, m. sartorius, m. gracilis, m. popliteus.• Stabilizör muscles: Abdominal muscles, back muscles.	


 	<p>Knee Extension (Sitting)</p> <ul style="list-style-type: none">• Attach elastic band to ankle of involved leg.• Secure behind as shown.• Sit, with leg bent to 90 degrees, as shown.• Straighten leg at knee.• Slowly return to start position.
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<p>Active muscle groups</p> <ul style="list-style-type: none">• Agonist muscle: M. quadriceps femoris.• Sinerjist muscles: M. adductor magnus m. soleus, hamstrings muscles, m. gastrocnemius.• Stabilizör muscles: Hamstring muscles.

	<p style="text-align: center;">Knee Flexion (Prone)</p> <ul style="list-style-type: none"> • Attach elastic band to secure object or foot. • Attach elastic band to ankle of involved leg as shown. • Lie face down. • Begin with knee straight. • Bend knee through available range. • Slowly return to starting position.
<p style="text-align: center;">Active muscle groups</p> <ul style="list-style-type: none"> • Agonist muscle: M. semimembranosus, m. semitendinosus, m. biceps femoris (short head), m. biceps femoris (long head). • Sinerjist muscles: M. gastrocnemius, m. sartorius, m. gracilis, m. popliteus. • Stabilizör muscles: Abdominal muscles, back muscles. 	

	<p style="text-align: center;">Dead Lift</p> <ul style="list-style-type: none">• Stand in middle of elastic band with both feet.• Squat down, grasp ends of elastic band in hands and take up all slack.• Keep elbows and back straight and extend hips to slowly return from the squat to an upright position.
<p style="text-align: center;">Active muscle groups</p> <ul style="list-style-type: none">• Agonist muscle: M. gluteus maximus.• Sinerjist muscles: M. quadriceps femoris, Hamstrings muscles, m. adductor magnus, m. soleus, m. gastrocnemius, hip rotators.• Stabilizör muscles: Abdominal muscles, m. erector spinae, m. quadratus lumborum, m. gluteus medius, m. gluteus minimus, m levator scapula, m. trapezius superior fibers.	

	<p>Trunk Curl-up</p> <ul style="list-style-type: none">• Securely attach the ends of band to a stationary object near floor.• Lie on back with knees bent, holding ends of bands in hands, arms in front and elbows straight.• Keep hands close together and curl trunk upward, lifting shoulder blades from floor.• Hold and slowly return.
<p>Active muscle groups</p> <ul style="list-style-type: none">• Agonist muscle: M. rectus abdominis.• Sinerjist muscles: M. external oblique, m. internal oblique.• Stabilizör muscles: M. transversus abdominis.	

	<p>Side Bend</p> <ul style="list-style-type: none">• Stand, holding elastic band as shown.• Bend to right or left, keeping elbow straight.• Slowly return to start position and repeat.• Repeat sets with other side (right or left).
<p>Active muscle groups</p> <ul style="list-style-type: none">• Agonist muscle: M. external oblique, m. internal oblique.• Sinerjist muscles: M. erector spinae, m. quadratus lumborum, . m. psoas major, m. rectus abdominis.• Stabilizör muscles: M. gluteus medius, m. tensor fasciae latae. deep neck muscles, m. transverse abdominis	

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