**BAŞKENT UNIVERSITY**
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# THE EFFECT OF IMPLEMENTATION INTENTION ON EXERCISE FREQUENCY OF POSTMENOPAUSAL WOMEN: SELF-RELATED VS. OTHERS-RELATED GOALS

**BY**

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# ÖZET

**KARAKUŞ, Duygu. Post Menopoz Dönemdeki Kadınların Egzersiz Sıklığı Üzerinde Niyet Aşılamanın Etkisi: Kişi ile ilgili vs. Diğerleri ile ilgili. Başkent Üniversitesi, Sosyal Bilimler Enstitüsü, Sosyal Psikoloji Tezli Yüksek Lisans Programı, 2023.**

Literatür ışığında, fiziksel aktivitenin pek çok psikolojik ve fizyolojik pozitif etkileri bilinmektedir. Aynı zamanda menopoz sonrası dönemdeki kadınların yaşadıkları negatif semptomlar göz önüne alındığında, bu dönemdeki kadınların fiziksel aktiviteyi hayatlarına katmanın önemi daha fazladır. Niyet aşılamanın bireylerin çeşitli sağlık davranışlarına yönelmesinde etkili bir yöntem olduğu bilindiğinden, bu tez çalışmasında niyet aşılamanın menopoz dönemi sonrasındaki kadınların fiziksel aktivite sıklığını arttırmadaki etkisi incelenmiştir. Niyet aşılama manipülasyonu iki farklı şekilde uygulanarak (kişinin kendisi vs. diğerleri ile ilgili), bu farklılığın da fiziksel aktivite sıklığı üzerindeki etkisini incelemek hedeflenmiştir. Araştırmanın örneklemini menopoz sonrası dönemde olan 75 kadın oluşturmaktadır. Çalışmada 3 ayrı koşul olup (deney (kişinin kendisi vs. diğerleri) ve kontrol grubu), katılımcılar bu gruplara seçkisiz olarak atanmıştır. Toplamda 5 hafta süren bu çalışmada, bir kere ön ölçüm iki kere de manipülasyon sonrası ölçümler (iki hafta aralıkla) bulunmaktadır. Çalışmanın bağımlı değişkeni olan fiziksel aktivite, katılımcıların haftalık adım sayıları ve Uluslararası Fiziksel Aktivite Anketi ile ölçülmüştür. Bağımsız değişken olan niyet aşılama manipülasyonu ise fiziksel aktiviteye özel olan Niyete Yönelik Yardım Cetveli kullanılarak uygulanmıştır. Sonuçlara göre, niyet aşılama manipülasyonu sadece daha önceden fiziksel aktivite alışkanlığı olan menopoz sonrası dönemdeki kadınlarda fiziksel aktivite sıklığını arttırmaktadır. Bu sonuç ile niyet aşılama literatürüne hem kullanılan örneklem ile hem de niyet aşılamanın sadece öncesinde egzersiz alışkanlığı olan bireylerde etkili olması ile katkıda bulunulmuştur. Çalışmanın bulguları literatür ışığında tartışılmıştır.

**Anahtar Kelimeler:** niyet, niyet aşılama, fiziksel aktivite, menopoz sonrası

# ABSTRACT

**KARAKUŞ, Duygu. The Effect of Implementation Intention on Exercise Frequency of Postmenopausal Women: Self-related vs. Others-related Goals. Başkent University, Institute of Social Sciences, Master in Social Psychology with Thesis, 2023.**

In the light of the literature, many psychological and physiological positive effects of physical activity are known. At the same time, considering the negative symptoms experienced by women in the postmenopausal period, it is more important for women in this period to include physical activity in their lives. Since implementation intention is an effective method in directing individuals to various health behaviors, in this thesis, the effect of implementation intention on increasing the frequency of physical activity in postmenopausal women was examined. By applying implementation intention manipulation in two different ways (self vs. others related), it was aimed to examine the effect of this difference on the frequency of physical activity. The sample of the study consists of 75 women who are in the post-menopausal period. In the study, there were 3 different conditions (experimental (self vs. others) and control), the participants were randomly assigned to these groups. In this study, which lasted 5 weeks in total, there were once pre-measurement and twice post-manipulation measurements (two weeks intervals). Physical activity, which is the dependent variable of the study, was measured by the participants' weekly step counts and the International Physical Activity Questionnaire. Implementation intention manipulation, which is the independent variable, was applied using the Volitional Help Sheet specific to physical activity. According to the results, implementation intention manipulation increases the frequency of physical activity who have pre-existing exercise habits in postmenopausal women. This result contributes to the literature on implementation intention, both with the sample used and with the fact that implementation intention is effective only in individuals who have exercise habits beforehand. The findings of the study were discussed in the light of the literature.

**Keywords:** intention, implementation intention, physical activity, post-menopause

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# 1.INTRODUCTION

## 1.1. Overview

Physical activity, which is known to be of high importance for society, may be more important for women in the postmenopausal period (Stojanovska et al., 2014). In the light of this information, in this thesis study, it is aimed to increase the physical activity level of women in the post-menopausal period. In this direction, it was desired to test whether implementation intention which is known to be effective in revealing many health behaviors in the literature (Gollwitzer & Brandstätter, 1997; Orbell et al., 1997; Verplanken & Faes, 1999) will increase the frequency of physical activity in this sample. Also, it is among the aims of the study whether implementation intention manipulation will make a difference on the frequency of physical activity, whether it is related to self or others.

## 1.2. Physical Activity

According to World Health Organization (1948), health can be defined as, "a complete state of physical, mental, and social well-being and not merely the absence of disease or infirmity". Also, health behavior can be defined as, "behavior patterns, actions and habits that relate to health maintenance, to health restoration and to health improvement" (Gochman, 1997, p. 3). Generally, health behaviors include behaviors that impair health such as smoking and alcohol use, behaviors such as exercise and healthy eating are among the behaviors that improve health (Conner, 2002). While health-promoting behaviors increase the quality of life of individuals by protecting them from various diseases, behaviors that may impair health, especially smoking and alcohol use, are associated with poor health. Physical activity, which is one of the health-promoting behaviors, has many physiological and psychological benefits (Conner, 2002).

The World Health Organization (2020) defines physical activity as any bodily movement that requires individuals to expend energy. It has been supported by many studies that physical activity has a protective role in diseases such as heart diseases and diabetes in

individuals (WHO, 2020). Also, regular physical activity has a positive effect on weight control of individuals (Pavlou et al., 1989). According to WHO (2020), the recommended duration of physical activity is at least 150-300 minutes of moderate-intensity physical activity or at least 75-150 minutes of vigorous physical activity per week. On the other hand, sedentary behavior, which is generally defined as "time spent sitting or lying down with low energy expenditure while awake in the context of education, home and community environments, and transportation" (WHO, 2020, p. 64), is associated with poor health outcomes in individuals, in contrast to physical activity. These can be exemplified as deaths due to heart diseases, cancer and diseases caused by inactivity in adults. In children and adolescents, decreased sleep duration, high weight gain and/or weakened prosocial behaviors are the consequences of sedentary behavior (WHO, 2020). Unlike sedentary behaviors, physical activity has many positive physiological and psychological effects on people (Berger, 1996; Janisse et al., 2004; LaFontaine et al., 1992; McAuley, 1994; Penedo & Dahn, 2005; Rajala et al., 1994; Ross and Hayes, 1988; Simonsick et al., 2005; Stephens, 1988; Weuve et al., 2004).

Studies conducted all over the world indicate that the number of individuals with obesity has increased considerably in recent years (Finkelstein et al., 2012). Obesity is defined as a body mass index of 30 and above in adults (Ogden et al., 2007). In addition, obesity can also be defined as a disease that causes adverse health conditions with the accumulation of excess fat in the body (Kopelman, 2000). It has been found that being overweight, which has extremely negative effects on individuals, is also associated with diabetes, cardiovascular diseases, and some types of cancer (Wiklund, 2016). Malnutrition, genetic factors, environmental factors, and lack of physical activity are among the causes of obesity (PH Wilding, 2001). Lack of physical activity has a large impact on obesity risk (McInnis, 2000). Physical activity levels have dropped drastically in recent years. The automation of many things with the developing technology in recent years has reduced the physical activity levels of individuals and the amount of energy they need to spend in daily life (Wright & Aronne, 2012). Regular physical activity has a positive effect on weight control of individuals (Pavlou et al., 1989). There are studies showing that regular exercise improves the quality of life in obese individuals. According to the literature, with regular exercise, cardiovascular diseases and risk of death can be prevented even if these individuals remain overweight (McInnis, 2000).

One of the psychological benefits of physical activity is mood regulation (Berger, 1996). According to studies, physical activity is a good method to change negative mood states such as stress and anxiety (International Society of Sport Psychology, 1992; McAuley, 1994). It is known that physical activity has the effect of pulling the stress level to a more optimal level. In addition, it also reduces mood states such as depression and anxiety, which are the most obvious symptoms of high-level stress (Berger, 1996). In a study examining the depression levels of Finnish individuals, it was found that the development of depression is more common in individuals with a sedentary lifestyle, in contrast to who regularly do exercise (Rajala et al., 1994). Also, in a study examining the factors predicting positive mood in women, physical activity was found to be positively related in addition to social support (Janisse et al., 2004).

Another psychological benefit of physical activity is a better self-concept (Berger, 1996; Bobbio, 2009; McAuley, 1994). According to many studies, physical activity is an important factor in increasing self-esteem (Bobbio, 2009; Sani et al., 2016; Spence et al., 2005). Self-esteem plays an important role in the evaluation of self (Bobbio, 2009). According to Rosenberg (1979) self-esteem is value judgments about oneself. It is important for the general well-being and quality of life of individuals (Deiner & Deiner, 1995; Sani et al., 2016). Self-efficacy, which is one of the other important components of individuals' self-concept, is a concept related to physical activity. Self-efficacy is individuals' perception of their own competence in a particular subject (Bandura, 1991). Regular exercise was found to be positively associated with increased self-efficacy. Also, self-efficacy is an important concept for individuals in the context of realizing desired behaviors (Berger, 1996). Walking, the most common type of physical activity (Lee & Buchner, 2008), had many known positive effects on individuals. Walking that was taken as the actual behavior in this study, is known to temporarily increase the well-being of individuals (Johansson et al., 2011).

### 1.2.1. Walking

Perhaps the most common and simple form of physical activity, which has many psychological and physiological benefits, is walking (Lee & Buchner, 2008; Loukaitou-Sideris, 2020). Walking, which began to be emphasized in the 1990s (Lee & Buchner, 2008), is a good option for physical activity, as it can be performed inexpensively in various environments

without any equipment (Johansson et al., 2011). In addition, walking is a good option for sedentary individuals to start doing physical activity (Morris & Hardman, 1997). Many health experts recommend walking for the physiological health of individuals (Johansson et al., 2011). Walking has known physiological positive effects such as balancing blood pressure and body fat ratio, preventing chronic diseases, correcting body posture, and providing flexibility. (Bang et al., 2017; Lee & Buchner, 2008; Morris & Hardman, 1997). A study that aimed to investigate the psychological and physiological health of participants by making them take 10000 steps a day, observed better physical and psychological health in individuals even though they could not take the targeted step every day (Morgan et al., 2010). According to a study, it has been observed that walking in the forest has psychological positive effects on individuals such as emotion regulation (Morita et al., 2007).

According to Ferdman (2019), walking provides many mental benefits to individuals. One of them is that it makes the individual more creative. Walking allows people to free their minds and pushes them to a better thinking process and therefore a better memory (Keinanen, 2016). It is also said to have cognitive benefits because it increases the action of neurotransmitters (Ferris et al., 2007). In addition to cognitive benefits, walking also has social benefits (Ferdman, 2019). By walking, individuals become more sensitive to the stimuli around them. It can be said that this strengthens the relationship of individuals with their society and environment. According to Leyden (2003), neighborhoods where walking is convenient are associated with more sociability in individuals. In addition, it can be said that the social characteristics of individuals walking with other people develop more (Doughty, 2013). Walking, which has many positive effects, is more important for people who need it more. It is thought that walking, which makes people better socially, cognitively, and emotionally, will also be very important for women during and after menopause. Considering the psychological and physiological symptoms experienced by women during and after menopause (Freeman & Sherif, 2007; Shangold et al., 1998; Stojanovska et al., 2014), walking, which is a type of physical activity, is an activity that women in this period should include in their lives.

### 1.2.2. The importance of physical activity in menopausal women

Physical activity, which has high importance for all societies, is also important for women. One of the reasons for this is that exercise or stretching is very important for women who are in or after menopause (Stojanovska et al., 2014). Menopause is defined as the cessation of fertility due to loss of ovarian follicular function in women in their late 40s and early 50s (Stojanovska et al., 2014). As it is known, various symptoms are seen in women during the menopause process. These are vasomotor (hot flashes, night sweats, etc.), psychological (sleep disorders, depression, etc.) and physical (weight gain, muscle loss, etc.) symptoms (Freeman & Sherif, 2007; Shangold et al., 1998; Stojanovska et al., 2014). Weight gain, which is one of the symptoms frequently seen during menopause, is generally since women tend to exercise less during this period and their metabolism slows down depending on age (Mishra et al., 2011). In addition, being more prone to cardiovascular diseases, which is one of the other effects of menopause, is among the risks brought by this period (Shangold et al., 1998). It is assumed that the most primary cause of all these symptoms is the decrease in estrogen level (Stojanovska et al., 2014).

One of the most used treatment methods to alleviate symptoms is hormonal replacement therapy (HRT). However, this treatment method, in which estrogen supplementation is provided, is not considered to be a very safe method since it has many risks such as increasing the risk of breast cancer. For this reason, physical activity is used as another alternative method to alleviate the symptoms experienced during menopause (Büyükkaplan, 2020; Karacan, 2004; Mishra & Mishra, 2011; Stojanovska et al., 2014). Many studies show that physical activity alleviates the symptoms seen in this period (Ağıl et al., 2010; Elavsky et al., 2012; Heinonen et al., 1998; McAndrew et al., 2009; Slaven & Lee, 1997). It can be said that the quality of life of women who do physical activity is much better during this period (Moriyama et al., 2008), and women who exercise more regularly during menopause experience fewer depressive symptoms (Lee & Kim, 2008). In a study conducted with menopausal women, it was observed that women who participated in an exercise program 3 times a week had better physical and psychological health (Villaverde-Gutierrez et al., 2006). According to Alessi et al. (1999), the presence of physical activity in the life of menopausal women helps women experience less stress and have

a better mood. In the light of all this information, physical activity is accepted as a functional method without any side effects (Stojanovska et al., 2014) to reduce the psychological and physiological effects that may threaten women's lives in this period. Since the importance of physical activity is known to be high for many people, many intervention programs have been developed to increase physical activity.

### 1.2.3. Intervention programs to improve physical activity

When the relevant literature is examined, it is seen that many researchers have developed various intervention programs to increase physical activity in individuals. According to Kahn et al. (2002), knowledge-based methods are one of the effective ones. Among the knowledge-based methods, point of decision prompts is very often used method. With this method, various warnings are created to encourage physical activity in the environment. These warnings are usually posted in various places to encourage people to walk. They often posted in subways or shopping malls to encourage the use of stairs instead of elevators. Many studies have concluded that such stimuli lead individuals to physical activity (Andersen et al., 1998; Brownell et al., 1980). In addition to knowledge-based methods, there are many intervention methods at the cognitive level.

There are many intervention programs created at the cognitive level to increase physical activity. Lee et al. (2013) developed an internet-based intervention program based on the Transtheoretical Model to increase the frequency of exercise in cancer survivors. In the study, it was aimed to increase the readiness and motivation of individuals for new behavior by giving immediate feedback and planning the action (Lee et al., 2013). As a result of this study, it has been found that this internet-based program has positive effects on individuals and that the internet is a functional method to reach individuals instantly. In another group-based intervention program, cognitive-behavioral strategies such as goal setting, action planning, and self-monitoring were conveyed to the participants (Fuchs et al., 2011). These strategies were also found to have long-term positive effects on exercise behavior. Self-generated reality is one of the methods used to increase exercise frequency (Sandberg & Conner, 2011). It is assumed that answering questions about the target behavior has a strong role in the emergence of that

behavior (Feldman & Lynch, 1988; Sherman, 1980). This is because questions about the target behavior activate attitudes towards that behavior. It is assumed that active attitudes are effective in the emergence of the desired behavior when appropriate conditions are provided for the target behavior (Morwitz & Fitzsimons, 2004).

Theory of Planned Behavior (TPB) is one of the models studied in the development of exercise frequency (Courneya et al., 1999; Norman et al., 2000; Rhodes et al., 2002; Rhodes et al., 2005). TPB assumes that intention is the most important factor in the emergence of a behavior, and intention has 3 determinants (attitude towards behavior, subjective norm, and perceived behavioral control) (Ajzen, 1991). Many theories and studies focusing on the relationship between various health behaviors and intentions have reached findings proving that intention is the most important determinant of behavior (Fishbein & Ajzen, 1975; Godin & Kok, 1996; Sheppard, Hartwick, & Warshaw, 1988). From this point of view, it was assumed that manipulations for intention would be effective in behavior change. A study aimed at increasing fruit and vegetable consumption in young adults using implementation intention shows that it is successful in creating behavior change (Chapman et al., 2009). Also, a study aimed to increase weight loss in overweight women using implementation intention and achieved successful results (Luszczynska et al., 2007). In this study, it is aimed to use implementation intention, which is one of these manipulations, to increase exercise behavior. It has been used by many researchers to increase exercise frequency in various samples, and positive results have been observed (Andersson & Moss, 2011; Armitage & Sprigg, 2010; Luszczynska et al., 2007; Prestwich et al., 2003).

### 1.3. Intention

Intentions are decisive in the emergence of certain human behaviors (Ajzen,1991). Although people have automatic and habitual behaviors (Bargh, 2006), intentions are important in the emergence of relatively long-term goals (Baumeister & Bargh, 2014). Since intentions include specific goals, they determine the possible future behavior of people (Sheeran & Webb, 2016). Intentions can arise in two different ways. These are goal intentions and behavioral intentions. While goal intentions contain instructions for people to achieve a

desired result, behavioral intentions contain instructions for behaviors necessary for that desired result. For instance, goal intentions can be formed as "I intend to learn to drive by next year" while behavioral intentions may formed as "I intend to enroll in a driving course by next year" (Sheeran & Webb, 2016).

There are many studies showing that intentions predict behavior (Chiaburu et al., 2011; McEachan et al., 2011; Sheeran, 2002). However, there are many intervening factors in the relationship between intention and behavior (Sheeran & Webb, 2016). These may include how difficult the intended behavior is (Sheeran et al., 2003), the quality of the goal (for example, replacing general goals with more specific goals; Locke & Latham, 2013), the quality of the intention (for example, establishing the intention through the affective attitude towards the target behavior; Conner et al., 2016). The Theory of Reasoned Action (TRA) and Theory of Planned Behavior (TPB), which argue that behavioral intentions are the main determinants of behavior, also mention many mediating factors (Madden et al., 1992; Montano & Kasprzyk, 2015).

### 1.3.1. Theory of reasoned action

According to the Theory of Reasoned Action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975), behavioral intentions are the main determinant of behavior. It emphasizes that subjective norms and attitudes are important for the formation of behavioral intentions. It argues that beliefs are effective for these two variables. Dividing beliefs into behavioral and normative, TRA says that behavioral beliefs affect attitudes, and normative beliefs affect subjective norms. While attitudes are evaluations of whether the outcome of a certain behavior will be good or bad, subjective norms are related to how much that behavior is accepted in the immediate environment (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). Three conditions are mentioned in the emergence of the relationship between behavioral intentions and behavior. The first is that behavioral intentions and behavior must completely overlap. Second, one's intention should not show variability over time before the expected behavior occurs. Finally, the reflection of behavioral intention to behavior should be completely under the control of the individual (Fishbein & Ajzen, 1975). By adding perceived control to determinants of behavioral intentions and behavior, Ajzen (1985) developed the Theory of Planned Behavior.

### 1.3.2. Theory of planned behavior

Ajzen (1985) developed the Theory of Planned Behavior, adding to the determinants of behavior and intention, the perception of how much control a person has over their intended behavior. In addition, he emphasized that perceived control has both a direct relationship with behavior and an indirect relationship by affecting the behavioral intentions of the individual (Ajzen, 1985; Madden et al., 1992). It is mentioned that perceived behavioral control is related to the resources perceived by the individual. The more resources the person thinks he/she have for the target behavior, the greater the perceived behavioral control will be. According to Bandura et al. (1980), individuals' self-confidence and perceived skills are important in revealing behavior. Although individuals have positive attitudes and social norms towards that behavior, if they do not think they have enough resources, their intentions towards that behavior will be low.

The relationship between Theory of Planned Behavior (TPB) and health behavior has been studied in many studies (Armitage & Conner, 2001; Conner et al., 2002; Godin & Kok, 1996; Norman et al., 1999) In a study, the relationship between the health screening behavior of individuals who have never been to health screenings and the continuity of this behavior was examined. Intentions and perceived behavioral control were associated with participation in health screenings (Sheeran et al., 2001). Moreover, it is one of the frequently used methods to increase the frequency of exercise in individuals.

### 1.3.3. The Stage Model of Self-Regulated Behavioral Change

Another model that examines behavior change in the context of intentions is The Stage Model of Self-Regulated Behavioral Change (SSBC) (Bamberg, 2013). According to the SSBC, for behavioral change, a person must go through 4 different stages in order (Bamberg, 2013). First stage (predecisional) involves the formation of an intention to change the behavior that the person sees as problematic. At this stage, the individual should first perceive his/her behavior as problematic and then create goal intentions for the change of the behavior (Keller et al., 2019). Here, the formation of goal intentions cries the person to move to the second stage. In the second

stage (preactional), the most appropriate behavioral strategy is selected for the goal intention created. In this stage, the person evaluates many strategies for behavior change and decides on the most appropriate one and commits to that strategy (Bamberg, 2013). This commitment results in the person moving from the goal intention to behavioral intention. In the third stage (actional), the person must now implement the behavioral intention he/she has created. Fort his stage, the formation of implementation intentions is important in the realization of behavioral intentions (Gollwitzer, 1999). The transition to the fourth stage (postactional) is made with the implementation of the behavioral intention. In the last stage, the person re-evaluates the new behavior by comparing it with the old one and tries to make the new behavior permanent (Bamberg, 2013).

### 1.3.4. Transtheoretical Model of Change

The Transtheoretical Model of Change (Prochaska & DiClemente, 1983) is a behavior change model that emphasizes the importance of intention in the realization of desired behavior. According to this model, the desired behavior occurs within a certain time. It emphasizes that the person can reach the target behavior by going through certain stages over time. These stages are precontemplation, contemplation, preparation, action, and maintenance stages, respectively. Individuals in the precontemplation stage are those who do not see their existing behavior as a behavior that needs to be changed and do not make a plan for it. Individuals in the contemplation stage are those who have begun to think about their current behaviors and evaluate the positive and negative aspects of these behaviors. It can be said that those who are in the prepararion stage are those who intend to change their current behavior and are those who are starting to make plans. In the action phase, individuals have started to practice the desired (health behaviors) behavior. In the last stage, the maintenance stage, individuals are expected to continue the health behavior or behaviors they have started to practice for at least 6 months. This model, which states that there may be relapses after the transition between stages (Prochaska and DiClemente, 1983), also emphasizes the importance of intention formation in the transition between phases (Prochaska and DiClemente, 1983).

### 1.4. Implementation Intention

According to Gollwitzer (1999), implementation intention is a powerful self-regulation strategy that minimizes the problems experienced by individuals in initiating goal-directed behavior and thus encourages the initiation of behaviors necessary to reach the goal. It aims to increase the harmony between the intended behavior of individuals and their actual behavior. It is considered important in putting the motivation of the individual into action (Gollwitzer, 1993, 1999).

Perhaps the biggest problem that individuals experience in reaching a certain goal is to initiate a certain behavior to achieve that goal. One of the functions of implementation intention is to encourage individuals to start a certain behavior and to alleviate the problems that may be experienced in the initial phase (Gollwitzer, 1999). According to research by Gollwitzer and Brandstatter (1997), implementation intention is highly successful at inducing goal-directed behavior, especially those that are relatively difficult. The basic assumptions of implementation intention include activating the mental representation of the targeted behavior and making it ready and accessible (Ajzen et al., 2009). When the person matches how, when and where to do the targeted behavior, a strong relationship emerges in memory between the environmental cues and the target behavior. One of the functions of implementation intention is to automate the controlled and effortful behaviors of individuals with the environmental cues and connections they establish (where, when and how the desired behavior will be performed) (Gollwitzer, 1999). Studies show that participants in implementation intention interventions elicit the target behavior exactly where and when they match (Gollwitzer, 1993).

A goal intention should precede implementation intention (Gollwitzer, 1993). According to The Theory of Planned Behavior, there are three factors that determine the formation of certain goal intentions in individuals (Ajzen, 1991). The first of these is the attitude towards the target behavior. What is important here is how positively or negatively the person evaluates doing a certain behavior. The second factor, the subjective norm, is the social pressure that the individual perceives from other people to do or not to do a certain behavior. The fact that the behavior will be approved by other people makes the person more intentional for that behavior. Perceived behavioral control, which is another factor, is related to how easy or difficult the

person perceives to do that behavior (Orbell et al., 1997). But creating the goal intentions alone is not enough (Gollwitzer, 1993). For this reason, implementation intention is effective in putting the goal intentions into action.

While creating goal intentions allows people to recognize and set their goals, implementation intention aims to give specific responses to specific situations. In this way, it has a facilitating role in the emergence of goal intentions (Gollwitzer, 1999). According to studies, those who combine goal intentions with implementation intention are much more successful in reaching the goals they set (Gollwitzer, 1993).

In the application of implementation intention, it is usually done by matching the "if-then" statements in the voluntary help sheet and deciding where, when and how to do the desired behavior (For example: "If X occurs, I will do Y". ") (Gollwitzer et al., 2010). Although the voluntary help sheet is not the only method of implementation intention, it is one of the most frequently used methods (Armitage et al., 2014; Chapman et al., 2009). While the "if" conditions presented to the participants in the volitional help sheet usually include behaviors that risk health (e.g., if I do not want to be physically active because I am busy), the "…then" conditions include different strategies that people can adopt to protect their health (e.g., then I will say that if I try hard enough I can continue to be physically active). The matching of risky conditions and appropriate strategies leads people to more detailed and planned reflection on their intentions.

Looking at the relevant literature, it is seen that implementation intention is a frequently used intervention method in terms of creating changes in many different behaviors. These behaviors include many health-oriented behaviors suchs as, healthy eating (Verplanken & Faes, 1999); reducing substance abuse (Gollwitzer & Brandstätter, 1997); breast self-exams (Orbell et al., 1997). In addition, implementation intention has been used in many studies to direct individuals to exercise behavior and it has been observed that effective results have emerged (Andersson & Moss, 2011; Armitage & Sprigg, 2010; Latimer et al., 2006; Luszczynska et al., 2007; Milne et al., 2002; Prestwich et al., 2003).

### 1.4.1. Physical activity and implementation intention

Implementation Intention, which is known to influences many health behaviors, is also an effective method on physical activity (Andersson & Moss, 2011; Armitage & Sprigg, 2010; Latimer et al., 2006; Luszczynska et al., 2007; Milne et al., 2002; Prestwich et al., 2003). According to Chaudhary and Kreiger (2007), implementation intention manipulation is one of the most effective ways to increase physical activity, especially for low-income individuals. The reason for this is that the implementation intention manipulation does not require any equipment, that is, it is low cost and yet it is a sufficient application on its own. Armitage and Sprigg (2010) tested the effect of implementation intention manipulation on physical activity on children with low socioeconomic status. According to the results, implementation intention manipulation increased physical activity in this sample. Except for low-income samples, many studies have tested implementation intention manipulation on individuals with physical ailments to make the studies more functional.

Luszczynska (2006) showed the effectiveness of implementation intention manipulation by aiming to increase the frequency of physical activity in individuals with myocardial infarction (a heart disease). Latimer et al. (2006) also revealed that implementation intention increased the frequency of physical activity in individuals with spinal cord disease.

Contrary to the positive effect of implementation intention manipulation on physical activity, which many studies in the literature suggest, Budden and Sagarin (2007) found a result that implementation intention does not an effective intervention to increase physical activity. They suggested that as the reason for this, it is not possible to measure the frequency of physical activity exactly and the findings were affected especially because the exercise levels of the individuals before the manipulation could not be measured exactly.

In addition to these findings in the literature, some studies have tested the effect of intention instillation manipulation on physical activity on women. Hall et al. (2014) tested the mediating role of older women's cognitive skills in the effect of intention instillation on physical activity. According to the results, the effect of implementation intention on physical activity is stronger in women with stronger executive functions. The study attributed this

finding to better recognition of the clues of the intended behavior. In the study of Arbour and Martin (2009), the sample is sedentary women. As a result of the research, it was found that sedentary women walked more in their spare time after the implementation intention manipulation.

Increasing the frequency of physical activity in sedentary women is effective in preventing many diseases, especially cardiovascular diseases (USDHHS, 2004). In this thesis study, the effect of implementation intention on physical activity was tested on postmenopausal women. Considering the physical and psychological negative effects experienced by women in this period (Freeman & Sherif, 2007; Shangold et al., 1998; Stojanovska et al., 2014), it is thought that it would be beneficial to work with this sample. In addition, it is aimed that the sample of women in the postmenopausal period will contribute to the implementation intention studies in the literature with a new finding. Also, in this thesis, the manipulation of impelementation intention is divided into two as self and others. In this sense, since there is no previous study on the literature, it is thought that it will contribute to physical activity and implementation intention studies.

### 1.4.2 Motivation differences in implementation intention (self vs. others)

In this study, it was aimed to see whether a difference would come out by dividing the solutions part of the implementation intention into two as self and others. As mentioned above, in the application of implementation intention manipulation, risky situations and solutions (strategies) are matched. In this study, the strategies were presented to the participants in two ways, related to self and others. In this sense, it was aimed to examine whether the solution proposals and goals that the person establishes for her/himself will make a difference from the goals she/he sets for others. Also, it is thought that the solution proposal related to the self and the solution proposal related to the others can make a difference in terms of the motivation of the person.

Motivation is generally defined as “the hypothetical construct used to describe the internal and/or external forces that produce the initiation, direction, intensity, and persistence of behavior” (Vallerand & Thill, 1993, as cited in Vallerand, 2007). The fact that some certain

needs are met or will be met determines the emergence of motivation and when and how it will arise. According to Self-Determination Theory (Deci & Ryan, 1985), competence, autonomy, and relatedness are basic psychological needs of individuals. At the same time, these needs have important roles in the development and motivation of people. Because people want to engage in various behaviors to meet their specific needs and they have a high motivation for these behaviors. In this sense, people's motivation and desire for behaviors that will meet basic psychological needs are high (Vallerand, 2007).

The motivation that emerges in meeting these needs can occur in two ways. One of them is intrinsic motivation. Intrinsic motivation can be defined as a person's doing a behavior only for him/herself and for the pleasant emotions he/she will feel (Vallerand, 2007). For example, the reason why a pianist plays a composition is the positive emotions that composition evokes in him/her is a type of intrinsic motivation. Because the pianist wants to play that composition only for her/himself, to feel the positive emotions, she/he will experience. On the other hand, extrinsic motivation refers to the person's doing that behavior to achieve a certain goal (Vallerand, 2007). For example, doing a behavior for positive feedback from the others can be shown as an example of extrinsic motivation. Because the positive attitudes of others towards the person will be a gain for the person.

Although studies suggest that extrinsic motivation is effective in initiating a behavior, it has shown that intrinsic motivation is more effective in the long run (Benabou & Tirole, 2003). According to a study, the group that was not given a reward for doing a puzzle was more interested in the given task and then more involved in the task than the group that was given a monetary reward (Deci, 1975).

In addition to this information, volitional strength is a concept that is more related to intrinsic motivation than extrinsic motivation. Volitional strength is about how willing an individual is to achieve something (Brickell & Chatzisarantis, 2007). Therefore, it can be said that intrinsic motivation is more effective than extrinsic motivation as it is related with volitional strength. Considering the relationship between motivation and implementation intention, it can be said that intrinsic motivation is a more effective type of motivation in the effectiveness of

implementation intention. According to Gollwitzer (1990), the magnitude of one's volitional strength towards a goal increases the effectiveness of implementation intention.

In the light of the literature, implementation intention manipulation in this study is divided into two as related to self and related to others. In this way, it is aimed to measure the effect of self and others related solution types on implementation intention. In addition, it was desired to examine whether a motivational difference occurs and at the same time whether the effectiveness of implementation intention will increase.

### 1.5. The Aim of the Present Thesis

***Hypothesis 1:*** Implementation intention increases the frequency of exercise in postmenopausal women.

***Hypothesis 2:*** Self-related implementation intention is more effective than others-related implementation intention.

***Hypothesis 3***: The effect of implementation intention will not decrease over time.

As mentioned, regular physical activity is accepted as both a physiological and psychological necessity. Today, it is known that sedentary behavior has become widespread with the developing technology (Pate et al., 2011). Most studies suggest the negative effects of a sedentary lifestyle on individuals (WHO, 2020). Unlike sedentary behaviors, physical activity has both psychological and physiological positive effects on individuals (WHO, 2020; LaFontaine et al., 1992; McAuley, 1994; Pavlou et al., 1989; Penedo & Dahn, 2005; Ross & Hayes, 1988). From this point of view, various breakthroughs are being made to emphasize and popularize the importance of exercise in both national and international platforms. To instill this behavior in the society in Turkey, the Ministry of Health launched a campaign with the slogan "10 thousand Steps Every Day" due to the 3-4 October World Walking Day, and it was aimed to increase the exercise frequency of people through public service announcements and various activities. In this thesis, it is aimed to make an intervention program on behavior change in order to change the sedentary behavior, which is quite common today, and to increase physical activity in women.

Implementation intention is an inherently effective method for behavior change (Gollwitzer, 1999). In addition to being an effective method, it is easily applicable and accessible to people (Armitage, 2006). Many researchers apply implementation intention to elicit various behaviors. Health behaviors (Andersson & Moss, 2011; Armitage et al., 2014; Chapman et al., 2009; Conner & Higgins, 2010; Luszczynska et al., 2007; Milne et al., 2002; Verplanken & Faes, 1999), consumer behavior (Carrington et al., 2010) and driver behavior (Brewster et al., 2015; Elliott & Armitage, 2006; Tekeş, 2018) are among the topics that are frequently studied. In this study, by separating the solutions into two as self and others in implementation intention manipulation, it is also aimed to measure intrinsic and extrinsic motivation. According to Gollwitzer (1990), high volitional strength is a factor that increases the effectiveness of implementation intention manipulation. According to the literature, since intrinsic motivation has more volitional strength, it was thought that implementation intention with self-related solutions would be more effective on physical activity. Another important contribution of the project comes from the fact that it plans to measure the impact of implementation intention at two-week intervals. Although implementation intention is effective on increasing exercise behavior, there are not enough studies on the long-term results of this effect. In this study, it is thought that the measurements to be taken at three different times are important to see the time-dependent effect.

Another feature that makes this study special is that it is the first research that will be applied in the sample of Turkey to increase the frequency of exercise by evaluating implementation intention in terms of self vs. others-related solution. In addition, the fact that the thesis focuses on the sample of women in the postmenopausal period also increases the original value of this study. As mentioned, the presence of physical activity is especially important in postmenopausal women (Büyükkaplan, 2020; Karacan, 2004; Mishra & Mishra, 2011; Stojanovska et al., 2014). For this reason, it is thought that this intervention program will contribute to the physical and psychological well-being of women in these periods. In addition, it is among the aims of this study that this thesis will be a source for campaigns and events organized around the world and in Turkey to popularize the exercise with effective results.

# 2. METHOD

## 2.1. Sample

The sample of the study consists of 75 women who are in the post-menopausal period. Participants were reached with the convenience sampling method. In order to avoid any confounding variables in the sample, it was deemed appropriate for the participants to be included in the study, considering the criterion that the participants had not had a menstrual period for at least six months. Apart from this, there is no exclusion criteria determined for the sample. The mean age of the participants ($N$ = 75) was 51.65 years ($SD$ = 6.51). While 77.3% of the sample consists of individuals without exercise habits ($N$ = 58), 22.7% consists of individuals with exercise habits ($N$ = 17). The average BMI (body mass index) score of the participants was 26.16 ($SD$ = 3.94).

**Table 1.** *Demographic Characteristics of Participants (N = 75)*

| Variables | *n* | *%* |
|---|---|---|
| Exercise Habit | | |
| Yes | 17 | 22.7 |
| No | 58 | 77.3 |
| Working Status | | |
| Working | 52 | 69.3 |
| Not Working | 23 | 30.7 |
| Education | | |
| Primary School | 2 | 2.7 |
| Middle School | 2 | 2.7 |
| High School | 18 | 24 |
| University | 47 | 62.7 |
| Master Degree/Doctorate | 6 | 8 |

**Table 2.** *Descriptive Statistics of Participants (N = 75)*

| Variables | *Mean* | *SD* | *Minimum* | *Maximum* | *Skewness* | *Kurtosis* |
|---|---|---|---|---|---|---|
| Age | 51.65 | 6.51 | 35 | 66 | .14 | -.06 |
| Income | 19946.89 | 14705.53 | 5000 | 100000 | 2.80 | 11.56 |
| BMI | 26.16 | 3.94 | 19.14 | 39.14 | .61 | .54 |

## 2.2. Measurements

### 2.2.1. Demographic Information Form

The Demographic Information Form created by the researcher includes questions such as the age of the participants, their educational status, their total monthly income, whether they have regular exercise habits, what kind of physical activities they engage in, and the frequency of these activities.

### 2.2.2. Volitional Help Sheet

In this study, the Volitional Help Sheet developed specifically for physical activity by Armitage and Arden (2010) was adapted into Turkish. The Volitional Help Sheet consists of 20 situations and 20 solutions that can be matched with each other. In this study, in accordance with the purpose of the study, the solutions created by Armitage and Arden (2010) are divided into two as related to the person him/herself and related to other people. For this purpose, two separate experimental groups were formed. While the volitional help sheet of the others-related group consists of 6 situations and 6 solutions, the sheet of the self-related group consists of 12 situations and 12 solutions. For the control group, the Volitional Help Sheet in Tekeş's (2018) study, which does not include any critical situations and appropriate strategies regarding exercise behavior, was used. For each condition, the participants were asked to match 4 situations and 4 appropriate strategies and write them in sentences.

### 2.2.3. International Physical Activity Questionnaire-Long form

The "International Physical Activity Questionnaire" developed by Craig et al. (2003), was adapted to Turkish by Öztürk (2005). In this study, the originally developed long form of the scale was used. The scale provides two separate scorings: field (work, transportation,

housework, leisure) and activity (walking, moderate and intense). In the evaluation, it is accepted as a criterion to perform each exercise type for at least 10 minutes. The questionnaire uses a form of assessment called the MET-minute value. A MET-minute is calculated by multiplying the minute of activity performed by the MET score. Analysis of the data in the evaluation of the International Physical Activity Questionnaire is carried out with values determined as Walking = 3.3 METs, Moderate physical activity = 4 METs, Vigorous physical activity = 8 METs. Accordingly, a person who walks 20 minutes twice a week would have a MET-minute/week value of 132 MET-minute/week. As Öztürk (2005) applied in her own study, the participants answered the questions by considering their last week at each stage of the study.

#### 2.2.4. Pedometer measurement

In this study, besides the other physical activities of the participants, their regular walks will be measured as a physical activity. A pedometer was used as a measurement tool for this purpose. In the research, the participants were asked to follow their step data via a free application (StepsApp) downloaded to their mobile phones and to enter the number of steps in the last 1 week in the questionnaires applied over Qualtrics. The participants were asked to indicate their data for that day as "0" in the questionnaire in case they did not take their phones with them or the application did not work at that moment.

### 2.3. Procedure

Before starting the research, the necessary permissions were obtained by applying to the Baskent University Social and Human Sciences Scientific Research and Publication Ethics Committee. In addition, the study was recorded on the Open Science Framework (OSF) before the start of the research. For this study, which lasted for a total of 5 weeks, the participants were reached using the convenience sampling method. Participants who were in and after menopause and who approved to participate in this 5-week study were included in the study.

First of all, the participants who volunteered to participate in the study were informed about the study, and the flyer, which was prepared in advance and included all the information about the study, was distributed (see in APPENDIX 1). They were then asked to sign the

Informed Consent Form. Then, the people were given demonstrations on how to download the pedometer application to their phones (see in APPENDIX 2 and APPENDIX 3). It was ensured that the StepsApp (pedometer) application was downloaded and worked to record daily step data on the phones of the participants who signed the form. At this stage, the baseline questionnaire of the study prepared on Qualtrics was sent to the participants' phones. In the baseline questionnaire, the Demographic Information Form and the International Physical Activity Questionnaire (IPAQ) are included to measure the physical activity levels of the participants in the last week.

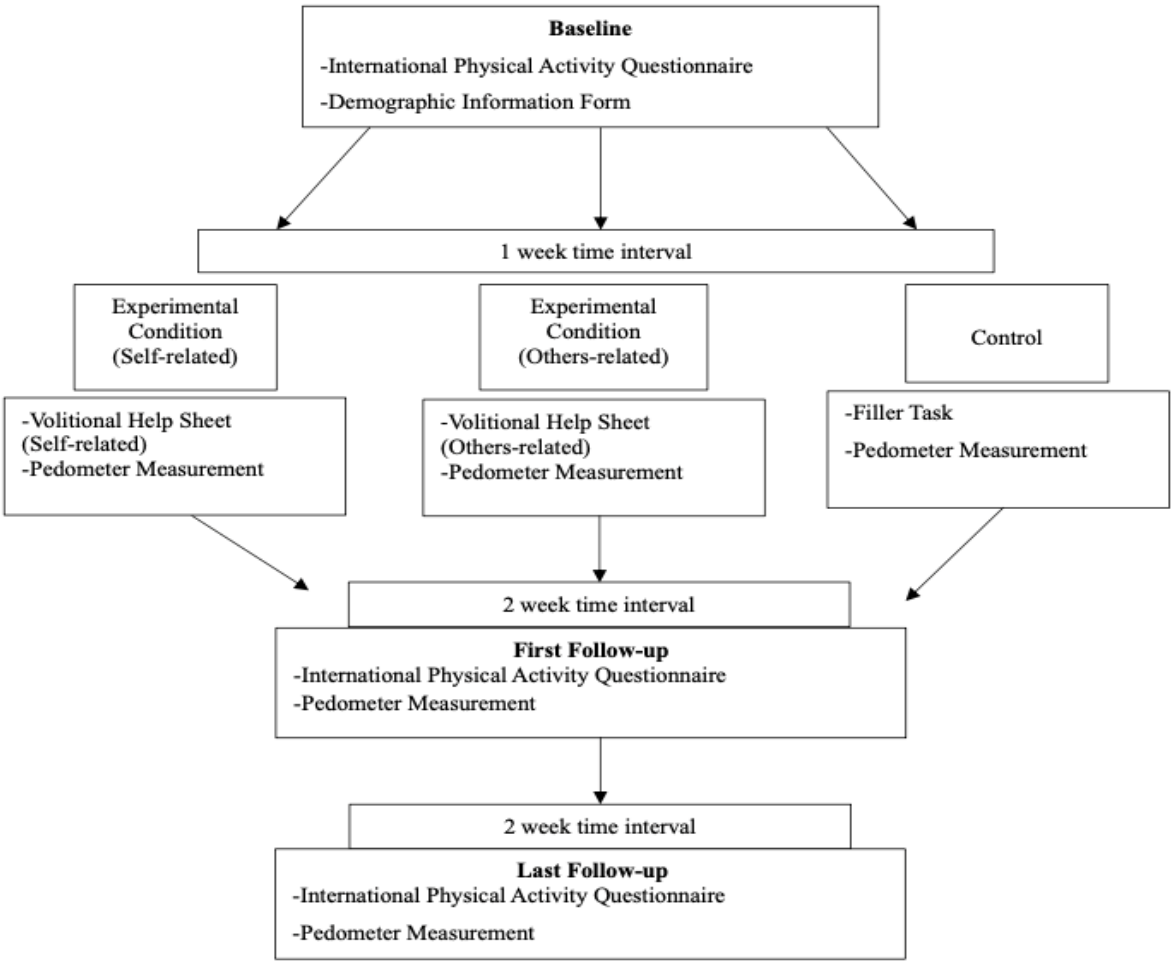
One week after the participants started to actively use the pedometer application, the pre-measurement data of the number of steps were collected via the Qualtrics link sent to them. In order to determine the daily walking averages of the participants during the pre-measurement phase, the pedometer measurement period was determined as one week. It is thought that with this time interval, the walking duration of the participants in their daily lives can be determined, and since this time will be averaged at the end of a one-week period, this time will allow to tolerate situations where the pedometer measurement is forgotten. At this stage, after the pre-measurement step data were obtained, experimental manipulation was applied to the participants in the same questionnaire. Participants were randomly assigned to different experimental (self-directed vs. others-directed) and control groups by randomization within Qualtrics. Different Volitional Help Sheets were applied to these groups according to the condition they were assigned to.

After the manipulation, the third questionnaire data was collected two weeks later, and the last measurement data two weeks later, with the survey link sent by the researcher to the participants' phones. In the questionnaires after the manipulation, the participants were asked to enter the step data of the last 1 week and the IPAQ was given to determine the physical activity level of the last one week.

Finally, the participants were directed to the debriefing and thank you page at the end of the survey. A gift voucher of 100 TL, which they can use in supermarkets, was given to 2 people randomly selected from among the participants who participated in each stage of the study.

In order not to spoil the anonymity, the entire data collection process was carried out using structured pseudonyms. Structured pseudonyms were created by the researcher by presenting a specific instruction to the participants (first 2 letters of the surname + birthday + month of birth). The experimental flow of the research is shown in Figure 1.

**Figure 1.** The Experimental Flow



## 2.4. Analysis

Data analysis was done using SPSS (Statistical Package for Social Sciences) 26 program. Mixed Model Repeated Measures ANOVA was used in the analysis of the main hypotheses of the research. Responses to implementation intention manipulation (experiment (self-directed vs. others-directed) and control), which constitute the independent variables of the study, were measured as between-subject factor, and different measurement times (pre-measurement, second measurement, and final-measurement) were measured as within-subject factor.

# 3. RESULT

## 3.1. Results of the International Physical Activity Questionnaire (Long Form)

### 3.1.1. 2 (Experiment vs. Control) x 3 (Baseline vs. Follow-up 1 vs. Follow-up 2) Mixed Model Repeated Measures ANOVA

2x3 Mixed Model Repeated Measures ANOVA was conducted to analyze main effects of time and conditions and the interaction between time and condition on the physical activity levels. The time variable measured as within subjects includes 3 conditions (baseline and the 2 follow-ups), while the condition measured as between subjects includes 2 groups (experiment and control).

The main effect of time ($F(2, 146) = 5.72$, $p = .004$, $\eta p^2 = .073$) and conditions ($F(1, 73) = 10.31$, $p = .002$, $\eta p^2 = .124$) were statistically significant. For the time variable, first follow-up level ($M = 12289.80$) is higher than baseline level ($M = 8403.78$). For the condition variable, control condition ($M = 12883.26$) is higher than experimental condition ($M = 7548.11$). The interaction effect between time and conditions ($F(2, 146) = .84$, $p = .434$, $\eta p^2 = .011$) was not statistically significant.

### 3.1.2. 3 (Self vs. Others vs. Control) x 3 (Baseline vs. Follow-up 1 vs. Follow-up 2) Mixed Model Repeated Measures ANOVA

3x3 Mixed Model Repeated Measures ANOVA was conducted to analyze main effects of time and conditions and the interaction between time and condition on the physical activity levels. The time variable measured as within subjects includes 3 conditions (baseline and the 2 follow-ups), while the condition measured as between subjects includes 3 groups (self-related, others related and control).

The main effect of time ($F(2, 144) = 5.73$, $p = .004$, $\eta p^2 = .074$) and conditions ($F(2, 72) = 5.11$, $p = .008$, $\eta p^2 = .124$) were statistically significant. . For the time variable, first follow-

up level ($M$ = 11437.73) is higher than baseline level ($M$ = 7734.12) and the second follow-up level ($M$ = 8798.89). For the condition variable, control condition ($M$ = 12883.26) is higher than self-directed ($M$ = 7338.23) and others-directed ($M$ = 7749.25) conditions. The interaction effect between time and conditions ($F(4, 144) = .66$, $p = .618$, $\eta p^2 = .018$) was not statistically significant.

### 3.2. Results of the International Physical Activity Questionnaire (Short Form)

#### 3.2.1. 2 (Experiment vs. Control) x 3 (Baseline vs. Follow-up 1 vs. Follow-up 2) Mixed Model Repeated Measures ANOVA

2x3 Mixed Model Repeated Measures ANOVA was conducted to analyze main effects of time and conditions and the interaction between time and condition on the physical activity levels. The time variable measured as within subjects includes 3 conditions (baseline and the 2 follow-ups), while the condition measured as between subjects includes 2 groups (experiment and control).

The main effect of time ($F(2, 82) = 1.77$, $p = .177$, $\eta p^2 = .041$) and conditions ($F(1, 41) = .77$, $p = .384$, $\eta p^2 = .019$) were not statistically significant. The interaction effect between time and conditions ($F(2, 82) = .49$, $p = .613$, $\eta p^2 = .012$) was not statistically significant.

#### 3.2.2. 3 (Self vs. Others vs. Control) x 3 (Baseline vs. Follow-up 1 vs. Follow-up 2) Mixed Model Repeated Measures ANOVA

3x3 Mixed Model Repeated Measures ANOVA was conducted to analyze main effects of time and conditions and the interaction between time and condition on the physical activity levels. The time variable measured as within subjects includes 3 conditions (baseline and the 2 follow-ups), while the condition measured as between subjects includes 3 groups (self-related, others related and control).

The main effect of time ($F(2, 80) = 1.85$, $p = .163$, $\eta p^2 = .044$) and conditions ($F(2, 40) = .50$, $p = .612$, $\eta p^2 = .024$) were not statistically significant. The interaction effect between time and conditions ($F(4, 80) = .89$, $p = .475$, $\eta p^2 = .043$) was not statistically significant.

### 3.3. Results of the Number of Steps (Pedometer)

#### 3.3.1. 2 (Experiment vs. Control) x 3 (Baseline vs. Follow-up 1 vs. Follow-up 2) Mixed Model Repeated Measures ANOVA

2x3 Mixed Model Repeated Measures ANOVA was conducted to analyze main effects of time and conditions and the interaction between time and condition on the number of steps. The time variable measured as within subjects includes 3 conditions (baseline and the 2 follow-ups), while the condition measured as between subjects includes 2 groups (experiment and control).

The main effect of time ($F(2, 130) = .96$, $p = .387$, $\eta p^2 = .014$) and conditions ($F(1, 65) = .21$, $p = .646$, $\eta p^2 = .003$) were not statistically significant. The interaction effect between time and conditions ($F(2, 130) = .28$, $p = .757$, $\eta p^2 = .004$) was not statistically significant.

#### 3.3.2. 3 (Self vs. Others vs. Control) x 3 (Baseline vs. Follow-up 1 vs. Follow-up 2) Mixed Model Repeated Measures ANOVA

3x3 Mixed Model Repeated Measures ANOVA was conducted to analyze main effects of time and conditions and the interaction between time and condition on the number of steps. The time variable measured as within subjects includes 3 conditions (baseline and the 2 follow-ups), while the condition measured as between subjects includes 3 groups (self related, others related and control).

The main effect of time ($F(2, 128) = .76$, $p = .470$, $\eta p^2 = .012$) and conditions ($F(2, 64) = .11$, $p = .900$, $\eta p^2 = .003$) were not statistically significant. The interaction effect between time and conditions ($F(4, 128) = .27$, $p = .896$, $\eta p^2 = .008$) was not statistically significant.

### 3.4. Results of the International Physical Activity Questionnaire (Short Form) for Individuals Who Have Exercise Habit

#### 3.4.1. 2 (Experiment vs. Control) x 3 (Baseline vs. Follow-up 1 vs. Follow-up 2) Mixed Model Repeated Measures ANOVA

2x3 Mixed Model Repeated Measures ANOVA was conducted to analyze main effects of time and conditions and the interaction between time and condition on the physical activity levels for individuals who have exercise habit. The time variable measured as within subjects includes 3 conditions (baseline and the 2 follow-ups), while the condition measured as between subjects includes 2 groups (experiment and control).

The main effect of time ($F(2, 24) = .79$, $p = .468$, $\eta p^2 = .061$) and conditions ($F(1, 12) = 2.29$, $p = .156$, $\eta p^2 = .160$) were not statistically significant. The interaction effect between time and conditions ($F(2, 24) = 4.06$, $p = .030$, $\eta p^2 = .253$) was statistically significant. For the baseline level, those in the experimental group ($M = 1900.91$, $SD = 1207.84$) had lower scores than those in the control ($M = 3597.84$, $SD = 1568.34$). In contrast, for the follow-up level those in the experimental group ($M = 3038.44$, $SD = 2581.49$) had higher scores than those in the control ($M = 2054.88$, $SD = 1475.84$). Similar with the baseline level, in the second follow-up level those in the experimental group ($M = 1875.26$, $SD = 1401.17$) had lower scores than those in the control ($M = 4954.50$, $SD = 3616.19$).

**Table 3.** *2 (Experiment vs. Control) x 3 (Baseline vs. Follow-up 1 vs. Follow-up 2) Mixed Model Repeated Measures ANOVA*

| Source | *df* | *F* | Sig. | $\eta p^2$ | Power |
|---|---|---|---|---|---|
| Between-subject effects | | | | | |
| Condition | 1 | 2.29 | .156 | .160 | .286 |
| Error (Condition) | 12 | | | | |
| Within-subject effects | | | | | |
| Time | 2 | .79 | .468 | .061 | .168 |
| Time X Condition | 2 | 4.06 | .030 | .253 | .665 |
| Error (Time) | 24 | | | | |

### 3.4.2. 3 (Self vs. Others vs. Control) x 3 (Baseline vs. Follow-up 1 vs. Follow-up 2) Mixed Model Repeated Measures ANOVA

3x3 Mixed Model Repeated Measures ANOVA was conducted to analyze main effects of time and conditions and the interaction between time and condition on the physical activity levels for individuals who have exercise habit. The time variable measured as within subjects includes 3 conditions (baseline and the 2 follow-ups), while the condition measured as between subjects includes 3 groups (self-related, others-related and control).

The main effect of time ($F(2, 22) = .16$, $p = .857$, $\eta p^2 = .014$) and conditions ($F(2, 11) = 1.55$, $p = .256$, $\eta p^2 = .220$) were not statistically significant. The interaction effect between time and conditions ($F(4, 22) = 2.59$, $p = .065$, $\eta p^2 = .320$) was not statistically significant.

## 3.5. Results of the International Physical Activity Questionnaire (Short Form) for Individuals Who Have Not Exercise Habit

### 3.5.1. 2 (Experiment vs. Control) x 3 (Baseline vs. Follow-up 1 vs. Follow-up 2) Mixed Model Repeated Measures ANOVA

2x3 Mixed Model Repeated Measures ANOVA was conducted to analyze main effects of time and conditions and the interaction between time and condition on the physical activity levels for individuals who have not exercise habit. The time variable measured as within subjects includes 3 conditions (baseline and the 2 follow-ups), while the condition measured as between subjects includes 2 groups (experiment and control).

The main effect of time ($F(2, 54) = 1.66$, $p = .200$, $\eta p^2 = .058$) and conditions ($F(1, 27) = .133$, $p = .718$, $\eta p^2 = .005$) were not statistically significant. The interaction effect between time and conditions ($F(2, 54) = .01$, $p = .989$, $\eta p^2 = .000$) was not statistically significant.

### 3.5.2. 3 (Self vs. Others vs. Control) x 3 (Baseline vs. Follow-up 1 vs. Follow-up 2) Mixed Model Repeated Measures ANOVA

3x3 Mixed Model Repeated Measures ANOVA was conducted to analyze main effects of time and conditions and the interaction between time and condition on the physical activity levels for individuals who have exercise habit. The time variable measured as within subjects includes 3 conditions (baseline and the 2 follow-ups), while the condition measured as between subjects includes 3 groups (self-related, others-related and control).

The main effect of time ($F(2, 52) = 1.41$, $p = .253$, $\eta p^2 = .051$) and conditions ($F(2, 26) = .98$, $p = .389$, $\eta p^2 = .070$) were not statistically significant. The interaction effect between time and conditions ($F(4, 52) = .52$, $p = .720$, $\eta p^2 = .039$) was not statistically significant.

**Table 4**. *Correlations Between Variables*

| | Variable | *M* | *SD* | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | PA | .23 | .42 | 1 | | | | | | | | | |
| 2 | BMI | 26.16 | 3.94 | -.15 | 1 | | | | | | | | |
| | Income | | | | | | | | | | | | |
| 3 | | 19946.89 | 14705.53 | -.03 | -.18 | 1 | | | | | | | |
| 4 | Working Status | .69 | .46 | -.12 | .06 | .12 | 1 | | | | | | |
| 5 | Baseline IPAQ | 7905.08 | 8389.01 | .03 | .22 | -.15 | .23* | 1 | | | | | |
| 6 | IPAQ 2 | 11637.33 | 9793.62 | -.03 | .09 | -.09 | .05 | .45** | 1 | | | | |
| 7 | IPAQ 3 | 9077.28 | 9545.53 | .04 | .12 | -.07 | .23 | .35** | .55** | 1 | | | |
| 8 | Baseline Short IPAQ | 1478.94 | 1274.38 | .44** | .04 | -.01 | .12 | .39** | .16 | .17 | 1 | | |
| 9 | Short IPAQ 2 | 2100.71 | 2124.86 | .12 | -.25* | .02 | -.05 | .31* | .54** | .27* | .17 | 1 | |
| 10 | Short IPAQ 3 | 2050.42 | 3078.32 | .12 | -.18 | .07 | .15 | .07 | .31* | .64** | .16 | .19 | 1 |

*Notes:* PA=Physical Activity, BMI=Body Mass Index, IPAQ=International Physical Activity Questionnaire

**$p<0.01$, *$p<0.05$

### 3.6. Results of the Bivariate Correlations Between Investigated Variables

According to the results of Pearson Correlation analysis, physical activity habits of individuals and the baseline level of the short form of the International Physical Activity Questionnaire (IPAQ) are positively correlated. Body mass index (BMI) is negatively correlated with the first follow-up level of the short form IPAQ. The working status of individuals is positively correlated with the baseline level of the IPAQ. With the baseline level of the long form IPAQ, the first and last follow-up levels of the IPAQ (long form) are positively correlated. The first follow-up level of IPAQ (long form) and the last follow-up level are also positively correlated with each other. The baseline level of the short form IPAQ and the first follow-up level are positively correlated with the baseline level of the long form IPAQ. The first and last follow-up level of the short form IPAQ is positively correlated with the first and last follow-up level of the long-form IPAQ.

# 4. DISCUSSION

This present thesis aimed to measure the effect of implementation intention on postmenopausal women's physical activity levels. Since the physical and psychological negative effects experienced by individuals during menopause are known (Freeman & Sherif, 2007; Shangold et al., 1998; Stojanovska et al., 2014), it was desired to increase the applicability and usefulness of the study. In addition, it tested whether the implementation intention manipulation is self-related or others-related creates a difference on physical activity level.

The first hypothesis of the study is that implementation intention increases the level of physical activity of postmenopausal women. The main hypothesis of the study could not be supported in line with the findings. Physical activity, which is the dependent variable of the study, was measured using the number of daily steps taken by individuals and the International Physical Activity Questionnaire (Craig et al., 2003), as in some studies (Arbour & Martin, 2009; Armitage & Arden, 2008a). By measuring in two different ways, it is aimed to minimize the disruption that may occur in any measurement method and to increase the reliability of the study. It was found that implementation intention manipulation did not make a difference on the International Physical Activity Questionnaire (long form) and step data (actual behavior) used to measure the dependent variable (physical activity) of the study.

The reason why implementation intention did not appear to have any effect on physical activity frequency may be since implementation intention manipulation did not work in this sample. Considering the negative physical and psychological symptoms experienced by the sample during this period (Freeman & Sherif, 2007; Shangold et al., 1998; Stojanovska et al., 2014) a result contrary to expectations may have emerged. According to some studies, physical activity and walking performance decrease as muscle strength decreases during and after menopause (Calmels et al., 1995; Sowers et al., 2007). In addition, a more sedentary lifestyle was observed in postmenopausal women in general (Duval et al., 2013). The reason for this is both aging and changes in hormones (Bondarev et al., 2018). Since women tend to live more sedentary during and after menopause due to the reasons mentioned above, it is thought that implementation intention in this sample does not yield any results.

The absence of a significant result was also attributed to the fact that the long form of the IPAQ measured the level of physical activity within various categories. Since these categories are work, transportation, housework and leisure, some participants, such as those who do not work at any job, could not enter any physical activity data. Individuals working in any job are thought to have more opportunities for physical activity, regardless of whether they are in the control or experimental group, since they are more out of their houses. In addition, for the transportation category, it is thought that individuals with a car will have less physical activity than those who do not. Individuals who do not have a car can find more opportunities to do physical activity. In the light of all this information, it is thought that the IPAQ, which measures the level of physical activity with multiple categories, includes categories that represent some people more while others are less representative. In addition, in the analysis part of the research, it was observed that some participants gave inconsistent answers to the IPAQ. While some participants marked that they worked in any job before the manipulation and answered the questions about work, they did not answer the questions about the job by marking that they did not work in a job in the questionnaires after the manipulation. There are also participants who do the opposite. Since it was known that the working status of the participants did not change during the study, some participants deliberately or unknowingly skipped some questions. For these reasons, implementation intention manipulation is thought to have no effect on the IPAQ.

The reason why implementation intention manipulation did not influence individuals' step data is thought to be the measurement method that used. The reason was attributed to the pedometer application (StepsApp) that the participants downloaded to their phones. Although it was ensured that the application was running on all participants' phones at first in terms of the validity of the measurement, feedback was received from the participants that the application did not measure the step data of some days. This feedback was received especially from participants with old android phones. Because of this, some participants did not enter their step data for certain days. However, in the analysis part, these participants' overall weekly step average was calculated with the number of days they entered data. It is thought that the effect of implementation intention manipulation did not occur because the pedometer application did not work correctly in some participants.

Looking at the literature, it can be said that implementation intention manipulation is effective on many health behaviors. These behaviors include many health-oriented behaviors such as, healthy eating (Verplanken & Faes, 1999); reducing substance abuse (Gollwitzer and Brandstätter, 1997); breast self-exams (Orbell et al., 1997). In addition, the effect of implementation intention on physical activity has been supported by many studies (Andersson & Moss, 2011; Arbour & Martin, 2009; Armitage & Arden, 2010; Armitage & Sprigg, 2010; Latimer et al., 2006; Luszczynska et al., 2007; Milne et al., 2002; Prestwich et al., 2003). In the study of Armitage and Arden (2010), it was aimed to increase the frequency of physical activity by using implementation intention manipulation in individuals with low socioeconomic status. As a method, it has some similarities with this thesis study. In the study of Armitage and Arden (2010), the IPAQ was used as a measurement tool to assess physical activity level. However, in the study, significant results were obtained by using only the questions of the IPAQ that measure the moderate level of physical activity. In the study of Arbour and Martin (2009), which measures physical activity over walking using a pedometer, it was observed that implementation intention increases walking behavior in women.

Since the main hypothesis of the thesis did not give a significant result, exploratory analyzes were made. The hypothesis that the implementation intention increases the frequency of physical activity was also tested with the exercise habit variable. Considered as an exploratory analysis, this result has emerged in those who already have exercise habits. This result was obtained when the short form of IPAQ (see in APPENDIX 11) was included in the analysis instead of the long form.

Since the short form also contains questions from the long form, the short form was easily included in the analysis. In contrast with the long form, the short form of the IPAQ measures the level of physical activity in general, regardless of any category. For this reason, it is thought that the physical activity level of the participants is measured more generally, and it is suitable for each participant. Since the short form contains more general questions (non-field specific) than the long form, this result may only have emerged in the short form of the IPAQ.

Motivation is an important variable in implementation intention. According to Armitage (2006), implementation intention is effective in transforming existing motivation into behavior. For this reason, the fact that the effect of implementation intention on physical activity only occurs in those who have exercise habits can be explained by the existing motivation of these participants. In addition, according to Gollwitzer (1993), it is important that goal intention comes before implementation intention. For this reason, individuals who have exercise habits already have a goal intention and even put it into action. Since it was not known whether the other participants had a goal intention about exercise, it was seen that the effect of implementation intention was revealed only in those who had exercise habits.

The fact that the main hypothesis of the study occurs only in individuals with exercise habits can be also explained by the Transtheoretical Model (Prochaska & DiClemente, 1983). According to the Transtheoretical Model (Prochaska & DiClemente, 1983), there are stages that individuals must go through in the realization of behavior change. These are the precontemplation, contemplation, preparation, action, and maintenance stages, respectively. Individuals in the precontemplation stage are those who have not yet taken a step towards health behavior and do not perceive their current behavior (for example, sedentary individuals) as a behavior that needs to be changed. Individuals in the contemplation stage are those who have begun to think about their existing behaviors or lifestyles. Those who are in the preparation stage can be said to be those who start making plans to change their existing behavior. In the action phase, individuals have started to practice the desired (health behaviors) behavior. In the last stage, the maintenance stage, individuals are expected to continue the health behavior or behaviors they have started to practice for at least 6 months. Considering the relationship of the implementation intention with the stages of the Transtheoretical Model, it can be said that it is frequently used and useful in the transition from the preparation stage to the action stage (Arden & Armitage, 2008; Armitage, 2006; de Vet et al., 2005). Participants in this study were not tested for exactly which stage of the Transtheoretical Model they were at. However, by asking the question "do you have any exercise habits?", it was tested whether they were in the first 3 stages or not. For this study, it can be said that implementation intention manipulation works in increasing the frequency of physical activity in individuals who are already have exercise habit, that is, at least in the 4th stage (action) of the Transtheoretical Model (TTM). No significant

results were found in individuals who do not have exercise habits, that is, who are in the 3rd stage (preparation) of TTM at most.

The study of Arbour and Martin (2009) only participated in those who aimed to increase the level of physical activity at least 3 times a week, and as a result of the study, implementation intention manipulation increased women's walking frequency. For the study of Arbour and Martin (2009), it can be said that the participants were at least at the level of preparation explained by TTM (Prochaska & DiClemente, 1983). In addition, according to the study of Hirai et al. (2013), implementation intention has an important role in the transition from the contemplation to the action stage. However, in this thesis, it has been seen that implementation intention is effective in those who are already at the action level. On the contrary, no effect was observed in those who were not at the action level.

The other hypothesis of the study is implementation intention created in the self-related type, is more effective than implementation intention created in the others-related type. Since there is no research in the literature that studies implementation intention in terms of the self-related vs. others-related, it is aimed to contribute to the literature in this sense. According to the results of the study, whether the implementation intention manipulation was related to self or others did not make a significant difference on physical activity. As it is known, in implementation intention manipulation, it is aimed to establish the connection of individuals' critical situations with appropriate behavioral responses. In this way, individuals can perform the solution behavior that they have previously connected in certain critical situations. In this study, solution behaviors are divided into two as self-related (then I will tell myself that if I try hard enough, I can keep being physically active) and others-related (then I will think about all the people encouraging me to be more physically active these days). It was deemed appropriate to divide the solutions in the Volitional Help Sheet on physical activity created by Armitage and Arden (2010) into two as related to self and related to others. According to the conclusion of this hypothesis, the effect of implementation intention on physical activity does not differ according to whether the manipulation is related to the self or others.

Another reason why the two groups do not differ from each other is that the solutions in the others-related group represent only one category of extrinsic motivation. According to Gollwitzer (1990), the magnitude of one's volitional strength towards a goal increases the effect of implementation intention. Since volitional strength is higher in intrinsic motivation (Brickell & Chatzisarantis, 2007), it was expected that the self-related group would have more physical activity levels in this study. It is thought that the reason why there is no significant difference between the two groups is that the extrinsic motivation of the others-related group is provided only through other people. However, according to Deci and Ryan (1985), there are different types of extrinsic motivation. These are external regulation, introjected regulation, identified regulation, and integrated regulation. External regulation is about the reward or punishment that individuals will earn (Deci & Ryan, 1985). The external regulation type of extrinsic motivation was used in this study since the satisfaction and acceptance of other people is a kind of reward.

The last hypothesis of the study is that the effect of implementation intention manipulation does not change over time. Therefore, two follow-up levels were applied at two-week intervals after manipulation to see the temporal effect of implementation intention. However, this hypothesis could not be tested because the main hypothesis of the study, that implementation intention increases physical activity, could not be verified. However, this hypothesis could be tested by exploratory analysis. The increase in physical activity frequency as a result of implementation intention in people who have exercise habit was observed only at the first follow-up level after manipulation. At the last follow-up level, the physical activity levels of the individuals became similar with the baseline level in the control and experiment groups. Therefore, this hypothesis of the study could not be supported by the exploratory analysis. The reason for this can be shown as the stages of the Transtheoretical Model (Prochaska & DiClemente, 1983). According to the Transtheoretical Model (TTM), participants could not move from the action phase to the maintenance phase. According to the TTM, relapse is an inevitable part of the stages of behavior change and can be observed in most health behaviors. According to the TTM, relapse is defined as further regression from the action or maintenance phases. Therefore, for this study, it can be said that the effect of implementation intention manipulation on physical activity yields results in the short term.

Another reason why the effect of implementation intention manipulation was short term could be the method of the manipulation. To reach more participants due to the sample of the study (postmenopausal women), implementation intention manipulation was delivered to the participants with a questionnaire created via the internet (Qualtrics) instead of the laboratory environment. It is assumed that performing manipulation in the internet environment reduces the effectiveness of manipulation, since the control of confounding variables is better in the laboratory environment.

When the other studies in the literature are examined, it is seen that the effect of implementation intention manipulation on physical activity is relatively longer. In the study of Armitage and Arden (2010), a follow-up was performed 1 month after the manipulation, and the result is that implementation intention increases physical activity. In addition, in the study of Arbour and Martin (2009), which lasted 11 weeks in total, the results are significant only for the first 6 weeks. Implementation Intention manipulation in the final weeks of the study did not have the desired effect on walking behavior. Latimer et al. (2006) and Milne et al. (2002) also showed results for the first 6 weeks of the effect of implementation intention manipulation on physical activity.

Apart from the analysis of the main hypotheses, the relations between demographic variables and IPAQ were examined as an exploratory analysis. According to the results of the analysis, physical activity level of the participants before manipulation is higher in working individuals. It is thought that this finding arises from the work category, which is one of the categories included in the IPAQ mentioned above. In this way, working individuals got more physical activity score by answering the physical activity questions included in the work category in the IPAQ. Regardless of the IPAQ, it can be said that individuals working in any job were more active than non-working individuals. Also, it was found that the first follow-up level of the short form IPAQ after manipulation and the BMI (body mass index) levels of the participants were negatively correlated with each other. BMI was calculated from the participants' weight and height, with higher levels of BMI representing obesity. Accordingly, it can be said that individuals who are further away from obesity have more physical activity data after manipulation. Another finding in the exploratory analyzes is that, as expected, individuals

with physical activity habits had a higher level of physical activity before manipulation (according to short-form IPAQ data).

### 4.1. Limitations and Suggestions for Future Studies

This thesis study has some limitations. The first of these limitations is the measurement methods of some variables. In this study, implementation intention manipulation was created and presented to the participants via website (Qualtrics) to reach more participants instead of the laboratory environment. As a result, some variables could not be controlled. It is expected to match the critical situations with the appropriate solutions on the Volitional Help Sheet. In addition, putting these pairings into sentences and writing them down also increases the effectiveness of the manipulation (Tekeş, 2018). Although it is required to write these matches on the questionnaire in the survey conducted on Qualtrics, some participants are likely to copy and paste. For this reason, it is a situation that reduces the strength of the manipulation. Another limited measurement method is the pedometer. As mentioned at the beginning of the discussion, step data was measured via the application (StepsApp) that the participants downloaded to their phones. Although it was initially ensured that the app worked on everyone's phone, the app did not measure the step data of some participants on some days. This feedback was received specifically from respondents with older Android phones. In future studies, a pedometer can be used for step data measurements due to the inadequacy of the pedometer applications that are frequently used on phones today. Many studies on step data (Arbour & Martin, 2009; Holm et al., 2023) have used a portable pedometer as a method for more valid data instead of telephone application. According to Coffman et al. (2016), the use of Yamax SW-200 (pedometer that tracks the steps) in measuring step data gives more valid and accurate results. Although free pedometer application is preferred in line with the budget in this study, the future studies can use a physical portable pedometer.

Another limitation of the study may be not asking the participants whether they use any hormonal drugs due to the menopause period. According to Hickey et al (2012), women can use hormone supplements to reduce the symptoms experienced during menopause. However, these

drugs may have some side effects. These side effects include heart disease, hypertension, and weight changes. This is a limitation of the study, as it is not known whether the participants used hormonal drugs during this period, and it was thought that this might be a confounding variable on physical activity.

Finally, another limitation of the study is the number of the participants. In this thesis, which was studied with a total of 75 participants, there are 3 conditions with 2 experimental and 1 control groups. There were 23 participants in the self-related group, 24 participants in the others-related group of the experimental groups, and 28 participants in the control group. According to Gollwitzer and Sheeran (2006), in order to obtain .80 power, Cronbach's alpha .05, and the effect size as .65, 30 participants necessary for each condition. In this thesis, 30 participants were not met for each condition. Because of the sample of the study (postmenopausal women), fewer participants were reached than desired. In addition, some participants did not complete the experiment due to the long duration of the study (5 weeks). Although it was predicted that some participants might drop out of the study and more participants were reached, the sample size of the conditions did not reach the number stated by Gollwitzer and Sheeran (2006). Therefore, the sample size of the study is among the limitations of the study.

Finally, another limitation of the study may be not asking the participants whether they use any hormonal drugs due to the menopause period. According to Hickey et al (2012), women can use hormone supplements to reduce the symptoms experienced during menopause. However, these drugs may have some side effects. These side effects include heart disease, hypertension, and weight changes. This is a limitation of the study, as it is not known whether the participants used hormonal drugs during this period and it was thought that this might be a confounding variable on physical activity.

Another suggestion for future studies is that the decisional balance and self-efficacy variables, which the Transtheoretical Model (Prochaska & DiClemente, 1983) say are important in the transition between stages, can be included in the studies that will study implementation intention and physical activity. In addition, future studies may test the effect of implementation

intention manipulation on physical activity by asking questions to find out which stage the participants are in at which TTM offers. In this way, findings can be obtained on the participants at which stage the effect of the implementation intention will be less or more. Finally, future studies may test whether individuals have a goal intention to the targeted behavior prior to implementation intention manipulation. According to Gollwitzer (1993), it is important that goal intention comes before implementation intention. It was also seen in this study that implementation intention only worked in individuals with exercise habits. For this reason, it has been seen that people's existing goal intentions make implementation intention manipulation work.

### 4.2. Conclusion

It can be said that many studies have proven the effect of implementation intention manipulation on physical activity (Andersson & Moss, 2011; Armitage & Sprigg, 2010; Latimer er al., 2006; Milne et al., 2002; Prestwich et al., 2003). To examine this information in the literature from a different perspective, with this thesis, it was aimed to look at the effect of motivation type (self vs. others) on increasing the frequency of physical activity of implementation intention manipulation. In addition, it is thought that taking postmenopausal women as a sample increases the applicability and functionality of the study. It is thought that women in this period, relevant state institutions and social organizations will benefit from this thesis. According to the results of the study, the effect of implementation intention manipulation on physical activity does not change depending on whether implementation intention is self-related or others-related. Similar with the literature, implementation intention increases the frequency of physical activity (Andersson & Moss, 2011; Arbour & Martin, 2009; Armitage & Arden, 2010; Armitage & Sprigg, 2010; Latimer et al., 2006; Luszczynska et al., 2007; Milne et al., 2002; Prestwich et al., 2003). However, this effect is seen in postmenopausal women who already exercise habits and is a short-term effect. According to this information, postmenopausal women who already have exercise habits can increase their exercise frequency for a short time if they identify and write down the critical situations or moods that will prevent them from exercising and how to act in the face of them.

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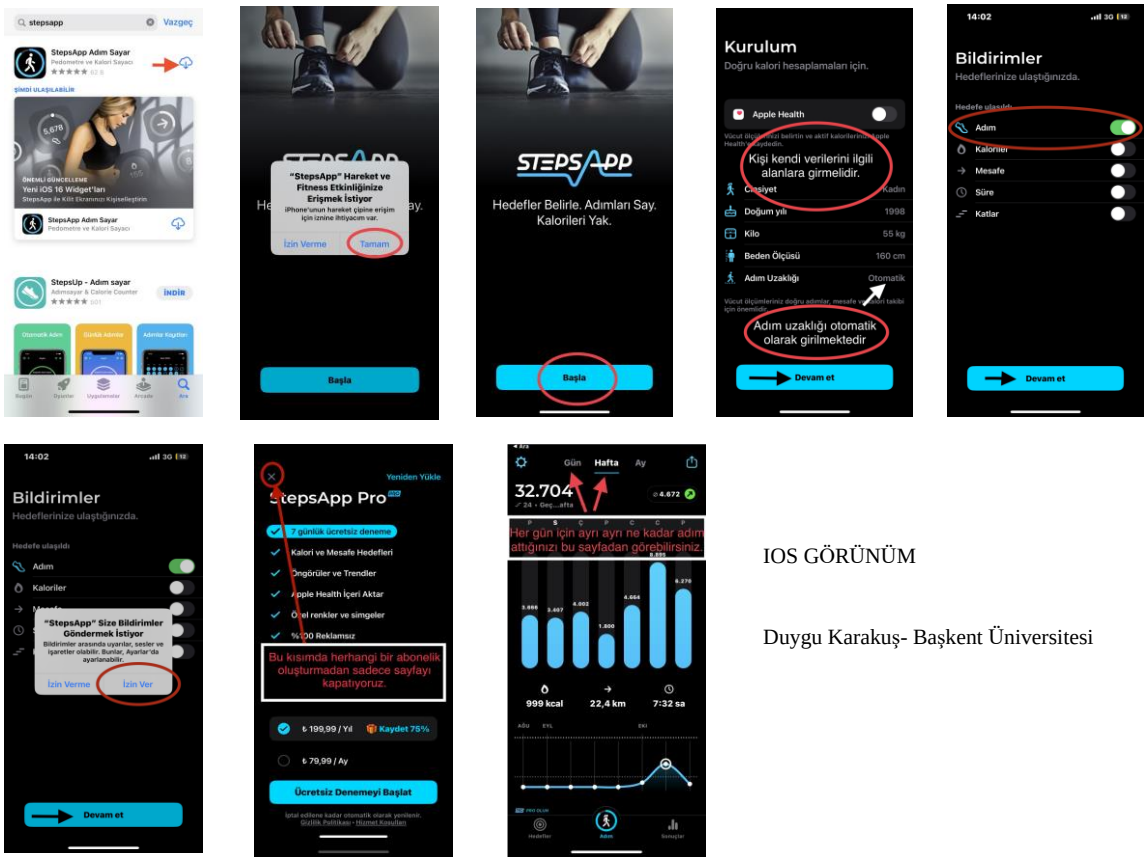
# APPENDICES

## APPENDIX 1: FLIER

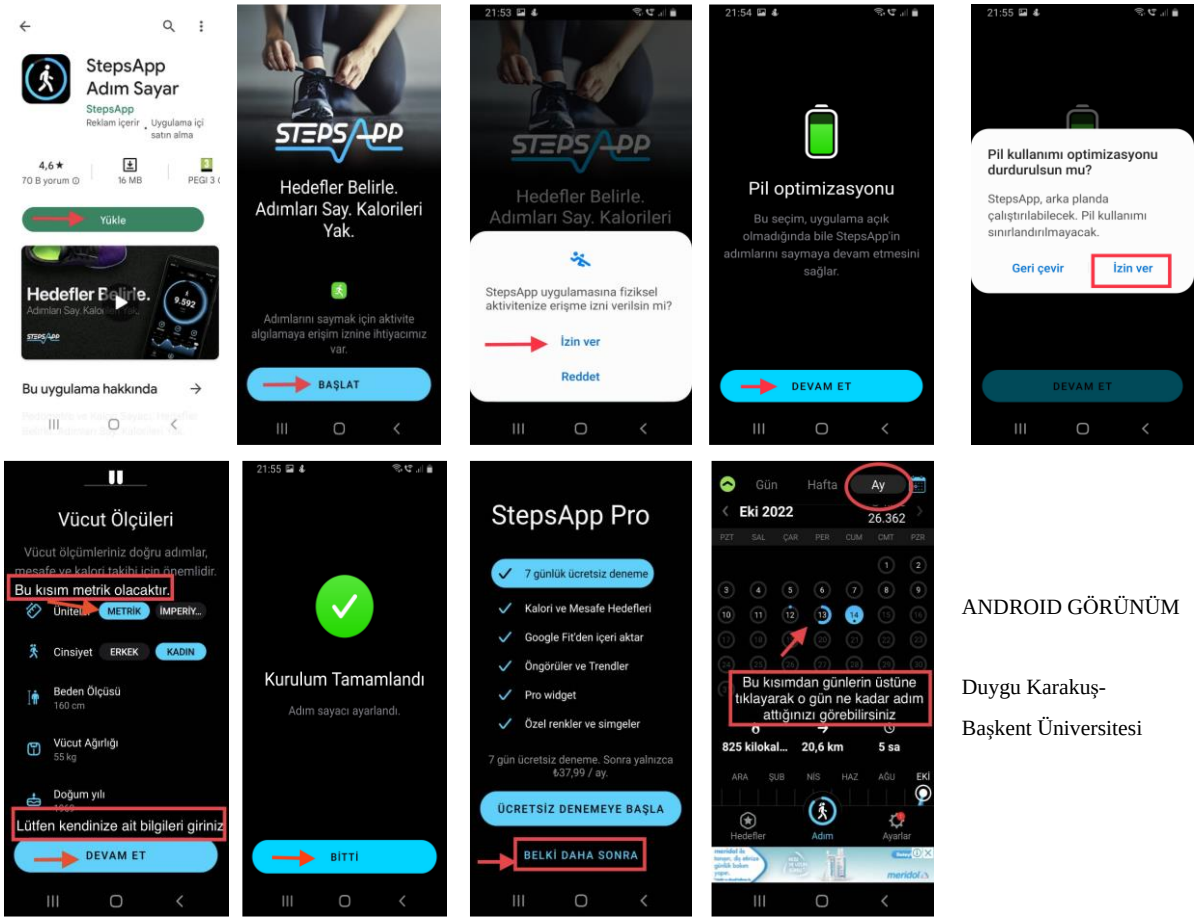
## APPENDIX 2: PEDOMETER APP (IOS)




IOS GÖRÜNÜM

Duygu Karakuş- Başkent Üniversitesi

## APPENDIX 3: PEDOMETER APP (ANDROID)




ANDROID GÖRÜNÜM

Duygu Karakuş-

Başkent Üniversitesi

## APPENDIX 4: INFORMED CONSENT FORM

### Bilgilendirilmiş Onam Formu

Bu araştırma Başkent Üniversitesi Psikoloji Bölümü kapsamında Doç. Dr. Burcu Tekeş Tolungüç danışmanlığında Sosyal Psikoloji Yüksek Lisans öğrencisi Duygu Karakuş tarafından yürütülmekte olan bir tez çalışmasıdır. Araştırma menopoz sürecinde ve sonrasında olan kadınların fiziksel aktivite sıklığını ölçmeyi hedeflemektedir. Bu çalışma 4 aşama içererek toplamda 5 hafta sürmektedir. İlk aşamada katılımcılardan kendilerine iletilen anketi yapmaları ve telefonlarına adımsayar uygulamasını indirmeleri beklenmektedir. Diğer aşamalarda katılımcılardan 3 kez belirli aralıklarla telefonlarına iletilen anket linkindeki sorulara cevap vermeleri beklenmektedir. Anketteki soruları cevaplamak ortalama 15 dakika sürmektedir. Elde edilecek sonuçların kullanılabilirliği açısından katılımcıların bu 4 aşamaya sırasıyla katılmaları gerekmektedir. Bu aşamalarda soruların herhangi bir doğru veya yanlış yanıtı bulunmamaktadır. Cevaplarınızı verirken olabildiğince açık olmanız çalışma için çok önemlidir. Sizden istenilecek ad-soyad ve telefon numarası bilgileri tamamen araştırmanın devamlılığı için olup sadece sizinle iletişim kurmak adına kullanılacaktır. Bu bilgiler sadece araştırmacı tarafından (Duygu Karakuş) saklanacak ve araştırma tamamlandıktan sonra silinecektir. Katılım tamamen gönüllülük esasına dayanmaktadır. Çalışma sırasında herhangi bir rahatsızlık hissederseniz veya çalışmaya devam etmek istemezseniz soruları yanıtlamayı bırakabilir ve çalışmayı sonlandırabilirsiniz. Bu durumda vermiş olduğunuz cevaplar değerlendirilmeyecektir. Araştırma hakkında daha fazla bilgi almak isterseniz duygu-karakus98@hotmail.com adresinden iletişime geçebilirsiniz.

-Araştırmaya katılmayı onaylıyorum. ☐

## APPENDIX 5: INTERNATIONAL PHYSICAL ACTIVITY QUESTIONNAIRE (LONG FORM)

Bu kısım son 1 hafta içerisindeki fiziksel aktivite düzeyinizi ve alanlarınızı öğrenmek üzerinedir. Bu alanlar, işte, evde, bir yerden bir yere giderken, boş zamanlarınızda yaptığınız spor, egzersiz veya eğlence aktiviteleri içermektedir. Son 7 gün içerisinde orta ve şiddetli düzeyde yaptığınız aktiviteleri düşünün. Şiddetli fiziksel aktiviteler zor fiziksel efor yapıldığını ve nefes almanın normalden çok daha zor olduğu aktiviteleri ifade eder. Orta dereceli aktivitelerde orta dereceli fiziksel efor yer alır ve nefes almada normalden biraz daha zor olduğu aktiviteleri ifade eder.

### BÖLÜM 1: İŞLE İLGİLİ FİZİKSEL AKTİVİTE

Bu bölüm evinizin dışında yaptığınız işler ile ilgilidir. Çalıştığınız ücretli işler, akademik işler, tarım, gönüllü işler ve evinizin dışında yaptığınız diğer tüm ücretsiz işleri kapsamaktadır. Fakat evinizde ve evinizin çevresinde yaptığınız ev, bahçe işleri; ailenizle ilgilenmek ve genel bakım gibi ücretsiz işler bu bölüme dahil değildir.

1. Şu an bir işiniz var mı ya da evinizin dışında ücret karşılığı olmayan herhangi bir iş yapıyor musunuz?

___ Evet
___ Hayır → (Bölüm 2: Ulaşım'a gidin.)

-Aşağıdaki sorular geçen 7 günde ücretli ya da ücretsiz işinizin parçası olarak yaptığınız tüm fiziksel aktivitelerle ilgilidir. İşe gidiş gelişiniz ise bu kapsamda yer almamaktadır.

2. Geçen 7 gün içerisinde işinizin bir parçası olarak ağır kaldırma, kazma, ağır inşaat veya merdiven çıkma gibi şiddetli fiziksel aktiviteler yaptığınız gün sayısı kaçtır?

___Haftada -----gün

___İşle ilgili şiddetli fiziksel aktivite yapmadım. → ( 4.soruya gidin.)

3. Bu günlerden birinde işinizin parçası olarak şiddetli fiziksel aktivite yaparak genellikle ne kadar zaman geçirdiniz?

Günde___saat

Günde___dakika

4. Yalnız bir seferde en az 10 dakika boyunca yaptığınız fiziksel aktiviteleri düşünün. Geçen 7 gün içerisinde hafif yük taşıma gibi orta derecede fiziksel aktiviteleri yaptığınız gün sayısı kaçtır? Lütfen yürümeyi hariç tutunuz.

___Haftada-----gün

___İşle ilgili orta derecede fiziksel aktivite yapmadım. → (6.soruya gidin.)

5. Bu günlerden birinde işinizin parçası olarak orta derecede fiziksel aktivite yaparak genellikle ne kadar zaman geçirdiniz?

Günde___ saat

Günde___dakika

6. Geçen 7 gün içerisinde işinizin parçası olarak bir seferde en az 10 dakika yürüdüğünüz gün sayısı kaçtır?

___Haftada----- gün

___İşle ilgili yürümedim. → (Bölüm 2: Ulaşım'a gidin.)

7. Bu günlerden birinde işinizin parçası olarak genellikle ne kadar yürüdünüz?

Günde___ saat

Günde___dakika

**BÖLÜM 2: ULAŞIM**

Bu bölümdeki sorular iş, mağaza, sinema gibi yerler dahil olmak üzere bir yerden bir yere nasıl yolculuk ettiğinizle ilgilidir.

8. Geçen 7 gün içerisinde tren, otobüs, araba gibi motorlu bir taşıtta yolculuk yaptığınız gün sayısı kaçtır?

___Haftada----gün

___Motorlu taşıtta yolculuk yapmadım. → (10.soruya gidin.)

9. Bu günlerden birinde tren, otobüs, araba veya diğer çeşit bir motorlu taşıtta yolculuk yaparak genellikle ne kadar zaman geçirdiniz?

Günde___ saat

Günde___dakika

10. Şimdi işe gidip gelirken, gündelik işlerinizi yaparken veya bir yerden bir yere gidip gelirken sadece bisiklete bindiğiniz ve yürüdüğünüz zamanları düşünün. Geçen 7 gün içerisinde, bir yerden bir yere gitmek için bir seferde en az 10 dakika bisiklete bindiğiniz gün sayısı kaçtır?

___Haftada -----gün

___Bir yerden bir yere bisikletle gitmedim. → (12.soruya gidin.)

11. Bu günlerden birinde bir yerden bir yere bisikletle giderken genellikle ne kadar zaman geçirdiniz?

Günde___ saat

Günde___dakika

12. Geçen 7 gün içerisinde,bir yerden bir yere gitmek için bir seferde en az 10 dakika yürüdüğünüz gün sayısı kaçtır?

___Haftada----gün

___Bir yerden bir yere giderken yürümedim. → (Bölüm 3:Ev işleri,Evin Bakımı ve Ailenin Bakımı'na gidin.)

13. Bu günlerden birinde bir yerden bir yere yürüyerek giderken genellikle ne kadar zaman geçirdiniz?

Günde___ saat

Günde___dakika

**BÖLÜM 3: EV İŞLERİ, EVİN BAKIMI VE AİLENİN BAKIMI**

Bu bölüm geçen 7 gün içerisinde ev işi, bahçe işleri, genel bakım, onarım işleri ve ailenin bakımı gibi evin içerisinde ve çevresinde yapmış olabileceğiniz fiziksel aktivitelerle ilgilidir.

14. Yalnız bir seferde en az 10 dakika boyunca yaptığınız fiziksel aktiviteleri düşünün. Geçen 7 gün içerisinde, ağır kaldırma, odun kesme, kar küreme veya bahçede çukur kazma gibi şiddetli fiziksel aktivite yaptığınız gün sayısı kaçtır?

___Haftada----gün
___Bahçede şiddetli aktivite yapmadım. → (16.soruya gidin)

15. Bu günlerden birinde bahçede şiddetli fiziksel aktivite yaparak genellikle ne kadar zaman geçirdiniz?

Günde___ saat

Günde___dakika

16. Yalnız bir seferde en az 10 dakika boyunca yaptığınız fiziksel aktiviteleri tekrar düşünün. Geçen 7 gün içerisinde, hafif yük taşıma, süpürme, pencereleri silme veya bahçeyi tırmıklamak gibi bahçede orta derecede fiziksel aktivite yaptığınız gün sayısı kaçtır?

___Haftada-----gün
___Bahçede orta dereceli fiziksel aktivite yapmadım. → (18.soruya gidin.)

17.Bu günlerden birinde bahçede orta dereceli fiziksel aktivite yaparak genellikle ne kadar zaman geçirdiniz?

Günde___ saat

Günde___dakika

18. Yalnız bir seferde en az 10 dakika boyunca yaptığınız fiziksel aktiviteleri bir kez daha düşünün. Geçen 7 gün içerisinde, hafif yük taşıma, pencereleri silme, yerleri sürtme veya süpürme gibi evin içinde orta dereceli fiziksel aktiviteleri yaptığınız gün sayısı kaçtır?

___Haftada----gün
___Evde orta dereceli fiziksel aktivite yapmadım. → (Bölüm 4: Dinlenme,Spor ve Boş Zaman Fiziksel Aktiviteleri'ne gidin)

19. Bu günlerden birinde evde orta dereceli fiziksel aktivite yaparak genellikle ne kadar zaman geçirdiniz?

Günde___ saat

Günde___dakika

**BÖLÜM 4: DİNLENME, SPOR VE BOŞ ZAMAN FİZİKSEL AKTİVİTELERİ**

Bu bölümdeki sorular sadece geçen 7 gün içerisinde yaptığınız dinlenme, spor ve boş zaman fiziksel aktiviteleri ile ilgilidir. Lütfen daha önce bahsettiğiniz aktiviteleri hariç tutunuz.

20. Daha önce bahsetmiş olduğunuz yürüyüşleri dahil etmeden, geçen 7 gün içerisinde, boş zamanınızda bir seferde en az 10 dakika yürüdüğünüz gün sayısı kaçtır?

___Haftada----gün
___Boş zamanımda yürümedim. → (22.soruya gidin.)

21. Bu günlerden birinde boş zamanınızda yürüyerek genellikle ne kadar zaman geçirdiniz?

Günde___ saat

Günde___dakika

22. Yalnız bir seferde en az 10 dakika boyunca yaptığınız fiziksel aktiviteleri düşünün. Geçen 7 gün içerisinde, boş zamanlarınızda basketbol, futbol, aerobik, koşu, hızlı bisiklet çevirme veya hızlı yüzme gibi şiddetli fiziksel aktiviteleri yaptığınız gün sayısı kaçtır?

___Haftada----gün
___Boş zamanımda şiddetli aktivite yapmadım. → (24.soruya gidin.)

23. Bu günlerden birinde boş zamanınızda şiddetli fiziksel aktivite yaparak genellikle ne kadar zaman geçirdiniz?

Günde___ saat

Günde___dakika

24. Yalnız bir seferde en az 10 dakika boyunca yaptığınız fiziksel aktiviteleri düşünün. Geçen 7 gün içerisinde, boş zamanlarınızda dans, halk oyunları, masa tenisi, bowling, düzenli tempoda bisiklet çevirme ve düzenli tempoda yüzme gibi orta dereceli fiziksel aktiviteleri yaptığınız gün sayısı kaçtır?

___Haftada----gün
___Boş zamanımda orta dereceli fiziksel aktivite yapmadım. → (Bölüm 5: Oturarak Geçen Zaman'a gidin)

25. Bu günlerden birinde boş zamanınızda orta dereceli fiziksel aktivite yaparak genellikle ne kadar zaman geçirdiniz?

Günde___ saat

Günde___dakika

**BÖLÜM 5: OTURARAK GEÇEN ZAMAN**

Bu bölüm işte, evde, ders çalışırken ve boş zamanlarınızda oturarak geçirdiğiniz zamanla ilgilidir. Bu masada oturarak, bir arkadaşı ziyaret ederken, okurken veya televizyon seyrederek otururken veya yatarken ki oturularak geçirilen zamanları kapsar. Ancak daha önce bahsetmiş olduğunuz bir motorlu taşıt içerisinde oturulan zamanlar buna dahil değildir.

26.Geçen 7 gün içerisinde, hafta içinde oturarak ne kadar zaman harcadınız?

Günde___ saat

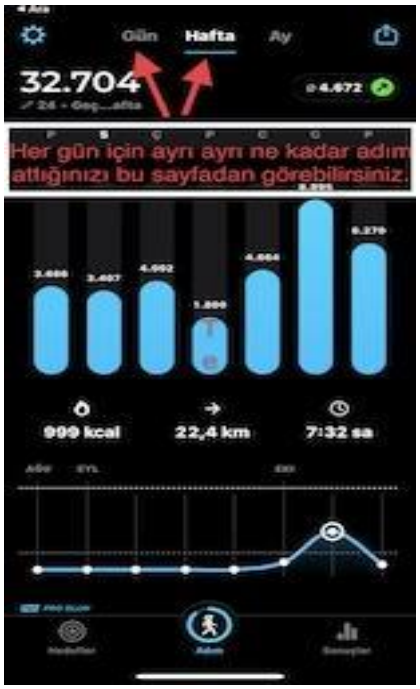
Günde___dakika

27. Geçen 7 gün içerisinde, hafta sonunda oturarak ne kadar zaman harcadınız?

Günde___ saat  Günde___dakika

**APPENDIX 6: PEDOMETER QUESTIONS**

Android Görünüm IOS (Iphone Görünüm)


Lütfen son 7 güne ait adım sayılarınızı doğru bir şekilde giriniz. (Belli bir güne ait adım verileriniz yoksa lütfen "0" yazınız)

-1. Gün ☐

-2. Gün ☐

-3. Gün ☐

-4. Gün ☐

-5. Gün ☐

-6. Gün ☐

-7. Gün ☐

## APPENDIX 7: VOLITIONAL HELP SHEET (SELF-RELATED)

Bu anketin son aşamasına gelmiş bulunmaktasınız. Lütfen aşağıda verilen soldaki listeden 4 adet "durum" seçiniz. Daha sonra, sağda yer alan “stratejiler” listesinden kendinizi bu durumlarda bulduğunuzda, bununla başa çıkabilmek için ne yapacağınızı seçiniz. Bu seçtiğiniz durumlar ve stratejiler arasında bir bağlantı olması önemlidir. Seçtiğiniz her bir durumu (solda) ve stratejiyi (sağda) cümle haline getirerek lütfen aşağıda verilen kutulara cümleleri olduğu gibi değiştirmeden yazınız. Seçtiğiniz durumla başa çıkmak için aynı stratejiyi ya da farklı stratejileri seçebilirsiniz.

| **Durumlar** | **Stratejiler** |
|---|---|
| Çok fazla stres altındayken egzersiz yapmamak cazip gelirse… | …o zaman fiziksel aktiviteyi nasıl hayatımın düzenli bir parçası yapacağıma dair gazetelerde ve reklamlarda yer alan bilgileri düşüneceğim. |
| Dışarısı soğuk olduğu için egzersiz yapmamak cazip gelirse… | …o zaman hareketsizliğin sağlığa zararları hakkındaki uyarıların beni duygusal olarak nasıl etkilediğini hatırlayacağım. |
| Endişeli olduğumda egzersiz yapmamak cazip gelirse… | …o zaman kendime fiziksel olarak daha aktif olmanın beni daha sağlıklı, daha mutlu bir insan yapacağını söyleyeceğim. |
| Zamanım olmadığını düşündüğüm için egzersiz yapmamak cazip gelirse… | …o zaman kendime fiziksel olarak daha aktif olsaydım kendime daha çok güveneceğimi söyleyeceğim. |
| Hoşuma gitmeyeceği için egzersiz yapmamak cazip gelirse… | …o zaman endişelerimi gidermek için fiziksel aktiviteyi kullanacağım. |
| Meşgul olduğum için egzersiz yapmamak cazip gelirse… | …o zaman yine de kendimi biraz fiziksel aktivite yapmaya zorlayacağım çünkü biliyorum ki daha sonra daha iyi hissedeceğim. |
| Tek başıma olduğum için egzersiz yapmamak cazip gelirse… | …o zaman çok fazla şey bekleyip başarısızlığa uğramak yerine kendime gerçekçi hedefler koymaya çalışacağım. |
| Yağmur veya kar yağdığı için egzersiz yapmamak cazip gelirse… | …o zaman kendime vücuduma bu şekilde bakarak kendime iyi davrandığımı söyleyeceğim. |
| Egzersiz ekipmanına erişimim olmadığı için egzersiz yapmamak cazip gelirse… | …o zaman kendime sağlığımdan ve iyiliğimden sorumlu olan tek kişinin ben olduğumu ve fiziksel olarak aktif olup olmadığıma sadece |

| | |
|---|---|
| | benim karar verebileceğimi söyleyeceğim. |
| Egzersiz yapmayan arkadaşlarımla veya aile bireyleriyle vakit geçirdiğim için egzersiz yapmamak cazip gelirse… | …o zaman kendime yeterince denersem fiziksel olarak aktif olmaya devam edebileceğimi söyleyeceğim. |
| Spor salonum kapalı olduğu için egzersiz yapmamak cazip gelirse… | …o zaman fiziksel olarak aktif olmayı hatırlatmak için evimin etrafına bir şeyler koyacağım. |
| Arkadaşlarım egzersiz yapmamı istemediği için egzersiz yapmamak cazip gelirse… | …o zaman iş yerimde bana fiziksel olarak aktif olmayı hatırlatan şeyleri yakınımda bulunduracağım. |

Lütfen üzerine iyice düşünerek size en uygun gelen 2 ifadeyi bir araya getirip oluşturduğunuz 4 cümleyi yazınız.

-1. Cümle

-2. Cümle

-3. Cümle

-4. Cümle

## APPENDIX 8: VOLITIONAL HELP SHEET (OTHERS-RELATED)

Bu anketin son aşamasına gelmiş bulunmaktasınız. Lütfen aşağıda verilen soldaki listeden 4 adet "durum" seçiniz. Daha sonra, sağda yer alan "stratejiler" listesinden kendinizi bu durumlarda bulduğunuzda, bununla başa çıkabilmek için ne yapacağınızı seçiniz. Bu seçtiğiniz durumlar ve stratejiler arasında bir bağlantı olması önemlidir. Seçtiğiniz her bir durumu (solda) ve stratejiyi (sağda) cümle haline getirerek lütfen aşağıda verilen kutulara cümleleri olduğu gibi değiştirmeden yazınız. Seçtiğiniz durumla başa çıkmak için aynı stratejiyi ya da farklı stratejileri seçebilirsiniz.

| Durumlar | Stratejiler |
|---|---|
| Çok fazla stres altındayken egzersiz yapmamak cazip gelirse… | …o zaman fiziksel olarak daha aktif olsaydım başkaları için nasıl daha iyi bir rol model olurdum diye düşüneceğim. |
| Meşgul olduğum için egzersiz yapmamak cazip gelirse… | …o zaman hareketsizliğimin bana yakın olan insanları nasıl etkilediğini düşüneceğim. |
| Tek başıma olduğum için egzersiz yapmamak cazip gelirse… | …o zaman bugünlerde beni fiziksel olarak daha aktif olmaya teşvik eden tüm insanları düşüneceğim. |
| Arkadaşlarım egzersiz yapmamı istemediği için egzersiz yapmamak cazip gelirse… | …o zaman kendime toplumun fiziksel olarak daha aktif olmak isteyen insanların hayatlarını kolaylaştıracak şekilde değiştiğini söyleyeceğim. |
| Egzersiz yapmayan arkadaşlarımla veya aile bireyleriyle vakit geçirdiğim için egzersiz yapmamak cazip gelirse… | …o zaman fiziksel olarak aktif kalmakta sorun yaşadığımda güvenebileceğim birini ararım. |
| Dışarısı soğuk olduğu için egzersiz yapmamak cazip gelirse… | …o zaman, fiziksel olarak aktif olma motivasyonum olmadığında beni buna teşvik edecek birini arayacağım. |

Lütfen üzerine iyice düşünerek size en uygun gelen 2 ifadeyi bir araya getirip oluşturduğunuz 4 cümleyi yazınız.

-1. Cümle

| |
|---|
| |

-2. Cümle

| |
|---|
| |

-3. Cümle

-4. Cümle

## APPENDIX 9: VOLITIONAL HELP SHEET (CONTROL CONDITION)

Bu anketin son aşamasına gelmiş bulunmaktasınız. Lütfen aşağıda verilen soldaki listeden 4 adet "durum" seçiniz. Daha sonra, sağda yer alan "stratejiler" listesinden kendinizi bu durumlarda bulduğunuzda, bununla başa çıkabilmek için ne yapacağınızı seçiniz. Bu seçtiğiniz durumlar ve stratejiler arasında bir bağlantı olması önemlidir. Seçtiğiniz her bir durumu (solda) ve stratejiyi (sağda) cümle haline getirerek lütfen aşağıda verilen kutulara cümleleri olduğu gibi değiştirmeden yazınız. Seçtiğiniz durumla başa çıkmak için aynı stratejiyi ya da farklı stratejileri seçebilirsiniz.

| Durumlar | Stratejiler |
|---|---|
| Arabam bozulursa, | …o zaman markete gideceğim. |
| İş yerinde olumsuzluklarla karşılaşırsam, | …o zaman en yakın arkadaşımı arayıp bir şeyler yapmayı teklif edeceğim. |
| Bu kadar çok kahve içersem, | …o zaman iyi bir tatile çıkabilirim. |
| Haftasonu yağmur yağarsa, | …o zaman işlerimi erkenden bitirip hazırlanmaya başlayacağım. |
| Biraz para biriktirebilirsem, | …o zaman uyumakta zorlanırım. |
| Yoğun bir gün geçirirsem, | . …o zaman para biriktirmeye başlayacağım. |
| Evde tek başıma kaldıysam, | …o zaman uzun zamandır ertelediğim işlerimi halledeceğim. |
| Romantik partnerim veya arkadaşım akşam için bir şeyler yapmayı teklif ederse, | …o zaman yanıma şemsiye alırım. |
| Yeni bir ayakkabı almaya ihtiyaç duyarsam, | …o zaman taksi tutmam gerekir. |
| Kendimi üzgün hissedersem, | …o zaman kendime bu tarz durumların üstesinden gelebileceğimi söyleyeceğim. |
| Saçlarımı kuaförde yeni yaptırdıysam, | …o zaman bunu fırsat bilip kendime bakım yapacağım |
| Buzdolabında yemek yapmak için malzeme kalmadıysa, | …o zaman zamanımı daha iyi nasıl yönetebileceğime dair planlamalar yapacağım. |

Lütfen üzerine iyice düşünerek size en uygun gelen 2 ifadeyi bir araya getirip oluşturduğunuz 4 cümleyi yazınız.

-1. Cümle

-2. Cümle

-3. Cümle

-4. Cümle

**APPENDIX 10: DEMOGRAPHIC INFORMATION FORM**

## KİŞİSEL BİLGİ FORMU

**-Adınız ve soyadınız**

**-Telefon numaranız (WhatsApp üzerinden iletişime geçmek içindir)**

**-E-posta adresiniz (Yoksa boş bırakabilirsiniz)**

**-Lütfen rumuz giriniz. (soyismin ilk iki harfi+doğduğunuz gün+doğduğunuz ay) (Örn: 07/09/1998 tarihinde doğmuş Karakuş soyadlı biri için "Ka0709" şeklinde olacaktır)**

**-Menopoz dönemine girdiniz mi?**

Evet ☐

Hayır ☐

**-Yaşınız**

**-Boyunuz**

**-Kilonuz**

**-Eğitim Durumunuz**

☐ Okur-Yazar

☐ İlkokul

☐ Ortaokul

☐ Lise

☐ Üniversite

☐ Yüksek lisans/Doktora

**-Şu anki iş durumunuz nedir?**

☐ Çalışmıyor.

☐ Emekli.

☐ Yarı zamanlı çalışıyor.

☐ Tam zamanlı çalışıyor.

**-Eve giren toplam aylık geliriniz:**

☐

**-Düzenli egzersiz alışkanlığınız var mıdır?**

☐ Evet.

☐ Hayır.

**-Daha çok ne tür fiziksel aktiviteler yaparsınız? (Birden fazla seçenek işaretleyebilirsiniz)**

☐ Aerobik, basketbol, futbol, veya hızlı bisiklet çevirme

☐ Normal hızda bisiklet çevirme, halk oyunları, dans, bowling veya tenis

☐ İşyerinde, evde, bir yerden bir yere ulaşım amacıyla veya sadece dinlenme, spor, egzersiz veya hobi amacıyla yapılan yürüyüş

☐ Diğer

**-Yaptığınız fiziksel aktivitenin veya aktivitelerin sıklığı nedir?**

Haftada___ gün

Günde___dakika

## APPENDIX 11: INTERNATIONAL PHYSICAL ACTIVITY QUESTIONNAIRE (SHORT FORM)

1. Geçen 7 gün içerisinde kaç gün ağır kaldırma, kazma, aerobik, basketbol, futbol veya hızlı bisiklet çevirme gibi şiddetli fiziksel aktivitelerden yaptınız?

Haftada___gün
Şiddetli fiziksel aktivite yapmadım. → (3.soruya gidin.)

2. Bu günlerin birinde şiddetli fiziksel aktivite yaparak genellikle ne kadar zaman harcadınız?

Günde ___ saat Günde ___ dakika

Bilmiyorum/Emin değilim

-Geçen 7 günde yaptığınız orta dereceli fiziksel aktiviteleri düşünün. Orta dereceli aktivite orta derece fiziksel güç gerektiren ve normalden biraz sık nefes almaya neden olan aktivitelerdir. Yalnız bir seferde en az 10 dakika boyunca yaptığınız fiziksel aktiviteleri düşünün.

3.Geçen 7 gün içerisinde kaç gün hafif yük taşıma, normal hızda bisiklet çevirme, halk oyunları, dans, bowling veya çiftler tenis oyunu gibi orta dereceli fiziksel aktivitelerden yaptınız? Yürüme hariç.

Haftada___gün
Orta dereceli fiziksel aktivite yapmadım. → (5.soruya gidin.)

4. Bu günlerin birinde orta dereceli fiziksel aktivite yaparak genellikle ne kadar zaman harcadınız?

Günde ___ saat Günde ___ dakika

Bilmiyorum/Emin değilim

Geçen 7 günde yürüyerek geçirdiğiniz zamanı düşünün. Bu işyerinde, evde, bir yerden bir yere ulaşım amacıyla veya sadece dinlenme, spor, egzersiz veya hobi amacıyla yaptığınız yürüyüş olabilir.

5. Geçen 7 gün,bir seferde en az 10 dakika yürüdüğünüz gün sayısı kaçtır?

Haftada___gün

Yürümedim. → (7.soruya gidin.)

6. Bu günlerden birinde yürüyerek genellikle ne kadar zaman geçirdiniz?

Günde ___ saat Günde ___ dakika

Bilmiyorum/Emin değilim

Son soru, geçen 7 günde hafta içinde oturarak geçirdiğiniz zamanlarla ilgilidir. İşte, evde, çalışırken ya da dinlenirken geçirdiğiniz zamanlar dahildir. Bu masanızda, arkadaşınızı ziyaret ederken, okurken, otururken veya yatarak televizyon seyrettiğinizde oturarak geçirdiğiniz zamanları kapsamaktadır.

7. Geçen 7 gün içerisinde,günde oturarak ne kadar zaman harcadınız?

Günde ___ saat Günde ___ dakika

Bilmiyorum/Emin değilim

# APPENDIX 12: ETHICS COMMITTEE APPROVAL

Evrak Tarih ve Sayısı: 25.11.2021-81048

1993
**BAŞKENT ÜNİVERSİTESİ**
**Akademik Değerlendirme Koordinatörlüğü**

25.11.2021

Sayı : E-62310886-605.99-81048
Konu : Dr. Öğr. Üyesi Burcu Tekeş Tolungüç'ün
Etik Onay Başvurusu Hk.

FEN-EDEBİYAT FAKÜLTESİ DEKANLIĞINA

İlgi : 15.11.2021 tarih ve 77081 sayılı yazınız.

Fakülteniz Psikoloji Bölümü Dr. Öğretim Üyesi Burcu Tekeş Tolungüç'ün "Post Menopoz Dönemdeki Kadınların Egzersiz Sıklığı Üzerinde Niyet Aşılamanın Etkisi" başlıklı çalışması, değerlendirilmiş ve bilgilerinize ekte sunulmuştur.

Prof. Dr. M. Abdülkadir VAROĞLU
Kurul Başkanı

Ek: Değerlendirme Formu



Başkent Üniversitesi Bağlıca Kampüsü Fatih Sultan Mahallesi Eskişehir Yolu 18. Km 06790
Etimesgut/ANKARA
Telefon No:0 312 246 67 40 Faks No:0 312 246 66 05
e-Posta:adk@baskent.edu.tr İnternet Adresi:www.baskent.edu.tr
Kep Adresi:baskentuniversitesi@hs02.kep.tr

Bilgi için: Gamze SONBAY
Koordinatör
Telefon No: 246 66 66 / 2078

Bu belge, güvenli elektronik imza ile imzalanmıştır.

Sayı : 17162298.600-202
Konu : Bilimsel Çalışma

19 KASIM 2021

İlgili Makama

Üniversitemiz Fen-Edebiyat Fakültesi Psikoloji Bölümü Dr. Öğretim Üyesi Burcu Tekeş Tolungüç'ün "Post Menopoz Dönemdeki Kadınların Egzersiz Sıklığı Üzerinde Niyet Aşılamanın Etkisi" başlıklı çalışması değerlendirilmiş ve yapılmasında bir sakınca olmadığı tespit edilmiştir.
Bilgilerinize saygılarımızla sunarız.

Başkent Üniversitesi Sosyal ve Beşeri Bilimler ve Sanat Araştırma Kurulu

| Ad, Soyad | Değerlendirme | İmza |
|---|---|---|
| Prof. Dr. M. Abdülkadir Varoğlu | Olumlu/~~Olumsuz~~ | |
| Prof. Dr. Kudret Güven | Olumlu/Olumsuz | |
| Prof. Ali Sevgi | Olumlu/Olumsuz | |
| Prof. Dr. Işıl Bulut | Olumlu/Olumsuz | |
| Prof. Dr. Sadegül Akbaba Altun | Olumlu/~~Olumsuz~~ | |
| Prof. Dr. Can Mehmet Hersek | Olumlu/~~Olumsuz~~ | |
| Prof. Dr. Özcan Yağcı | Olumlu/~~Olumsuz~~ | |