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RUNNING IN ISTANBUL: EXPLORING WAYS TO INCREASE RUNNING AND WALKING AS EXERCISE OPTIONS FOR ISTANBULITES

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SUPERVISOR: ASSOC. PROF. DR. ASLI ÇARKOĞLU

MASTER'S THESIS

İSTANBUL, MARCH, 2019

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I, SERAY ÇAĞLA KELEŞ;

Hereby declare that this Master's Thesis is my own original work and that due references have been appropriately provided on all supporting literature and resources.

SERAY ÇAĞLA KELEŞ

26.04.2019

ACCEPTANCE AND APPROVAL

This work entitled **RUNNING IN ISTANBUL: EXPLORING WAYS TO INCREASE RUNNING AND WALKING AS EXERCISE OPTIONS FOR ISTANBULITES** prepared by **SERAY ÇAĞLA KELEŞ** has been judged to be successful at the defense exam held on **26.03.2019** and accepted by our jury as **MASTER'S THESIS**.

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ABSTRACT

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World Health Organization (WHO) stated insufficient physical activity as one of the prominent risk factors causing chronic diseases such as cancer, type 2 diabetes, and hypertension. Changes in the life styles have led to insufficient physical activity and in turn, it has created health issues. Thus, physical inactivity has been seen as a public health problem. Although variety of social, environmental and psychological factors influence physical activity frequency, impact of these determinants is not clear. Hence, this study specifically aimed to clarify factors influencing people's running and walking behavior in Istanbul's public parks by using Theory of Planned Behavior framework as a guide. I gave participants a survey created based on regularly physically active people's semi-structured interviews, and observations conducted in selected 2 parks in Istanbul. As a result, people's perception on environmental safety, utilization of public parks for physical activity purposes, and characteristics of people who prefer participating physical activity in public parks were discussed.

Keywords: Theory of planned behavior, physical activity, safety perception, public parks

ÖZET

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Fiziksel aktivite yetersizliği; Dünya Sağlık Örgütü tarafından kanser, Tip 2 diyabet, hipertansiyon gibi kronik hastalıklara sebep olan faktörler arasında dördüncü sırada gösterilir. Değişen yaşam biçimleri yeteri kadar fiziksel aktivite yapamamaya ve sağlık sorunlarının meydana gelmesine sebep olmuştur, bu sebeple bir halk sağlığı sorunu olarak görülür. Fiziksel aktivite sıklığını etkileyen sosyal, çevresel ve psikolojik olmak üzere çeşitli faktörler bulunmakla birlikte davranışın gerçekleşmesine ne kadar etkileri olduğu açık değildir. Bu çalışma spesifik olarak, Planlı Davranış Teorisi çerçevesinde kamuya açık parklarda koşu ve yürüyüş aktivitelerini yapmayı etkileyen faktörleri açıklamayı amaçlamaktadır. İstanbul'da seçilen 2 parkta uygulanacak anket soruları, düzenli spor yapan kişilerle yapılan yarı yapılandırılmış görüşmelere ve bu parklarda yapılan gözlemlere dayandırılarak oluşturulmuştur. Ek olarak Jackson (1999) tarafından geliştirilen Fiziksel Aktivite Ölçeği katılımcılara verilmiştir. Sonuçta, kişilerin çevresel güvenlik algılarına, parkların fiziksel aktivite amaçlı kullanımına ve parkları fiziksel aktivite amaçlı kullanan bireylerin özelliklerine dair bulgular tartışılmıştır.

Anahtar Sözcükler: Planlanmış davranış teorisi, fiziksel aktivite, güvenlik algısı, parklar

CHAPTER 1

INTRODUCTION

The aim of this chapter is to explain fundamental components and theoretical background of the current study, and present the findings from related literature. To clarify, it is planned to describe health protective behaviors, physical activity as one of these behaviors, and being physically active in public places within Theory of Planned Behavior perspective. The previous studies looked into the factors affecting physical activity engagement in public parks will be also presented.

1.1. HEALTH & HEALTH PROTECTIVE BEHAVIOR

People mostly evaluate their health status dichotomously as being sick or healthy. However, once examined closely, health represents itself on a wellbeing continuum changing from times of sickness to optimum physical and mental health (Morrison & Bennett, 2009; US Department of Health and Human Services, 1996). Thus, positive end of the wellbeing continuum is not the absence of a disease, but a completion of physical, mental and social wellness to enjoy life and cope with challenges (WHO, 1946; Morrison & Bennett, 2009; US Department of Health and Human Services, 1996).

In our contemporary world, people usually become ill due to social and environmental factors influencing their behavior instead of infectious diseases, because medical inventions and technological developments led to a decrease in prevalence of infectious diseases. However, changes in life styles leading to adopt novel behaviors gave rise to different diseases such as cardiovascular diseases, cancers, and diabetes (Ogden, 2007). Thus, it is essential to describe the behaviors affecting people's health status.

Health-related behaviors were divided into three by Kasl and Cobb (1966) as health behavior, illness behavior and sick role behavior. According to this early division, behaviors gathered under 3 groups emphasizing actions for prevention, cure, and recovery respectively. Meanwhile, staying healthy did still depended on medical inventions like medicines, vaccines and chemotherapy to a certain extent, however, a British physician, Thomas McKeown (1979), demonstrated the irrelevancy between advancements in medical field and the decline of diseases. After he shared the decrease in worldwide prevalent diseases before the rise of medical innovations, he also proposed that individuals' own behaviors such as smoking, eating and exercising were the main causes of the increase in illnesses such as cancer and coronary health disease and deaths from these diseases (Ogden, 2007). As a further attempt, Matarazzo (1984) grouped health behaviors as health impairing and health protective behaviors. Health impairing behaviors (e.g. smoking, unhealthy eating, and enormous alcohol drinking) refer to acts making people prone to diseases by damaging their health, while health protective behaviors such as exercising, using a seat belt, sleeping adequately, and using contraceptive methods point out actions managing health by preventing illness and boosting well-being (Ogden, 2007; Siyez, 2008; Spring, et al., 2012). In general, health protective behaviors include observable course of action and routine linked to preservation of health, recovery from an illness, and improvement of health (Gochman, 1997).

These behaviors are powerful enough to influence individuals' biology directly and alter either health risks or protections. Also, they can guide people to early detection or treatment of a disease (McKeown, 1979; Spring, Moller, & Coons, 2012; Siyez, 2008). Thus, operationalization of these behaviors is important to develop more effective interventions by comprehending behavioral origins of diseases (Conner & Norman, 2017). Accordingly, the behaviors I aimed to examine in the current study were explained in the next section.

1.2. PHYSICAL ACTIVITY & HEALTH

1.2.1 Description of Physical Activity

One of those health protective behaviors, physical activity (PA), is the expansion of bodily energy consumption above the basal level due to contraction of skeletal muscles. Despite the interchangeable utilization of 'exercise' and 'physical activity' terms, exercise differs from PA due to the emphasis on intentionality and repetition of bodily movement. While physical activity is used as a broad term, exercise points out the systematic development and continuance of physical fitness (US Department of Health and Human Services, 1996). Thus, the term 'physical activity' does not only contain sportive activities, but also includes leisure time activities such as household chores, gardening and dancing (WHO, 2015; US Department of Health and Human Services, 1996).

PA is generally categorized based on its frequency, intensity, time and type criteria. Frequency refers to number of times being physically active, while severity of PA indicates intensity. Time criterion emphasizes the length of period spent for PA which either denotes a single session or accumulation of sessions throughout a day (week or month). Lastly, kinds of PA (running, walking etc.) or context which physical activity takes place such as occupational, household or leisure time activities correspond to type criteria (Rhodes, Janssen, Bredin, Warburton, & Bauman, 2017; US Department of Health and Human Services, 1996). Due to the classification, diversifying PAs (as doing house work, using stairs instead of taking an elevator, or brisk walking) for people with different interests and opportunities is possible. However, it is important to take recommendations for different age groups into consideration to obtain optimum benefits.

Generating global suggestions for different age groups requires consideration of the principles above and association between PA and health. Since 2010, WHO has recommended either a minimum of 150 minutes moderate level PA or 75 minutes PA at vigorous intensity during a week for people aged 18 and above. They can also divide PA

sessions to at least 10 minutes of equally severe periods (WHO, 2010; US Department of Health and Human Services, 1996). Since regular physical activity for all ages is a significant factor in achieving better health, following these suggestions becomes important.

Due to changes in PA perception and decrease in PA level overtime along with technological developments, physical inactivity has become a significant public health problem. Statistically, 60% of world population does not participate in PA at recommended levels (Tümer, 2007). According to World Health Organization (WHO)'s Global Health Observatory (GHO) data (2010b), the prevalence of insufficient PA was 23% among general adult population aged 18 and above. Data demonstrated that 81% of younger adults were adequately physically active compared to 45% of the elderly, while insufficiency of physical activity was less frequent among men (20%) in comparison to women (27%). Even though more women are physically inactive compared to men among all WHO regions, the largest difference in prevalence between the two sexes is observed in Eastern Mediterranean countries (WHO, 2015). For instance, research conducted in different cities of Turkey with different age groups showed that rates of engaging in regular PA at a moderate level differs among sexes. In Turkey, 53% of men and 36% of women are physically active at a moderate level according to a prevalence study from 41 cities of Turkey with 3660 participants aged 20 and above (Onat, Şenocak, Mercanoğlu, Şurdumavci, Öz & Özcan, 1991).

1.2.2. Physical Activity & Chronic Diseases

The importance of being physically active is derived from the association between PA and nearly 3.2 million deaths each year around the world (6% of deaths all over the world proportionally) (WHO, 2015). Physically inactive adults' risk for all-cause mortality is 20 – 30% higher than the ones who meet the recommended PA level (WHO, 2014). WHO also identified insufficient physical activity as one of the four main components causing noncommunicable diseases (NCDs), -aka chronic diseases-. Characteristically, NCDs emerge due to a combination of genetic, environmental, psychological and behavioral factors, and persist for longer than 6 months or lifetime. Since rapid unplanned urbanization

and globalization of unhealthy lifestyles stimulates the occurrence of illnesses, health impairing behaviors like unhealthy diets, insufficient physical activity, exposure to tobacco smoke or destructive alcohol use give rise to premature deaths. As a result, NCDs like cancer, chronic respiratory diseases, hypertension and type II diabetes cause early deaths of 15 million people aged between 30-69 around the world per year (Global Burden of Disease (GBD) 2015 Risk Factors Collaborators, 2016).

World Health Report published in 2002 identified high blood pressure, high cholesterol, low intake of fruit and vegetables, high body mass index as primary causes of NCDs (Waxman & Norum, 2004). However, being physically active enough at the recommended levels is a modifiable behavioral factor both to prevent premature deaths and fight against NCD's causes. Regular PA participation decreases blood pressure, cholesterol level and blood glucose which in turn lowers the risk for stroke, heart diseases and diabetes (WHO, 2009). Moreover, adults engaging with regular PA can balance their energy level, control body weight and prevent from obesity by expending energy. Regular PA also helps to increase cardiorespiratory and muscular fitness, and improve musculoskeletal health and cognitive function (Lee, Shiroma, Lobelo, Puska, Blair, Katzmarzyk & Lancet Physical Activity Series Working Group, 2012; WHO, 2009; WHO, 2014).

An early study found an interaction between insufficient PA and the risk for all-cause-mortality. This result revealed that even modest alterations in PA level contributes to considerable declines in mortality level (Paffenbarger, Hyde, Wing & Hsieh, 1986). Specifically, engaging in PA on a moderate level for at least 90 minutes per week or daily PA of 15 minutes result in lower rates of dying from all cancers, diabetes and cardiovascular disease. Moreover, increase in physical activity duration in additional to recommended 90 minutes brings further reduction (Wen,Wai, Tsai, Yang, Cheng, Lee, Chan, Tsao, Tsai & Wu, 2011). Consistently, substantial drop-off in premature death rates with an apparent dose-response relationship and boost of clinically relevant health benefits were stated in methodologically different studies (Hupin, Roche, Gremeaux, Chatard, Oriol, Gaspoz, Barthelemy & Edouard, 2015; Warburton, Charlesworth, Ivey, Nettlefold, & Bredin, 2010).

Taken together, even simple regular activities become significant contributors for a long and healthy life.

1.3. VARIETY OF PHYSICAL ACTIVITY

Although emphasis was on vigorous activities for better health, currently various types of PAs at different intensities are also included in the criteria to meet the public health recommendations. According to Pate, et al. (1995), there is no need for controlled and intense exercise programs to achieve an active lifestyle. Alternatively, they proposed a lifestyle approach to improve daily PA and quality of life via small changes like brisk walking, climbing up the stairs instead of taking an elevator, and doing house chores. However, this does not mean that structured exercise programs are not effective at all. Most frequently mentioned kinds of structured exercises to enhance sedentary individuals' PA level include fast walking, running, cycling, attending aerobic classes and swimming (US Department of Health and Human Services, 1996). Depending on needs, interests and opportunities of the individuals, one can choose their own way to be active.

Among the activities above, walking has been the most repeatedly mentioned and promoted type of PA so far. The reason why walking has been promoted is its relative availability for average people in addition to its health benefits, since people can walk freely almost anywhere they want without the need of any special equipment (US Department of Health and Human Services, 1996; Eyler, Brownson, Bacak & Housemann, 2003). Walking for PA purposes was especially found widespread among characteristically sedentary groups like older people and low-income groups (Eyler, et al., 2003). Aside from its accessibility, even brisk walking, which is described as walking at a pace in between strolling and fast full run, brings numerous health benefits. Brisk walking for at least 150 minutes in a week results in long term maintenance of weight loss, reduced blood pressure, and decline in deaths from cancer and cardiovascular disease.

In the 1996 Surgeon General's report, jogging or running were also indicated as one of the frequently participated PAs. Distance running, originated as an elite sport, has turned into an

activity available for many since the late 1960's with changes in athletics. Gentrification, popularization and feminization of athletics, development of the veteran running movement and marathons led millions of people to run on roads and in parks around the world (Gregson & Huggins, 2001; Tulle, 2007). Since the number of runners have increased greatly in a short period, they are divided into three groups as athletes who train themselves for races, runners who run regularly for their physical strength, and joggers/fun runners who are infrequent runners running at a slower pace for exercise purposes (Shipway & Holloway, 2016). Aside from how much a person runs for exercising, the benefits of running can be specified as improving cardio respiratory fitness, promoting bone growth and strength, and maximum oxygen uptake (WHO, 2010). Distance runners reported that despite the growing busyness in lives of modern people interfering with their participation to simple PAs in the leisure time, running enhances their well-beings and gives meaning to their lives. Additionally, they stated that running works as an antidepressant for many of them by reducing anxiety and increasing positive mood after workout as well (Shipway & Holloway, 2010). Therefore, the current study selected walking and running as the main activities to focus on and aimed to find out determinants influential in establishing a regular PA habit.

1.4. FACTORS AFFECTING PHYSICAL ACTIVITY

Despite the benefits of acts enhancing the well-being of a person (Siyez, 2008), the prevalence of unhealthy behaviors is higher than protective ones (Spring, et al., 2012). However, the factors contributing to occurrence of a specific behavior either health impairing or protective is not clear.

The factors influencing their PA engagement can be grouped as social, environmental and psychological that also interact with each other. Social environmental factors including support of family, friends and health care providers, and acquaintances' PA participation enhance people's regular PA participation. Components of physical environment, on the other hand, involve accessibility of a park, park safety and available facilities. Proximity of a safe park with running/ walking track and sports equipment have a positive impact on

utilizing the park more for PA purposes (Cohen, McKenzie, Sehgal, Williamson, Golinelli & Lurie, 2007). Besides environmental factors, attitudes towards PA, perceived barriers and benefits are the underlying psychosocial factors for insufficient PA level in addition to demographic factors such as gender and age (Cohen, Sturm, Han & Marsh, 2014; Chow, et al., 2017; Yen, et al., 2017; Essiet, et al., 2017; US Department of Health and Human Services, 1996). Worldwide, men are physically more active than women and younger people more active than elderly, while psychosocial elements of PA engagement differ among people (WHO, 2014).

To pull all these factors together in a meaningful framework and facilitate further hypothesis development, I decided to use Theory of Planned Behavior (TPB) which has been used to predict and explain diverse health protective behaviors (Ajzen, 1991; Conner & Sparks, 1996; Godin & Kok, 1996; Tümer, 2007). The reason why I chose to utilize TPB was its applicability to different groups of people in order to investigate underlying factors of PA engagement (Vallance, Murray, Johnson, & Elavsky, 2011). In addition to conceptual framework, this study added features of physical environment to the conceptual model to gain a broader understanding about the factors that shape this behavior.

1.5. THEORY OF PLANNED BEHAVIOR

Majority of people around the world are not physically active enough. Thus, developing efficient intervention programs by encompassing multiple factors affecting PA engagement is necessary (Jackson, Smith & Conner, 2003). However, different theories and study designs have been utilized because of the difficulty in identifying factors leading to PA maintenance or abandonment explicitly (Rhodes, et al., 2017; Tümer, 2007).

TPB (Ajzen, 1991) is one of the most frequently applied theories (29% of reviews) in adult PA literature after social cognitive theory proposed by Bandura (1998) (88% of reviews) and Prochaska and DiClemente's (1998) Transtheoretical Model (82% of reviews). The studies comparing these three theories revealed that explicit use of these theories created insignificant differences among effectiveness of interventions (Rhodes, et al., 2017). Hence,

for the current study I chose to utilize TPB as the theoretical framework to examine beliefs and attitudes about PA, and intention to participate PA.

TPB is a social cognitive theory extended from Theory of Reasoned Action (TRA) which was developed by Fishbein and Ajzen in 1975. The purpose of TRA was to assess disparity between people's attitudes and voluntary behaviors (Motalebi, Iranagh, Abdollahi & Lim, 2014). Thereafter, since Ajzen (1985) realized that the behavior was not completely voluntary or under control, he expanded TRA by adding the "perceived behavioral control" variable to strengthen model's capability to measure volitional behaviors and explain behaviors which are not under people's control.

In both models, behavior is shaped by individuals' beliefs about a behavior in a specific context, social perceptions and expectations, not merely by their immediate cognitions and attitudes (Ajzen, 1985; Morrison & Bennett, 2009). According to the model (see Figure 1), behavior is directly influenced by behavioral intention which is determined by attitudes towards that behavior and subjective norms. Different from TRA, perceived behavioral control in TPB has direct influence on the outcome behavior in addition to the mediating effect of behavioral intention (Jackson, et al., 2003; Bennett, 2003; Ogden, 2007; Morrison & Bennett, 2009).
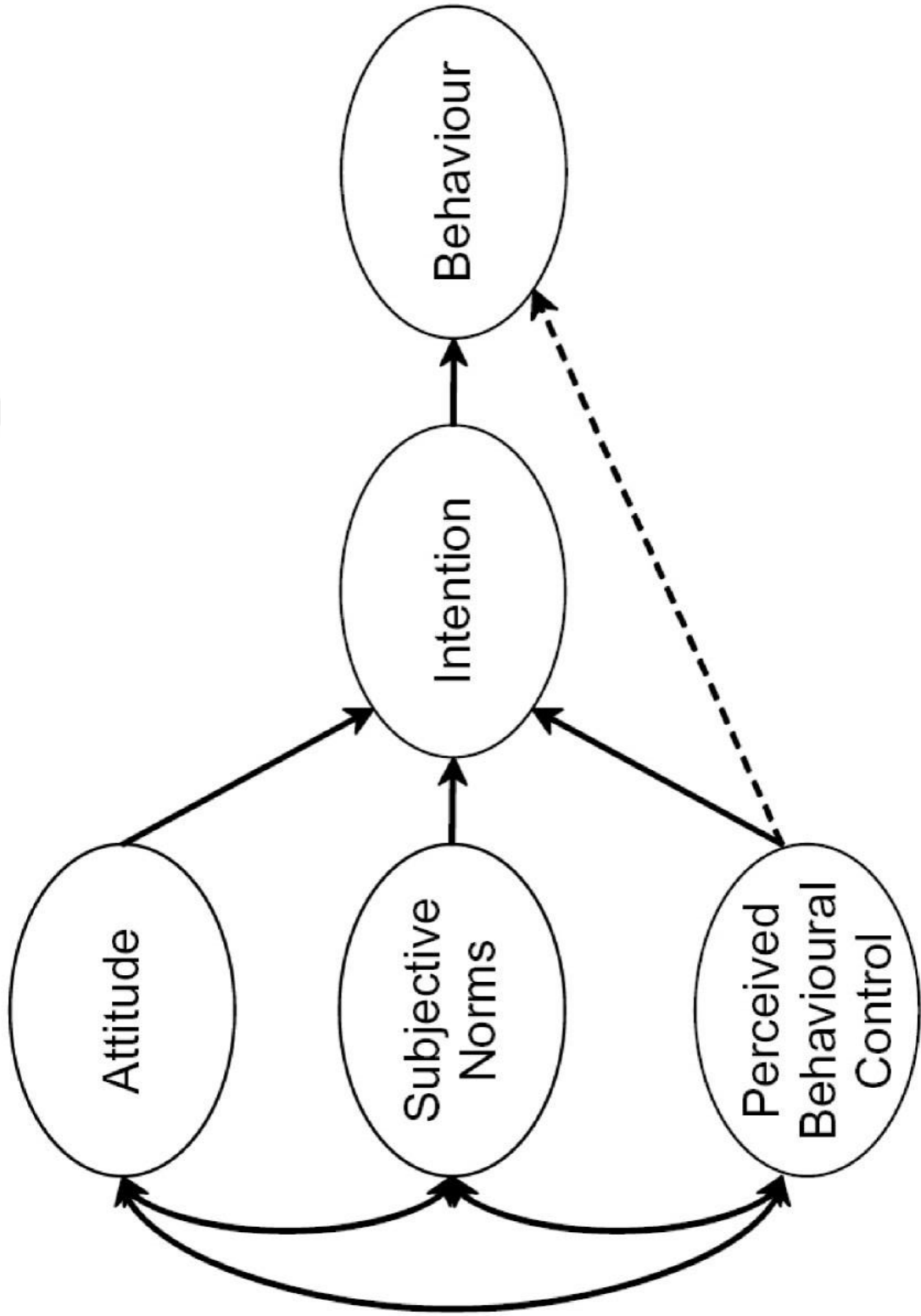
Figure 1.1 Theory of Planned Behavior (Ajzen, 1991)

The model consists of three basic components which determines *behavioral intention.* Combination of attitudes towards a behavior, subjective norm, and perceived behavioral control produces behavioral intention which directly predicts behavioral outcome.

Attitudes towards a behavior. Personal beliefs about a behavior acquired through evaluation of a specific behavior as positive or negative are called *attitudes towards a behavior*. Estimated outcomes of a behavior and appraisals about these outcomes generate individual attitudes towards a behavior. Conceptually, the formation of attitudes is based on instrumental and affective components which refer to behavioral beliefs and feelings about a behavior respectively (Motalebi, et al., 2014; Glanz, Rimer & Viswanath, 2008).

Subjective norms. It refers to powerful opinions coming from the social environment to shape people's course of action (Morrison & Bennett, 2009; Ogden, 2007; Jackson, et al., 2003). Subjective norms indicate impact of an individual's opinion about social approval while deciding to behave in a certain way (Motalebi, et al., 2014). Subjective norms comprise of both subjective and descriptive components as sub-factors. Subjective elements point out the view of other people on performing a behavior, whereas descriptive elements refer to the influence of the other people's behaviors on an individual's performance. Family members, friends and physicians can be considered as significant others affecting behavioral intention and outcomes (Motalebi, et al., 2014).

Perceived behavioral control (PBC). Ajzen (1985) added PBC component on the model to explain behaviors which are not volitional entirely, because he realized that intention did not suffice to perform the involuntary behaviors. Volitional behaviors mean performing a behavior without any restriction but including PBC contributes to evaluation of uncontrolled personal and environmental factors (Buchan, et al., 2012). The idea of control conceptually involves control beliefs such as resource availability, more opportunities and fewer barriers. These beliefs are the main determinants of higher PBC, behavioral intention and action (Motalebi, et al., 2014). Past life experiences also have an impact on PBC beliefs (Morrison & Bennett, 2009; Ogden, 2007; Jackson, et al., 2003). Although the strength of intention-behavior link decreases in the presence of difficulties like distractions, forgetting and contradictory harmful practices (Luszczynska, Schwarzer, Lippke & Mazurkiewicz, 2011;

Schwarzer, 2008), direct link between PBC and outcome behavior generates the behavioral outcome (Motalebi, et al., 2014).

1.5.1. Theory of Planned Behavior & Physical Activity

All in all, TPB is a well-established social-psychological model which has been utilized to advance the scientific basis of decision-making process (Jackson, et al., 2003). In the scope of the current study, I used the framework to investigate psychosocial elements of PA engagement.

Since comparison of TPB and TRA models in terms of utility to explain and predict PA participation revealed the superiority of TPB over TRA (Hausenblas, Carron & Mack, 1997), I decided to use TPB over TRA. Hausenblas, et al. (1997)'s meta-analysis assessed 31 studies with $N = 10,621$ participants in total. According to the study, attitudes significantly affect behavioral intention which has a considerable impact on exercise behavior consecutively. However, subjective norms influence intention moderately. Hagger, Chatzisarantis and Biddle (2002) extended this meta-analysis by adding self-efficacy and past behavior. 72 studies consisted 79 data sets and analyzed to identify significant contributors of exercise behavior. The results revealed that behavioral intention to engage in PA was formed primarily by attitudes towards PA, while perceived behavioral control and self-efficacy had a minor influence on the intention. On the other hand, they also found that past PA engagement weakened the relationship between the theory constructs. That means, if people have past PA experience they can elaborate on, attitudes and PBC no longer have an impact on their intention (Hagger, Chatzisarantis & Biddle, 2002). Furthermore, a recent study looked at the relationship between components of TPB and moderate to vigorous PA among Chinese children. Similarly, it pointed out the significant impact of attitudes towards PA and perceived behavioral control, not subjective norms, on intention to engage in PA (Wang & Wang, 2015).

Analogous to the present study, Neipp, Quiles, León and Rodríguez-Marín (2013)'s research aimed to reveal individual differences between people who exercise regularly and those who

are not physically active within the scope of TPB. They found that TPB components can explain 67% of variance in intention among the physically active and 65% of variance in intention among physically inactive groups. Explained variances are greater than past studies (Hagger, et al., 2002; Jackson, et al., 2003) because of the distinction between physically active and inactive groups. Also, higher PBC significantly contributes to higher PA intention for the people who already participated in PA. Among physically inactive groups, attitudes towards PA and PBC together become important in determining PA intention. Compatible with the literature, subjective norms did not predict physically inactive people's intention to engage in PA. However, it provides minor predictability of PA intention among physically active groups (Neipp, et al., 2013).

1.6. ENVIRONMENTAL FACTORS & PERCEIVED BENEFITS/BARRIERS OF PHYSICAL ACTIVITY PARTICIPATION

Even though TPB efficaciously explains psychosocial determinants of PA engagement, it also has limitations. The major limitation of the theory is that it does not take other variables affecting behavioral intention such as environmental, economic factors and past experiences into account (Ogden, 2007; Sarafino & Smith, 2014).

Socio-ecological framework considers diverse groups of elements in the environment where physical activity takes place as interactive and reinforcing entities that shape PA engagement (McLeroy, Bibeau, Steckler & Glanz, 1988; Essiet, Baharom, Shahar & Uzochukwu, 2017; Sallis, Bauman & Pratt, 1998; Golden & Earp, 2012). Stokols (1992, 1996) states cumulative effect of social, cultural and physical features of an environment such as economic conditions, ethnic background and population density on individuals' health. Thus, identifying individual barriers and facilitators of PA participation in detail without underestimating any of them is essential while preventing people from health risks via promoting physically active life (Essiet, et al., 2017; Golden & Earp, 2012; Sallis, et al., 1998).

The initial form of socio-ecological model suggested by McLeroy and his colleagues (1988) does not include characteristics of physical environment, but Sallis, et al. (1998) emphasized the significant effects of behavior settings on health protective behavior. Behavioral setting is described as physical and social circumstances such as recreation areas, sports field and workplace arranged to either facilitate or restrict a behavior. To give an example, public parks are behavior settings located near to community centers to create opportunities for joining various activities inclusive of PA at different levels (Chow, et al., 2017). Thus, they contribute to public health in several ways.

The first contribution of public parks is they strengthen public health by simply arranging a place for PA. Secondly, the settings give opportunity to socialize with neighbors in natural environments. Public parks enhance public health by easing to form collective efficacy and reducing stress (Cohen, et al., 2014). Lastly, since using these places in the daytime doubles the exposure to sun, it advances Vitamin D production which is essential for bone health and preservation of a healthy life. All in all, use of public parks and regular PA participation are separately effective in preventing obesity, reducing chronic medical illnesses, and improving both mental health and quality of life (Cohen, et al., 2014; Yen, Wang, Shi, Xu, Soeung, Sohail, Rubakula & Juma, 2017; González, López, Marcos & Rodríguez-Marín, 2012). Thus, through facilitating PA participation, public parks serve health to the population in various ways.

However, all over the world, people referred to crowd, crime, low quality of air and safety of public places as impediments to PA participation in public parks (WHO, 2015). For example, in a recent study, Yen and colleagues (2017) carried out a study among young residents living in Cambodia to investigate behavioral intention to use urban green spaces (UGSs) in leisure times. They include safety perception, perceived usefulness, and perceived accessibility as additional variables to TPB framework. According to results, TPB constructs are also effective in exploring behavioral intention to utilize public parks. Moreover, safety perception, which is defined as a barrier keeping people out of public places due to serious fear of any crime and insecurity in these areas, and attitudes toward UGSs were strong predictors of intention to use public places in leisure times. However, PBC and subjective

norm were not statistically significant in determining intention (Yen, et al., 2017). Additionally, impact of these environmental variables on predicting PA differs among sexes and different age groups (Sallis, et al., 1998). Demographically, men and women have contrasting safety perceptions (Johnson, Bowker, Cordell, 2001). To clarify, women appeared to be more concerned about safety while walking throughout the day compared to men who are more interested in accessibility of public places (Foster, Hillsdon & Thorogood, 2004).

In addition to safety concerns about public parks, individually perceived barriers and benefits were shown as significant factors of PA participation. To define, perceived benefits are positive consequences of a health protective behavior that could contribute to perform the behavior while perceived barriers refer to obstacles that might impeding people from implementing health protective behaviors such as PA. Perceived barriers and benefits to engage in regular PA respectively decrease and increase the probability of participation in PA (Buckworth and Dishman, 1999; Aghenta, 2014). Recently, the significant influence of perceived barriers and benefits on adults' PA participation emphasized more frequently (Daskapan, Tuzun & Eker, 2006). For instance, the major obstacles to PA listed in Turkey were insufficient time, the cost of gyms, absence of PA habit among the community, laziness, and absence of organizations which people can easily participate (Tümer, 2007).

Moreover, demographic factors like being woman, old, overweight or obese, having health problems, smoking, low socio-economic status and education level are related to insufficient PA independently from environmental determinants (Damewood & Catalano, 2000). For instance, young, white and more educated individuals were more inclined to have regular PA habits based on the research aimed to identify characteristics of physically active and inactive people (Eyler, et al., 2003; King, et al., 1992). There are also significant differences between genders and age groups: intention of boys to participate PA is higher than girls in different countries (Wang & Wang, 2015). Differences between genders can also be observed in activity selection. To give an example, men reported more vigorous activities such as gardening, running and strengthening exercises compared to women who mostly prefer walking and aerobics. Besides gender difference, as age increases, participation in vigorous

activities like contact sports or weight lifting decreases, whereas engaging in activities such as walking, gardening and golf either continues or increases (US Department of Health and Human Services, 1996).

As a conclusion, since majority of world population has a sedentary life due to different reasons, intention, perceived behavioral control, perceived barriers/benefits and safety of public parks are all together evaluated as core determinants of PA participation (Essiet, et al., 2017). However, despite the obstacles, it was shown that safe and accessible areas with available facilities are environmental incentives reinforcing active life, community health in turn (US Department of Health and Human Services, 1996; Chow, Mowen & Wu, 2017). Thus, utilization of available architectural environment's components such as UGSs, public recreation areas, and public parks is essential to increase PA participation and prevent occurrence of mental and physical diseases (Cohen, Sturm, Han & Marsh, 2014). Due to dependence of behavioral and attitudinal determinants on social and environmental variables (US Department of Health and Human Services, 1996), the current study also utilized socio-ecological framework suggesting taking elements of social and physical environment into consideration (Buchan, Ollis, Thomas & Baker, 2012).

1.7. PHYSICAL ACTIVITY PREVALENCE IN TURKEY

The international prevalence study on PA gathered data from more than 52,000 adults aged between 18-65 in 20 diverse countries revealed that countries were significantly different from each other in terms of vigorous activity rates. More specifically, more than 50% of the population in New Zealand, the Czech Republic, the USA, Canada and Australia engaged in high intensity PAs. Except Argentina, Portugal and Saudi Arabia, men reported more participation to PA. Lastly, among these 20 countries, PA level decreased with age (Bauman, Bull, Chey, Craig, Ainsworth, Sallis, ... & Pratt, 2009). A more recent study investigating the prevalence of PA engagement in 76 countries revealed that approximately 20% of world population did not met PA recommendations. Physical inactivity prevalence among women and elderly was greater. Additionally, the study pointed out that PA engagement was more

common in poor and rural or suburban countries (Dumith, Hallal, Reis & Kohl III, 2011). According to Dumith, et al. (2011)'s results, United Arab Emirates, Turkey and most of the countries in Africa were high in physical inactivity prevalence with a bigger gap between women and men in terms of PA participation.

Studies conducted in Turkey on PA prevalence were limited to local samples. Although Web of Science search for studies conducted between 1970-2018 with the title of "physical activity" prevalence In Turkey demonstrated 72 results, these studies mostly used PA as a variable to understand details of health problems like obesity, cardiovascular disease and hypertension. On the other hand, Active Living Association and Yaşama Dair Vakıf (YADA Foundation) collaborated to conduct a project called 'Active Living Research' in 12 cities of Turkey (İstanbul, Ankara, İzmir, Bursa, Balıkesir, Antalya, Malatya, Kayseri, Samsun, Trabzon, Erzurum, Diyarbakır). The purpose of the project was to investigate PA levels and nutrition patterns of Turkish society to generate active living strategies targeting different groups based on data. The results from 2752 participants through interviews revealed that 75% of the society was physically inactive, especially adolescents aged between 15-19 were the most inactive group with PA rate of 63%, followed by people older than 55 at 54%. People aged between 35-44 were most physically active group in Turkey. Analysis based on occupations pointed out that students were the most sedentary group with PA rate of 72%. Occupationally, PA level was higher among blue collar workers. Depending on income level, 44% of low-income group was most sedentary group, whereas the rates decreased to 33% in high income group. In general, Turkish people are primarily inactive during their leisure time, because they did not evaluate PA as a "leisure time activity" (Active Living Association, 2010). Thus, regardless of health benefits, prevalence of PA in Turkey is lower than other countries.

Majority of people around the world continue a sedentary life mostly because of technological advances, desk-bound jobs and motorized transportation. However, there is a positive link between utilization of public parks and people's PA levels. Thus, environmental changes like building and expanding outdoor areas and PA facilities are essential to focus on sedentary behaviors and PA levels (Cohen, et al., 2014; US Department of Health and Human Services, 1996). An observation study conducted in 8 public parks within Los Angeles, USA

revealed that 66% of observed people (over 2000) in each park were sedentary while using these places. On the contrary, 19% were walking, whereas 16% chose to be active vigorously on average. Also, men utilized public parks more than women. In addition to observations, interview participants reported that they exercised in public parks generally; and utilization of the parks and PA engagement depended on proximity of the venues. Lastly, safety concerns did not predict PA engagement in this study (Cohen, et, al., 2007).

In the case of Turkey, municipalities in cities and towns are responsible for establishing green areas, walking and cycling tracks, and playfields. Maintenance, repairment and improvement of these public areas are also in the scope of municipalities' duty. Although individuals seemed to utilize these parks for PA purposes, compared to developed countries, use of public spaces is not enough in Turkey for PA purposes.

Convenience of public places for PA shows itself as a problem (Lapa, Varol, Tuncel, Agyar & Certel, 2012). A research conducted in 2 parks located in Isparta in order to explore attitudes towards urban parks indicated that public parks in Turkey mostly utilized for passive recreational activities like picnic, relaxing, or resting contrary to Western countries where people use public parks for walking, walking the dog, and exercising. Despite concerns about safety in Western countries, Turkish people perceptions about safety was positive (Özgüner, 2011).

Specifically, local samples showed that only 19% of 367 participants engaged in moderate level regular exercise among bank workers in Malatya city center. In this sample, walking was the most frequently mentioned exercise type (65.4%) (Genç, Eğri, Kurçer, Kaya, Pehlivan, Karaoğlu, & Güneş, 2002). 48.3% of participants also chose walking as a PA in a research targeting academicians (Arslan, Koz, Gür & Mendeş, 2003). In terms of utilization of public parks in Turkey, mostly housewives from middle class engage in PA in the morning hours in public parks (Şimşek, Katirci, Akyildiz & Sevil, 2011; Lapa, Varol, Tuncel, Agyar & Certel, 2012).

As these studies demonstrate, use of public parks is an important tool in public efforts to improve PA levels. Therefore, purpose of this study was to understand social, behavioral and psychological factors influencing park users' intention to utilize public parks for PA.

1.8. THE CURRENT STUDY

The current study focused on uncovering determinants which influence people's intention to PA, specifically to run and walk, in public parks in İstanbul by utilizing TPB as guiding framework.

According to studies mentioned above, hypotheses of the current study and analysis conducted to test these hypotheses are listed in Table 1.1 below.

Table 1.1 Hypotheses and Analysis

Hypotheses	Analysis
1. Benefits and number of people giving importance to those benefits of PA behavior will change based on people's PA status and gender.	Chi-Square independence of means test
2. Number of people perceiving timelessness to participate PA and rest enough after PA as a barrier will be higher.	Chi-Square independence of means test
3. People with existing PA routine will be more pleasant about their past PA experiences. The effect of previous PA quality will also change based on their gender and PA status.	Between-subject 2X2 factorial ANOVA
4. People regularly engaging in PA in public parks will have higher intention and more positive attitudes to continue their PA in public compared to physically inactive participants.	Between-subject 2X2X2 factorial ANOVA
5. People's safety perceptions will significantly predict their intention and attitudes to engage in PA in parks.	Linear regression
6. Kağıthane Hasbahçe Park and Caddebostan Shore users' safety perceptions will be different. Specifically, Kağıthane Hasbahçe Park users will feel significantly more insecure during the time they spend in the park compared to Caddebostan Park users.	T- Test Between-subject 2X2 factorial ANOVA
7. Precautions which Kağıthane Hasbahçe Park and Caddebostan Shore users will give importance to feel more secure while using these places will be different.	T-test

8. Kağıthane Hasbahçe Park users' level of safety concerns will predict what they wear when they go out for PA.

   Between-subject 2X2 factorial ANOVA

9. There will be differences in the characteristics of physically active people in comparison to physically inactive people.

   Chi-Square independence of means test

10. People will be grouped based on their running frequency.

    K-means cluster analysis

CHAPTER 2

METHODS

This chapter aims to detail methodology followed to conduct the current study through steps such as participant recruitment, the tools for data collection, how the data was gathered and analyses of the data.

2.1. STUDY DESIGN

I conducted a survey in the current study to assess usage patterns of public parks, people's motives to utilize these venues for PA purposes, attitudes towards running and walking behavior. To form the survey items, I conducted four observations and two interviews as pilot studies. After the formation of survey items, I added *Physical Activity Scale* to carry out the first pilot to identify necessary changes. Subsequent to revisions, the complete survey was piloted once again to see how long it took. Consequently, the survey comprised the created items, related demographic questions and *Physical Activity Scale* (Jackson, 1999). Figure 2.1 shows the data collected as it corresponds to the TPB model utilized.
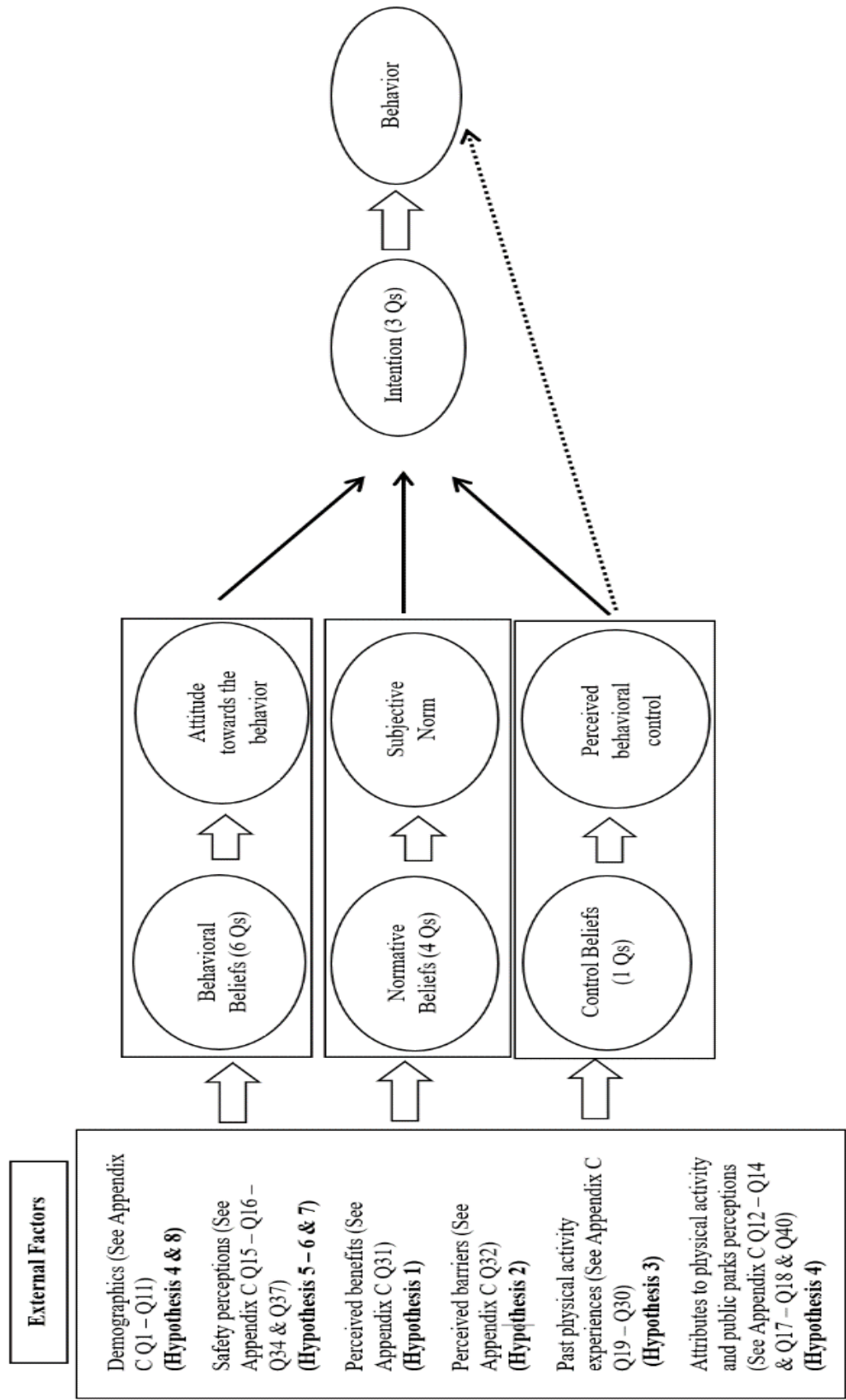
Figure 2.1 Utilized Theory of Planned Behavior Model

2.2. FIELD STUDY PREPERATION

2.2.1. Observations

I conducted four brief observations at the Kağıthane Hasbahçe Park and the Caddebostan Shore to identify utilization patterns of these parks. I also conducted them to form questions for the interviewees who regularly exercise in public parks. I conducted these observations at each park at two different times of a day, in morning hours and evening hours. Each observation lasted for an hour. The observations explored features of the parks, kinds of physical activities or other activities people engaged in these parks, and the characteristics of people using these public spaces. I conducted these observations from mid-August to end of September in 2017.

During these observations, I either sat at different parts of the parks or walked around to obtain knowledge about the places and activities performed around. I took notes about people utilizing the public parks, their appearance, how they dressed, their activities and whom they were doing these activities.

At the Kağıthane Hasbahçe Park, people having picnic and going for a stroll drew attention in the evening hours. Although cycling was not allowed, children rode their bicycles around the park. For PA purposes, there was a running track centering the park, but some parts of it were damaged and people went for a walk there with their strollers. Additionally, there was a second running track around outdoor football pitch close to the exit. However, people did not seem to know that they could use that place for PA purposes. Also, I observed that during the day, especially in weekends, local football groups had have training or match in the pitch. In that park, people engaging with PA, specifically walking, during the observation hours were mostly women. These people physically active around the park looked at or above age 35. Also, they mostly walked in groups of two. In the morning, the park was mostly used for PA again by people aged 35 or older.

At the Caddebostan Shore, people who were not physically active were reading, drinking alcohol or sunbathing. Contrary to Kağıthane Hasbahçe Park, people from diverse age groups were physically active and variety of physical activities were observed. Moreover, gender and age distribution of physically active individuals looked more equal. The road people exercised, or strolled divided into two to separate cycling road from walking/running track. Other than walking, running and cycling, people were skating in that road, playing tennis in grassy area, doing fitness with sport equipments, and playing basketball. People who ran did so alone, whereas people walking were in doubles. In line with these observations, I generated questions for interviews conducted with individuals who regularly participate PA.

2.2.2. Interviews

In addition to observations, I did semi-structured interviews with two people from my social circle who have regular exercise habit (For interview questions see Appendix B). In order to understand perspectives of individuals enjoying regular physical exercise, I interviewed a woman and man by asking questions generated based on my observations. I also asked the interviewees for further comments regarding to their PA experience in public places. These interviews lasted for approximately 20 minutes. I took notes during the interviews.

Although these two people enjoyed from different activities, they both stated that PA was part of their life. Male participant was interested in rock climbing and running, whereas female participant mostly engaged with brisk walking and running. They both stated that they engage in PA along the shores near to their homes (walking distance). Moreover, both of them preferred participating PA alone either early in the morning or in the evening.

Since both of the participants utilized public places for regular PA purposes, I asked them how much they feel safe while they are engaging in PA in public places. Consequently, they both emphasized the feeling of lower safety during PA in public spaces. Furthermore, they indicated feeling of alertness because of different reasons throughout PA session. The male participant linked his feeling of insecurity with the crowd which means he did not feel safe when there were lots of people around. However, he told that he preferred to take no

precaution other than observing the environment and staying alert during PA. On the other hand, female participant mentioned that she had been trying to be careful while selecting her outfit to handle her safety concern. Additionally, they were asked about changes in their PA programs. For male participant injuries pose an obstacle, whereas female participant needs adjustments when she goes vocations. However, they were aware that PA engagement is up to them and they feel in control. Lastly, they both reported regular PA (e.g. running, walking) helps them to organize their daily lives and dietary habits. The information gathered through the interviews was used to develop scale questions.

2.3. PARTICIPANT RECRUITMENT PLAN

I planned to reach participants while they were using Kağıthane Hasbahçe Park and Caddebostan Shore for PA purposes. I expected that the people encountered in the parks can lead us to other people using these parks. In that way, the study intended to use snowball sampling. I aimed to reach two types of people through these surveys: people who regularly participate in PA in neighborhood parks and people who utilize these parks for non-PA purposes. The reason for targeting two types of people was to compare environmental and psychosocial factors influencing these groups in terms of intention to participate PA in the public parks. I further wanted to compare PA intentions of people living in different neighborhoods. In accordance with this purpose, I selected Kağıthane Hasbahçe Park and Caddebostan Shore located in European and Asian sides of Istanbul respectively. According to Şeker (2011)'s study examining quality of life in İstanbul's districts, level of happiness and satisfaction in life is lower among Kağıthane residents compared to Caddebostan residents. Considering variety of factors like economic development, social life, transportation and accessibility together, Caddebostan, a district of Kadıköy, comes first in the quality of life index, while Kağıthane is nearly in the middle of list by being 13th among 39 districts. Thus, I aimed to examine people's perspectives on engaging PA in public places who live in two characteristically different districts of İstanbul.

2.4. STUDY PARTICIPANTS

The sample comprised of 119 participants using Kağıthane Hasbahçe Park or Caddebostan Shore either PA or non-PA purposes. Although the original plan was to recruit the participants during the time they use these parks, due to weather conditions and length of the questionnaire, I collected the data either online or through home visits. To be more specific, I collected data for the sample of Caddebostan Shore by reaching participants online, whereas I recruited participants for Kağıthane Hasbahçe Park sample through home visits in addition to reaching people online. In detail, most of the data for regularly physically active group in Caddebostan came from Adidas Runners, since I posted online form of the survey to their Facebook group. For the rest of the subsamples, I asked people to send the online form to people meet the criteria.

2.4.1. Sample Demographics

119 people, who utilize Caddebostan Shore or Kağıthane Hasbahçe Park either for PA purposes or non-PA purposes, voluntarily participated to the current study. 58% (N= 69) of the participants were recruited from Caddebostan Shore, whereas the ones who use Hasbahçe Park corresponded to 42% (N= 50) of the total sample. Mean age of the group was 32.1 with standard deviation of 11.4. Mean age was 29 ($SD = 8.5$) for Caddebostan Shore sample, while it was 37 ($SD = 13.3$) for Kağıthane Hasbahçe Park. Please see Table 2.1 for details of remaining sample descriptives.

Table 2.1 Descriptives for Caddebostan Shore and Kağıthane Hasbahçe Park

Demographic Variables	Caddebostan Shore	Kağıthane Hasbahçe Park
	Total N (%)	Total N (%)
Sex		
Women	35 (50.7%)	25 (50%)
Men	34 (49.3%)	25 (50%)
Use of Caddebostan Shore		
For PA purposes	33 (47.8%)	28 (56%)
Other than PA	36 (52.2%)	22 (44%)

Smoking in physically active group		
Yes	3 (9.1%)	6 (21.4%)
No	24 (90.9%)	22 (78.6%)
Education		
Primary/ Middle school graduate	1 (1.4%)	4 (8%)
Highschool graduate	3 (4.3%)	16 (32%)
University student	13 (18.8%)	7 (14%)
University graduate	29 (42%)	18 (36%)
Masters/ Phd student	18 (26.1%)	4 (8%)
Masters/ Phd graduate	5 (7.2%)	1 (2 %)
Occupation		
Part-time employee	11 (15.9%)	4 (8%)
Full-time employee	33 (47.8%)	22 (44%)
Student	15 (21.7%)	5 (10 %)
Unemployed	10 (14.5%)	13 (26%)
Housewife	-	6 (12%)
Marital status		
Married	15 (21.7%)	30 (60%)
Single	53 (76.8%)	19 (38%)
Divorced	1 (1.4%)	1 (2%)
Economic Status		
Low income	4 (5.7%)	9 (18%)
Middle income	39 (56.5%)	29 (58%)
High income	26 (37.7%)	12 (24%)

Note: PA: Physical Activity

2.5. MEASUREMENT TOOLS

2.5.1. Survey

I developed the survey based on the observations and interviews mentioned above. The survey consisted of items about safety perceptions in the public parks, types of PAs participants engaged in, PA history, frequency of running and walking, perceived benefits

and barriers for running/walking in public parks. I developed Safety Questionnaire to measure people's level of concern for incidents like theft, violence and accidents, utilizing a 7-point Likert Scale ranging from 1 (extremely concerned) to 7 (not concerned at all). I also utilized the Physical Activity Scale developed by Jackson (1999).

2.5.2. Demographic Information

I asked participants to report their age, gender, weight, height, education level, marital and economic status to get a profile of public park users. Additionally, I asked about their PA engagement, smoking behavior and dietary habits. PA engagement and smoking behavior was asked categorically with binary statements, while dietary habits had several options. I also asked about health problems impeding their PA engagement. However, since only 4 people reported that they had health problems, I did not conducted analysis on this variable.

2.5.3. Physical Activity Scale

The scale used in the current study was developed by Cathrine Jackson (1999) in England to determine individuals' physical activity intentions based on Theory of Planned Behavior constructs. The original form of the scale consists of 30 questions in total aiming to measure intention, subjective norm, normative beliefs, attitudes towards the behavior, behavioral beliefs, perceived behavioral control and self-identity separately. The items indicated by using 7-point Likert Scale ranging from negative end (1 = strongly disagree) to positive end (7 = strongly agree). The reliability of original scale was above .80 (α = .80) for every sub-dimension (Jackson, et al., 2003). Incedayi (2004) adapted the scale in Turkish. In the adapted version, reliability analysis revealed a value changing between .77 and .91 for sub-dimensions, while Cronbach Alpha (α) was .93 for the whole scale.

In the current study, I updated the scale by combining the questions based on the feedbacks from the pilot study. The participants found the items repetitive, because the phrase "at least 5 days in a week for 30 minutes physical activity" was repeated after each single item. Pilot

study participants revealed that repetition was creating confusion for them. Moreover, since some of the information was already gathered via other survey items (e.g. physical activity can help me in my working life), I decided to eliminate these questions. As a last thing, I added in Kağıthane Hasbahçe Park or Caddebostan Shore identifiers at the end of each item in the scale to make them specific to the park which I collected data.

2.6. FACTOR ANALYSIS OF SCALES

A number of factor analysis were carried out to better estimate scale structures. The reason for conducting confirmatory factor analysis was to understand whether the individual variables represented the measured constructs. Hence, I applied factor analysis to 2 scales. One of the scales was asking people to indicate how much they become worried about accidents, theft, violence and personal safety while using Caddebostan Shore or Kağıthane Hasbahçe Park. From now on, these items together will be called shortly as 'Safety Scale'. Second one was the adapted version of TPB scale for this study and it was called 'Physical Activity Scale'. For these 2 scales, I applied both Principal Axis Factoring and Principal Component Analysis because they could give different results with number of variables less than 20 in a scale and low communalities (< .40) (Field, 2013). Comparing the outcomes of both analyses, I decided to report results of Principal Component Analysis for all the scales.

2.6.1. Safety Scale

A principal component analysis was conducted on 4 items stated above with varimax rotation. All the variables in the analysis were significantly correlated with each other, ps $\leq$ .001, but multicollinearity between 2 variables was observed, $r > .80$, determinant = .140. With further analysis, I decided to keep these variables, since they did not create any problem. Moreover, there were 5 (83%) nonredundant residuals with absolute values greater than 0.05 which was high. The Kaiser–Meyer–Olkin measure verified the sampling adequacy for the analysis, KMO = .753 and all KMO values for individual items were greater than .69, which

was well above the acceptable limit of .5 (Field, 2013). Bartlett's test of sphericity χ^2 (6) = 221.556, p < .001, indicated that correlations between items were sufficiently large for principal component analysis. See Table 2.2 for the scale items and their loadings.

Table 2.2 Summary of principal component analysis results for Safety Scale *(N = 116)*

	Rotated Factor Loadings
Item	Insecure Situations
Accidents	**.703**
Theft	**.806**
Violence	**.877**
Personal safety	**.908**
Eigenvalues	2.737
% of variance	68.426
α	0.84

Note. Factor loadings over .30 appear in bold

2.6.2. Physical Activity Scale

While adapting the scale to the current study, I made minor changes stated in the method part over Turkish version of TPB scale. For the items measuring intention to participate PA in public parks, I conducted a principal component analysis on 8 items with varimax rotation. All the variables in the analysis were significantly correlated with each other, ps ≤ .001, and multicollinearity between variables was not observed, r < .80, determinant = .007. However, there were 21 (75%) nonredundant residuals with absolute values greater than 0.05 which was high. The Kaiser–Meyer–Olkin measure verified the sampling adequacy for the analysis, KMO = .885 and all KMO values for individual items were greater than .82, which was well above the acceptable limit of .5 (Field, 2013). Bartlett's test of sphericity χ^2 (28) = 556.672, p < .001, indicated that correlations between items were sufficiently large for principal component analysis. See Table 2.3 for items and loadings of Physical Activity Scale.

Table 2.3 Summary of principal component analysis results for Physical Activity Scale

(N = 118)

Rotated Factor Loadings	
Item	Intention
My parents want me to participate 30 mins of moderate intensity PA in Kağıthane Hasbahçe Park/ Caddebostan Shore for 5 days a week.	**.837**
I want to participate 30 mins of moderate intensity PA in Kağıthane Hasbahçe Park/ Caddebostan Shore for 5 days a week.	**.836**
My doctor wants me to participate 30 mins of moderate intensity PA in Kağıthane Hasbahçe Park/ Caddebostan Shore for 5 days a week.	**.809**
My friends want me to participate 30 mins of moderate intensity PA in Kağıthane Hasbahçe Park/ Caddebostan Shore for 5 days a week.	**.793**
I hope to participate 30 mins of moderate intensity PA in Kağıthane Hasbahçe Park/ Caddebostan Shore for 5 days a week.	**.786**
My partner wants me to participate 30 mins of moderate intensity PA in Kağıthane Hasbahçe Park/ Caddebostan Shore for 5 days a week.	**.785**
I intend to participate 30 mins of moderate intensity PA in Kağıthane Hasbahçe Park/ Caddebostan Shore for 5 days a week.	**.747**
I have control over participating 30 mins of moderate intensity PA in Kağıthane Hasbahçe Park/ Caddebostan Shore for 5 days a week.	**.539**
Eigenvalues	4.764
% of variance	59.553
α	0.90

Note. Factor loadings over .30 appear in bold

2.7. PROCEDURES

In the beginning of data collection process, I went to parks in different times of days to reach participants who engage in PA in public parks near to their home and who use these parks for other purposes in person. However, most of the people rejected to participate the study. On average 3 in 5 people rejected to be part of the study which indicates 60% rejection rate for collecting the data in the field. People who rejected to participate brought the length of the survey forward as their excuse for not participating. Additionally, the weather was getting

cold at the time I began data collection, January 2018, so that it was not easy to find or stop people to ask for their participation. Thus, I decided to create online version of the survey to reach more people. I generated online format of the survey by using Webropol, an online survey tool. Afterwards, I started to send its link to people who were convenient to the criteria and also asked them to share it with others meeting the criteria. I also shared the link in Istanbul Adidas Runners Facebook page to reach people engaging with PA in Caddebostan. Furthermore, I visited people living in Kağıthane in their home to make study participation easier for them. The data collection lasted for 4 months from January 2018 to April 2018. Since the participation was voluntary, I presented informed consent to participants for their formal approval prior to the survey. Following the participants' consent, I presented contact information (researcher's e-mail address) which allow them to reach the researcher when they had any question. Afterwards, I gave participants a package of questions exploring ways and reasons of public space usage, beliefs about physical activity, attitudes and intention towards physical activity. In total, they filled out a survey containing 38 question groups for 20 minutes. Kadir Has University Ethical Committee approved the current study in December 2017.

CHAPTER 3

RESULTS

3.1. DATA MANAGEMENT

3.1.1. Missing Value Analysis

Prior to analysis, I examined all the scale and categorical variables in the data through IBM SPSS program for accuracy of data entry, missing values, and fit between their distributions and the assumptions of multivariate analysis. No out of range value was observed. There were no variables with missing values more than 5%, so that T-test tables was not produced. However, there were 6 cases with unacceptable numbers of missing values on one scale which means that all the items were left unanswered. Instead of dropping anyone completely from further analysis, I only eliminated these cases scale based. For the rest of the missing cases, I preferred mean and mode imputation for scale and categorical variables respectively, because the missingness was lower than 5%. For replacements, I split the data by PA status variable indicating the state of engaging with PA in the public parks or not preferring the public parks for PA purposes. After the split, group-based item means and modes were used for imputation. Except the items measuring situations which might make people worried, all replacements were done according to PA status split. Since these items were park specific, I split the data by park and made replacements based on means of Caddebostan or Kağıthane.

3.1.2. Outliers

Univariate outliers were identified using both boxplots and z-scores. There were several variables with univariate outliers ($z > 3.28$). I also checked z values higher than 2.58, because

if they are more than 1%, it is something to be concerned about. Since there were also values higher than 2.58 more than 1% in my data, I cose score alteration as a strategy to deal with that problem. Specifically, I winsorized the outliers by putting the closest value in that item which was not an outlier. Values of Mahalonobis Distance were checked to see whether there were multivariate outliers. However, there were no significant multivariate outlier in the data, $p < .001$.

3.1.3. Normality Tests

The assumption of normality was tested via histograms and values of skewness and kurtosis. Although there were some skewed cases, I did not evaluate them as deviated from normal, due to nature of the behavior. To be more specific, since PA engagement is a health protective behavior, people do not engage in PA considered the same advantages as important as people exercising regularly do. Furthermore, splitting the data based on responses to regular PA engagement while understanding the barriers revealed that people regularly engaging in PA mostly grouped among the 'not challenging at all' statement compared to physically inactive people grouped among 'challenging' statement. Given the reasons, I accepted these deviations as normal and decided to not to use any transformations

3.2. HYPOTHESES TESTING

3.2.1. Exploring the Importance of Physical Activity Benefits, PA Status and Gender

To test the hypothesis 1 stating *"Benefits and number of people giving importance to those benefits of PA behavior will change based on people's PA status and gender",* I conducted Chi-Square independence of means test. However, since I realized that the ratio for cells with expected count less than 5 was high, I recoded the ratings of PA participation to create binary variables. I created 'not important at all' statement by combining 'not important at all' and 'somewhat important' statements and left 'very important' as it was. Afterwards, I conducted

Chi-Square tests with 3 binary variables. Please see Table 3.1 and 3.2 for how the importance of perceived benefits to engage in PA changed among gender groups and groups of physically active/ inactive people.

Table 3.1 Perceived benefits of PA engagement for physically active/ inactive people

Benefits	Physically Active		$\chi 2$
	Yes	No	
Feeling better after PA			
Not important at all	6	24	16.183***
Very important	55	33	
Enjoyableness of PA			
Not important at all	24	36	6.686**
Very important	37	21	
Appearance			4.085*
Not important at all	15	24	
Very important	46	33	
Endurance enhancement			6.913**
Not important at all	3	12	
Very important	58	45	
Feeling fitness			14.784***
Not important at all	9	27	
Very important	52	30	

* *p* < .05, ** *p* <.01, *** *p* <.001

Table 3.2 Perceived benefits of PA engagement among genders

Benefits	Gender		$\chi 2$
	Woman	Man	
Weight control			
Not important at all	13	23	3.997*
Very important	46	36	

* *p* < .05

Consequently, participants expressed the importance of 6 benefits within 11. However, none of these benefits significantly predicted people's intention to engage in PA in public parks and attitudes towards PA participation in public parks, *p* > .05. 3 primary factors facilitating

PA participation were feeling better, feeling of fitness after running or walking and endurance enhancement.

3.2.2. Exploring the Difficulty of Physical Activity Barriers, PA Status and Gender

To test the hypothesis 2 stating *"Number of people perceiving timelessness to participate PA and rest enough after PA as a barrier will be higher",* I conducted Chi-Square independence of means test. I asked participants to rate 10 statements from 'not make PA participation difficult at all' to 'makes PA participation very difficult' to determine the barriers perceived as more difficult. Similar to analyses for PA benefits, I recoded the ratings to create binary variables because the number of cells with expected count less than 5 was high. Same with the analyses above, I combined 'not difficult at all' and 'somewhat difficult statements to form 'not difficult at all' rating and left 'very difficult as it was. Afterwards, I conducted Chi-Square tests with 3 binary variables. Please see Table 3.3 and 3.4 for how the difficulty of perceived barriers to engage in PA changed among gender groups and groups of physically active/ inactive people.

Table 3.3 Perceived barriers of PA engagement for physically active/ inactive people

Barriers	Physically Active		$\chi 2$
	Yes	No	
Making time in daily routine			
Not difficult at all	54	37	10.107***
Very difficult	7	21	
Feeling hot/ Sweating			
Not difficult at all	60	43	14.990***
Very difficult	1	15	
Difficulty in regulating breath			
Not difficult at all	58	48	4.640*
Very difficult	3	10	
Feeling tired/ insufficient time to rest			
Not difficult at all	59	42	13.683***
Very difficult	2	16	

Boring activity			
Not difficult at all	60	51	5.157*
Very difficult	1	7	
Not losing/ gaining weight			
Not difficult at all	60	51	5.157*
Very difficult	1	7	

* *p* < .05, ** *p* <.01, *** *p* <.001

Table 3.4 Perceived barriers of PA engagement among genders

Barriers	Gender		χ^2
	Woman	Man	
Making time in daily routine			
Not difficult at all	41	50	4.453*
Very difficult	19	9	
Feeling hot/ Sweating			
Not difficult at all	48	55	4.468*
Very difficult	12	4	
Difficulty in regulating breath			
Not difficult at all	50	56	4.101*
Very difficult	10	3	
Feeling tired/ insufficient time to rest			
Not difficult at all	47	54	4.033*
Very difficult	13	5	
Rainy/ cold weather			
Not difficult at all	32	45	6.854**
Very difficult	28	14	

* *p* < .05, ** *p* <.01

To sum up, participants stated 4 barriers that make it hard for them to participate PA out of 10. However, none of these barriers significantly predict people's intention to engage in PA in public parks and attitudes towards PA engagement in public, *p* > .05. Three primary factors impeding PA participation, as stated in the second hypothesis, were making time to be physically active regularly, feeling hot and sweating, and, feeling tired and not finding enough time to rest after running or walking.

3.2.3. Exploring the Effect of Physical Activity History

To test the hypothesis 3 stating *"People with existing PA routine will be more pleasant about their past PA experiences. The effect of previous PA quality will also change based on their gender and PA status.",* I conducted ANOVAs. A between-subject 2X2 factorial ANOVA was conducted with gender (Women, Men) and PA status to regular PA (yes, no) as independent variables and perceived quality of past PA experiences selected as the dependent variable. See Table 3.5 for the details of analysis.

Table 3.5 ANOVA summary for past PA history

Source	df	MS	F	p	η^2
Gender	1	13.307	7.754	.006	.063
PA status	1	31.945	18.615	.000	.139
Gender x PA status	1	14.847	8.651	.004	.070
Error	115	1.716			

Table 3.6 Group differences in ANOVA for past PA history

	Physically Active M (SD)	Physically Inactive M (SD)	F
Women	5.069 (.243)	3.323 (.235)	26.628**
Men	5.031 (.232)	4.701 (.252)	.932
F	.013	15.972**	

*Note: * p<.05, ** p<.001, R^2 = .24.*

As hypothesized, people with existing PA routine evaluated their past experiences more pleasant and there were no gender differences for this group. On the other hand, men revealed more pleasant PA history compared to women among physically inactive group.

3.2.4. Exploring Intention and Attitudes towards Public Physical Activity Participation

To test the hypothesis 4 stating *"People regularly engaging in PA in public parks will have higher intention and more positive attitudes to continue their PA in public compared to physically inactive participants",* I conducted linear regression and 3-way ANOVA. The analysis results revealed that attitudes towards PA in public parks explained 29% of the

variance in intention to engage in PA in public places, $R^2 = .29$ ($\Delta R^2 = .29$, p <.001). Also, attitudes towards PA in public parks significantly predicted intention to become physically active in public park, $B = .536$, $SE = .078$, $p = .000$. The more positive attitudes for PA engagement, the higher people's intention to engage in PA in public places.

Afterwards, changes in people's intention and attitudes towards participating PA in public parks among groups were analyzed with between-subject 2X2X2 factorial ANOVA to check hypothesis 4. The analysis was conducted with gender (Men, Women), park (Caddebostan, Kağıthane) and PA status (yes, no) as independent variables and sub-measures of TPB, intention to and attitudes towards engaging in PA in public places, selected as the dependent variable. The reason why I conducted these analyses was to understand how people's gender, residence, and regular PA status influence their intention and attitudes towards PA in public places. See Table 7, 8 and 9 for the details of the analysis.

Table 3.7 ANOVA summary for intention to PA engagement in public parks

Source	df	MS	F	p	η^2
Gender	1	2.384	1.204	.275	.011
Residence (park)	1	5.913	2.985	.087	.026
PA status	1	9.466	4.778	.031	.041
Error	111	1.981			

Note: $R^2 = .101$.

Table 3.8 ANOVA summary for attitudes towards PA engagement in public parks

Source	df	MS	F	p	η^2
Gender	1	7.335	1.479	.226	.013
Residence (park)	1	3.326	.671	.415	.006
PA status	1	61.694	12.441	.001	.101
Error	111	4.959			

Note: $R^2 = .135$.

Table 3.9 Group differences in ANOVA for TPB components

	PA status		F	p
	Physically active	Physically inactive		
Intention				
Caddebostan Shore				
Women	3.625 (.376)	3.560 (.307)	.018	.893
Men	4.072 (.323)	2.867 (.363)	6.151	.015*
Kağıthane Hasbahçe Park				
Women	4.371 (.363)	4.063 (.445)	.288	.592
Men	4.126 (.390)	3.392 (.406)	1.694	.196

Attitude				
Caddebostan Shore				
Women	6.543 (.595)	5.686 (.486)	1.245	.267
Men	6.884 (.511)	6.093 (.575)	1.057	.306
Kağıthane Hasbahçe Park				
Women	7.725 (.575)	4.920 (.704)	9.521	.003**
Men	7.692 (.618)	6.240 (.643)	2.654	.106

*Note: * p < .05, ** p < .01. Intention R² = .101, Attitude R² = .135.*

As hypothesized, people regularly participate PA in public parks had higher intention and more positive attitudes to continue their PA in public compared to physically inactive counterparts. However, it revealed differences among genders and utilized parks. To clarify, physically inactive women in Kağıthane have significantly more negative attitudes towards engaging in PA in Hasbahçe Park compared to physically active women. On the other hand, men participating PA regularly in Caddebostan showed significantly more intention to engage in PA in Caddebostan Shore than men utilizing Caddebostan for different purposes.

3.2.5. Exploring the Relation Between Safety Perceptions, Intention and Attitudes towards Public Physical Activity Participation

To test the hypothesis 5 stating *"People's safety perceptions will significantly predict their intention and attitudes to engage in PA in parks",* I conducted linear regression. Since one of the interests of this study was to analyze changes in safety perceptions depending on gender, I split the data based on gender before conducting the analysis. Predictors were entered into the model simultaneously. However, the models revealed non-significant predictions. Thus, I reconducted the analysis without splitting the data and entering the variables in a hierarchical fashion. The results of the regression revealed only one model significant which indicated safety perception throughout public places in Istanbul had a significant effect on people's intention to engage in PA in public parks, $B = .202$, $SE = .093$, $p = .033$ (See Table 3.10). If people feel more insecure in public places, the intention to become physically active in those places decreases.

Table 3.10 Regression summary for PA intention by public place safety

Source	B	SE B	β	t	p
Safety of public places in Istanbul	.202	.093	.198	2.161	.033

Afterwards, the same safety perception variables entered into the model in a hierarchical fashion to see whether safety perception on public places predicted the attitudes towards PA engagement in public places. This time, splitting the data based on gender provided significant prediction. How men viewed public places throughout Istanbul in terms of safety significantly predicted attitudes towards PA engagement in public parks, $B = .255$, $SE = .127$, $p = .049$ (see Table 3.11), while changes in women's safety perceptions did not influence their attitudes towards participating PA in public places, ps > .05. That means if men considered public places in Istanbul as safe, their attitudes towards engaging in PA in public places become more positive. Additionally, I conducted a linear regression to test the relationship between the same variables among participants utilizing different parks. There was no significant relationship between the variables in the models, ps > .05.

Table 3.11 Regression summary for men's attitudes towards PA engagement by public place safety

Source	B	SE B	β	t	p
Safety of public places in Istanbul	.255	.127	.260	2.012	.049

3.2.6. Exploring Safety Perceptions of Public Park Users

To test the hypothesis 6 stating *"Kağıthane Hasbahçe Park and Caddebostan Shore users' safety perceptions will be different. Specifically, Kağıthane Hasbahçe Park users, especially women, will feel significantly more insecure during the time they spend in the park compared to Caddebostan Park users",* I conducted several T-test.

First of all, I checked people's ratings on the situations making them feel insecure during the time they spend in public places throughout Istanbul, and specifically in Caddebostan Shore

or Kağıthane Hasbahçe Park by splitting the data according to park. Safety perceptions for targeted parks among their users were significantly different (see Table 3.12 for t-test results).

Specifically, results of the independent samples t-test indicated that users of Caddebostan Shore (M = 7.69, SD = 1.84) feel significantly more secure than people using Kağıthane Hasbahçe Park (M = 6.66, SD = 1.96), $t(117)$ = 2.937, p = 0.004. Additionally, women feel significantly less secure while using Kağıthane Hasbahçe Park (M = 5.92, SD = 1.97) in comparison to men (M = 7.40, SD = 1.68), $t(48)$ = -2.85, p = 0.006. Furthermore, women utilizing Caddebostan Shore (M = 11.14, SD = 5.60), expressed significantly more concern about situations like accidents, thief, and violence compared to men using the same park (M = 8.02, SD = 5.28), $t(67)$ = 2.373, p = 0.021.

Table 3.12 Safety perception and precaution means for the park users

	Park		t	p
	Kağıthane Hasbahçe Park	Caddebostan Shore		
Safety perception	6.66 (1.96)	7.69 (1.84)	2.937	.004
Entrance control	4.58 (1.88)	3.39 (2.25)	-3.034	.003
Having fences/ walls around park	3.4 (2.33)	2.35 (1.84)	-2.747	.007

3.2.7. Exploring Precautions to Feel More Secure

To test the hypothesis 7 stating *"Precautions Kağıthane Hasbahçe Park and Caddebostan Shore users gave importance to feel more secure while using these places will be different.",* I conducted several T-test (see Table 3.13 for t-test results).

People utilize Kağıthane Hasbahçe Park gave significantly more importance to entrance control (M = 4.58, SD = 1.88) and having fences or walls around the park (M = 3.4, SD = 2.33) than Caddebostan Shore users (M = 3.39, SD = 2.25; M = 2.35, SD = 1.84), $t(117)$ = -3.034, p = 0.003; $t(117)$ = -2.747, p = 0.007. The gender differences among factors were only observed in Caddebostan sample. Presence of less people in the public place *(M = 3.14, SD = 2.23)*, entrance control *(M = 3.97, SD = 2.79)* and having security guard in the entrance *(M = 5.08, SD = 1.04)* were significantly more important for women than men *(M

= 2.23, SD = 1.75; M = 2.79, SD = 2.30; M = 4.32, SD = 1.53), $t(67)$ = 2.272, p = 0. 026; $t(67)$ = 2.228, p = 0.029; $t(67)$ = 2.425, p = 0.018.

Table 3.13 Safety perception and precaution means for men and women utilizing the parks

	Park				t	p
	Kağıthane Hasbahçe Park		Caddebostan Shore			
	Women	Men	Women	Men		
Safety perception	5.92 (1.97)	7.40 (1.68)			-2.85	.006
Safety concerns			11.14 (5.60)	8.02 (5.28)	2.373	.021
Presence of less people in parks			3.14 (2.23)	2.23 (1.75)	2.272	.026
Entrance control			3.97 (2.79)	2.79 (2.30)	2.228	.029
Having security guard in the entrance			5.08 (1.04)	4.32 (1.53)	2.425	.018

3.2.8. Exploring Outfit Selection as a Precaution

To test the hypothesis 8 stating *"Kağıthane Hasbahçe Park users' level of safety concerns predict what they wear when they go out for PA",* I conducted 2-way ANOVA with park (Caddebostan Shore, Kağıthane Hasbahçe Park) and their regular PA status (yes, no) as independent variables and carefulness in outfit selection as the dependent variable. See Table 3.14 and 3.15 for the details of analysis.

Table 3.14 ANOVA summary for PA outfit

Source	df	MS	F	p	η^2
Park	1	57.079	9.772	.002	.078
PA status	1	62.001	10.615	.001	.085
Park x PA status	1	3.058	.524	.471	.005
Error	115	5.841			

Table 3.15 Group differences in ANOVA for PA outfit

	Physically Active *M (SD)*	Physically Inactive *M (SD)*	*F*
Kağıthane Hasbahçe Park	6.143 (.457)	5 (.515)	2.755
Caddebostan Shore	7.879 (.421)	6.083 (.403)	9.503*
Simple effects: *F*	7.815*	2.744	

*Note: * p<.05, R^2 = .152.*

To understand the reason behind these differences, I checked frequency of the answers. Contrary to the study hypothesis, results revealed that majority of people gave importance to weather condition (89.1%) instead of hiding their body lines to feel more secure.

In general, T-test results revealed that female participants in general had more concerns about using public parks compared to men. However, they did not take precautions by being careful about their outfit while going out for PA.

3.2.9. Exploring Characteristics of Physically Active People

To test the hypothesis 9 stating *"There will be differences in the characteristics of physically active people",* I conducted Chi-Square independence of means test. In order to provide differences between physically active and inactive participants first, I conducted the analysis by using the whole data. Next, I eliminated physically inactive people from the data set and conducted a number of analyses only with regularly physically active participants.

To give a general information about physically active people, the data had an almost equal men (52.5%) and women (47.5%) participants aged between 18 – 65 with a mean of 35. There was almost equal number of married (47.5%) and single (50.8%) people. Most of the physically active participants stated that they were graduates from university (54.1%), full-time workers (49.2%) and most of them perceive themselves as middle income (49.2%).

As to their health protective behaviors other than PA, most of them were non-smokers (85.2%) and followed a balanced diet (70.5%). See Table 3.16 for detailed description of significant characteristics of physically active and inactive people.

Table 3.16 Characteristics of physically active people

		Physical Activity		χ^2
		Yes	No	
Education	University students	15	27	6.713*
	University graduates	33	20	
Marital status	Single	32	42	5.034*
	Married	29	16	
Smoking Status	Smoker	9	19	5.356*
	Non-smoker	52	39	
Diet	Balanced diet	43	23	4.033*
Social environment	Active people around	55	41	7.232**
Utilization of parks	Utilization for PA	61	7	93.866***
Time of the day for PA	Using parks in the morning	40	9	30.756***
Running	Running regularly (3 – 4 times/ week)	16	4	23.172***
	Running rarely	6	14	

* $p < .05$, ** $p < .01$, *** $p < .001$

Since the table comprised of Chi-Square results, it compared the numbers of people in each cell. To sum up the table, physically active and inactive people have different characteristics demographically.

I conducted several T-tests and regression analyses to understand the link between characteristics of physically active people and their intention to engage in PA in public parks. First of all, I conducted a t-test to see if there was a difference between married and single people's intention and attitudes towards participating PA in public places (See Table 3.17 for the details of analysis).

Table 3. 17 Intention and attribution means towards PA engagement in public parks for married and single people

| | Marrital Status | | | |
	Married	Single	t	p
Intention	4.13 (1.29)	3.52 (1.48)	2.285	.024
Attitude	7.57 (2.20)	5.85 (2.15)	4.188	.000

To further, I conducted a linear regression analysis to see whether partners' support to utilize public parks for PA purposes predict individual intentions. Results revealed that when people feel more support from their partners, they had significantly higher intention to engage in PA in public parks, ($B = .551$, $SE = .040$, $p = .000$). Having a supportive partner revealed itself as an PA enhancing factor.

Additionally, I conducted regression analyses after eliminating physically inactive people from the data to see whether safety perceptions were influential on regularly active people's intention. However, the linear regression models were not significant, ps > .05. Since safety perception was not important in predicting PA intention among regularly active group, I conducted a t-test to examine differences between safety perceptions between men and women. Only significant difference was found on an item about having a security guard present in the park as an important indicator of safety. To clarify, women ($M = 5.10$, $SD = 1.14$) placed more importance to the existence of security guard compared to men ($M = 4.25$, $SD = 1.74$), $t(54.02) = 2.281$, $p = .026$). Rest of the variables measuring how people perceived the safety of a public place and what is needed to feel safe did not vary significantly among physically active men and women.

3.2.10. Exploring Running in Public Places

To test the hypothesis stating *"People will be grouped based on their running frequency",* I conducted a k-means cluster analysis. To identify similar patterns of PA engagement, specifically running in İstanbul public parks, k-means cluster analysis which allows to specify number of clusters. Before conducting the analysis, I standardized all the variables by using z scores (mean of 0 and a standard deviation of 1). Afterward, TPB variables, attitudes towards PA engagement in public parks and people's safety perception variables were entered into the analysis. Also, people's running frequencies were used as a case label to see which category each people belong depending on their running frequency. Lastly, I specified the number of clusters to 3.

While participants were identified based on similar patterns for cluster membership, Euclidean distances between observations determined the clusters. The distances between these clusters were as follows; it was 4.309 between 1 and 2, 3.299 between clusters 2 and 3, and 5.94 between clusters 1 and 3. Although all the items utilized to identify cluster membership were significantly important at the $p < .05$, intention to participate PA outdoors was the most important predictors of cluster membership, $F(2, 110) = 47.769$, $p = .000$. Given the importance of the predictors, clusters were representing poorly intentioned, moderately intentioned and highly intentioned runners respectively. See Table 3.18 for the details of the cluster analysis.

Table 3.18 Cluster information

	Clusters		
	Low intention runners (*n* = 27)	Moderate intention runners (*n* = 45)	High intention runners (*n* = 41)
	Mean	Mean	Mean
Tiring (-1) vs. not tiring (+1)	-.763	-.200	.676
Fatiguing (-1) vs. not fatiguing activity (+1)	-.818	-.158	.640
Unpleasant (-1) vs. pleasant activity (+1)	-1.025	.098	.549
Boring (-1) vs. Joyful (+1)	-.906	-.116	.715
Time consuming (-1) vs. not time consuming (+1)	-.803	-.019	.505
Harmful (-1) vs. beneficial (+1)	-.879	.009	.472

My parents want me to participate 30 mins of moderate intensity PA in Kağıthane Hasbahçe Park/ Caddebostan Shore for 5 days a week.	-1.134	.156	.579
I want to participate 30 mins of moderate intensity PA in Kağıthane Hasbahçe Park/ Caddebostan Shore for 5 days a week.	.551	.160	-1.189
My doctor wants me to participate 30 mins of moderate intensity PA in Kağıthane Hasbahçe Park/ Caddebostan Shore for 5 days a week.	-1.122	.316	.410
My friends want me to participate 30 mins of moderate intensity PA in Kağıthane Hasbahçe Park/ Caddebostan Shore for 5 days a week.	-.966	.200	.444
I hope to participate 30 mins of moderate intensity PA in Kağıthane Hasbahçe Park/ Caddebostan Shore for 5 days a week.	-1.208	.183	.537
My partner wants me to participate 30 mins of moderate intensity PA in Kağıthane Hasbahçe Park/ Caddebostan Shore for 5 days a week.	-1.078	.122	.609
I intend to participate 30 mins of moderate intensity PA in Kağıthane Hasbahçe Park/ Caddebostan Shore for 5 days a week.	-1.112	-.044	.669
I have control over participating 30 mins of moderate intensity PA in Kağıthane Hasbahçe Park/ Caddebostan Shore for 5 days a week.	-.692	-.169	.649
I consider public places in İstanbul as safe	-.185	-.391	.539
I feel safe while using Caddebostan Shore/ Kağıthane Hasbahçe Park	.301	-.529	.539
I have concerns about situations like accidents, theft and violence while utilizing Caddebostan Shore/ Kağıthane Hasbahçe Park	-.010	.410	-.423
It is important for me to have less people around parks in order to feel safe	-.379	.402	-.154
It is important for me to have walls/ fences around parks in order to feel safe	-.040	.508	-.395
It is important for me to have security control in the entrance in order to feel safe	-.102	.508	-.486
It is important for me to have a security guards in the entrance in order to feel safe	-.003	.330	-.375
Quality of past PA experiences	.223	-.486	.421

In general, low intention runners have the most negative attitudes towards participating PA outside. Although they wanted at the most to engage in PA among clusters and had pleasant PA experience, they think they do not have control over their PA engagement and support from their close environment. However, they feel more secure while utilizing public parks and do not give much importance to precautions like having gate control and security guard in the entrance compared to moderate intention runners. In comparison to other clusters, moderate intention runners have the least pleasant PA experience and the highest security

concerns, even though they have moderate positive attitudes towards PA outside and feel moderate support from their environment and control over their PA engagement. Lastly, high intention runners have the most pleasant PA experience and the lowest security concerns among the clusters. They also have the highest control over their PA engagement and feel more support from their environment. Regardless to their lower want for PA engagement in public parks, which might be in that way because they already have the highest intention for PA participation, other factors contributes to their intention to participate in PA. Thus, it can be said that how much people want to participate PA in public parks and the degree of support they feel in their close environment for PA engagement have significant impact on their running intention.

CHAPTER 4

DISCUSSION & CONCLUSION

In the present study, I examined the variety of factors expected to contribute to PA engagement either positively or negatively. I specifically chose running and walking as forms of PA to focus on due to their availability for everyone and cost-free nature. In the course of the study, I used TPB framework as a guide to answer the question of how I could enhance utilization of public parks for PA purposes. Although the factors I examined throughout that study were emphasized in the literature, there was not much studies considering the impact of social environmental determinants of PA like safety perceptions on public parks and cities, especially in Turkey. Thus, the current study was a significant step to extend the existing literature.

4.1. DETERMINANTS OF PHYSICAL ACTIVITY

4.1.1. Perceived Benefits and Barriers for Physical Activity

In order to define motives leading to PA engagement in detail, I asked participants' perceptions on various benefits and barriers to engage in PA. Buckworth and Dishman (1999) emphasized the positive and negative impact of perceived benefits and behaviors, respectively. Although neither perceived benefits nor barriers had an influence on people's intention to engage in PA in public places, the results gave descriptive information about people's perspectives.

Results reported by Allied Dunbar National Fitness Survey (ADNFS) (Sports Council and Health Education Authority, 1992) indicated being physically in good shape and improving or maintaining health as the most significant determinants of PA motivation. Moreover, the

research conducted with the participation of more than 15.000 people from 15 European Union countries demonstrated maintaining health as the most frequently mentioned PA reason (Zunft, Friebe, Seppelt, Widhalm, de Winter, de Almeida, Kearney & Gibney, 1999). Similarly, current research revealed feeling better, feeling of fitness after running or walking and endurance enhancement as the most important motives of running/ walking behavior.

In the present study, the participants mentioned difficulty of making time for PA, feeling tired and finding enough time to rest after PA, and feeling hot and sweating during PA as impeding factors for PA participation. Likewise, time constraints were the most frequently stated barrier of PA participation in the literature (Sports Council and Health Education Authority, 1992; Daskapan, et al., 2006; Owen & Bauman, 1992). What's interesting is that people, especially physically inactive women, consider sweating as a barrier for the behavior, although sweating is a normal physical reaction during PA. Previous studies reported sweating as a reason for PA avoidance for women, due to perceived hassle of washing, drying and styling hair after PA (Joseph, Coe, Ainsworth, Hooker, Mathis & Keller, 2018; Huebschmann, Campbell, Brown & Dunn, 2016).

4.1.2. Physical Activity History

People attributed emotions to their experiences and formed lasting memories which shape their attitudes and behaviors. Thus, positivity or negativity of emotions attributed to PA engagement might influence people's participation to PA later in their life (Cardinal, Yan, & Cardinal, 2013). Individuals who have a negative PA experience might feel inadequate which impedes their PA participation in the future (Brown, 2014). However, enjoyment from exercise was an important positively associated psychological and behavioral factor contributing PA engagement (Sallis & Owen, 1999; Trost, Owen, Bauman, Sallis, & Brown, 2002). Since perceived quality of past PA comprises of enjoyment perception to some extent, parallel result regarding more pleasant PA history among already physically active people can be explained by feeling of joy.

Perceptions on previous PA differed among men and women in the current study. To clarify, physically inactive men evaluated their PA experiences more positively compared to physically inactive women. Since men are more active than women in general (Cardinal et al., 2013), men might have more evaluable PA experience in the past in comparison to women.

4.1.3. Being Physically Active Outside

Compatible with the existing literature, physically active people showed higher intention and more positive attitudes to maintain their PA in public parks in comparison to physically inactive counterparts. Moreover, safety concerns were not influential on physically active people. Present study results pointed out that if people already had physically active life, their safety perception did not influence their intention. However, the way people perceive public places in Istanbul in terms of safety and how this perception influences their PA intention needs further attention.

As mentioned in the introduction chapter, ecological model provides fruitful perspective for us to develop a broader understanding about PA engagement in addition to individual level variables. Sociocultural and physical context of PA have an impact on people's ability to become active. For instance, seasonal differences, proximity to PA places and neighborhood characteristics can influence people's PA level. As a matter of fact, the weather, safety perception and opportunities for activity were assumed as influential factors despite the insufficient research on the issue (Biddle & Mutrie, 2007). Thus, moderation analysis could be conducted to interpret explanatory power of proximity and safety variables over intention to engage in PA in public parks.

I chose two specific parks to see whether people's intention changes depending on their neighborhood characteristics. Caddebostan Shore is in Asian side of Istanbul with its higher socio-economic level residents in comparison to Kağıthane Hasbahçe Park which comprises of people with lower level socio-economic status in European side. General city safety

perception and gender emerged as the predictive factors for intention to and attitudes towards participating PA in these parks.

Intention to be physically active was higher especially among men walking or running in Caddebostan Shore and its users reported less safety concerns compared to Kağıthane Hasbahçe Park users. However, women utilizing both parks either did not perceive the area as safe or had concerns about safety (Kağıthane and Caddebostan residents respectively). Due to higher concern for crime, women utilizing Caddebostan Shore emphasized entrance control and having security guard in the entrance, besides preferring less people around while they are participating PA. The needed precautions for safety in Kağıthane Hasbahçe were having fences or walls around the park and entrance control, and it was mentioned by both men and women.

Apart from these specific parks, people in general did not consider public places in Istanbul safe, and this situation negatively influenced their intention to engage in PA in public parks. Considering public places in İstanbul insecure led especially men to have negative attitudes for participating PA in public. Thus, when I found that people, especially women, pay attention what they wear when they go out for PA, I considered it as a precaution. Contrary to our expectation, the reason for carefulness in outfit selection was to be prepared for weather. Since I recruited Adidas Runners in Caddebostan for physically active sample, I might have obtained results of people who are conscious consumers of sports good rather than safety.

In conclusion, people are concerned about safety of places around and it may affect their PA intention, especially women due to their perceived vulnerability to crime (Rees-Punia, Hathaway & Gay, 2017). However, further studies are needed for deeper understanding on this relationship, because physical environment has many other components.

4.1.4. Personal Characteristics Associated with Being Physically Active

Previous studies presented some key demographic components of adult PA engagement. In general, higher income and education level and being men were positively associated with being physically active, while age was proposed as negatively associated (Sallis & Owen, 1999; Trost, Owen, Bauman, Sallis, & Brown, 2002). Since I tried to keep the number of men and women equal and the age distribution similar among physically active and inactive participants in the current study, I could not test these two demographic correlates. For other two components, income was not necessarily a predictor of PA engagement, however, higher number of physically active people had higher education compared to physically inactive ones.

Additionally, married people in the sample demonstrated higher intention and positive attitudes towards participating in PA in public places in comparison to single people. It is also known from the study results, having a supportive partner could contribute to higher intention for PA. As seen in the Table 3.5, higher numbers of physically active people have active people in their social environment compared to physically inactive people having less active people around. The positive impact of supportive environment was also found in clusters created based on people's running frequencies. Feeling more support from close environment to engage in PA in public parks have a positive impact on people's running intention in spite of negative safety perceptions on public places. Strong positive association were found between social support and PA in the U.S. Women's Determinants Study (Trost, et al., 2002). Turkish Physical Activity and Walking Practices Research supporting this finding suggested otherwise: married people were more prone to physical inactivity in Turkish sample (Aktif Yaşam Derneği, 2017). Thus, the effect of marriage on PA needs further study.

4.2. STRENGTHS AND LIMITATIONS OF THE STUDY

The present study helps to close the gap in the PA literature by addressing environmental factors of PA in public parks in Istanbul, Turkey. To clarify, this study broadened our understanding about the link between safety perception on public places and PA engagement in these places. Moreover, use of TPB framework also provides a deeper understanding about the link by analyzing how safety perception influences intention to engage in PA and attitudes towards PA engagement. This study is also an important step for uncovering perceived benefits and barriers of PA engagement in public parks, because there was lack of information especially about perceived benefits of PA engagement in the literature. Lastly, the current study examined the link between PA history and its impact on intention to engage in PA in public parks and attitudes towards PA engagement in the parks.

However, this study also has some limitations. The first limitation was that I divided physically active and inactive participants into groups based on their statements and created binary categorical data. Further studies should consider asking PA status with more measurable statements such as minutes of weekly and daily moderate- and vigorous intensity physical activity (MVPA) in each life domain. Secondly, the length of the study created disadvantageous situation by making data collection process difficult. Since people utilize parks either for relaxing or physical activity, asking them to participate 25 minutes long survey was not received and that made data collection hard. Also, the weather needs closer consideration in future studies. Collecting data in cold weather at parks was problematic. That's why I opted to change data collection strategies to switch to online survey and home visits. This situation also led to the recruitment of Adidas Runners for physically active Caddebostan sample and that might have biased characteristic in specific ways. Since they are a group of passionate runners who also participate marathons, their engagement in PA is more conscious compared to people physically active on average. Moreover, where they run, and safety of the place might not be important for them, because running is part of their life and they mostly train as a group. Thus, future research needs to focus on diversifying the sample for more generalizable results.

4.3. FUTURE DIRECTIONS

Although the current study incorporated socio-ecological framework and TPB, utilizing Integrated Behavioral Change Model might be a better way to explain processes behind PA engagement comprehensively. The integrated model put different perspectives from social-cognitive, motivational and dual-system theories together to examine entire mechanism of the behavior instead of identifying single psychological factors. Thus, future studies would be more powerful to develop interventions promoting PA engagement (Hagger & Chatzisarantis, 2014).

Moreover, further research in different neighborhoods of Istanbul and cities of Turkey would be beneficial to uncover environmental determinants influencing people's PA participation. More observations in parks and interviews with people utilizing these parks need to be conducted to reveal especially socio-ecological correlates of the PA engagement.

Since most of the physically inactive people were university students, focusing on the age group in following studies would be beneficial to determine the factors influencing their PA engagement. Lastly, questions to understand how much people know about PA and its benefits could be asked, because some people do not know the extent of PA and consider it, especially running, as a health impairing behavior. Based on findings, intervention programs like seminars or brochures can be designed to inform people properly.

4.4. CONCLUSION

This study focused on uncovering determinants of PA participation, especially environmental ones by using TPB framework as a guide. As a result, I found that timelessness for PA and rest afterwards prevents people from PA participation despite feeling better after PA. Moreover, it is revealed that people do not feel safe themselves while using public parks in İstanbul, that's why they have concerns and it influences their intention to utilize these areas for PA purposes.

Thus, it is an important part of this study to propose suggestions to eliminate timelessness barrier and increase the use of public parks for PA purposes. For resolving timelessness barrier, people can be informed about types of PA through seminars or posters, because people mostly consider vigorous PAs at first presenting alternative not too vigorous activities can be helpful. For example, using the stairs instead of elevators, getting of buses earlier to walk to ones destination and doing household chores can also be advocated as PA. In order to increase utilization of public parks, safety of these places needs be targeted. In the current study, people frequently mentioned presence of security guards in the parks as indicators of safety. In addition to guards, increasing lightning in the early morning and at night, and setting up security cameras to monitor can result in higher safety perception. Moreover, the link between having supportive people around and intention participate PA in public parks should be examined detailly.

As a conclusion, this study contributed to existing literature with its results showing that PA engagement has social, psychological and environmental determinants. Collaboration of health psychologists specialized in the PA domain with trainers and municipalities can be beneficial in increasing physical activity level of the population at large.

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APPENDICES

APPENDIX A: CONSENT FORM

Katılımcı No: _____

BİLGİLENDİRİLMİŞ ONAY FORMU

Parkların Kullanımı ve Kişilerin Spor Yapma Alışkanlıkları Çalışması

Burada katılımınızı rica ettiğimiz çalışma, Kadir Has Üniversitesi Sosyal ve Sağlık Psikolojisi yüksek lisans programı kapsamında, bir yüksek lisans tezinde kullanım amacıyla geliştirilmiştir. Araştırmanın birincil amacı, kişilerin spor yapma ve halka açık parkları kullanım alışkanlıklarını incelemektir. Kağıthane Hasbahçe Parkı (Caddebostan Sahili) araştırmanın odak noktası olarak seçilmiştir. Size de bu parkın kullanıcısı olduğunuz için ulaşıyoruz. Bu araştırma kapsamında sizinle 15 dakika kadar sürecek bir anket çalışması yapmamıza izin verirseniz çok seviniriz.

Eğer araştırmaya katılımı kabul ederseniz size spor yapma alışkanlığınızı, fiziksel egzersiz yapmaya karşı tutumunuzu ve Kağıthane Hasbahçe Parkı'nda (Caddebostan Sahili'nde) spor yapmanın nasıl bir deneyim olduğunu sormak istiyoruz.

Anket çalışmamızın ortalama 15 dakika süreceği öngörülmektedir. Bu ankette sizden kimliğinizle ilgili hiçbir bilgi istenmemektedir. Sizden alınan diğer tüm bilgiler bizim tarafımızdan gizli tutulacak, araştırma grubu dışında kimse ile paylaşılmayacaktır. Çalışmadan elde edilecek sonuçlar sadece bilimsel amaçlı kullanılacaktır.

Bu araştırmaya katılımda gönüllük esastır. Katılmak istemiyorsanız belirtmeniz yeterlidir. Bize vereceğiniz tüm cevapların gizli kalacağını, verdiğiniz bilgilerin başka kişi ve kurumlarla paylaşılmayacağını özellikle belirtmek istiyorum. Cevap vermek istemediğiniz soruları geçebilirsiniz ya da anketi doldurmayı istediğiniz noktada sonlandırabilirsiniz.

Araştırma ile ilgili aklınıza takılan bir soru olur ise, size verilen iletişim kartındaki mail adresinden araştırmacıya ulaşabilirsiniz.

Şu noktada bir sorunuz var mı?

Bize ayırdığınız zaman için şimdiden çok teşekkür ederiz.

Yukarıda belirtilen araştırma koşullarını okudum, sorularım cevaplandı ve katılımı kabul ediyorum. ☐

Katılımcı Parafı: ____

APPENDIX B: INTERVIEW QUESTIONS

1) Yaşınız
2) Cinsiyetiniz:
3) Spor yapıyor musunuz, yapıyorsanız bunlar neler?
4) Spor yapma sıklığınız nedir?

Düzenli spor yapıyorsanız:

5) Düzenli olarak koştuğunuz bir grup var mı?
6) Hazırlandığınız bir yarış var mı?
7) Düzenli spor yapmaya başladıktan sonra yeme alışkanlıklarınız değişti mi?
8) Sizi destekleyecek herhangi bir ilaç kullanıyor musunuz?
9) Hava koşulları spor yapma sıklığınızı etkiliyor mu? Etkiliyorsa nasıl?
10) Nerede koşuyorsunuz?
11) Neden koştuğunuz yeri tercih ediyorsunuz, sadece eve yakın olması mı etken?
12) Şehirde koşmayı en çok sevdiğiniz yer neresidir?
13) Koştuğunuz yerde kendinizi güvende hissediyor musunuz?
14) Güvende hissetmek için aldığınız bir önlem var mı?
15) Koşma düzeninizin değiştiği dönemler oluyor mu? Eğer oluyorsa, hangi faktörler azalmasına ya da artmasına neden oluyor?
16) Koşmadığınız zaman nasıl hissediyorsunuz?
17) Hangi ortamlarda koşma hissi geliyor? (Manzara, yokuş, ağaçlık vb.)
18) Günün hangi saatlerini koşmak için tercih ediyorsunuz?
19) Spor yapma davranışınız üzerinde kontrolünüzün olduğunu düşünüyor musunuz?

APPENDIX C: SURVEY QUESTIONS

1) **Cinsiyet**		Kadın		Erkek			
2) **Yaşınız**							
3) **Boyunuz**							
4) **Kilonuz**							
5) **Sigara kullanımı**		İçiyorum. Günde _____ adet / Haftada _____ adet		İçmiyorum			
6)**Eğitim Durumunuz**	İlkokul mezunu	Ortaokul/ İlköğretim Mezunu	Lise mezunu	Üniversite Öğrencisi	Üniversite mezunu	Yüksek lisans ve/veya Doktora Öğrencisi	Yüksek lisans ve/veya Doktora Mezunu
7)**Çalışma Durumunuz**	Yarı zamanlı çalışan	Tam zamanlı çalışan	Çalışmıyor		Öğrenci		Ev kadını
8)**Medeni Durumunuz**	Evli		Bekar		Boşanmış		Dul

İSTANBUL'DA AÇIK ALAN KULLANIMI VE SPOR

9) Bu merdivenin Türkiye'deki insanların konumunu temsil ettiğini düşünün.

Merdivenin en tepesinde en çok paraya sahip, en iyi eğitimli, en güzel işlerde çalışan, en varlıklı insanlar var. **Merdivenin en dibinde ise,** en az paraya sahip, en düşük eğitimli, en kötü işlerde çalışan ya da işsiz insanlar var.

Lütfen sizin merdivende nerede olduğunuzu temsil eden basamağın numarasını seçiniz.
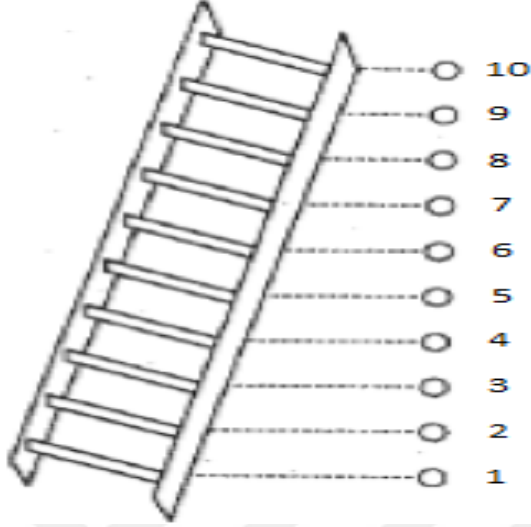
10) Herhangi bir yeme kısıtınız (tüketimine dikkat ettiğiniz besin) var mı? (Birden fazla seçenek size uyuyorsa lütfen işaretleyiniz.)

- ☐ Şeker tüketmiyorum.
- ☐ Tuz tüketmiyorum.
- ☐ Veganım.
- ☐ Vejateryanım.
- ☐ Besinleri tüketirken karbonhidrat, yağ ve protein dengesine dikkat etmeye çalışıyorum.

11) Spor yapmanızı engelleyecek herhangi bir rahatsızlığınız var mı?

- ☐ Evet
- ☐ Hayır

Var ise lütfen belirtin.

_____

12) Caddebostan Sahili'ni kullanım amacınız genel olarak nedir?

☐ Piknik yapmak

☐ Gezinti yapmak

☐ Spor yapmak

☐ Diğer: _____

13) Caddebostan Sahili'ni en çok hangi saatlerde kullanıyorsunuz?

☐ Sabahın erken saatlerinde

☐ Öğle saatlerinde

☐ Akşam saatlerinde

☐ Diğer: _____

14) Caddebostan Sahili'nin spor yapmak için uygun olduğunu düşünüyor musunuz? Lütfen kısaca neden böyle düşündüğünüzün sebeplerini belirtiniz.

☐ Spor yapmaya uygun olduğunu **düşünüyorum** çünkü,

_____

☐ Spor yapmaya uygun olduğunu **düşünmüyorum** çünkü,

_____

15) Caddebostan Sahili'ni kullanırken kendinizi ne kadar güvende hissediyorsunuz?

Hiç güvende hissetmiyorum   Çok güvende hissediyorum

0   1   2   3   4   5   6   7   8   9   10

16) Caddebostan Sahili'nin güvenliğini düşündüğünüzde, aşağıda sıralanmış durumların sizi endişelendirme seviyesini 1'den 7'ye kadar derecelendiriniz.

	Son derece endişelendiriyor	Endişelendiriyor	Biraz endişelendiriyor	Kararsızım	Biraz endişe duyuyorum	Endişelenmiyorum	Hiç endişe duymuyorum
Kazalar	1	2	3	4	5	6	7
Hırsızlık	1	2	3	4	5	6	7
Şiddet	1	2	3	4	5	6	7
Kişisel güvenlik	1	2	3	4	5	6	7

17. Son bir hafta içinde günde oturarak ne kadar zaman harcadınız?

Bu hesaplamaya, işte, evde, çalışırken ya da dinlenirken geçirdiğiniz zamanlar da dahildir. Bu masanızda, arkadaşınızı ziyaret ederken, okurken, otururken veya yatarak televizyon seyrettiğinizde oturarak geçirdiğiniz zamanları kapsamaktadır.

☐ Bilmiyorum/Emin değilim   Günde _____ dakika Günde _____ saat

18) Lütfen, aşağıda sıralı aktivitelerden hangilerini, ne sıklıkla yaptığınızı işaretleyin.

	Her gün	Arada sırada	Nadiren	Hiç
Asansör yerine merdiven kullanımı	3	2	1	0
Kısa mesafelerde araç kullanmak yerine yürümek	3	2	1	0
Daha fazla yürümek için aracı gidilecek yerin uzağına park etmek	3	2	1	0
Öğle arası veya akşam yemeği sonrası yürümek	3	2	1	0
Gidilecek yerden birkaç durak önce otobüs/araçtan inip yürümek	3	2	1	0

Diğer: _____	3	2	1	0

*Aşağıda size spor geçmişiniz ile ilgili sorular soracağız:

19) Düzenli olarak spor yapıyor musunuz? Eğer cevabınız evet ise, lütfen yaptığınız spor/sporları belirtiniz.	Evet. Yaptığım spor/sporlar: _____	Hayır
20) Eğer hala düzenli spor yapıyorsanız, ne kadar süre devam etmeyi planlıyorsunuz?		
21) Haftada kaç kez spor yaparsınız? Lütfen sıklığını yazarak belirtin.	Haftada _____kez_____dk/saat spor yaparım.	
22) Spor yapmaya kaç yaşında başladınız?		
23) Kaç yıldır düzenli olarak spor yaparsınız?		
24) Hiç spor salonu üyeliği satın aldınız mı? Eğer cevabınız evet ise, ne kadar süre devam ettiniz?	Evet aldım. Kaç kez? _____ Ne kadar süre devam edebildiniz? _____	Hayır
25) Şu an yaptığınız spor ile ilişkili herhangi bir kulübe üyeliğiniz var mı?	Evet	Hayır
26) Takım sporu yapmışlığınız var mı? Var ise lütfen süresini ve, ne tip bir takımın üyesi olduğunuzu belirtin.	Evet. _____ ay/yıl _____ spor takımı üyesiydim.	Hayır
27) Evinize herhangi bir spor aleti var mı? Eğer cevabınız evet ise, hangi alet/aletleri var?	Evet aldım. Aldığım aletler: _____ Şu an hangileri aktif olarak kullanılıyor? _____	Hayır

28) Geçmişte yapmış olduğunuz spor aktivitelerini değerlendirecek	Hiç keyifli değildi	Biraz keyifli değildi	Keyifli değildi	Karasızım	Keyifliydi	Biraz keyifliydi	Çok keyifliydi

olursanız, bu deneyimleri nasıl tanımlarsınız?							

29) Çevrenizde spor yapan ya da birlikte spor yaptığınız kimse var mı? (Size uyan birden fazla seçenek var ise lütfen işaretleyiniz.)	Evet	Aile üyelerim	Hayır
		Arkadaşlarım	
		Akrabalarım	
		Diğer:	

*Şimdi ise, size bir seri spor amacı ile koşma ve/veya yürüme alışkanlıklarınız hakkında sorular soracağız:

30) Koşma/yürüme sıklığınızı lütfen belirtin.

	Hiç	Hergün	Haftada 3-4	Haftada 1-2	Ayda 1-3	Ayda yılda bir
Koşma						
Yürüme						

31) Koşmanızın/yürümenizin olası bazı nedenlerini aşağıda bulabilirsiniz. Her bir nedenin sizin için ne kadar önemli olduğu lütfen işaretleyin.

	Hiç önemli değil	Biraz önemli	Çok önemli
Kendimi daha iyi hissediyorum	1	2	3
Eğlenceli bir aktivite	1	2	3
Fiziksel olarak daha iyi görünmemi sağlıyor	1	2	3
Kilomu kontrol etmemi sağlıyor	1	2	3
Dayanıklılığımı arttırıyor	1	2	3
Güne zinde başlamamı/ zinde olmamı sağlıyor	1	2	3
Sağlıklı olmamı sağlıyor	1	2	3
Sosyalleşmeme yardımcı oluyor	1	2	3
Daha iyi uyumamı sağlıyor	1	2	3
Stresimi azaltıyor	1	2	3
Bir şeyi başarmış hissetmemi sağlıyor	1	2	3

	1	2	3
Diğer: _____			

32) Koşmanın/yürümenin kişilere zor gelebilecek bazı yanları aşağıda listelenmiştir. Her bir nedenin sizin için ne kadar zorluk oluşturduğunu lütfen işaretleyin.

	Hiç zorluk oluşturmuyor	Biraz zorluk oluşturuyor	Çok zorluk oluşturuyor
Günlük rutinimde gerekli zamanı yaratmak	1	2	3
Sıcaklama ve terleme hisleri	1	2	3
Nefes almayı düzenlemek	1	2	3
Yorucu, dinlenmek için yeterli vakti bulmak	1	2	3
Sıkıcı	1	2	3
İşteki performansımı düşürüyor	1	2	3
Spor yapsam da aynı kiloda kalıyorum/ Kilo almaya devam ediyorum	1	2	3
Yağmurlu/soğuk havalar	1	2	3
Sıcak/güneşli havalar	1	2	3
Spor yaptığım yerin evime mesafesi	1	2	3
Diğer: _____	1	2	3

33) Koşmaya/yürüyüşe çıkarken yanınıza neler alırsınız?

- ☐ Telefon
- ☐ Anahtar
- ☐ Su şişesi/ Matara
- ☐ Diğer: _____

34) **İstanbul'daki açık alanların genel olarak ne kadar güvenli olduğunu düşünüyorsunuz?**

Hiç güvenli değil   Çok güvenli

      0   1   2   3   4   5   6   7   8   9   10

35) Koşmaya/yürümeye çıkarken giydiğiniz kıyafetlere ne kadar dikkat ediyorsunuz?

Hiç dikkat etmiyorum   Çok dikkat ediyorum

      0   1   2   3   4   5   6   7   8   9   10

36) Koşmaya/yürümeye çıkarken giydiğiniz kıyafete dikkat etmenizde en önde gelen sebep aşağıdakilerden hangisidir?

- ☐ Hava koşulları
- ☐ Vücut hatlarımın belirgin olmasını engellemek
- ☐ Güvenlik amaçlı
- ☐ Şıklık/uyum
- ☐ Diğer:_____

37) <u>Bir parkın güvenli olduğunu düşünmem için:</u>

	Hiç önemli değil	Önemli değil	Biraz önemli değil	Kararsızım	Biraz önemli	Önemli	Çok önemli
Düzgün ışıklandırılmış olması	1	2	3	4	5	6	7
Çok ağaçlıklı olmaması	1	2	3	4	5	6	7
Az insan olması	1	2	3	4	5	6	7
Çok insan olması	1	2	3	4	5	6	7
Etrafında duvar/çit olması	1	2	3	4	5	6	7
Parka girişte kontrol olması	1	2	3	4	5	6	7

	Hiç kontrolümde değil	Biraz Kontrolümde değil	Kontrolümde değil	Kararsızım	Kontrolümde	Biraz kontrolümde	Tamamen kontrolümde
Güvenlik görevlisi olması	1	2	3	4	5	6	7
Diğer: _____							

FİZİKSEL AKTİVİTE ÖLÇEĞİ

Aşağıdaki sorularda size haftada en az 5 gün 30 dakika orta yoğunlukta fiziksel aktivite yapma konusunda sorular soracağız. Orta yoğunlukta fiziksel aktiviteler sizi ısıtan ve normalden daha hızlı soluk alıp vermenizi sağlayan aktivitelerdir. Hızlı yürüme orta yoğunluktaki fiziksel aktivite için iyi bir örnektir. Diğer örnekler, bahçe işleri, ev işleri, dans, yaptığınız egzersiz ve sporlardır. Bundan daha sık ve yorucu fiziksel aktiviteler yapıyor olabilirsiniz. Eğer yapıyorsanız, lütfen bunu orta yoğunluktaki aktiviteye dahil ediniz.

	Hiç kontrolümde değil	Biraz Kontrolümde değil	Kontrolümde değil	Kararsızım	Kontrolümde	Biraz kontrolümde	Tamamen kontrolümde
38) Size göre haftada 5 gün, günde ortalama 30 dakika orta yoğunlukta fiziksel aktiviteyi Caddebostan Sahili'nde yapmak ne kadar sizin kontrolünüzdedir?	1	2	3	4	5	6	7
	KATILMIYORUM				**KATILIYORUM**		
39) Haftada 5 gün, günde ortalama 30 dakika orta yoğunlukta fiziksel aktiviteyi Caddebostan Sahili'nde;	Hiç			Kararsızım			Tamamen
Yapmaya **niyetliyim.**	1	2	3	4	5	6	7
Yapmak **istiyorum.**	1	2	3	4	5	6	7
Yapmayı **umuyorum.**	1	2	3	4	5	6	7
Eşim/Sevgilim, haftada 5 gün, günde ortalama 30 dakika orta yoğunlukta fiziksel aktiviteyi Caddebostan Sahili'nde yapmamı ister.	1	2	3	4	5	6	7
Arkadaşlarım, haftada 5 gün, günde ortalama 30 dakika orta yoğunlukta fiziksel aktiviteyi	1	2	3	4	5	6	7

Caddebostan Sahili'nde yapmamı isterler.							
Doktorum, haftada 5 gün, günde ortalama 30 dakika orta yoğunlukta fiziksel aktiviteyi Caddebostan Sahili'nde yapmamı ister.	1	2	3	4	5	6	7
Ebeveynlerim, haftada 5 gün, günde ortalama 30 dakika orta yoğunlukta fiziksel aktiviteyi Caddebostan Sahili'nde yapmamı ister.	1	2	3	4	5	6	7

40) Benim için haftada en az 5 gün, günde ortalama 30 dakika orta yoğunlukta fiziksel aktiviteyi Caddebostan Sahili'nde yapmak;

Son derece zararlı   Son derece yararlı

    0   1   2   3   4   5   6   7   8   9   10

Son derece hoş olmaz   Son derece hoş

    0   1   2   3   4   5   6   7   8   9   10

Son derece sıkıcı   Son derece eğlenceli

    0   1   2   3   4   5   6   7   8   9   10

Zahmetli olur   Zahmentli olmaz

    0   1   2   3   4   5   6   7   8   9   10

Yorucu olur   Yorucu olmaz

    0   1   2   3   4   5   6   7   8   9   10

Zamanımı alır   Zamanımı almaz

    0   1   2   3   4   5   6   7   8   9   10

CV

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15.05.2017 – 15.05.2018	:	**Research Assistant**, Kadir Has University, Psychology Department
15.10.2015 – 15.06.2016	:	**Research Assistant,** Bahçeşehir University, Psychology Department