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Contact:

International Institute of Education and Behavioral Science
Sakızlıçeşme Street. 17/1
Çanakkale / Turkey
editor@ijhb.org

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Attachment Theory Self-Compassion and Body Image

Afife Kübra Aktaran, *Via Pscyhology Services, Turkey*
ORCID: https://orcid.org/0000-0002-4695-6222

A. Meltem Üstündağ-Budak, *Bahçeşehir University, Turkey*
ORCID: https://orcid.org/0000-0002-4159-8980

Abstract

Body image reflects one's mental image of one's physical body and one's attitude towards the physical self. Recent developments in emotion regulation research underline the importance of self-compassion in accepting one's self and others. Similarly attachment experiences influences how the view of self and others developed and transferred from childhood to adulthood. According to the current research adverse attachment experiences are linked to low self-compassion. The individual differences in the development of self-compassion require further examination. Thus this paper review the literature to establish the possible link between these constructs and guide researchers for further research and inform clinicians about self-compassion and attachment styles relationship with body image.

Keywords: Attachment Theory, Self-Compassion, Body Image

1. Introduction

In the recent decade obsession with physical appearance is very apparent for both women and men. The trend for having an 'ideal body' for admiration and social approval causing concern to many. The efforts to achieve 'ideal body,' the negative thoughts over the actual body and dissatisfaction with physical appearance may lead people to experience anxiety. Appearance anxiety is a growing problem for adults, adolescents, and even children. In recent studies, authors have argued that negative body image can be experienced not only in middle age but also in early and old age (Clarke & Korotchenko, 2011; Neves, Cipriani, Meireles, Morgado, & Ferreira, 2017). Levine and Smolak (2002) revealed that 40% to 70% of adolescent girls were not happy with at least two parts of their body, 50% to 80% of teenage girls demanded to be thinner than they actually were. A prospective study of Bearman, Presnell, Martinez, and Stice (2006), has shown the increase in age was correlated to the increase in body image dissatisfaction in girl adolescents. The findings of this study indicated that adolescent girls' dissatisfaction with their bodies had risen significantly after 1 and 2 years follow-up. These results reveal the threat of body image dissatisfaction that should not be underestimated.

Body image is correlated to the way we experience our very own body and how we take care of it. It can be thought of like the mental image that we all maintain, and it is related to the thoughts and feelings about how we seem to others. It also indicates how we experience ourselves in society and how we compare ourselves to others. People who have a negative perception of their body

experience embarrassment and anxiety about their physical appearance (e.g., Mili & Raakhee, 2015). Negative and distorted body image can affect not only our feelings about our bodies but also our psychological situation. A great body of literature has expressed many important results that body image dissatisfaction is related to depressive symptoms and mood (e.g., El Ansari, Dibba, & Stock, 2014), higher perceived stress (El Ansari, Dibba, & Stock, 2014; Duchesne, Dion, Lalande, Begin, Emond, Lalande & McDuff, 2017), social physique anxiety (Clode, Lewis, & Fuller-Tyszkiewicz, 2016), low self-esteem (Oktan & Şahin, 2010), sexual self-concept (Potki, Ziaei, Faramarzi, Moosazadeh, & Shahhosseini, 2017), psychological well-being (Dubey & Sharma, 2016), quality of life (Morais, Nascimento, Carmen, Vieira, Moreira, Camana, Maciel, & Almeida, 2017) and so on. Moreover, it is proposed that body dissatisfaction can be observed in cases of severe depression, eating disorders, and body dysmorphic disorder (DSM-5, 2013).

Body dissatisfaction as one of the most important predictors of the eating disorder and body dysmorphic disorder (e.g. Thompson, Coovert, Richards, Johnson, & Cattarin, 1995; Arji, Borjali, Sohrabi, & Farrokhi, 2016) has captured greatest attention. Authors suggested that different factors led to body dissatisfaction, which were individual psychological factors, such as self-compassion, attachment, self-esteem, and depressed affect (e.g., Kelly & Stephen, 2016; Cash, 2004; Bearman et al., 2006), biological factors including body mass index (e.g., Zawawi, 2014), and sociocultural factors as family, peer and friend messages (e.g., Cafri, Yamamiya, Brannick, & Thompson, 2005). All of these factors cause an increase in body image dissatisfaction. Nevertheless, attachment theory made a valuable contribution to understanding the mechanism of body dissatisfaction (Suldo & Sandberg, 2000; Cash, 2004; Pietromonaco, Greenwood, & Barrett, 2004). The efforts have represented that insecure attachment was concerning body image dissatisfaction (Troisi, Lorenzo, Alcini, & Siracusano, 2006), especially anxious attachment (Cash, 2004; Pietromonaco, Greenwood, & Barrett, 2004).

Increasing attention on body dissatisfaction directed efforts to search for correlational studies to find out which psychological factors were linked to body dissatisfaction. Low self-esteem was one of the most emphasized factors concerning body dissatisfaction (Oktan & Şahin, 2010). In recent years, self-compassion (a concept that comprises self-kindness, common humanity, and mindfulness) has also highly been stressed in body image studies due to its close relation to psychological health (Neff, 2003b). The literature has suggested a common result that self-compassion is related to higher levels of body appreciation and lower levels of body dissatisfaction (e.g. Wasylkiw, MacKinnon, & MacLellan, 2012; Bogdan, Piontkowski, Hui, Ziemer, & Garriot, 2016; Kelly & Stephen, 2016). Well documented findings proposed the link between self-compassion and body perception by implementing self-compassion training (Toole & Craighead, 2016; Seekis, Bradley, & Duffy, 2017) or assessing trait self-compassion (e.g. Kelly & Stephen, 2016; Rodgers, Franko, Donovan, Cousineau, Yates, McGowan, Cook, & Lowy, 2017). In their follow-up study, Seekis, Bradley, and Duffy (2017) put forward that the link between self-compassion and body appreciation was stronger than self-esteem, moreover, self-compassion could help alleviate body-related dissatisfaction. With this new perspective, the predictor (Wasylkiw, MacKinnon & MacLellan, 2012; Rodgers et al., 2017) role of self-compassion on body concerns has been underlined.

According to Pepping, Davis, O'Donovan, and Pal (2015), both attachment anxiety and avoidance are linked to low self-compassion but stronger links were observed for attachment anxiety. In their second study (2015), they found that state secure attachment and self-compassion levels were alleviated after security priming self-compassion sessions. Interestingly, anxious and avoidance attachment levels were not lessened after the security priming sessions. The results were in line with Kirckpatrick and Hazan's (1994) theories that insecure attachment developed in early stages of life, the inherent negative beliefs on self, others and the relationships could be opposed to change. The individual differences in the development of self-compassion require further examination. Thus this paper review the literature to establish the possible link between

these constructs and guide researchers for further research and inform clinicians about self compassion and attachment styles relationship with body image.

1.1. Body Image

The beauty of the body has always been of great importance to human society. Even though the definition of beauty differs from within the decades, societies, and cultures, it has always highly been valued. Physical appearance is a personal characteristic that is instantly accessible to others in social interactions. In this regard, the philosopher Aristotle highlighted the importance of the physical appearance by commenting "Beauty is a greater recommendation than any letter of introduction." The worth of being good-looking emphasized by many other philosophers and authors. It is argued that physical appearance not only affects one's social interactions but also psychological status and health. There are two distinct perspectives in the psychological approach to physical appearance: "the outside, body-in-society view" and the other is "the inside, body-in-self view" (Cash, 2006). "Body-in-society" perspective regards how certain facets of one's body appearance, such as weight, height, physical attractiveness, hair color, body shape, influence interpersonal behaviors, cognitions, and perceptions. The other perspective of "body-in-self," in other words body image, considers the one's actual observation of embodiment, particularly self-perceptions and appearance-related self-attitudes toward one's body.

Paul Shilder (1950) defines body image as "the picture of our own body which we form in our mind, that is to say, how the body appears to ourselves" (p.11). Before Shilder's (1950) efforts, body image studies mostly study on individuals with brain damage, lack of organs, and damage of a body part. Unfortunately, until the 1980s, body image researches were directed with adult women suffering from eating disorders and weight concerns mostly. After the 1980s, body image studies began to be conducted on children, adolescents, older people, and men. Shilder's (1950) definition was found too simple because it neglected the fact that body image was a multifaceted construct (Cash & Pruzinsky, 2002). As a multidimensional construct, body image investigations should focus not only on weight and shape concerns but also contain perceptual and attitudinal components as Gardner (2011) stated. According to Gardner (2011), the perceptual component of body image comprises the perception of one's body shape, size, and appearance; the attitudinal component reflects attitudes and feelings over one's body. Grogan (1999) also explained body image as "a person's perceptions, thoughts, and feelings about his or her body" (p.976).

In general terms, body image refers to the degree to which people perceive their bodies. The perception of the body may result in satisfaction or dissatisfaction or in between these two and comprises the two facets of body image: perceptional and attitudinal components. A positive, satisfying body image enables one to view his/her body properly and correctly, thus he/she feels relaxed and satisfied with the way he/she appears to others. Seeing the body in a positive way provides a certain and proper perception of the body, people can see every single part of their body clearly and truly as it is. One can feel comfortable and proud, thus accept their own unique body and do not waste a large amount of time complaining about weight, and the appearance of his/her body. They can be comfortable and sure about their body boundaries. In comparison to negative body image studies, articles on positive body perception are very limited. Recently, the authors directed the focus on body appreciation and adopted a view of positive psychological outcomes of body image.

According to Tylka and Wood-Barcalow (2015), positive body image and negative body perception are not the opposite ends of the continuum. Positive body image is a multidimensional construct that involves body appreciation, love, and acceptance, protection behaviors through the body. It is a protective construct which is mostly stable but may be improved with intervention. It is crucial to attach importance in positive body image to extend the knowledge of body image theory and practice. To search for the importance of body appreciation, researchers have focused on psychosocial outcomes. In their study, Williams, Cash, and Santos (2004) divided the

participants into positive and negative body image groups. Women with positive body perception group reported more body appreciation, less distress inflicting body image, and learning to feel that their positive body image influence their functioning and life favorably than the other group of negative body perception. Positive body perception group also reported higher self-esteem levels, adaptive coping, and optimism.

Andrew, Tiggemann, and Clark (2016, 2016b) directed two studies about health-related results of positive body image in women. Researchers asserted important results that body appreciation was positively linked to attempting medical attention, protecting the skin from sun damages, skin screening, and was negatively linked to dieting behaviors. The authors' other contribution to literature (2016b) presented that adolescent girls expressed the result of body appreciation predicted intuitive eating over in one year. The results also showed that body appreciation predicted the decrease in alcohol consumption and smoking. One year later, a follow-up study was done and it was found out that there was a decrease in the participants' dieting activities and an increase in exercise activities. Another study of health-related outcomes of positive body image in both men and women was proposed by Gillen (2015) and found no gender differences in the relationship between body appreciation and less depressive symptoms, decreased unhealthy weight control behaviors, higher self-esteem, greater aim to protect skin from sun, and lower urge to being masculine.

The studies including positive body image have reflected the bio-psycho-social outcomes of positive body image (e.g., Rodgers, Paxton, McLean, & Damiano, 2016; Dubey & Sharma, 2016). For promoting positive body image in individuals, it is of great importance to search for the predictor factors of this stable image affecting all over one's life.

As expressed before, positive and negative body image are not the opposite ends of a continuum. Different factors contribute to the development of negative body image. To define broadly, negative body image consists of two components: investment (body image importance) and evaluation (body dissatisfaction). While body dissatisfaction reflects one's subjective perception and attitudes toward his/her body, experiencing high concern over body appearance relates to high body image concern (Cash & Pruzinsky, 2002). The discrepancy between the actual shape, weight and ideal body in mind causes body dissatisfaction. However, this definition was criticized considering that one's body shape/weight might be close to their ideal body shape/weight but still, the image of the body could be negative, and the individual could be disturbed by their body appearance. The attitude and perception toward the body affect one's psychological status more than the actual body shape/weight (Cash & Pruzinsky, 2002).

It is also important to clarify the distinction between body dissatisfaction and body image distortion. Negative body representation ranges from negative thoughts over the body to distorted image – the perception of body parts not clearly and truly as they actually are. Distorted body image represents the discrepancy between the perception of the shape, size, weight or actual body status. Distortion in body image reflects a brain condition in which the individual is unable to see herself/himself accurately in front of the mirror, they perceive their body is distorted (Cash & Brown, 1987).

Both body dissatisfaction and body image distortion have implicated psychological, mental and health outcomes, and should be taken into consideration. Body image disturbances are seen in severe psychopathological diseases, such as Eating Disorders (EDs)- the persevering disturbance of eating and eating-related actions which, then, result in the food consumption that harms physical and psychological functioning- and Body Dysmorphic Disorder (BDD)- one's fixation on an imagined defect in the body appearance (DSM-5, 2013). The empirical body of literature focused on the effect of body dissatisfaction/distortion on the onset of eating disorder and eating-related behaviors in children and adolescents (e.g., Smolak & Thompson, 2009, Rohde, Stice, &

Marti, 2015). On the other hand, the studies searching negative body image found the link to higher depressive symptom levels, (e.g. El Ansari, Dibba, & Stock, 2014), perceived health and stress (El Ansari, Dibba, & Stock, 2014), low self-esteem (e.g., Brennan, 2010; Duchesne et al., 2017), low quality of life (e.g., Cash & Fleming, 2002; Morais et al., 2017), suicidal thoughts or suicide attempts (Rodriguez-Cano, Beato-Fernandez, & Llario, 2006), smoking as an unhealthy weight control strategy (Clark, Croghan, Reading, Schrouder, Stoner, Patten, & Vickers, 2005), steroid abuse to muscle gain in males (Pope, Gruber, Mangweth, Bureau, Decol, Jouvent, & Hudson, 2000); higher perceived stress (Duchesne et al., 2017), and so on. Body image studies are not limited to these correlational studies. This issue was searched in different cultures, ages, gender types, workplaces, patients, mental, and physical health situations to understand which extend to body image disturbances affect people. The important results will be shared by highlighting some of the studies to better discuss the significance of body image issues. According to literature, various perspectives can be seen in body image development, it is a highly studied subject that cognitive, behavioral, developmental psychologists, psychoanalysts, philosophers and sociologists are discussed through their perspectives. Physical attributes and related changes, societal messages, social environments all play an important role in the development of body perception, and, moreover, this image has an impact on the way one feels about in his/her body boundary. Numerous mental representations and psychological situations in different stages of one's life shape the concept of body image which has an influence on psychological health, quality of life and social functioning (Krueger, 2002a).

As Krueger (2002a, 2002b) expressed, body is an important part of the growth of self-concept. If the self-concept is not well integrated the body perception will possibly be poor (Buhl-Neilsen, 2006). As asserted, body image development starts with the birth. For this reason, the role of caregivers cannot be overestimated. How early interactions with caregivers during infancy affect body development and studies including attachment perspectives on body image development will be expressed.

1.2. Attachment Experiences and Body Image

Bowlby (1988) argued that the infant's attachment-related behaviors arise from a biological and instinctive urge to be taken care of, and protected. The tendency to develop strong emotional bonds between infant and significant others is a part of the human nature and exists in new-borns. He highlighted the importance of the child's need for protection and parents who are both physically and emotionally attainable to serve a secure-base during infancy and childhood (Bowlby, 1969). How strong and healthy attachment bonds can accomplish the secure-base and safe-haven functions, in turn, these bonds shifts not only to attachment figures' certain behaviors but also to translation of the interaction patterns into the "internal working models (IVM)" (Bretherton & Munholland, 1999). Bowlby's (1988) term of "internal working models" represents a cognitive representation of self and others. Attachment experiences establishes individuals' view of self and view of world as well as influences emotion regulation strategies. The development of secure attachment in infancy and childhood not only contributes to build up a positive sense of self but also enables individuals to organize their actions, emotions and cognitions (Rosenstein & Horowitz, 1996). In addition, individuals with secure attachment bonds are less likely to develop psychopathology and are able to create better interpersonal relationships than the others who develop insecure attachment Those with insecure attachment bonds have negative sense of self and others, and are more likely to develop psychopathological problems (Mikluencer & Shaver, 2012). Responsive and tuned caregiving also forms individuals' positive body representations (Krueger, 2002a, 2002b). On the contrary, individuals who do not grow in a caring and supportive environment might develop a poor self-concept, which may bring about dissatisfaction in body perception (Perry, 2008).

The infant's physical needs to be fed, cleaned, changed, touched, cared, and held not only provide him/her to be taken care of but also have an impact on the infant's thoughts over his/her own

body. Moreover, it influences the way infant feels in his/her own body, cares the body, and wishes the others to look at and treat his/her body. The caregivers' way of looking, holding, touching, feeding and caring is of a great importance for baby to develop a positive view of self and body. In order to highlight the importance of attachment on body development, Krueger (2002a) argued that "attachment needs are first and foremost body based needs" (p.4). In this sentence, Krueger stressed the strong and undeniable link between attachment and body. He contended that the internal working models developed in infancy serve a direct path to develop feelings over body which are inferences drawn from the unfulfilled demands of the infant's. Moreover, the rooted negative conclusions such as inadequacy and defectiveness might form into body perception (Krueger, 2002a). The fulfilled and unfulfilled physical and emotional demands of the infant have an impact on self-esteem and body esteem.

From Winnicott's (1971) perspective, the caregiver serves as a "mirror" through the infant's eye by saying that "the mother is looking at the baby and what she looks like is related to what she sees there" (p.131). The reaction of the caregiver when looking into the baby's eyes leads baby to conclude whether he/she is a thing to be looked into. The affective and physical (un)responsiveness of the caregivers influence the baby's self and body image development.
To better understand the role of attachment -the impact of parents- on body image Kernberg (2007) and Buhl-Nielsen (2006) developed Mirror Interviews to observe whether children feel comfortable in front of the mirror while their mothers leave them alone in a room. Later, the Mirror Interviews also run with adults to observe the link between attachment and body (Haick, 2012). These interviews rested on a foundation of Winnicott's (1971) theory that the mirroring role of mother. Kernberg (2007) argued that when children are in front of the mirror and look at themselves, they would remember the memories of mothers who have served as a mirror. Her observations directed that children who developed secure bonds with their mothers showed positive emotions while interacting with the mirror. She assumed that positive manners in front of the mirror reflected self-recognition. What the children saw in the mirror and how they feel about it affected by the interactions with their mothers.

The Mirror Interviews were also done by Tosi (2014) who assessed mothers' attachment type and run the interviews with children. She found out that children whose mothers were secure interacted with the mirror freely, the others who had preoccupied mothers seemed angry while interacting with the mirror and reflected over-involvement, and children with dismissing mothers not much interested in mirror. Haick (2012) observed adult women by asking questions about their bodies while the women were answering them in front of the mirror. She thought that women should integrate feelings over their body with what they see in the mirror. With assessing women's attachment by using Main's (1985, 1988) Adult Attachment Interview she reached a conclusion that women who were securely attached were more relax and positive in front of the mirror while answering the body-related questions than the others who were insecure. The Mirror Interviews have contributed a lot in attachment perspective on body image and with this method the bonds between these two have captured great attention.

As stated before, body image studies have mostly conducted with women due to the fact that women had greater body image concerns than men (e.g., Göksan, 2007; Yahia, El-Ghazele, Achkar & Rizk, 2011). Even though recent findings expressed that men's concerns over appearance as strong as women (Hoffmann & Warschburger, 2017), the literature about attachment and body image correlation in men has remained limited.

Sharpe and her colleagues (1998) conducted a study to examine the relationship between attachment and weight concern on a group of adolescent girls. They used the self-report technique to assess the attachment style of participants and expressed that the girls with insecure attachment are having greater concerns overweight than those with secure attachment. In line with Sharpe et

al. (1998), Troisi et al. (2006) studied a group of adult women with anorexia and bulimia nervosa and found that insecure attachment style was correlated to body dissatisfaction.

Another contribution was done by Cash, Theriault, and Annis (2004). They conducted their study with both female and male college students and used Experience in Close Relationships Questionnaire (ECR). Their results revealed that preoccupied adult attachment and anxious romantic attachment style are correlated to negative body image in both sexes. McKinley and Randa (2005) replicated the study of Cash and his colleagues (2004) with adult women and reported the association between adult attachment anxiety and body satisfaction. Increase in body satisfaction related to decreasing in attachment anxiety levels. Lev-Ari, Baumgarten-Katz, and Zohar (2014) presented similar results that attachment anxiety, but not avoidant, significantly predicted body dissatisfaction in women adults whose ages ranged from 18 to 42 years.

DeVille, Ellmo, Horton, and Erchull (2015) carried their study with adult women aged 18-30 years and assessed attachment with ECR. They showed that both anxious and avoidant dimensions of adult romantic attachment are related to body surveillance and body shame in women. However, attachment anxiety reflected a stronger correlation than avoidant. Mili and Raakhee (2015) found similar findings on their sample consisted of women and men adults that both avoidant and anxious attachment are related to body esteem. They reported both dimensions showed no significant gender differences in the relationship between the two constructs. The two dimensions were inversely related to body image; moreover, these results were accepted for both sexes.

Cheng and Mallinckrodt (2009) created a study to examine whether adult attachment, assessed with ECR, is related to body image dissatisfaction and media internalization in women adults. Their findings revealed that body dissatisfaction and attachment anxiety was in correlation. Moreover, the mediation role of media internalization on this relationship was accepted. They interpreted these findings that the poor emotional bonds with primary caregivers lead to anxious attachment which associated with women's aim to internalize the "ideal body" messages of media which, in turn, result in body dissatisfaction. Secure attachment served as a protective factor against the internalization of "ideal body" messages. This study provided a different perspective of sociocultural theories (i.e. peers, family, and media) of body perception which investigated mostly in body image studies.

Another study was done by Sandoval (2008) to investigate the prediction role of attachment on positive body image in women aged 18-60 years. They applied Body Image Quality of Life Inventory (BIQLI) which assesses the impact of body perception experiences on well-being. Their findings indicated that secure attachment predicted positive body image.

Arslangiray, 2013 conducted a study with a Turkish sample that consisted of 427 college students. The aim of the study was to investigate the predictor role of attachment and gender role attitudes of students on body perception. They used ECR-R to assess the attachment styles of the participants. Findings revealed that a significant negative relationship was observed among body image and attachment anxiety.

The studies reflected above expressed that there is a correlation between body image and attachment. However, different perspectives and scales caused mixed results in the literature of body image and attachment. Throughout the years, the classification of attachment styles has evolved and methods used to assess attachment have changed. Today, when measuring attachment styles dimensional approach is recommended (Fraley, Waller, & Brennan, 2000). However, a great body of literature expressed valuable information that attachment is one of the most important factors leading to dissatisfied body image.

Another issue should be taken into account that gender differences in attachment. The way of socializing with others is different between the two genders (Bem, 1993). Males are likely to be less emotional than their female counterparts. The attachment studies have often reported gender differences in attachment quality (Del-Giudice, 2019) in line with Bem's (1993) argument. Del-Giudice (2019), Koskina & Giovazolias (2010) and Schmitt (2003) expressed that males scored higher on attachment avoidance and scored lower on attachment anxiety. On the contrary, women have reported higher attachment anxiety than men. Studies on romantic couples expressed that men are likely to stateless comfort with emotional intimacy. On the other hand, Schmitt (2003) argued that cultural differences in attachment styles of women and men can be observed. They conducted their study with men in 62 cultural regions and found out that there were cultural differences in men's attachment styles. The study of Keklik (2011) and Uras (2004) directed with Turkish university students and showed that men scored higher than women on the avoidance dimension, which was consistent with the other studies. In conclusion, both measurement methods and sex differences in the attachment might have produced inconsistent results.

1.3. Self-Compassion

Self-compassion is an important concept, which has its origin in Buddhist philosophy. Self-compassion appears to have an important influence on well-being and mental health. Compassion is an affection of feeling touched by the suffering others and desiring to prevent others from suffering (Neff, 2003a). Thus, it is about being aware of others' problems and pain, sharing the pain of others, moreover, having an urge to alleviate their suffering. Besides, the concept of compassion involves a nonjudgmental understanding of people who fail or do things in the wrong way. For this reason, self-compassion is about being touched by own pain and suffering, having a nonjudgmental view of self, accepting the all fails, and healing the suffering self with kindness. According to Neff (2003b), this concept consists of three components: self-kindness, common humanity, and mindfulness. The first one, self-kindness, is about being kind to self rather than treating harsh in the emergence of failure or pain. Instead of being judgmental or ignoring the feelings when experiencing pain, people who are self-kind adopt an understanding attitude towards self. Self-compassionate individuals are aware of it is inevitable that people may fail when dealing with life challenges. Instead of harshly criticizing the self they are rather self-accepting.

The second component of self-compassion is common humanity, demonstrates that experiencing painful situations as part of the human experience. People who are frustrated with the life challenges and angry about not meeting their expectations enough tend to believe irrational isolation: "I am the only one who suffers and fails." However, all people suffer in life. They ignore the fact that human beings are mortal, not perfect, and sensitive. For that reason being self-compassionate means that failing and being imperfect is an experience that is shared by all human beings not only by "me" (Neff, 2003b).

The third and the last component of self-compassion is mindfulness, which is about holding negative emotions in balance so that the emotions are neither overstated nor restrained. It is about being open to experience negative emotions so that the feelings can be held in balanced. The state of mindfulness indicates being non-judgmental and open-minded, accepting the feelings as they are without ignoring them. Overstating and restraining the emotions cannot coexist. Mindfulness protects from over-identifying thoughts, feelings, and pain so that we don't overwhelm emotionally (Neff, 2003b).

Even though the three elements of self-compassion are differentiated from each other they are still in interaction and help each other to occur and to improve. Studies suggested that mindfulness is an important mind state to keep people away from their negative experiences, moreover, provide them to develop self-kindness and common humanity (Neff, 2003b). According to Jopling (2000), mindfulness entails increasing self-criticism, so that people could understand

themselves. In this manner, they can help to develop self-kindness and treat themselves sensitively. Mindful individuals support themselves to struggle with being self-centered and, in turn, could improve their social interactions with others.

Similarly, self-kindness plays an important role to develop mindfulness. Individuals who accomplish not to judge themselves, they could balance their emotion when times of crisis, so that help to improve mindfulness (Fredrickson, 2001). Besides, people who recognize human beings are all suffering in life could evaluate their experiences from a social point of view thus, avoid to exacerbate negative feelings.

As a multi-dimensional construct, self-compassion is negatively related to many psychological concepts such as body shame (e.g., Braun, Park, & Gorin, 2016) depressive symptoms (Neff, 2003b; Neff, Rude, & Kirkpatrick, 2007b), anxiety (e.g., Neff, Rude, & Kirkpatrick, 2007b), self-criticism (Neff, 2003a), negative affect (Neff, Rude, & Kirkpatrick, 2007b) and positively correlated to body appreciation (e.g., Braun, Park, & Gorin, 2016; Kelly & Stephen, 2016), well-being (e.g., Neff, Kirkpatrick, & Rude, 2007a), life satisfaction (Neff, 2003a), social connectedness (Neff, 2003a); and positive affect (Neff, Rude, & Kirkpatrick, 2007b). Hence, the researchers studied the link between self-compassion and psychological disorders including depression (e.g., Pauley & McPherson, 2010) and eating disorders (e.g., Kelly & Stephen, 2016).

1.4. Self-Compassion and Attachment

In order to examine the mechanism of self-compassion, Gilbert (2005a, 2006) suggested a model included attachment experiences, neurological examination of brain development. Gilbert stated that there was a system provides to increase in feelings of relaxed, calmness, secure, and social connectivity, which was the soothing system. The soothing system has its roots in early interactions with caregivers, thus attachment. When a baby is anxious or angry, the caretaker's facial expressions, tone of voice, kind of caring, speaking, and listening stimulate the soothing system, in turn, the baby calms down. As the infants' neural connections develop, they improve their self-soothing skills with the help of the memories of soothing experiences shared with caregivers. In case of the traumatic events in childhood, this system might not be developed. As well as the soothing system, the defense system has an impact on self-compassion development. Traumatic childhood experiences might lead to overstimulation of the neural connections of the defense system and under-stimulation of soothing system. In this case, the strong neural connections of the defense system become easily triggered in the latter stages of life (Gilbert & Procter, 2006). If the caregiver, mostly the mother, is not sensitive, compassionate and caring enough, the ability to be self-compassionate cannot be developed because the neural connections of the soothing system might not be triggered as much as the defense system

Further research tested the proposed model by Gibert and supported the model with empirical findings (e.g., Tanaka, Wekerle, Schmuck, & Paglia-Boak, 2011). They expressed childhood emotional abuse experiences and having unsupportive and unavailable parents affect the development of self-compassion. Neff and McGehee (2010) suggested that secure attachment contributes to the development of self-compassion and its indicators, such as self-worth. If parental figures are physically and mentally available and treat compassionately when times of danger and stress, the baby could improve the ability to be able to be self-compassionate.

Another study included both attachment and self-compassion was done by Raque-Bogdan, Ericson, Jackson, Martin, and Bryan (2011). They conducted a study with college students. Their findings revealed high levels of attachment anxiety and avoidance indicated low degrees of self-compassion. The researched concluded that attachment avoidance indicates a negative view of others and a positive view of self -in other words attachment avoidance- might provide to individuals feel self-worthy in contrast to those having high attachment anxiety.

A study done with Turkish married couples investigated the role of self-compassion, attachment and the attitudes of couples' marital functioning (Terzi, 2015). In line with Bogdan et al. (2011) their results presented a relationship between attachment anxiety and self-compassion in couples. However, attachment avoidance did not show any relation to self-compassion. Their interpretation was similar to Bogdan et al. (2011) that viewing the self positively might support individuals to be compassionate through themselves.

Pepping, Davis, O'Donovan, and Paul (2015) created two studies to examine the roots of self-compassion. In the first study participants, 241 females and 88 males, were asked to recall their memories of parental rejection, warmth, and over-protection. They also collected data by using ECR-R and SCS measures. It is stated that attachment anxiety mediated the association between parenting style and self-compassion.

In a recent study, Mackintosh, Power, Schwannuer, and Chan (2017) searched for whether attachment, self-compassion, and interpersonal difficulties have an impact on a clinical sample suffering depression and anxiety. The findings of the study revealed that levels of self-compassion correlated to insecure attachment, thus both attachment anxiety and avoidance. Participants who had higher attachment avoidance, lower self-compassion level and suffer higher interpersonal difficulties reflected higher anxiety and distress. In contrast with the previous findings, the results suggested no effect of attachment anxiety on participants' self-compassion levels.

In order to summarize the previous results, individuals' attachment bonds provide to develop the ability to be self-compassionate. Their association was represented in the literature; however, findings revealed contradictory results in attachment dimensions' relation to self-compassion. While some of the studies reflected both anxiety and avoidance dimensions contributed to self-compassion, the others suggested either attachment anxiety or avoidance separately have an impact on self-compassion development.

1.5. Self-Compassion and Body Image
The previous researches underline that individuals who treat themselves self-compassionately are mentally healthier than the others who are not self-compassionate. The link between self-compassion and psychopathology (e.g., Braun, Park, & Gorin, 2016), positive psychology (e.g., Braun, Park, & Gorin, 2016; Kelly & Stephen, 2016), and many other psychological concepts (Neff, 2003b) suggested that self-compassion is an emotion regulation strategy which provides individuals to develop understanding of their imperfections and accept the flaws they have. The emotion regulatory role of self-compassion provided body image studies to shift their focus in self-compassion and search for whether this construct has the potential for decreasing body-related disturbance (Albertson, Neff, & Dill-Shackleford, 2014). According to Albertson, Neff, and Dill-Shackleford (2014) the three components of self-compassion help to alleviate body dissatisfaction: self-kindness confronts the origin of body disturbance with accepting the body as it actually is, common humanity provide to consider body from a wider perspective, and mindfulness serves a function in balancing negative thoughts and emotions about physical appearance.

According to previous studies, self-compassion is associated with higher levels of body appreciation and lower levels of body dissatisfaction (e.g., Wasylkiw, MacKinnon, & MacLellan, 2012; Ferreira, Pinto-Gouveia, & Duarte, 2013; Bogdan et al., 2016). It is stated that self-compassion interventions promote body appreciation and also weaken the body-related distress and anxiety. As reported by Ferreira and her colleagues (2013) self-compassion might play an important role in negative outcomes of body image disturbance by teaching how to appreciate their body, broaden their thinking about themselves and improve their self-worth. The individuals who have negative experiences of shame, distress, anxiety and many others criticize themselves harshly. It has highly underlined that meeting the ideal beauty standards of society is of great

importance for both sexes to feel self-worthy. However, self-compassion suggests individuals a different approach of giving value to themselves and accept who they are.

In order to better understand the effect mechanism underlying self-compassion Kelly and Stephen (2016) studied on a seven-day daily diary which they implemented questionnaires daily to search for the relationship between self-compassion, body image, social interactions with body-focused individuals and eating attitudes. 92 female college students reported their self-compassion level, body image, social interaction level and eating attitudes on an online platform for seven nights. They expressed that on days women treated themselves more self-compassionately, they reported a more positive body image than usual. Results suggested that having more social interactions with individuals who were body-focused led to having poorer body image, less self-compassion level and less emotional eating behaviors, and vice versa. The study also revealed that the average level of self-compassion over the week predicted the women's satisfaction level of their own body and body parts.

Another valuable contribution was done by Albertson who offered 3-weeks self-compassion meditation training to women participants who suffering body image concerns (2014). While 130 women assigned to a control group, 98 women selected for the intervention group. The intervention group received 3 different podcasts each week and each podcast consisted of 20 minutes length self-compassion training. After the training, most of the participants reflected their positive thoughts about self-compassion training. The results proposed that compared to the control group, the intervention group showed significantly decreased body dissatisfaction after the training program. Moreover, the intervention group showed improvements in overall self-compassion and its 3 components (i.e. self-kindness, common humanity, mindfulness). The efforts proposed a highly significant correlation between body image and self-compassion.

In their literature review, Braun and her colleagues (2016) presented that similar results observed in different cultures. Self-compassion was negatively associated to positive body image in a sample of general Portuguese population and subjects with ED (Ferreira,Pinto-Gouveia, & Duarete, 2013), in Australian patients with breast cancer (Ferreira, Pinto-Gouveia, & Duarete, 2013), and Canadian female college students (Wasylkiw, MacKinnon, & MacLellan, 2012). They also reflected the link between self-compassion and body image avoidance which caused behavioral avoidance of social environments, and in turn, lead to distress and dissatisfaction (Rosen, Srebnik, Saltzberg, &Wendt, 1991).

Rodgers et al. (2017) recruited both female and male adolescents aged 13-18 years to investigate whether self-compassion serves as a protective construct on body image. They assessed the participants' self-compassion and its three dimensions, perceptions of weight status, appearance esteem and comparison. According to the findings they stated that improving self-compassion might be beneficial for developing positive body perception in both female and male adolescents. Also, they revealed the outcome of three dimensions was linked to higher body esteem, lower levels of appearance comparison and lower perception of being overweight, especially in females. They discussed the results that the gender differences might be an evidence self-compassion process differs between two genders.

Another study conducted by Seekis and her colleagues (2017) to assess the effects of both self-compassion and self-esteem on decreasing body-related concerns. The sample consisted of 96 female college students and divided into three groups: self-compassion, self-esteem, and control. Participants read hypothetical writing about negative body perception and after that, they requested to imagine a scenario about their unattractive photos leak to a social media platform by a friend. Following the scenario, they asked to complete writing tasks according to the group they attended to. The questionnaires measuring variables of the study were applied to each participant at both pre and post-treatment. Results indicated that the self-compassion group reflected the highest body appreciation.

An experimental study was directed by Toole and Craighead (2016) to search for body image distress in women by implementing self-compassion training. 40 participators attended the intervention group received a 20-minutes length self-compassion training podcast and continued to listen to podcasts over a week. The pre and post-assessments suggested that exposure to self-compassion training alter in actions, emotions, and thinking relates to body image distress. However, a one-week length self-compassion training did not significantly reduce the level of distress resulted from body evaluation.

In the light of the literature review it emerges that the studies focusing on self-compassion and body image suggest that there is an association between the two constructs. Besides, interventions focusing on self-compassion training helps to alleviate body image distress and provide a change in body-related thoughts, behaviors, and emotions. However, the two constructs mostly studied with women but not men. There is a need to understand gender differences in these constructs. Provided above links suggest that self-compassion might be a clinically and theoretically important construct in explaining mental health problems and disorders. For future research attachment experiences' possible meditational role should be examined for both gender due to fact that attachment experiences importance in forming emotion regulation strategies and self-compassion. Further research will guide practitioners to broaden their approach to body-based disturbances and improve their intervention techniques when working on individuals with these disturbances. Future research might help practitioners to focus on behavioral and attitudinal changes in cases with body dissatisfaction but also address their emotional experiences which have its roots in early interactions with significant others.

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The Effect of the Cognitive Behavioral Therapy Based Cyberbullying Prevention Program[1]

Kevser Korkmaz Yüksel, *Gaziantep University, Turkey*
ORCID: https://orcid.org/0000-0002-4844-9187

Ali Çekiç, *Gaziantep University, Turkey*
ORCID: https://orcid.org/0000-0002-7893-268X

Abstract
A school-based program of cognitive behavioral therapy was evaluated in a randomized control study of 158 secondary school students ages 12-14 years. The program was delivered for 40 minutes, for 5 weeks. Students completed questionnaires assessing their's cyber bullying behaviours and cognitions immediately before and following the 5-week period. Experimental and control groups were compared with t-test, intra-group comparisons were performed by covariance analysis. Additionally, focus group interviews were conducted with 12 students in the experimental group and the effectiveness of the psychoeducation program was evaluated in depth. It has been concluded that the cognitive behavioral cyberbullying prevention program had a positive effect on cyberbullying behaviors. Additionally, qualitative data showed that prevention program reached its aim to cope with cyberbullying. For future works, it is recommended to disseminate prevention programs for a more effective fight against cyberbullying and to include other parties such as families and schools into such programs.

Keywords: Cyberbullying, Bullying, Cognition, Prevention Program, Secondary School Students.

1. Introduction

Peer bullying (Olweus, 1994), which has attracted the attention of scientists for almost half a century and has been the subject of various studies, has taken the name of cyberbullying by adopting a new shape with the development and spread of technology since the first quarter of 2000s (Hinduja and Patchin, 2009). Cyberbullying is defined as "repeated hostile behaviors showed by an individual or a group aiming to hurt or disturb others through electronic or digital technologies" (Tokunaga, 2010). The most common cyberbullying behaviors are online fighting, harming, denigration, impersonation, deception, exclusion, and cyber-harassment (Willard, 2007).

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Being common among children and young people both in the world (Brochado, Soares, and Fraga, 2016) and Turkey (Ayas and Horzum, 2012; Bayram and Saylı, 2013), cyberbullying negatively affects the individuals' education life regardless of their age group, country, and culture. Also, it leads to social, psychological, academic, and interpersonal problems for children and young people (Erdur-Baker ve Topçu, 2013). Therefore, preventive interventions against cyberbullying, awareness raising, and prevention studies that will be made before the problem arises are important steps in the fight against cyberbullying. As a matter of fact, the prevalence of bullying behaviors, which was 28% in the USA in 2005, has decreased to 22% thanks to the applied prevention programs (Musu-Gillette, Hansen, Chandler, ve Snyder, 2015) and the programs have been found to be effective in reducing bullying behaviors by approximately 25%. Farrington and Ttofi (2009) reported as a result of their systematic literature review that peer bullying prevention programs reduce bullying rates between 20% and 23% and victimization rates between 17% and 20%.

Cyberbullying has common features with peer bullying in terms of both its prevalence (Li, 2007; Paez, 2016) and its effects (Olweus, 2011; Ybarra and Mitchell, 2007). Therefore, it is necessary to act on what is known about bullying in the studies to be made in order to prevent both types of bullying. Cognitive Behavioral Therapy (CBT) is a frequently used model in intervention or prevention programs for aggression, anger and maladaptive behaviors seen in children and adolescents. According to CBT, cognitions play a role in the development of all types of aggression (Türk and Hamamcı, 2016). Indeed, psychoeducation practices based on cognitive behavioral approach in preventing violence and bullying, produce effective results (Donat-Bacıoğlu, 2014; Sukhodolsky, Kassinove, and Gorman, 2004; Robinson, Smith, Miller, and Brownell, 1999).

There are some assumptions that cognitive behavioral therapy will (a) help individuals to better understand their feelings and thoughts about bullying, (b) help to change the increasing negative thoughts and inner conversations of the bullied individual about himself/herself and his/her destructive thinking patterns and eliminate the cognitive distortions of the individual, (c) change the bullying individual's cognition causing this behavior, (d) enable the victim to learn new behaviors to cope with bullying (Büller, 2012; Abdulkader, 2017). Based on these assumptions, the theoretical basis of this study is cognitive behavioral approach. When the related literature was examined, ıt wasn't found that a cyberbullying prevention program which was developed considering the basic principles of Cognitive Behavioral Approach. The lack of a program to prevent cyberbullying prepared with a cognitive behavioral approach indicates a deficiency in this field. To address this deficiency in the literature , the aim of this study is to test the effectiveness of the cognitive behavioral based cyberbullying prevention program developed by the researchers on cyberbullying. It is thought that this study will pave the way for cyberbullying prevention and intervention programs that will be prepared in the future, based on cognitive behavioral or different theoretical frameworks. In accordance with this purpose, the hypotheses below have been examined.

1.1. Hypotheses:
(1) The CBT based cyberbullying prevention program is significantly effective in reducing the cyberbullying behavior of children.
(2) The CBT based cyberbullying prevention program is significantly effective in reducing cyber victimization of children.
(3) The CBT based cyberbullying prevention program is significantly effective in reducing bullying cognitions of children.

2. Method

2.1. Study Design

The mixed method, a research approach in which the results are obtained by integrating two sets of qualitative and quantitative data, was used in this study (Creswell, 2017, p.2). One of the most common used mixed method studies in education is explanatory mixed method (Fırat, Kabakçı, Yurdakul, Ersoy, 2014). The most important feature of the explanatory mixed method is that qualitative data is collected and analyzed after the quantitative data is collected. Qualitative data allow a more in-depth interpretation of statistical results (Creswell and PlanoClark, 2006, p.85-87). This study, conducted by using explanatory mixed method, consists of two parts. In the first part of the study, the effect of the applied cyberbullying prevention program and in the second part, the participants' views on the cyberbullying prevention program, applied within the scope of this study, have been examined.

2.2. The Method Used in the Quantitative Part of the Study

The effect of the CBT based cyberbullying prevention program on the cyberbullying, cyber victimization and bullying cognition of secondary school 7th grade children were examined in this part of the study. The pre-test and post-test, control group quasi-experimental design without random assignment was used to examine the effect of this program (Ferguson and Takane, 1989; Kirk, 1968; Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz, and Demirel, 2015). The study design is shown in Table 1.

Table 1:.Study Design

Groups	Pretest	Process	Posttest
Experiment	RCBI	CBT based cyberbullying prevention program	RCBI
	CSBC		CSBC
Control	RCBI		RCBI
	CSBC		CSBC

RCBI: Revised Cyberbullying Inventory
CSBC: Cognition Scale about Bullying for Children

2.3. Process

This study was conducted with 7th grade students studying in two different secondary schools, having features in common, in the Şahinbey district of Gaziantep province in 2016-2017 academic year. Necessary permissions were obtained from Gaziantep University Ethics Committee at the beginning of the study (ANNEX-1). This study was conducted on 7th grade students because of the following reasons: (a) the cognition behavioral based preventions programs' being effective on children between the ages of 11-13 (Durlak, Fuhrman and Lampman 1991), (b) views of domain experts and related literature (Sukhodolsky, Kassinove and Gorman, 2004, Donat Bacıoğlu, 2014; Varlık-Özsoy, 2017) on the benefitting level of children from the cognition behavioral approach.

Convenience sampling method was used to determine the schools where the study would be conducted. In other words, easily accessible schools in terms of data collection and application of the program were selected. Convenience sampling method is defined as "collecting data from a sample that is easily accessible to the researcher" (Büyüköztürk et al., 2015, p.92). One of the schools was determined as the experimental group and the other as the control group. Maximum variation sampling method was used in the selection of students to be included in the experimental group. Maximum variation sampling is defined as "the determination of the

homogeneous different situations related to the problem that are examined in the population and conducting the study on these situations" (Büyüköztürk et al., 2015, p.90). Three classes showing high, average, and low academic success in trial exams were chosen among the 7th graders in the experimental school. The school administration, teachers giving lessons to those students, and the psychological counselor of the school afford assistance about the academic standing of the chosen three groups. Permission was obtained from the parents of the students who were selected to the experimental group for participation in the study through the parent permission form prepared by the researchers (ANNEX-3). In order to collect the pre-test data of the study, the school administration of both the experimental and control groups were interviewed and a convenient time was determined. The schools were visited to collect pre-test data on the determined days. In order to carry out the process of data collection in a more healthy way, the help of the teachers of the lessons in which the study was conducted was received. The data were collected in the classroom environment. The purpose of the study was explained to each class by the researchers. It was stated that the answers to the questionnaire would be used in a scientific study and participation was voluntary. It was explained that the data obtained from the study would not be used for individual evaluation and only the changes of experimental and control groups before and after the application would be examined. For this purpose, students were asked to write their student numbers and it was stated that this information would not be shared with third parties such as the school administration, the teacher, etc. without the permission of the students. It was reminded that this application was not an exam and therefore every question should be answered by giving honest answers. The application lasted for approximately 25 minutes. The pre-test data collection process was completed by thanking the participants for their contributions. The procedures performed in the experimental group are explained in detail in the process of application of the program. After the application of the program, post-test data were collected with the same method used in the collection of pre-test data.

As the number of questions left blank in the control group was high in the post-test data, 9 scales and two scales of mainstreaming students were excluded from the study. The pre-test and post-test data were matched with the student numbers. 43 of the scales were excluded from the study since 15 of them had no post-test and 28 of them had no pre-test. 14 of the excluded scales belonged to the control group and 29 belonged to the experimental group. A total of 54 scales were not included in the study. The study was conducted on the pre-test and post-test data obtained from 78 participants in the experimental group and 80 in the control group, 158 in total.

2.4. Participants
Participants were selected from students who applied to the announcements of two different schools' psychological counseling. Nine of the students who volunteered to participate in the study and whose parents were asked for permission left the majority of the scales blank and two students were continuing their mainstreaming education. As a consequence, they were not included in the study group. 84 female and 74 male students, continuing their education in 7th grade of secondary school, being able to attend the prevention program regularly, with the permission from their parents and answering the measurement tools completely and sincerely, participated in the study. While one of these two schools was determined as the experimental group (n = 78), the students in the other school were included in the control group (n = 80). The ages of 158 students participating in the study ranged between 12 and 14 years.

2.5. Quantitative Data Collection Tools
Revised Cyberbullying Inventory (RCBI): The Cyberbullying Inventory developed by Erdur-Baker and Kavşut (2007) was revised by Topçu and Erdur-Baker (2010) as the Revised Cyberbullying Inventory. The Revised Cyberbullying Inventory contains 14 items. The scale

consists of two parallel forms including Cyberbullying and Cyber Victimization. The participants evaluated their cyberbullying experiences and the scale items such as "Disclosing confidential information shared on the internet without permission" and "Making fun of comments, information shared on the internet" by using 4-point likert type scale (1= never, 2= once, 3= twice or three times 4= more than three times) in the columns of "It happened to me" and "I did it once". The lowest score to be taken from the scale was 14 and the highest score was 56. Confirmatory factor analysis of the RCBI shows that it has a single factor structure for both cyberbullying and cyber victimization. The internal consistency coefficient was reported as .82 for cyberbullying and .75 for cyber victimization form (Topçu and Erdur-Baker, 2010).

Cognition Scale about Bullying for Children (CSBC): The scale developed by Gökkaya and Sütcü (2014) consists of 22 items. It is developed to evaluate the cognitive characteristics of children related to bullying (Gökkaya, 2015). Items such as "Bullying is a normal situation for children "," Some children are bullied for what they deserve" are evaluated in 4-point Likert type through statements such as "Totally right", "Quite right", "A little right", "Not right at all ". The validity and reliability study was conducted with secondary school students aged between 11 and 15 years. The internal consistency coefficient of the scale was found to be .91. As a result of the test-retest method, one of the methods to determine the reliability, the reliability coefficient was reported as .79 (Gökkaya and Sütcü, 2015).

2.6. Cognitive Behavioral Based Cyberbullying Prevention Program
Developed by the researcher, "The Cognitive Behavioral Based Cyberbullying Prevention Program" consists of 10 sessions. The aim of the program is to prevent cyberbullying, which is becoming a serious problem and widespread gradually. The program is designed to prevent both cyberbullying and cyber victimization. Each session lasts 40 minutes (one lesson hour).
Before the program was designed, the related literature was reviewed and prevention and intervention programs were examined. The program was designed as a result of the studies. The opinions of the two different academicians, being experts in the field of bullying and cognitive behavioral therapy, about the program were received and the sessions were put into the final form. The achievements to be covered in the sessions were discussed with cognitive behavioral approach. The main elements of the program content are as follows:

(1) Bullying and its types, effects of cyberbullying and its prevalence, roles of bullying and causes of cyberbullying.
(2) Thoughts about cyberbullying and cyber victimization.
(3) Safe online behaviors to prevent cyberbullying.
(4) Behavioral skills to avoid cyberbullying.
(5) Skills to avoid cyber victimization and what to do when cyber victimization occurs.

2.7. Method Used in the Qualitative Part of the Study
Purposeful sampling method, one of the non-random sampling methods, was used in the qualitative part of the study, This method is a sampling method that meets certain criteria or selects information-rich elements depending on the purpose of the study (Büyüköztürk et al., 2015). The processes of reclaiming the program, obtaining the necessary permissions, application of the program, collecting the pre-test and post-test data lasted until the end of the second semester of the 2016-2017 academic year. Therefore, the students who would be included in the focus group interview were the students in the experimental group who came to the school that day. Hence, the convenience sampling method, one of the non-random sampling methods, was used in the second part of the study. The qualitative part of the study was conducted with 6 girls and 6 boys, 12 students in total selected from the experimental group.

2.8. Qualitative Data Collection Tool

Focus Group Interview Questionnaire: The focus group interview questionnaire prepared by the researcher was used to determine the opinions on the cyberbullying prevention program of the students selected from the experimental group. The focus group interview is a qualitative data collection method that is conducted in accordance with pre-planned instructions in order to obtain in-depth information on a subject and that focuses on the characteristics of the interviewees, (Çokluk, Yılmaz and Oğuz, 2011). The focus group interview was carried out to consult the opinions on the cognitive based cyberbullying prevention program of the participants in the experimental group.

A session plan was designed for the focus group interview in order to provide convenience before the application. Three evaluation criteria were determined as subject, content and achievements and in this direction, 7 open-ended questions were asked to the participants. It was taking into account that the questions were not directive.

- Subject: Opinions about the subject of the training were asked.
- Content: The suitability of the topic titles discussed in the program was evaluated.
- Achievement: Behavioral changes expected from the participants at the end of the training program.

2.9. Collection and Analysis Process of Qualitative Data

The interview was carried out by gathering the participants around the round table in the conference hall where the experimental group was given training and by using the questions that were prepared previously. The general template of the program was copied and given to each participant. The researchers made necessary explanations to the participants and asked for permission to obtain interview record. With the consent of the participants, voice records were taken from two different devices during the interview. It lasted for approximately 56 minutes. The voice records obtained from the interview were deciphered by numbering the participant names. The qualitative data obtained from the focus group interview were analyzed by using descriptive analysis method. Descriptive analysis is an analysis method that aims to summarize and interpret the qualitative data collected by various methods and present them to the reader (Yıldırım and Şimşek, 2003) and that frequently includes direct citations (Özdemir, 2011).

3. Results

3.1. Quantitative Findings

Before analyzing the study data, the normality assumptions of the data obtained in the experimental and control groups were examined. The skewness and kurtosis coefficients obtained from the pre-test and post-test measurements of both experimental and control groups ranged from .16 to 1.98. According to George and Mallery (2003), the coefficients of skewness and kurtosis between -2 and +2 are considered sufficient for the assumption of normality. After obtaining the normality assumption, independent samples t-test was used to determine whether there was a significant difference between the pre-tests of the experimental and control groups and whether there was a significant difference between the post-tests of the experimental and control groups. Although there was no significant difference between experimental and control groups before the process, pre-tests of experimental and control groups were kept the same and covariance analysis (ANCOVA) was performed on post-tests in order to increase statistical power (Keppel, 1991).

Findings on the Effect of Cyberbullying Prevention Program: Descriptive statistics of the pre-test and post-test measurements of the scores obtained from the Cyberbullying Inventory and Cognition Scale about Bullying for Children of the experimental and control groups are given in Table 2 below.

Table 2: Descriptive Statistics of RCBI And CSBC Pre-Test and Post-Test Scores of Experimental and Control Groups

		Pretest			Posttest		
		n	X	sd	n	X	sd
Cyberbullying	Experiment	78	18.76	3.24	78	16.56	4.98
	Control	80	18.16	5.73	80	19.92	6.92
	Total	158	17.47	4.71	158	18.36	6.22
Cyber victimization	Experiment	78	17.58	3.61	78	16.89	4.65
	Control	80	17.71	4.13	80	18.41	4.91
	Total	158	17.65	3.87	158	17.66	4.83
CSBC	Experiment	78	74.70	10.87	78	79.27	8.45
	Control	80	72.43	10.72	80	75.43	14.87
	Total	158	75.07	10.77	158	75.81	12.58

When Table 2 is examined, it is seen that although the score average of cyberbullying, cyber victimization and bullying cognitions of the experimental and control group were equal to each other before the experimental process, the score average of the experimental and control groups obtained from the same measurement tools differed after the experimental process. Firstly, the score average of the experimental and control groups were examined by t-test.

Table 3: T-Test Results of the Experimental and Control Group Pre-Test Scores Obtained From Cyberbullying Inventory and Cognition Scale for Children

Pretest		n	X	Sd	df	t	p
Cyberbullying	Experiment	78	18.76	3.24	156	1.61	.109
	Control	80	18.16	5.73			
Cyber victimization	Experiment	78	17.58	3.61	156	.100	.621
	Control	80	17.71	4.13			
CSBC	Experiment	78	74.70	10.87	156	-.717	.414
	Control	80	72.43	10.72			

When the values in Table 3 are examined, it is seen that there is no significant difference between the pre-test score average of the experimental and control groups' cyberbullying, cyber victimization and bullying cognition scale. Then, the average post-test scores of the experimental and control groups were compared through ANCOVA analysis and the results are shown in the tables.

Table 4: Results of Covariance Analysis (ANCOVA) of Cyberbullying Scores of Experimental and Control Groups

Source of Variance	Sum of Squares	df	Mean Square	F	p	n2
Model	.993	2	.496	55.662	.000	.418
Cyberbullying (Posttest)	.818	1	.818	91.729	.000	.372
Group	.089	1	.089	10.017	.002	.061
Error	1.382	155	.009			
Total	247.092	158				

According to the ANCOVA results, the difference between the revised post-test score average of the students in the experimental and control groups according to the cyberbullying pre-test scores of the cyberbullying inventory is significant (F (1,155) = 10.017, p <.05). When the revised averages are examined, it will be seen that the cyberbullying scores of the experimental group are lower. From this point of view, it can be said that cognitive behavioral cyberbullying

prevention program has a positive effect on cyberbullying levels of the students. In addition, the eta squared value was calculated as .061. This value can be interpreted as a moderate effect (Cohen, 1988; Green and Salkind, 2005). Accordingly, the presence of the students in the experimental or control groups explains 6.1% of the variability in the post-test scores as independent of the pre-test scores.

Table 5: Results of Covariance Analysis (ANCOVA) of Cyber Victimization (CV) Scores of the Experimental and Control Groups

Source of Variance	Sum of Squares	df	Mean Square	F	p	n2
Model	.455	2	.228	29.014	.000	.272
Cyberbullying (Posttest)	.401	1	.401	51.108	.000	.248
Group	.052	1	.052	6.623	.011	.041
Error	1.216	155	.008			
Total	242.145	158				

According to ANCOVA results, the difference between the post-test score average of the students in the experimental and control groups revised according to the pre-test scores of cyber victimization of the cyber bullying inventory is significant (F (1,155) = 6.623, p <.05). When the revised averages are examined, it will be seen that the cyber victimization scores of the experimental group are lower. From this point of view, it can be said that cognitive behavioral cyber bullying prevention program has a positive effect on cyber victimization levels of students. In addition, the eta squared value was calculated as .041. This value can be interpreted as a moderate effect (Cohen, 1988; Green and Salkind, 2005). Accordingly, the presence of students in the experimental or control groups explains 4.1% of the variability in the post-test scores as independent of the pre-test scores.

Table 6: Results of the Covariance Analysis (ANCOVA) of the Scores Obtained from the Bullying Cognition Scale for the Children of the Experimental and Control Groups

Source of Variance	Sum of Squares	df	Mean Square	F	p	n2
Model	9.559	2	4.780	30.918	.000	.285
CSBO (Posttest)	7.362	1	7.362	47.621	.000	.235
Group	2.675	1	2.675	17.304	.000	.100
Error	23.961	155	.155			
Total	166.389	158				

According to ANCOVA results, the difference between the revised post-test score average of the students in the experimental and control groups according to the pre-test scores of the bullying cognition scale for children is significant (F (1,155) = 17,304, p <.05). When the revised averages are examined, it will be seen that the bullying cognition score of the experimental group is lower. From this point of view, it can be said that cognitive behavioral cyberbullying prevention program has positive effect on bullying cognition of the students. In addition, the eta squared value was calculated as .10. This value can be interpreted as a moderate effect (Cohen, 1988; Green and Salkind, 2005). Accordingly, the presence of the students in the experimental or control groups explains 10% of the variability in the post-test scores as independent of the pre-test scores.

As a result, the Cognitive Behavioral Based Cyberbullying Prevention program has reduced the cyberbullying and cyber victimization levels of the participants. It also has a positive effect on their bullying cognition.

3.2. Qualitative Findings

In this part of the study, qualitative findings obtained as a result of the focus group interview with the students in the experimental group were discussed and interpreted in the light of the literature. In this context, the opinions of the participants on (a) content, (b) cyberbullying and (c) cyber victimization and (d) effectiveness of the program were taken. The following questions were asked to the participants during the focus group interview in this context.

1. *How far have we achieved our goal during this program?*

All participants (n = 12) stated that the program achieved its goals in terms of (a) providing information on what is cyberbullying and its prevalence during the program, (b) being aware of the effects of cyber bullying on the victim, (c) recognizing the purposes of cyber bullying, (d) learning the thoughts on cyberbullying and cyber victimization (e) opting for face-to-face communication and not seeing cyber bullying as a way of solving problems, (f) showing empathy to understand the emotions of the victim, (g) taking measures to avoid cyberbullying and (h) raising awareness about cyber bullying. Some of the participants' explanations for this question are as follows.

"I already knew how to protect against cyberbullying. I have learned more in detail thanks to you. " (Participant 12)
"Thanks to this training I have learned what the effects of cyberbullying are." (Participant 7)
"We have learned that cyberbullying should not even be a joke. We have learned that cyberbullying is a serious issue." (Participant 8)
"My classmates were cyberbullying each other as a joke. I have learned that we should not do it." (Participant 2)

2. *What did you learn / remember from this program?*

All of the participants (n = 12) stated that they remember the emotional, behavioral, social and academic effects of the cyberbullying. Some of the participants' explanations for this question are as follows.

"It may be a lack of self-confidence or desire to be alone." (Participant 1)
"A person who is cyber-bullied may feel left out and insecure." (Participant 7)
"A person who is cyber-bullied may lock himself/herself in the house when someone from the WhatsApp group cyberbullies her/him as he/she thinks the others will make fun of him/her." (Participant 10)

3. *What did you learn about not doing cyberbullying?*

Half of the participants (n = 6) mentioned the cognitive and behavioral factors that they learned about not doing cyberbullying. They stated that in order not to do cyberbullying, it is necessary (a) to show empathy, (b) to get training, (c) to know the effects of cyberbullying, (d) to solve the problems by communicating face to face and not by cyberbullying, (e) to know that cyberbullying is not the solution (f) to learn that it is not right to cyberbullying as a joke. Some of the participants' explanations for this question are as follows.

"We have learned that cyberbullying is not a solution, but it is better to sit down and talk in order to find other solutions." (Participant 2)
"I think when we have a problem, we should deal with it by talking face to face instead of cyberbullying." (Participant 1)
"Let's say I am cyberbullying B. "In such a case, I have to think about how I would feel if the same joke is made to me." (Participant 6)

4. *What did you learn about not being a cyber victim?*

Almost all of the participants (n = 11) mentioned the cognitive and behavioral factors they learned about not being a cyber victim. They stated that in order not to be a victim, it is necessary to (a) not share personal information on the internet, (b) to not give their Facebook password to anyone, (c) not spend too much time on the internet, (d) not be friends with strangers on the internet and not share private information with these people, (e) not share photos containing location information, (f) use antivirus programs, (g) not read the messages coming from strangers. Some of the participants' explanations for this question are as follows.

"For example, we have learned that we should not give our Facebook password to someone." (Participant 6)
"We should not share our personal information on private websites." (Participant 8)
"We should not be friends with strangers and not share our private information with them." (Participant 11)

Some of the participants (n = 3) said that they learned when they were cyber-bullied, it was wrong to think that it was the crime of the victim, that parents were not informed about the cyberbullying with the thought that they would forbit the use of the internet in such a situation, and that the thought that the others would make fun of them because they were cyber-bullied. Some of the participants' explanations for this question are as follows.

"When a child was a cyber victim, he/she felt very sad and thought he/she was doing something wrong. However, he/she did nothing wrong. It was due to the lack of empathy that the cyberbullying person has." (Participant 2)

5. *Do you think this program contains information that you can use in daily life? If the answer is yes, what is this information?*

The participants mentioned the cognitive and behavioral factors they learned about not being a cyber victim. More than half of the participants (n = 7) stated that after the program (a) they became more sensitive about sharing their location information in daily life, (b) they did not share many photos, (c) they updated their privacy and security settings, (d) they started to use antivirus programs, (e) they did not enter the websites that they do not trust, (f) they did not swear while playing online games. Some of the participants' explanations for this question are as follows.

"I don't care about bad words anymore. I put those messages on silent and never look at them." (Participant 2)
"I don't swear to those who swear at me in games anymore." (Participant 8)
"For example, only my friends can see my posts and profile." (Participant 12)

6. *What do you remember about the wrong thoughts about cyberbullying?*

Some of the participants (n= 5) stated that cyberbullying is done for the purposes of (a) taking revenge, (b) having fun, (c) being jealous, (d) hurting someone, (e) boredom. Some of the participants' explanations for this question are as follows.

"For fun." (Participant 5)
"To take revenge" (Participant 11)
"With the thought that he/she should be hurt too." (Participant 3)
"Because of being jealous." (Participant 12, Participant 2)

7. *What do you remember about the wrong thoughts about being cyber victim?*

Some of the participants (n= 3) stated that they think it is wrong to (a) think that being a cyber victim was their own fault, (b) take revenge when someone is cyber-bullied, (c) think that everyone will make fun of him/her when he/she is cyber-bullied.

"When a child was a cyber victim, he/she felt very sad and thought he/she was doing something wrong. However, he/she did nothing wrong. It was due to the lack of empathy that the cyberbullying person has." (Participant 2)

"He/she may want to take revenge. He/she may cyberbully the other person." (Participant 5)

4. Discussion

It is known that the most effective programs in terms of prevention and intervention are evidence-based programs (Ttofi & Farrington, 2009). Therefore, scientific achievement is an important component for the preparation of a strong cyberbullying prevention-intervention program (Cioppa, Neil and Craig, 2015). Testing the developed programs by using a control group with similar characteristics to the experimental group, using a sample with large size, using experimental design with pre-test and post-test control group, collecting data from multiple sources, providing monitoring measurements, having a handbook of the developed program and therefore, providing ease of application are the criteria used for scientific success. The cognitive behavioral cyberbullying prevention program developed and tested within the scope of this study fulfills the criteria such as (a) using a quasi-experimental design with a pre-test and post-test control group, (b) using a control group that has similar characteristics to the experimental group, (c) reporting the results stating that this program is effective on cyberbullying and cyber victimization (d) the program is designed as a handbook for ease of application.

The findings of this study show that cyberbullying prevention program based on cognitive behavioral approach has an effect on cyberbullying and cyber victimization levels of the children. When the related literature is examined, the cyberbullying prevention program based on social learning and cognitive behavioral approach which is named "The Media Heroes" and developed by Krumbholz et al. (2018) is found to be effective in reducing the behavior of cyberbullying similar to this study. Likewise, Wölfer et al. (2013) found that cyberbullying prevention program based on social learning and cognitive behavioral therapy has an effect on participants' cyberbullying levels. The qualitative data obtained within the scope of this study also support the claim that the program is effective in terms of cyberbullying and cyber victimization in the experimental group of the program. When participants were asked whether the program included skills that they could use in daily life and whether they used the skills they learned from the program in daily life, more than half of the participants (}n= 7) stated that after the program (a) they became more sensitive about sharing their location information in daily life, (b) they did not share many photos, (c) they updated their privacy and security settings, (d) they started to use antivirus programs, (e) they did not enter the websites that they do not trust, (f) they did not swear while playing online games. Participants stated that after the program, some of their classmates started to (a) pay attention to sharing fewer photos, (b) prefer safer websites when they research for their homework.

Findings show that cognitive behavioral cyberbullying prevention program also has a positive effect on bullying cognition of the participants. In the peer bullying intervention program prepared by Gökkaya (2015) with a cognitive behavioral approach, establishing a connection between thought-emotion-behavior, recognizing the thoughts about bullying behavior and replacing the thoughts that cause these behaviors were studied just as in this study and it has been determined that the program has a positive effect on the participants' bullying cognition. Bullying cognitions are frequently studied in peer bullying prevention and intervention programs. For example; Olweus (2004) studied on changing the cognitions of bullies within the scope of the prevention program. Newman-Carlson and Horne (2004) trained teachers on changing students' views of bullying with positive alternatives in the peer bullying prevention program named "Bully-Busters". Eweniti et al. (2013) studied on changing the negative thoughts of participants about bullying which has an effect on their behaviors, with positive

statements such as "I need to overcome with bullying" and "I need to think twice before bullying" in their study about the effect of giving instructions oneself to prevent peer bullying.

It is noteworthy that the participants touched upon the cognitive and behavioral factors they learned about not to cyberbullying and not to be a cyber victim during the focus group interview. They stated that (a) taking revenge, (b) having fun, (c) being jealous, (d) hurting the other person, (e) boredom are the reasons of cyberbullying and that (a) thinking that being a cyber victim is their own fault, (b) thinking to take revenge when the person is cyber-bullied, (c) thinking that everybody will make fun of the person when he/she is cyberbullied are the wrong thoughts about cyber victimization. They also stated that they learned (a) thinking that it is the fault of the person who is cyberbullied, (b) not informing the parents about the situation with the thought that the parents would forbid the use of internet, (c) the others will make fun of the person who is cyberbullied are the wrong thoughts about cyber victimization. When the participant opinions are examined, it can be said that the cyberbullying program based on cognitive behavioral is effective in distinguishing the cognitive distortions related to bullying and the behaviors caused by these distortions and it is consistent with the quantitative data and the literature.

In conclusion, both quantitative and qualitative data obtained within the scope of the study reveal that the CBT-based cyberbullying prevention program increases the participants' awareness of cyberbullying and cyber victimization and changes their thoughts. In addition, qualitative and quantitative data obtained from the participants also show that these changes are reflected in their behavior.

5. Limitations

This study has two main limitations. The first one is that members are not impartially appointed to the experimental and control groups. The second limitation is that the application is carried out with large groups in the classroom. This may be a disadvantage for a psychoeducation prpogram aimed at providing behavioral skills. In order to minimize the negative effects of this situation, the psychological counselor of the school participated in the groups as an auxiliary leader.

6. Suggestions

(1) It is recommended to increase the number of preventive studies by starting from childhood in order to fight cyberbullying which is increasing together with the increase of technology use, in a more effective way.

(2) It is recommended to adopt a school-based holistic view (Murray-Harvey et al., 2012) which includes all parties such as parents, psychological counselors of the school, teachers, school administrators and legislators (Huebner and Morgan, 2002) to the prevention process of cyberbullying. For this reason, it is recommended to provide training for (a) parents, educators and teachers, (b) developing the education policies in line with the outputs of the cyberbullying prevention programs in our country, (c) extending the use of the prepared prevention and intervention programs, (d) raising awareness of the psychological counselors of schools which has a key role in studies related to the prevention of cyber and peer bullying as well as to provide in-service training on this issue if it is necessary.

(3) The applied cognitive behavioral based cyberbullying prevention program is found to be effective in preventing cyberbullying. Since the effect of the cognitive behavioral-based cyberbullying prevention program on cyberbullying and cyber victimization is examined for the first time, it is not enough to test it on a single group. This program is recommended to be tested in different samples by different implementers.

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Self-Verification and Well-Being of University Students

Fatma Aslı Akün, *Istanbul University, Turkey*
ORCID: https://orcid.org/0000-0001-5073-6647

Ümit Behrem, *Istanbul University, Turkey*
ORCID: https://orcid.org/0000-0001-9659-3979

Abstract
This research aims to understand how self-evaluations and well-being are related with people's self-verifying preferences in relationships. The measures of the research include Oxford happiness questionnaire, global self-evaluation traits and self-verification items. We conducted multinomial logistic regression analysis. The research sample consisting of sixty university students mentioned that they welcome their either positive or negative attributes and they want other people to welcome and verify these attributes that they think compose their self-concept. They also emphasized that their well-being is high. We can conclude that self-verification, self-evaluations, and well-being are related with each other and so can be improved together.

Keywords: Self-Verification, Well-Being

1. Introduction

Self-works interconnected in molecular, neural, psychological, social levels of mechanisms and represents, effects, and changes itself in this process. (Thagard & Wood, 2015). Person has process-based i.e. self-appraisal, specific i.e. self-love, or results-based i.e. self-esteem in representing. Self's presentation to oneself can be general i.e. self-discovery, experience-based i.e. self-awareness, and false i.e. self-deception. Through self-disclosure and self-expression self-represent oneself to other selves. Communicative process is related with effecting, facilitation for desirable consequences i.e. self-verification and limitation for aversive consequences i.e. self-discipline. Thus, self-changes and develops through life (Thagard & Wood, 2015).

Well-being is about the people's attitudes towards oneself, life, and world. North & Swann, Jr. (2009) mentioned that self-verification relates to well-being. However, we didn't find much research in the literature about how people's self-evaluations and well-being affect self-verifying efforts. The aim of this research is to understand these aspects in detail.

1.1 Literature Review on Self-Verification and Well-Being

1.1.1. Self-Verification
According to the self-verification theory people want others to perceive them as they perceive themselves (Swann Jr., Stein-Seroussi & Giesler, 1992). The research of Swann, Jr., Stein-

Seroussi & Giesler (1992) showed that people with negative self-evaluations preferred to interact with people who appraised them unfavorably due to self-verification by getting valid confirmation about self-concept in epistemic terms, having a compatible and tender relationship in pragmatic terms and also showing a preference for an insightful partner.

In marriages, for example, when one partner demands and other partner withdraws himself/herself, both partners think their vision and what they deem important and valid are uncared, conflict is unresolved, feel themselves less understood and therefore self-ignored, less self-verified, and less satisfied with the marriage interaction (Weger, 2005). It was also noted that women's over-assertiveness have worse effect on husbands' feelings, withdrawal and satisfaction. On the other hand, it was also discussed that women might be dissatisfied to be compelled to be authoritarian and might feel sorry at the same time for husband's withdrawal. This study is also important to consider communication activities besides conflict; that are conversations related with compliance and support; however, in these types of marriages small talks are related with disconfirming communication. He lastly underlined that demand/withdrawal package needs to be opened and studied (Weger, 2005).

Relating with group behavior, Swann Jr., Polzer, Seyle, & Ko (2004) mentioned that self-verification theories explain an individual's need to consolidate in groups and his/her determination on choosing groups, behaving in groups relatedly with his/her personal and social self-views which will support and strengthen these views and relationships in return. London (2003) mentioned that people with accurate positive self-views will be verified in group relations, group learning and development. London (2003) added that people who are low at public self-conscious, low self-monitor, high self-development orientation are more open to feedback for self-verification that means they are less impressing others, worrying about fitting in but better identifying with the group and negotiating at the same time. People are more comfortable with differences, listening and sharing and more intimate that facilitate leader behavior and group coaching/mentoring. According to the cultural dimension of self-verification, Ross, Heine, Wilson, & Sugimori (2005) found out that Canadians have higher self-enhancing motivation than Japanese have whereas Japanese are more critical about private selves but favorable about relational selves. They discussed that in East Asian culture self-criticism might function as suiting to the social group and accurate self-criticism might provide improvement.

Swann, Jr. & Brooks (2012) mentioned in their article that people try to check if their perceptions reflect reality, if they can protect their existence, and control their environment. They gave the example of vehicle driver that wants to be sure about the way/route is correct and everything is fine with himself/herself, the vehicle and external conditions such as land, sea or air traffic and weather that affect his/her drive to reach the destination. Relatedly with the sense of coherence (Lecky) and self-verification (Swann) literature, they noted that this sense of coherence when strengthened and balanced make up person's self-view to be verified. For people who have negative self-views positive packaged feedbacks, for people who have positive self-views negative packaged feedbacks and for people emotionally fused with progroup behavior positive and negative packaged feedbacks trigger compensatory activity because of challenge and/or deprivation of self-verification. For example, giving feedback to a person who thinks he/she is assertive as not so much assertive enough or placing an assertive person in a silent environment and cut off his/her voice will result in person's certainly not to be silent and be as much assertive as he/she can and put much more effort to self-verify, or vice versa for saying a person that he/she is assertive although he/she evaluates himself/herself as being unassertive/quiet. Also, for example, giving feedback to a person who is prosocially assertive but silent when he/she is alone, that he/she is assertive or silent will result in compensatory activity because his/her self-borders is intertwined with his/her prosocial self. In all these conditions, compensatory activity includes telling others that his/her self-view is correct and therefore changing others' lowering, elevating or non-inclusive view to maintain sense of self coherence and counteract the given feedback.

Furthermore, Swann Jr. & Brooks (2012) pointed out that self-enhancement framework explains self-serving biases that people attribute the reasons of positive outcomes for themselves and hold responsible and accountable others for the reasons of negative outcomes. Self-enhancement framework explains why people with positive self-views don't want to hear and tolerate negative feedback and compensate with positive self-view, however, self-enhancement framework cannot explain why people with negative self-views resist to positive feedback and insist on negative self-view communication. Another framework; uncertainty reduction explains how self-information uncertainty fall to the need of social support in various forms and also increases the emphasis in communication about justice, religion, and social attitudes to cope with uncertainty. Self-affirmation theory as a variation of uncertainty reduction, is due to confirmation of positive aspects in relations. Uncertainty reduction theory like self-enhancement theory is not liable or responsive to people with negative self-view compensation. System justification framework expresses how lack of control perception due to being out group, independently from being out group perception is unbiased or biased, according to gender, race, and school affiliation, or other kind of diversity is related to political participation, calling for divine intervention, and believing the miracles of supernatural beings' powers. This is different from self-enhancement that they try to be part of the other to justify oneself and being in-group member. Terror management theory explains how people are threatened by mortality that invalidates self to be verified and people try to be important social actors, enhancing oneself and being part of a whole. Meaning maintenance theory proponents explain overcoming death anxiety by preserving meaning in all connections that was developed (Swann, Jr. & Brooks, 2012). A similar-looking word, but opposite concept, self-effacement is related with self-sacrifice and transcendence for goodness that is also mentioned in the Bible (Wiederkehr-Pollack, 2007).

1.1.2. Well-Being

The "health" definition of World Health Organization is being and functioning physically good, feeling good, functioning psychologically good, functioning socially good in and contributing to social life (Huppert, 2009). Physical exercise (Biddle & Mutrie, 2008), positive social interactions especially with friends and family regardless of the frequency of interactions (Rook, 1984), job security (De Witte, 1999), sufficient performance monitoring, giving developing feedback and providing control and support (Holman, Chissick & Totterdell, 2002), having power through authenticity/own essence (Kifer, Heller, Perunovic, & Galinsky, 2013), work and life balance (Lunau, Bambra, Eikemo, Van Der Wel, & Dragano, 2014), collaborative organizational culture and problem solving and compromising conflict management styles (Özarallı, 2015), emotional intelligence, supervisor and coworker support, and less surface acting (Johnson, 2004), organizational citizenship behavior (Davila & Finkelstein, 2013), psychological capital (Avey, Luthans, Smith, & Palmer, 2010), meditative prayer (Maltby, Lewis & Dat, 2008), not perceiving imperfections as psychological weaknesses; instead appreciating virtue and social value of care (Haybron, 2007), intimacy through need fulfillment (Prager & Buhrmester, 1998), listening to pleasant music (Schellenberg, 2012), laughter yoga (Weinberg, Hammond & Cummins, 2014), music therapy i.e. sympathetic musicality in parent/baby and parent/infant relationships and communicative musicality (Trevarthen & Malloch, 2000), art therapy (Malchiodi, 2003), dance and sports (Gurley, Neuringer & Massee, 1984), maintaining trust in interpersonal relations while aging (Poulin & Haase, 2015), spirituality in aging (Jewell, 2004), self-efficacy beliefs in adolescence (Caprara, Steca, Gerbino, Paciello, & Vecchio, 2006), self-direction, achievement, benevolence, and universalism cross cultural value priorities in Turkish and American samples (Çalışkan & Lin, 2018), less shame, less emotional suppression, less aggression, higher self-esteem (Velotti, Botazzi & Caretti, 2017), stress reduction techniques such as quitting smoking, healthy diet, nonsedentary life (Sparks, Faragher & Cooper, 2001), peace attitudes in terms of freedom, equality, tolerance of diversity and politics (Diener & Tov, 2007), harmonious passion (Philippe, Vallerand & Lavigne, 2009), harmonic flow (Carpentier, Mageau & Vallerand, 2012), recovering leisure time activities and low effort activities for people working in demanding jobs

(Sonnentag, 2001), holiday (Gilbert & Abdullah, 2012), livable and healthier cities (Stibe & Larson, 2016) are among the emphasized relations in the well-being literature.

In addition, millennium ecosystem report (2005) expressed that well-being is also a very related concept with an ecosystem. Ecosystem is defined as continuous and interacting environmental system that their services maintain people's lives through providing fresh water, food, regulating climate, flood and disease, purifying waters, supporting nutrient cycling, forming soil, affecting production and social relations in other words; several aspects of well-being.

Diener, Sapyta & Suh (1998) emphasized the importance of subjective well-being; in other words, one's self-evaluation about functioning well in almost all aspects of life. Diener, Sapyta & Suh (1998) added that positive attributes like extraversion, and self-esteem don't always relate to well-being or the reasons for satisfaction and happiness may be culture-specific and individually subjective. Our social conditions and environment in early childhood and later life and our behaviors affect our well-being which relates with physical health and ways of thinking. Ryff, Singer & Love (2004)'s findings about the relationship between the two key types of well-being and biology showed that women having eudaimonic well-being that is related with psychological growth have lower salivary cortisol, pro-inflammatory cytokines, better cardiovascular symptoms, sleep quality and left side frontal activation and people having hedonic well-being related with positive affect has better HDL (good cholesterol). Bellinger (2018) emphasized that mortality, life expectancy indexes and health data and information for education, income, and human development are considered as other objective reports of well-being.

Besides the definitions, the relations of well-being with other phenomena, in the next paragraphs; the literature related with the ways to develop well-being is discussed. For example, Ryff & Singer (2008) explained that personal unity in admitting one's favorable and unfavorable aspects, compassion and empathy in relations, achieving potential, meaning making are important for well-being. Fava & Ruini (2003) explained well-being therapy sessions through the help of the therapist for counselee's figuring out one's own life events and internal psychological processes and achieving six features of Ryff's conceptualization of well-being; environmental mastery, personal growth, life purpose, autonomy, self-acceptance and positive relations with others. Zarb (2007) emphasized that past and present life problems, attitudes and coping patterns that make life difficult can be changed with how people approach and shape their lives with effective cognitive, emotional, and behavioral strategies. In addition, Herbert & Forman (2011) mentioned that getting aware of everything with acceptance and mindfulness will help us to create cognitive, emotional and behavioral well-being.

In addition, according to Fredrickson (2000) positive emotions cumulate, flex and broad thought ways and behavioral possibilities expand and build personal, physical, intellectual, social, etc. resources. Fredrickson's broad-and-build model leads to supportive networking, added value of positive emotions in relationships and/or marriages that automatically functions as inhibitory for escalating conflicts, stress, etc., not only less or absence of illnesses i.e. cardiovascular illnesses, but also health and well-being with boosting mindful emotions such as contentment, sparing more time with nature, to imagination, physical exercises and relaxation (Fredrickson, 2000).

Treleaven (2018) emphasizes that mindfulness exercises are useful for erasing silent suffering, healing, staying within the window of tolerable safety, integration, optimal arousal, mindful social engagement, and well-being. He used Medusa analogy referring to Levine's book "Unspoken Voice: How the Body Releases Trauma and Restores Goodness". Accordingly, beautiful winged mortal creature from Gorgon family, Medusa with her hair is made up of poisonous snakes turns people whom looks at her to stone. Greek hero Perseus asked to goddess of knowledge, Athena how to defeat her. Athena advised Perseus to use shield reflecting Medusa's gaze and defeating her and that's what Perseus did. Accordingly, with the legend, sticking to look at her/symbol, hunt

lithe, freezes and dissolves like trauma features. Therefore, not to be caught by trauma/Medusa gaze, it is important to focus on mindfulness breathing. With mindfulness meditation people get aware of interceptors and at the same time see outside without the threatening and stressful trauma glasses and learn to listening both; inside and outside of comfort zone, looking from window of tolerance by making effective the personal boundary. Besides mindfulness, building safe places; well lit, with privacy protection, accessible exists, predictable schedule, optimum scent and simple smell free of cosmetic chemicals are crucial for adjusted social context, neutrality and comfort for differences and feeling well.

Sternberg (2009) expressed that even it is real or placebo effect, believing in healing and having hope for healing are effective and Sternberg gathered healing architectures heading under three components; patient safety (i.e. less infection, injury, and medical error), environmental stressors (i.e. less noise, more comfort, light, warmth, facilities, relaxing scents), and ecological health (i.e. green space, nature, and air quality, etc.) and noted that this is especially crucial in hospitals that has goal of saking for the patients', health professionals', staff' and caregivers' well-being, be like living in sweet home that may lead to more safety, less stressors, and more health in return, besides technological/robotic health equipment. Also, Sternberg added that healing in the open areas include walks in marketplaces, landmarks, theme parks, shopping centers, sport areas, etc. Sternberg gave Japanese and Chinese examples of harmonic landscape design on hills with waterfalls, soil, trees, stones, rocks, flowers, birds, and wooden bridges underneath full-of-fish ponds, etc. Sternberg emphasized that sun, sea, and pleasant memories, Crete villages have healing effect on and are special for her. With cognitions, chemicals in body, and conditioning and learning processes the healing effect circulates in the body and transfer the sense of well-being to the next visits to these healing places.

All in all, ways of well-being interventions may also be useful in the frameworks i.e. self-enhancement, uncertainty reduction, system justification, terror management, and meaning maintenance (Swann, Jr. & Brooks, 2012) as well as developing self-verification aspects in a healthy way (North & Swann, Jr., 2009).

2. Method

2.1. Sample
Sixty university students in Istanbul University were participated in the study, aged to 18 to 25 including postgraduates. Convenience sampling method was used for data collection and regarding demographics participants were %50 female and %50 male.

2.2. Measures
2.2.1. Oxford Happiness Questionnaire
Oxford Happiness Questionnaire (Hills & Argyle, 2002) consists of twentynine items evaluating person's happiness towards life aspects. In our sample, we found out that general scores for well-being is high (M= 3,41, S.D.= 0,51) and realibility indicator Cronbach Alpha for these items was 0,88; very high. Due to highest order validity; that is construct validity (Hills & Argyle, 2002) and reliability checks, the measure was utilized in our study. Also, we found out that well-being scores don't change according to statistically significantly according to demographics sex.

2.2.2. Global Self-Evaluation Traits and Self-Verification
Global self-evaluation traits (Alicke, 1985) were studied for understanding global self-concept. Self-verification items; "Would you like others to evaluate your positive qualities in the same way?", "Would you like others to evaluate your negative attributes in the same way?", "Would you like your negative attributes to be better evaluated by others? were formed according to the all literature that was considered in the literature review. "Would you like others to evaluate your negative attributes" question was to understand whether they're certain about self-verification or

they prefer both verification and enhancement. In our sample, reliability indicator Cronbach Alpha for 3 items of measuring self-verification was 0.82; very high. We found out that self-verification scores don't change according to statistically significantly according to demographics sex.

For all the measures, we made translations of the scales and items and third parties checked the translation and comprehensibiliy of the scales and items. We hypothesized that how people evaluate themselves and how they feel about themselves affect self-verifying efforts.

3. Results

The analyses were conducted to understand the self-concept categories and well-being attributes that are statistically significant for self-verification. We tested this through appropriate statistical technique for multicategory variables; multinominal logictic regression (Gürbüz & Şahin, 2018). According to the multinominal logistic regression, "cooperative", "trustful", "sincere", "self-disciplined", "obedient", "persistent" attributes have the least point categories that they evaluated themselves; instead they think themselves as "considerate", "friendly", "respectful", "dependable", "resourceful", "polite", "pleasant", "loyal", "clean", "versatile", "persistent", "well-read/enlightened", "sensitive", "level-headed/calm and sensible", and "self-satisfied". Multinominal logistic regression model for self-verification for these positive self-evaluation categories were significant (Significance: 1.000, Chi-Square: 23.546, Cox & Snell: 0.325, Nagelkerke: 0.991, McFadden: 0.988). Multinominal Logistic regression model for self-verification for the negative evaluations were significant (Significance: 1.000, Chi-Square: 23.822, Cox & Snell: 0.328, Nagelkerke: 1000, McFadden: 1.000) (Gürbüz & Şahin, 2018). These results are shown in Table 1.

Table 1: Self-Verification for Self-Evaluation

I don't evaluate myself as…	I evaluate myself as…	Results
Cooperative	Considerate	Self-verification for negative
Trustful	Friendly	evaluation traits is significant.
Sincere	Respectful	
Self-disciplined	Dependable	Self-verification for positive
Obedient	Resourceful	evaluation traits is significant.
Persistent	Polite	
	Pleasant	
	Loyal	
	Clean	
	Versatile	
	Persistent	
	Well-read/Enlightened	
	Sensitive	
	Level-headed/Calm and Sensible	
	Self-satisfied	

Related with the well-being; "I'm pleased with the way I am.", "I'm intensely interested in other people.", "I feel that life is very rewarding.", "I have very warm feelings towards almost everyone.", "I wake up feeling rested.", "I'm particularly optimistic about the future.", I find most things amusing.", I'm always committed and involved.", "Life is good.", "I think that the world is a good place.", "I laugh a lot.", "I'm well satisfied about everything in my life.", "I think I look attractive.", There's a fit between what I would like to do and what I've done.", "I'm very happy.", and "I find beauty in things." items were statisically significant and meaningful. Multinominal logistic regression model for positive self-verification (Significance: 1.000, Chi-Square: 23.822,

Cox & Snell: 0.328, Nagelkerke: 1.000, McFadden: 1.000) was significant (Gürbüz & Şahin, 2018). These results are shown in table 2.

Table 2: Self-Verification for Well-Being

I evaluate myself as…	Results
I'm pleased the way I'm. I'm intensely interested in other people. I feel that life is very rewarding. I have very warm feelings towards almost everyone. I wake up feeling rested. I'm particularly optimistic about the future. I find most things amusing. I'm always committed and involved. Life is good. I think that the world is a good place. I laugh a lot. I'm well satisfied about everything in my life. I think I look attractive. There's a fit between what I would like to do and what I've done. I'm very happy. I find beauty in things.	Self-verification for well-being is significant.

4. Discussion and Conclusion

4.1. Discussion

The results showed that participants want other sides to verify them instead of enhancement. If they preferred mostly self-enhancement and disapproved self-verification, we would probably have different well-being results and discuss to optimize self-verification and self-enhancement with kinds of well-being interventions that we emphasized in the literature review.

However, related with the self-verification literature, the preference for self-verification might be related with wishing intimate relations or at least as Wright, King & Rosenberg (2014) found out feeling less lonely and stressed with satisfying social support. However, a dilemma lies here is that people want self-verifying feedback for developing intimate relations that might hold high rejection risk and make them vulnerable to be hurt and end the relationship. In fact, as Kwang & Swann, Jr. (2010) pointed out people prefer self-verification for low rejection risk relationships. The results of this research also showed that the sample less evaluated themselves in self-discipline which means they prefer limiting aversive consequences as Thagard & Wood (2015) mentioned. All in all, these reminded us about what Geçtan (2016) emphasized about living beings i.e. animals that they try to find the optimum distance to heat each other and not to disturb one another at the same time.

Besides candid relations, this also reminded us Goffman (2014)'s discussion about the asymmetry in communication process and visibility of the subject. According to him, the extent for one's self-expression (in a way ability to impress) has two different kinds of signals: the impression one gives and the impression one creates on social environment. The impression one gives involve communicating with representations that have symbolic meanings. The impression one creates on social environment has a broader scope of communication which includes different kinds of actions that the person has less control over. However, the person might give wrong information in both possibilities either through aware or unaware deception or acting. The people's responses might involve checking the accuracy between the person's uncontrollable behaviors with his/her controllable statements. This reveals the asymmetry in the communication process and witnesses are more advantaged than the subject. Thus, we can conclude that communication process helps

people to realize and understand representing self i.e. self-deception and effecting self i.e. self-verification, changing self in the process, and helps people to understand each other better. Also, for example, Robbins and Judge (2017) mentioned that people might select what to perceive, draw inferences from single dominant/preferable attributes, favor some attributes over others, and categorize and judge to test their social predictions, process and interpret this information to ease, shorten, and make the perception process more practical. However, self-verification might provide this through less biased and more accurate through communicating, recognizing, and negotiating.

Therefore, as North & Swann, Jr. (2009) mentioned psychological consistency, and better health are obvious bright effects and more predictable, compatible, qualified, close and trustful relationships are other bright side effect of self-verification. They also emphasized that lowering self-esteem to the levels of affecting the individual's adjustment and perpetuating depression through negative self-verification that is far from being accurate and through negative-affective crossfire for not meeting happiness needs are clear dark effects. Suffering relationships and tendency to accept psychological maltreatment are other dark side effects of self-verification. Therefore, as North & Swann, Jr. (2009) mentioned self-verification being an indispensable part of self-acceptance, it is only useful in the extent for providing positive change and reach "sukha". The sample of the research has the attributes of Y generation those born after 1980s and before millenium (Y) (Zemke, Raines & Filipczak, 2000). Reviewing the literature in Turkey, we found out that there are some, though not much, researches related with a sample of Y generation university students in Istanbul. As an example, Ordun & Akün (2017) mentioned that effecting self i.e. self-actualization has positive impact on specific self-representation i.e. self-efficacy through self-change and emotional intelligence have positive effects on self-presenting, affecting, and changing process. Since self-actualization is very related with eudaimonic well-being (Ryff, Singer & Love, 2004), we might expect that eudaimonic well-being affect changing self, however this needs further examination.

4.2. Limitations of the Study and Future Research Directions

The research sample might be more inclusive in terms of other generations, in other cities in Turkey, in other countries, in different organizations etc. As an example, in different organizations and contexts, the difficulty of being frank; being honest and straightforward in the sake of forming intimate and sincere relationships can be misunderstood and unagreeable according to the relativity of diversity of experiences and conditions. Thus, the importance of our subject; self-verification based on self and mutual recognition as we emphasized in detail is needed. Therefore, it can be wonderful to research how in different organizational lives and organizational formal and informal group processes people live through this intimacy and exclusion dilemma in self-verification process and how they develop their self-evaluations and create positive change for negative self-verification attributes that we lack this information for this research.

In addition, this research might be generalizable only to some extent and additional research might be needed for other universities' students. These reasons can explain why not all of the items in self-evaluations and well-being inventories were found statistically significant and we reported only the significant relations for our research report not to be confusing and be more simple. As an example, in the well-being inventory, the items related with motivation that weren't found statistically significant are important to consider developing well-being. Also, in the theoretical background of the concepts, we felt constrained to use the literature integrated with ways of developing well-being however due to our sample and many number of the questions we couldn't question about the ways that they heal themselves and develop well-being and how this affects self-verification and also we could not ask about how they form their self-concepts and create positive change for self-verified negative attributes.

Furthermore, for measuring self-verification we developed self-verification items inspiring by the literature, although they are valid and reliable, there might be other ways for measuring the concept. We also needed to give many self-evaluation trait options to take practical self-description in a palpable way. The same is true with well-being that might be studied another way. Thus, we measured with appropriate statistical method to test research model that is plausibly constructed by what we understood from literature review around the possible relationships between the concepts i.e. self-evaluations, well-being, and self-verification. Therefore, there might be other ways to measure and make analyses due to how one constructs the research model.

4.3. Conclusion

The research reveals the importance of self-verification in terms of self-evaluations and well-being. The sample preferred both positive and negative self-attributes' being accepted as they are in interpersonal relations. The sample emphasized that they have positive attitudes towards themselves and life. The literature and this research offer useful knowledge, implications, and ways of interventions for understanding how people's self-concepts, well-being, and what they expect in relationships i.e. verifying and/or enhancing are related with each other and so can be improved together.

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Posttraumatic Growth and Posttraumatic Stress Disorder among Breast Cancer Survivors

Zeynep Yanık Can, *Maya Vakfı, Turkey*
ORCID: https://orcid.org/0000-0003-3040-0649

A. Meltem Üstündağ-Budak, *Bahçeşehir University, Turkey*
ORCID: https://orcid.org/0000-0002-4159-8980

Abstract
The aim of the study is to examine the mediating effect of rumination types in relationship with centrality of event and the path of posttraumatic growth and posttraumatic stress disorder symptoms among 40 breast cancer survivors aged between 29 and 79 (M = 47.33, SD = 9.32) from all around Turkey. The results of the current study revealed that deliberate rumination partially mediates the relationship between centrality of event and posttraumatic growth and the relationship between centrality of event and posttraumatic stress disorder. Moreover, the results of the current study revealed that intrusive rumination partially mediates the relationship between centrality of event and posttraumatic growth and the relationship between centrality of event and posttraumatic stress disorder.

Keywords: Centrality of Event, Traumatic Growth, Traumatic Stress, Rumination

1. Introduction
The growing amount of interest in the negative and positive trauma consequences relationship has been occurred in the related literature. Having diagnose of cancer and facing ongoing medical procedures' process of treatment has psychological effects on the person with its side effect (McCready, 2004). According to Amir and Ramati (2002), breast cancer survivors have experience significantly increased level of posttraumatic stress symptoms. Additively, there is a growing body of research on posttraumatic growth among survivors of breast cancer. Previous studies have been shown that breast cancer survivors, just like many cancer survivors of other cancer types, reported positive life changes after their diagnosis (Bellizzi, 2004; Antoni & Carver, 2003; Sears, Stanton, & Danoff-Burg, 2003). However, there has been a lack of research that focused on the role of the centrality of the event and types of rumination at the same time on the path of posttraumatic growth and posttraumatic stress symptoms.

1.1. Research on Breast Cancer and Psychological Well Being
Breast cancer is defined as outgrowth of malignant cells, which occurs in the breast tissues in the body (National Cancer Institute, 2018). All around the world, the breast cancer is the most common cancer type among women (Barthakur et. al, 2016; Jemal et. al, 2011). In the last decades, it was also shown that the ratio of the breast cancer diagnose has increased globally (Anderson & Jakesz, 2008; Porter, 2008). Having a cancer causes various amount of

psychological effects and reactions depends on the person who is having it within procedures of treatment process and adaptation to living with the cancer itself. Diagnosed with breast cancer process also effects the person for adapting to the quick changing decisions within those treatment process and their side effects (Tedeschi & Calhoun, 2004). Having a diagnosis of any kind of cancer would likely to have an effect on different domains of individual within several treatment procedures, their effects on individual by urge to adaptation and reactions toward it. In 1959, Aitken-Swan and Paterson suggested that being diagnosed as breast cancer can lead several changes of individual life as emotional reactions like denial or avoiding of event and anxiety within perception of the individual; and they focused on after treatment process and found out that survivor of breast cancer might be in need of adaptation in differences in own's body image, social connections with others and reconsidering the fear of relapse. According to Amir and Ramati (2002), breast cancer survivors have high level of posttraumatic stress disorder symptoms, especially after the recovery of breast cancer; in contrast to that, women who have been diagnosed with breast cancer also can develop posttraumatic growth.

While it was considered the place of cancer deaths, breast cancer is ordered in the 3rd place in Europe in both sexes however when just women were considered in the situation, breast cancer is the most common reason of death in cancer types (Ferlay et al., 2007). Eryılmaz et. al (2010) showed that breast cancer in one of the most prevalent cancer type which is causing death among women in Turkey. Mortality rate of breast cancer in Turkey leads several studies to investigate the demographic characteristics of the diagnosed population. From the study, it could be concluded that the higher level of breast cancer women who are between 51 to 70 age range (Özmen, 2006).

The high level of diagnosing with breast cancer was also found related with other factors like higher age, higher age at first pregnancy, genetics, dieting style, alcohol consumption and smoking amount, hormone differences and radiation receiving from several treatment procedures (McPherson et. al, 2000). According to several research about breast cancer's psychological effect on the patients, it has been found that diagnose of the breast cancer and the process of treatment indicate anxiety, depressive symptoms, fatigue without medical reasons, and cancer recurrence fear in the person (Wang, 2011; Harrington et al., 2010; Cordova & Andrykowski, 2003). In the light of several studies, which are related to breast cancer survivors have revealed a significant relationship between quality of life, optimism and hope (Allison et al., 2001), depression (Epping-Jordan et al., 1999) and emotional adjustment (Synder et al., 1991). Pauwels et al. (2013) conducted a research with 547 breast cancer survivors after their treatment between 3 weeks to 6 months and they found 56% of breast cancer survivors indicated who are receiving social support develop adaptive psychological functioning.

After the treatment of breast cancer of an individual, negative psychological effects have addressed by several studies (Costa-Requena, Rodrigues, Fernandez, Palomera, & Gill, 2011; Amir & Ramati, 2002; Jacobsen et al., 1998). After a patient's treatment procedure, has been terminated, an individual would most probably faced with high level of depressive symptoms and anxiety (Costa-Requena, Rodrigues, Fernandez, Palomera, & Gill, 2011), PTSD symptoms (Cordova et al., 1995), high level of ideation of committing suicide (Schairer et al., 2006), adjustment disorders and sexual functioning disorders (Fallowfield & Hall, 1991). Moreover, depression is found more frequent in breast cancer survivors than general population (Yi-Long et al., 2013; Argyropoulou, & Karvelis, 2007). Also, Reyes et al. (2012) conducted a longitudinal study in Texas with 240 breast cancer survivors and revealed 16% of the participants were in depression in 6 to 13 year after the process of treatment. Furthermore, Romito et al.'s (2012) study with 255 breast cancer survivors has shown that after 5 years of treatment, 37% of the participants have depression. Anxiety has found in an association with breast cancer's negative psychological effects and Vahdaninia et al.,'s (2010) study with breast cancer survivors indicated that severe level of anxiety is permanent with 38.4% after one year of the treatment.

Vickberg (2003) has explained term of "fear of breast cancer recurrence (FBCR)" with definition of worry and/fear that related to breast cancer coming back in the body. FBCR has found associated with depressive symptoms, low quality of life, hypochondria anxiety (Horlick-Jones, 2011). Ziner et al. (2012) conducted a study with 1128 women breast cancer survivors with three to eight years after diagnosis and found that younger participants have higher level of FBCR and worries than older breast cancer survivors.

Breast cancer survivors might live upon significant physically and psychologically stress. According to the posttraumatic stress disorder criteria in Diagnostic and Statistical Manual of Mental Disorders, having a diagnose of cancer is taking into consideration to be a traumatic event; because of having exposure to threatened or actual death (American Psychiatric Association, 2013).

1.2. Post-Traumatic Stress Disorder Symptoms

Having a negative life event may cause negative outcomes of an individual after a traumatic experience and it is referred as leading to posttraumatic stress disorder (PTSD) symptoms (Perez et al., 2014; Wachen, Patidar, Mulligan, Naik, & Moye, 2014). Post-traumatic stress disorder (PTSD) symptoms may develop when an individual exposed to death, threated death, actual or threatened serious injury, or actual or threatened sexual violence (As cited in APA, 2013, p. 271). According to DSM-5 (American Psychiatry Association, 2013), symptoms' period of should exist more than one month and effect clinically significant distress or impairment in social, occupational, or other important areas of functioning. Moreover, the duration and effects should not be attributed to the substances like medication or alcohol's physiological effects or another medical situation.

While considering different symptoms of PTSD in an individual's life, vivid vision of the stressful event, avoidance from reminders are one of the common concepts that affect the individual's total psychological functioning in lifetime (Barton, Boals, & Knowles, 2013). The study of Rubin, Boals, and Bernsten (2008) has contributed the cognitive process like memories of the traumatic event in the PTSD symptoms occurrence and increase; while the study of Ehlers and Clark (2000) has indicated the continuity of PTSD symptoms with current challenges and threats' perception.The high level of PTSD is associated with interpersonal relationship like physical or sexual assault, childhood abuse, and/or domestic violence (Lancestor, Melka, & Rodriguez, 2000). Moreover, exposing more than one traumatic experience could make risk of PTSD to develop easier (Bernsten et al., 2012). Rubin, Boals, and Bernsten (2008) suggested that individuals with high level of tendency to expose information about traumatic experience would more likely to have a risk for developing PTSD than people who do not exposure native information about traumatic events. Furthermore, Brelau et al. (2000) had indicated that people with diagnose of depression have high level of risk for developing PTSD aftermath a traumatic event.

The individual's type of personality characteristics also has a role of developing posttraumatic stress disorder. Moran and Shakespeare-Finch (2003) was found that amount of PTSD symptoms after following an exposure to the traumatic event is higher in neuroticism and extraversion personality domain and Chung et al.'s (2006) study indicated that higher level of neuroticism will lead higher level of PTSD symptoms. PTSD diagnose is common after repeated traumatic exposure with secondary traumatization, compassion fatigue, and/or burnout (Conrad & Keller-Guenther, 2006). With the study of Becker (1982) and Burgess and Holmstrom (1974), it had been started to investigate similar psychological malfunctioning in women survivors from sexual assault and those women had common characteristics like being avoidant and being on guard, and extreme startling reactions. From neurological perspective, McGaugh and Cahill (1997) had found that emotional arousal's formation of memory in a certain circumstance could be changed

by preventing adrenalin's effect. Sleep disruption (Lamarche & De Koninck, 2007) and sleep disturbance (Spoormaker & Montgomery, 2008) are other significant predictors pf PTSD.

In big amount of research, researcher have found out that posttraumatic stress symptoms have been reported in patients who has been diagnosed as cancer (Perez et al., 2014; Wachen, Patidar, Mulligan, Naik, & Moye, 2014). Kangas et al. (2002) conducted a research with cancer survivors' traumatic symptoms and found PTSD symptoms of them in correlation with low level of life quality. Heiney et al. (1994) had conducted a study with breast cancer survivors and found the existence of PTSD related symptoms like persistent anxiety, unwanted thoughts, and avoidance. Cordova et al. (1995) evaluated symptoms of posttraumatic stress disorder with 55 breast cancer survivor women and found 5-10% of the participants are having PTSD. Moreover, in another study, which was conducted with 64 cancer survivors, it was indicated that 12.5% of participants had high level of posttraumatic stress (Stuber et al., 1996). According to the APA (1994), having diagnosis of cancer is an example of life threatening event which may cause PTSD. Gurevich, Devins, and Rodin (2002) reported that PTSD symptoms establish in approximately 50% of cancer patients. Several studies exhibit that approximately 5-10% of cancer survivors guaranteed a current cancer related diagnose of PTSD; approximately 15-20% of them meet for lifetime cancer related posttraumatic stress symptoms (Jacobsen et al., 1998; Green et al., 1998).

Considerably, PTSD in cancer patients has association between poor life quality, younger age, low socioeconomic status (Andrykowski & Cordova, 1998; Alter et al., 1996). Green et al. (1998), evaluated symptoms of PTSD with 160 women who have diagnosed of early stage breast cancer and they concluded that after having diagnosis of breast cancer, 36% of participants have experienced intrusive thoughts; 8% of them met with adequate criteria of avoidance; and lastly, the ones with hyper-arousal criteria was found 27%.

The current literature has concentrated on mainly the negative aspects and reflections of a traumatic event on the individual's life and self (Norris & Slone, 2007). However, in terms of the diagnosis of breast cancer, several research has indicated that while being aware of difficulties in individual's life, survivors could face positive changes in their life (Tedeschi & Calhoun, 2004). There is a paradoxical consequence that higher level of stressful events could be contributors to both posttraumatic distress and posttraumatic growth (Bernsten & Rubin, 2007; Tedeschi & Calhoun, 1995). After being aware of negative event's positive side in person's life, an individual could able to manage the negative life event's consequences in more constructive way. In the next section, positive change after a traumatic event of an individual will be explained in order to give a clear information.

1.3. Post-Traumatic Growth
While some of the breast cancer survivors indicated negative outcomes of the diagnose (Deimling, Bowman, Sterns, Wagner, & Kahana, 2007), some of them indicated positive outcomes of the diagnose (Helgeson, Reynolds, & Tomich, 2006). Tedeschi and Calhoun (2004) named those positive outcomes of an individual after a traumatic experience after having challenge as "posttraumatic growth" and defined it as "positive psychological change experiences as a result of the struggle with highly challenging life circumstances." (As cited in Tedeschi & Calhoun, 2006, p.1). Breast cancer survivors may face with positive psychological effects of the diagnose, treatment, and after treatment process. Hartl et al.'s (2010) study has shown that breast cancer survivors' general life quality tend to improve by time. Mols et al. (2009) suggested in their study that was conducted with breast cancer survivors and control group, breast cancer survivors' level of life satisfaction is higher than control group; moreover, 79% of breast cancer survivors have started to mention advantages and positive sides from the event.

Posttraumatic growth concept has suggested that emotional load of the traumatic experience has considerable effect of an individual's assumptions that puts into a motion a restructuring of

person's perspective of life (Tedeschi, Park, & Calhoun, 1998). Janoff-Bulman (2004) examined that posttraumatic growth has root in theories of change claiming that after the traumatic event, an individual can experience a re-examination, re-construction and re-formulation about on his/her beliefs about the world; and consequently, as an outcome of that process, a rumination process could begin. Posttraumatic growth refers any kind of positive change in person's former functioning level following an experience that could be traumatic (Tedeschi & Calhoun, 1996).

Posttraumatic growth occurs when person exposed to a traumatic event; Tedeschi and Calhoun (1996) described it as an intensely undesirable event which causes a breakdown in assumptions of person's in life. Posttraumatic growth is "positive psychological change experiences as a consequence of the intensively challenging life events struggle" (As cited in Tedeschi & Calhoun, 2001), which includes traumatic experience that represent obvious difficulties to the adaptive resources of the person. Several research has indicated that traumatic experience and growth can exist at the same time (Dekel, Ein-Dor, & Solomon, 2012). However, several findings have been stirred in regard to whether posttraumatic growth and posttraumatic stress disorder are related and on the same continuum, or distinguished concepts (Shakespeare-Finch & Armstrong, 2010). Having an occurrence of posttraumatic growth is closely related to have a challenge in an individual's life that shatter core beliefs in assumptive world of person (Janoff-Bulman, 1992). Definition of assumptive world is "general set of beliefs and assumptions about the perceived world, which lead some behaviors and actions and support of understanding the reasons for events" (As cited in Tedechi & Calhoun, 2004).
Tedechi & Calhoun (1996) had found that the social environment of an individual very crucial in the posttraumatic growth's development. There is several research revealed that some demographic characteristics play a significant role on the development of posttraumatic growth (Bellizzi & Blank, 2006; Updegraff & Taylor, 2000). Updegraff and Taylor (2000) suggested that demographic status like higher level of employment situation, marital status could be partial preventer for stress and have possibility to predict posttraumatic growth. They suggested that marital status especially is related to high level of posttraumatic growth, which mentioned that being married is considerable factor in developing of posttraumatic growth. Bellizzi and Blank (2006) found that having lower education level is related to higher level of posttraumatic growth in breast cancer survivors.

Morrill et. al (2008) posttraumatic growth has been known as an action of protective mechanism/reaction toward depressive symptoms and posttraumatic stress disorder. Shakespeare-Finch, Gow, and Smith (2005) has indicated that openness and extraversion personality characteristics are positively related with posttraumatic growth; on the other hand, neuroticism is negatively related with posttraumatic growth. However, the relationship between posttraumatic growth and neuroticism has been having contradictory results through several studies which mentioned that neuroticism is unrelated with posttraumatic growth level (Helgeson, Reynolds, & Tomich, 2006).

Additively, type of coping strategies has important role of having and developing posttraumatic growth after a traumatic event. Tedeschi and Calhoun (2004) mentioned that positive coping skills can increase more constructive cognitive process which is related to growth. Franzier et al.'s (2004) study indicated that avoidant coping and denial strategy as a negative coping skill is negatively related with the level of posttraumatic growth.

While, several studies have indicated that younger age is positively correlated with amount of posttraumatic growth than older individuals with possible reason that young people may be more flexible and not closed to change in life (Klauer & Flipp, 1997; Powell, Rosner, Butollo, Tedeschi, & Calhoun, 2003); some studies have shown that there is no relationship between age and posttraumatic growth (Cordova et al., 2001; Fromm et al., 1996). Cordova et al. (2001) found that higher level of income is positively related with higher level of posttraumatic growth.

Tedeschi and Calhoun (1996) was found that extraversion as personality characteristic was significantly correlated with posttraumatic growth because of using social connections and resource with support from them more effectively than introverts. According to Tedeschi and Calhoun (1998), social support is one of the most significant contributor in developing posttraumatic growth.

Boyers (2001) mentioned that having high level of active coping, positive repeated framing, receiving emotional support from intimate ones had significantly founded that with higher levels of posttraumatic growth in early stage breast cancer survivors than have low level of coping strategies like those ones. According to several studies, posttraumatic growth is affected by higher stress level which is related to cancer, adaptive coping strategies, sharing the experience of diagnosed of breast cancer with others, social support, and younger age (Barthakur et al.; 2016, Danhauer et al., 2013, Morrill et al., 2008). Cordova et al.'s (2001) study with 70 breast cancer survivors, Bellizzi's (2004) study with 81 breast cancer survivors and Tomich and Helgeson's (2002) study with 328 breast cancer survivors have indicated that posttraumatic growth was positively affected by younger age.

The amount of studies on posttraumatic growth predictors in breast cancer survivors are limited to individual factors (Bellizzi, 2004). For that reason, investigating the comprehensive domain of posttraumatic growth for breast cancer survivors is very crucial for literature, which briefly means a positive change in the individual's previous level of functioning aftermath a traumatic experience. According to study of Cann et al. (2010), higher level of posttraumatic growth has a correlation with the challenge of individuals' core beliefs about the world; additively, that challenge about assumptive world of person's lead to cognitive processing of the traumatic event. In accordance with family systems theory, it is nearly impossible to understand illness or reactions on illness without considering other systems (Rolland, 1990). In the research of Park et al. (2008), they found that the occurrence of meaning in life in an existential approach had been positively correlated with posttraumatic growth in cancer patients.

Having social support as another concept focused on the posttraumatic growth literature is defined to manage posttraumatic growth as supportive others contribute the adequate support for cognitive process of an individual like deliberate rumination (Schroevers, Helgeson, Sanderman, & Ranchor, 2010). And having social support has been found in association with posttraumatic growth (Bozo, Gündoğdu, & Büyükaşık-Çolak, 2009). Within ruminate the traumatic event itself deliberately, cognitive processes are reviewed to include the traumatic event (Shakespeare-Finch & Barrington, 2012). While antecedents of PTSD and PTG, focusing on cognitive concepts are considerable in order to reveal appropriate information related to purpose of expanding knowledge about the topic. For that reason, in the next section, it will be discussed about rumination and its types.

1.4. Rumination
Rumination means exclusively intrusive and negative thinking when undesired thoughts overrun the individual's cognitive world (Lyubumirsky & Nolen-Hoeksema, 1995). Rumination is also carefully reflective, deliberate, and also aimful reconsidering of the specific event (Calhoun, Cann, Tedeschi, & McMillan, 2000). While a person is ruminating about an event, it is more likely for the individual to reflect events while they are tried to understand and seeking for understanding, and trying to find alternative solution to the obstacles in life (Martin & Tesser, 1996). Rumination has been associated with posttraumatic distress; however, rumination has become an important precursor for posttraumatic growth (Nightingale et al., 2010).

To understand the meaning and effects of rumination in a deeper level, it is very important to make distinction between types of rumination in self: intrusive rumination and deliberate

rumination. Intrusive rumination, which is unwanted thinking process which occurs without an individual's conscious or desire and more likely to be distressing to the person who is having the upsetting event (Lindstrom et al., 2013). Manipulation is not made by the individual, manipulation appears as the event that leads the intrusive rumination and it is more likely to has association with several types of posttraumatic distress (Cann, Calhoun, Tedeschi, & Solomon, 2010). Additively, the high level of intrusive thought can suggest the level of deliberate thoughts; however intrusive thoughts are predictor leads to person to seek a greater awareness and understanding of the traumatic experiences (Calhoun et al., 2010). Cann et al. (2010) found that intrusive rumination is associated with behavioral disengagement coping type that includes decreased attempts to handle with the stressful event. Moreover, it was found that intrusive rumination was related to the higher distress level (Cann et al. 2010). There is a literature about how people who have been deal with traumatic event have increased level of intrusive rumination; however, PTG is established to occur for people who move from intrusive rumination and start to ruminate more deliberately as time since the event increases (Tedeschi & Calhoun, 2004). In Micheal, Halligan, Clark, and Ehler's study (2007), which was conducted with people whose exposed of sexual or physical assault, it has found that those whose symptoms met PTSD criteria were more likely to have intrusive rumination that whose did not met with PTSD criteria symptoms. Deliberate rumination refers to possible positive consequences of the highly upsetting and difficult traumatic events and it can include conscious actions to remind self of advantages of traumatic experience as a consequence of being obstacle to see a high level of difficult event (Folkman, 2008). Calhoun et al. (2010) mentioned that deliberate and intrusive rumination acts different roles for effecting and directing consequences following an aftermath a highly upsetting event. There has been found a positive relationship between deliberate rumination and seeking social support (Cann et al., 2010).

Event-related deliberate rumination is more likely to focused on PTG which is not focusing on negative effects of traumatic experience (Cann et al., 2010). It must be greatly and positively related to the concept of posttraumatic growth when intrusive rumination is related with PTSD (Janoff-Bulman, 2004; Affleck & Tennen, 1996). According to several studies, having deliberate rumination has association with high level of self-reported posttraumatic growth (Cann et al., 2011; Triplett, Tedeschi, Cann, Calhoun, & Reeve, 2011). The possible explanation of having deliberate rumination in the road of PTG can be finding meaning and thinking about possible reason of having the event in the traumatic event itself. Individuals that interest in meaningful and aimful cognitive processing of the traumatic event might be more likely to seek the aim and significance of the event which can help to restructure the assumptive world (Groleau et al., 2013). Within literature, it has been found that existence of meaning in life is positively correlated with posttraumatic growth in 172 cancer patients (Park, Edmondson, Fenster, & Blank, 2008). Deliberate rumination can be more related to PTG than intrusive rumination, which is typical aftermath high level of stressful event (Calhoun et al., 2000).

Cognitive appraisal of the traumatic event has been found associated with the possibility to experience growth after the traumatic event and active thinking about that event in a form of appraisal was found associated with PTG; active thinking of the traumatic event has associated with PTG (Lazarus & Folkman, 1986). Greater levels of intrusive rumination is associated with higher levels of PTSD symptoms; in sum, it was found that people with symptoms of PTSD were more likely to engage in intrusive rumination that those who did not have the symptoms greater levels of intrusive rumination is associated with higher levels of PTSD symptoms (Michael et al., 2007). Additively, rumination was found one of significant predictors of maintaining depression (Papageorgiour & Wells, 2003). High level of intrusive rumination is related to high level of distress; high level of deliberate rumination is related to positive change (Morris & Shakespeare-Finch, 2011).

In one study with two samples with undergraduate college students and leukemia patients, it was found that higher level of core belief challenge tended to indicate more PTG level (Cann et al., 2010). Just like in PTSD, rumination has been found to be associated with PTG (Calhoun & Tedeschi, 1999). In PTG, the type of rumination which refers to the intentional attempt of thinking on the traumatic event is also known as "deliberate" (Cann et al., 2011). Thinking of a specific event may be referred to more likely to find the content that helps to reconstruct the assumptive world that challenged. Boals and Schuettler's (2011) findings, people who experienced traumatic event generally experience perceived stress, voluntary and involuntary thoughts (ruminations), and the traumatic event is more likely to be an active and open of their life; additively, the traumatic event experience tends to become more central to who they are and they indicate active efforts for coping with their perceived distress.

It is very important to consider personal effect of the traumatic event; however various measures screen for trauma history has been fail for assessing the perceived impact of the trauma (Norris & Hamblen, 2004). For the reason, it is very considerable to examine the perceived meaning of traumatic experience within individual's unique reaction to the trauma. Within those information, putting traumatic experience in the individual's life in a center is very crucial to investigate while it is considering the effect of traumatic experiences. For that reason, event centrality will be further represented in the following section.

1.5. Centrality of Event

Centrality of event concept has become popular after Bernsten and Rubin (2006) conducted a research to attempt a scale about it. The concept is one of the recent ones in psychology literature which is focusing on measure the extension of which stressful event establishes a reference point in individual's identity and for the approach of other life events' meaning after the specific negative experience. Cognitive Growth and Stress (CGAS) model identify association between event centrality and rumination. Boals and Schuettler (2011) found that event centrality is closely ordered with repetitive and ruminative process which are establish on negative sides of the experiences. Moreover, the adaptability of rumination is considered as changeable and depends on the context; for that the extension to which event becomes crucial and fundamental to individual's identity might effect adaptability of rumination (Bonanno, Pat-Horenczyk, & Noll, 2011). CGAS model suggested that event's centrality manages a change from stressful thoughts to deliberate rumination, which could build about positive changes In the perspective of world (Bernsten & Rubin, 2006).

Bernsten and Rubin (2006) explained centrality of event as a personal content of a perceived negative event that related to individual identity of an individual and have close association with maladaptive functioning. It was investigated as individual reactions to the traumatic event; also, extent to that an event is contained into person's self-identity and accordingly becomes central of individual's self-sense. The centrality of the event refers to "a degree to which a person believes a negative event has become a core part of their identity" (As cited in Schuettler & Boals, 2010). It has been suggested that centrality of the event could be reported as "double-edged sword" in which traumatic events that considered as central to individual's identity evoke both maladaptive psychological functioning or could be a contributor to various form of adaptive functioning; because, having a traumatic life event that shaped as an individual's central in building identity could cause maladaptive psychological functioning; however it can also contribute to different types of adaptive functioning (Schuettler & Boals, 2011). According to Bernsten and Rubin (2006), the central event could have seen as "turning point" in an individual's life story and can be viewed as a core component of the personal identity. The centrality of event measures a reexamination and challenge of the identity of self-based on a specific traumatic experience, exhibiting potential to effect growth levels in aftermath of the traumatic event (Bernsten & Rubin, 2006).

Aftermath a traumatic experience, considering the event centrality of traumatic experiences and posttraumatic growth occurrence offers a worthwhile manner for the treatment or psychological process of the negative consequences of the event. For that reason, the relationship between centrality of event and psychological effects of traumatic exposure following trauma exposure will be explained according to several studies. Bernsten and Rubin's (2007) research found that centrality of a negative event is positively correlated with posttraumatic stress disorder symptoms, dissociation, depression. Additive to that, another study has indicated that centrality of negative event had predicted relevant intrusion and symptoms of avoidance (Boals, 2010). In the light of those studies, it is possible to suggest that having and building an identity on traumatic experience may cause some maladaptive functioning psychologically. Centrality of traumatic event has been found to be correlated positively with symptoms of PTSD, depression, and dissociation which was repeated in several studies (Groleau, Calhoun, Cann, & Tedeschi, 2013; Boals & Schuettler, 2011; Bernsten & Rubin, 2006). Therefore, event centrality has been found on of the strongest PTSD predictors even after controlling anxiety, depression, and dissociation (Boals & Schuttler, 2011). PTSD predictor as event centrality has also found in various studies which have been conducted with childhood sexual abuse survivors (Robinaugh & McNally, 2011) and war veterans (Brown, Antonious, Kramer, Root, & Hirst, 2010).

Tedeschi and Calhoun (1996) suggested that to experience growth after a negative life event, first psychological functioning of an individual must be broke down. In the literature, it was found that centrality of negative life event had predicted posttraumatic growth and suggested that negative life events can contribute in promoting growth (Groleau, Calhoun, Cann, & Tedeschi, 2013; Boals & Schuettler, 2011).

Limited research had conducted in order to evaluate the relationship between positive life event sand centrality of event; for example, it had been found that there was no effect of centrality of positive life event on maladaptive psychological functioning in an individual's life (Bernsten, Rubin, & Siegler, 2011). Bernard et al. (2015) discussed that both negative and positive life events' centrality in an individual's life significantly predicted PTG. Negative centrality to event found in association with maladaptive psychological functioning like PTSD symptoms, traumatic cognitions, intrusions and symptoms of avoidance (Bernard et. al, 2015). Furthermore, Bernsten and Rubin, (2007) indicated that people whose symptoms met PTSD criteria reported increased level of centrality of traumatic event than whose symptoms did not meet PTSD criteria.

There is a wide range of studies about types of rumination in the psychology literature; however, it is visible that there is a need to enhance the information of rumination types within identifying their association with psychological effects like post-traumatic stress disorder symptoms, post-traumatic growth and centrality of event.

In the literature, it was suggested that to have higher levels of deliberate rumination has a positive association with higher level of self-reported posttraumatic growth (Cann et al., 2011; Triplett, Tdeschi, Cann, Calhoun, & Reeve, 2011). Moreover, it was found that people with symptoms of PTSD were more likely to engage in intrusive rumination that those who did not have the symptoms greater levels of intrusive rumination is associated with higher levels of PTSD symptoms (Michael et al., 2007). Furthermore, centrality of traumatic event has been found to be correlated positively with symptoms of PTSD (Bernsten & Rubin, 2006; Boals & Schuettler, 2011; Groleau, Calhoun, Cann, & Tedeschi; 2013) Therefore, event centrality has been found on of the strongest PTSD predictors even after controlling anxiety, depression, and dissociation (Boals & Schuttler, 2011). In the literature, it was also found that centrality of negative life event had predicted posttraumatic growth and suggested that negative life events can contribute in promoting growth (Boals & Schuettler, 2011; Groleau, Calhoun, Cann, & Tedeschi, 2013). Boals and Schuettler (2011) found that event centrality is closely ordered with repetitive and ruminative process which are establish on negative sides of the experiences. Moreover, the adaptability of

rumination is considered as changeable and depends on the context; for that the extension to which event becomes crucial and fundamental to individual's identity might affect adaptability of rumination (Bonanno, Pat-Horenczyk, & Noll, 2011). A further examination on the relationship between all rumination, centrality of event and PTSD was established in Lancaster, Rodrigues, and Wetson' (2011) study in which posttraumatic cognitions like rumination and event centrality's important role on continuity of PTSD symptoms was shown.

Therefore, in the light of the literature that was explained above, the aim of the current study is to test two mediation model in order or indicate the mediating role of rumination types (intrusive and deliberate) between centrality of event and the path of posttraumatic growth and posttraumatic stress disorder symptoms among breast cancer survivors. The current study aims to examine the mediating effect of rumination types (deliberate and intrusive) in the relationship between the path of posttraumatic growth and posttraumatic stress disorder within centrality of event among breast cancer survivors in from all around Turkey. Although there has been a growing literature on the relationship between event centrality, PTSD and PTG and also the relationship between types of rumination with PTSD and PTG, and the indirect relationship between types of rumination with centrality of event separately; there is no study in which the relationship between all of these concepts is examined. Centrality of event could have seen as a turning point in an individual's life story and this centrality predicts bot PTSD and PTG (Bernsten & Rubin, 2006). In the present study, clarifying the possible reason of different roads of PTSD and PTG when event's centrality is considering, will be tried to investigate with different rumination types.

Moreover, there is no research that looks centrality of event within paths of posttraumatic growth and posttraumatic stress disorder while considering the effect of different rumination types in breast cancer survivors in Turkey. Therefore, the present study has an importance on expanding the knowledge in the rumination types of breast cancer survivors to detect the possible effects on PTSD and PTG and to make contribution with identifying cognitive concept like rumination type in their possible therapeutic process and improving the quality of the treatment process in the clinical practice.

In accordance to that, following hypotheses are aimed to examined: (1) there will be a significant relationship between all of the rumination types, centrality of event, PTSD and PTG; (2) centrality of event will predict PTG and PTSD; (3) centrality of event will predict deliberate and intrusive rumination; (4) deliberate rumination will mediate the relationship between centrality of event and PTG; (5) intrusive rumination will mediate the relationship between centrality of event and PTSD.

2. Method

2.1. Participants

In total, 78 participants completed the survey. While participants were conducting the survey, there was one inclusion criteria to participate in the current study: (1) Being in a recovery period after a breast cancer. Therefore, participants who mentioned that their doctor and/or physician has not been declared that there is no sign of cancer in their body were extracted from the study. At the end, analyses were conducted with 40 respondents. As demographic characteristics of the sample, the age range was between 29 to 79 (M = 47.33, SD = 9.32). Demographic characteristics of the sample are represented in the Table 1.

Table 1: Demographic Characteristics of the Sample

Marital Status	%
Single	25.0%
Married	75.0%
Education Level	
Below Undergraduate Degree	35.0%
Above Undergraduate Degree	65.0%
Degree of Cancer	
Stage 0	2.5%
Stage 1	29.7%
Stage 2	40.5%
Stage 3	21.6%
Stage 4	5.4%
Duration of Experiencing Breast Cancer	
0 – 6 Months	5.4%
6 Months – 1 Year	35.1%
1 Year – 2 Years	18.9%
More than 2 Years	40.5%
Duration of Being in a Recovery Period	
0 – 1 Year	42.1%
1 – 5 Years	29.8%
5 – 10 Years	18.4%
More than 10 Years	10.5%

2.2. Instruments

2.2.1. Event Related Rumination Inventory (ERRI)

It was developed by Cann et al. (2011). ERRI is a 20-item self-report inventory for assessing repetitive thinking on a traumatic or highly stressful event with 2 dimensions of rumination: deliberate and intrusive. ERRI consists of 10 items that assess purposeful/deliberate thinking about the traumatic or highly stressful event with a sample item "I thought about whether I have learned anything as a result of my experience."; and 10 items that assess unintentional/intrusive thinking with a sample item "I could not keep images or thoughts about the event from entering my mind." The measure items consist of a 4-point scale ranging from 0 ("not at all") to 3 ("often"). The ERRI has good internal reliability for intrusive ($\alpha = .94$) and deliberate ($\alpha = .88$) rumination subscales (Cann et al., 2010). ERRI was adapted to Turkish only as a part of Haselden's (2014) study and internal consistency coefficient for intrusive rumination has found $\alpha = .96$; for deliberate rumination has found $\alpha = .91$ and total internal reliability coefficient was found .96. Event Related Rumination Inventory was translated to Turkish by the researcher of the current study. "After an experience like the one you reported" wording was transformed to "After being diagnosed breast cancer and received treatment" in order to be representative to the participants. In the current study, the Cronbach's alpha value for deliberate is found .96 and Cronbach's alpha value for intrusive rumination is found .92.

2.2.2. Centrality of Event Scale (CES)

It was developed by Bernsten and Rubin (2006), which has 20-items in order to assess the centrality of an event to for individual and evaluate the importance of a specific life event to the individual's identity. While CES is used by participants, it was asked them to complete the scale within considering their most considerable life event. The scale items consist of 5-point scale ranging from 1 (totally disagree) to 5 (totally agree). Examples of statement like "This event has become a reference point for the way I understand myself and the world" or "This event has colored the way I think and feel about other experiences". CES has excellent reliability ($\alpha = .94$;

Bernsten & Rubin, 2007). Centrality of Event Scale was adapted into Turkish by Eğeci (in press) and the results of factor analysis conceived a three-factor solution and all factors were found positively correlated with PTSD (rs = .39 to .45, p < .001) and symptoms of depression (rs = .25 to .32 p < .01); which indicated that the scale is reliable and valid instrument for Turkish culture. Centrality of Event Scale was translated to Turkish by the researcher of the current study. "Most stressful and traumatic event in your life" wording was transformed to "Being diagnosed breast cancer and received treatment" in order to be representative to the participants. In the current study, the Cronbach's alpha value is found .95.

2.2.3. Post-Traumatic Growth Inventory (PTGI):

It was developed by Tedeschi & Calhoun (1996) for assessing positive consequences after traumatic event(s) experiences. It consists of 21 Likert-type items, which measures the extent to which individuals that experience trauma perceived positive changes as a consequence of that specific experience with 5 domains: New Possibilities (5 items), Relating to Others (7 items), Personal Strength (4 items), Spiritual Change (2 items), and Appreciation of Life (3 items). Each item rated on a 6-point scale from 0 ("I did not experience this change as a result of the event") to 5 ("I experienced this change to a very great degree as a result of the event"). The PTGI has good internal consistency (Cronbach's alpha = .90); test-retest reliability (.71) (Tedeschi & Calhoun, 1996). PTGI was translated to Turkish by the researcher of the current study. "As result of the stressful or traumatic situation you identified" wording was transformed to "As a result of being diagnosed breast cancer and received treatment" in order to be representative to the participants. Turkish adaptation of PTGI was adapted by Dürü (2006) and found that the scale was reliable and valid for Turkish culture with internal consistency as $α$ = .93. In the current study, the Cronbach's alpha value for is found .95.

2.2.4. Post-Traumatic Stress Disorder Checklist for DSM-5 (PCL-5):

It is a self-report measurement, which was developed by Weathers et al. (2013) for evaluating 20 symptoms of PTSD in accordance to DSM-5. PCL-5 includes 5-point Likert scale in order to rate PTSD's symptoms severity in the past one month from 0 ("not at all") to 5 ("extremely"). One of the sample item from checklist is "Suddenly feeling or acting as if the stressful experience were actually happening again.". PCL-5's internal consistency is found ($α$ = .94) and test-retest reliability with r = .82). PCL-5 was translated to Turkish by the researcher of the current study. "A very stressful experience" wording was transformed to "Being diagnosed as breast cancer and received treatment" in order to be representative to the participants. In the current study, the Cronbach's alpha value for is found .87. Boysan et al. (2016) was adapted PCL-5 into Turkish and found reliability coefficient as .76.

2.3. Procedure

A collection of data had started after getting the approval from Ethics Committee Board of Bahçeşehir University. The current study's survey package link was shared in various accounts in social media application Facebook. Closed breast cancer survivors support Facebook group (Meme Kanseri Bilgilendirme Grubu) and specific oncology foundation social media accounts (MetAmazon, Metastatik Meme Kanseri Derneği, Kanser Savaşçıları, and Kanserle Dans Derneği) were used in order to reach adequate participation. Google Form was used in order to collect data from respondents and data was collected online. Each participant was encountered the Informed Consent Form and after accepting to participate in the current study voluntarily, the respondent was continued to fill out forms and inventories.

2.4. Data Analysis

According to the purpose of the study, first the data screening process was conducted. As a second phase, demographic variables of respondents were analyzed in relation to all of the variables: centrality of event, rumination types (intrusive and deliberate), posttraumatic growth, and posttraumatic stress disorder. Third, The Pearson correlation analyses between all of the variables

in the current study were conducted. Finally, two separate bootstrapped multivariate extension of the MEDIATE test of mediation (Preacher & Hayes, 2008) for posttraumatic growth (PTG) and posttraumatic stress disorder (PTSD) as dependent variables, centrality of event as independent variables, and types of rumination (deliberate and intrusive) as mediators were conducted.

The bootstrap estimates that were presented in the current study are based on 10000 bootstrap samples. Moreover, Preacher and Hayes (2008) referred that the confidence intervals are used to determine the indirect effect's significance. If a confidence interval contains zero, there cannot be a maintenance of significant indirect effect. The current study analyzed the data according to that criteria.

3. Findings

The results indicated that intrusive rumination was positively correlated with deliberate rumination ($r = .58$, $p < .01$), centrality of event ($r = .49$, $p < .01$), posttraumatic stress disorder ($r = .40$, $p < .05$). However, there was no significant correlation between intrusive rumination and posttraumatic growth ($p > .05$). Moreover, deliberate rumination was positively correlated with centrality of event ($r = .47$, $p < .01$), posttraumatic growth ($r = .41$, $p < .01$) and posttraumatic stress disorder ($r = .39$, $p < .05$). Furthermore, centrality of event was found positively correlated with posttraumatic growth ($r = .68$, $p < .001$) and posttraumatic stress disorder ($r = .48$, $p < .01$). Finally, the correlation between posttraumatic growth and posttraumatic stress disorder was not found significant ($p > .05$). The correlations amount the main variables in the current study are represented in Table 2.

Table 2: Correlations among Intrusive Rumination, Deliberate Rumination, Centrality of Event, Post-Traumatic Growth, and Post-Traumatic Stress Disorder

	1	2	3	4	5
1. Intrusive Rumination	1				
2. Deliberate Rumination	.58**	1			
3. Centrality of Event	.49**	.48**	1		
4. Post-Traumatic Growth	.28	.41**	.68**	1	
5. Post-Traumatic Stress Disorder	.40*	.39*	.48**	.20	1

*p < .05; **p < .01

As the first step in the mediation analysis, the total effect of centrality of event on posttraumatic growth was found to be significant ($F_{(3,36)} = 12.31$, $p < 001$). The explained variance by centrality of event was found 51%. That means centrality of event predicts posttraumatic growth.

The total effect of centrality of event on posttraumatic growth was found significant ($\beta = .76$, $SE = .13$, $t(39) = 5.69$, $p < .001$). Moreover, the effect of centrality of event on deliberate rumination was found to be significant ($\beta = .46$, $SE = .13$, $t(39) = 3.67$, $p < .001$) and on intrusive rumination was found to be significant ($\beta = .33$, $SE = .09$, $t(39) = 3.46$, $p < .01$). Furthermore, it was found that there were not significant direct effects of deliberate rumination and intrusive rumination on posttraumatic growth ($\beta = .34$, $SE = .19$, $t(39) = 1.77$, $p = .09$; $\beta = -.32$, $SE = .26$, $t(39) = -1.28$, $p = .21$, respectively). It was found that deliberate rumination does not have a mediating effect on the relationship between centrality of event and posttraumatic growth ($\beta = .16$, $SE = .09$, 95% CI [-.04, .42]). Additively, it was found that intrusive rumination does not have a mediating effect on the relationship between centrality of event and posttraumatic growth ($\beta = -.11$, $SE = .09$, 95% CI [-.31, .05]).

It was concluded that there were not a significant and full mediation between centrality of event and posttraumatic growth through deliberate rumination. Moreover, it was found that there were not a significant full mediation between centrality of event and posttraumatic growth through intrusive rumination. However, the results indicated that there were a significant partial mediation on the relationship between centrality of event and posttraumatic growth through deliberate rumination (see Figure 1). Also, it was found that there were a significant and partial mediation between centrality of event and posttraumatic growth through intrusive rumination (see Figure 2).
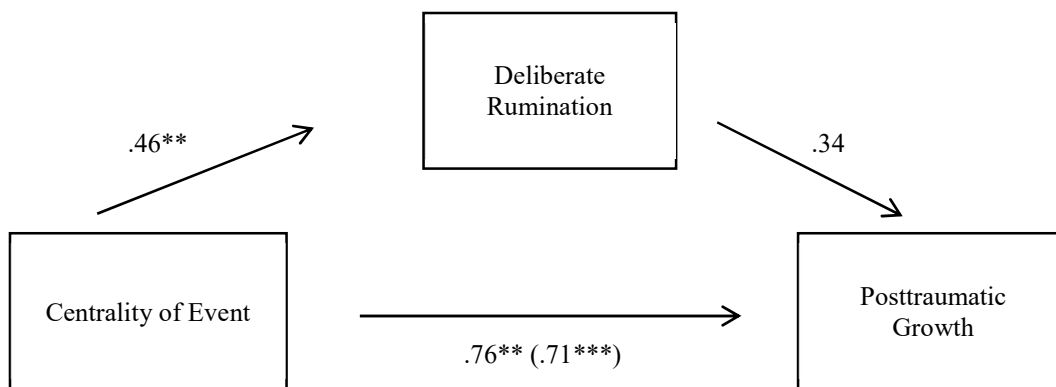

Figure 1. The Test of Relationship between Centrality of Event and PTG with the Mediating Role of Deliberate Rumination
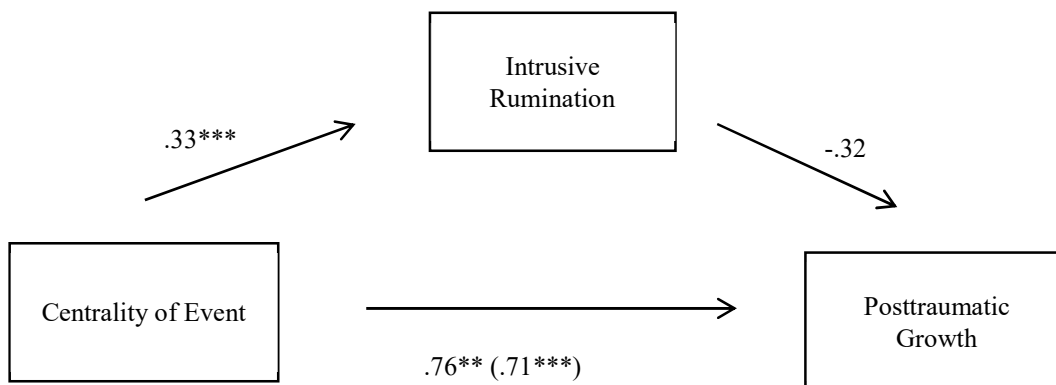Note: $p < .01$**, $p < .001$***

Figure 2. The Test of Relationship between Centrality of Event and PTG with the Mediating Role of Intrusive Rumination
Note: $p < .01$**, $p < .001$***

The relationship of posttraumatic stress disorder and centrality of event with the mediating role of types of rumination was assessed in the current study by using bootstrapped multivariate extension of the MEDIATE test of mediation (Preacher & Hayes, 2008). In this model, centrality of event was taken as the predictor variable, types of rumination (deliberate and intrusive) were taken as the mediator variables, and lastly, posttraumatic stress disorder was taken as the predicted variable.

As the first step in the mediation analysis, the total effect of centrality of event on posttraumatic stress disorder was found to be significant ($F_{(3,36)} = 4.47$, $p < .01$). The explained variance by centrality of event was found 27%. The total effect of centrality of event on posttraumatic stress

disorder was found significant (β = .27, *SE* = .08, *t*(39) = 3.41, *p* < .05). The investigation of the direct effects of deliberate and intrusive rumination on posttraumatic stress disorder was found non significant (β = -.03, *SE* = .12, *t*(39) = -.29, *p* = .77; β = .20, *SE* = .16, *t*(39) = 1.3, *p* = .20, respectively). It was found that deliberate rumination does not have a mediating effect on the relationship between centrality of event and posttraumatic stress disorder (β = -.02, *SE* = .05, 95% CI [-.16, .09]). Additively, it was found that intrusive rumination does not have a mediating effect on the relationship between centrality of event and posttraumatic stress disorder (β = .07, *SE* = .05, 95% CI [-.05, .16]).

It was concluded that there were not a significant and full mediation between centrality of event and posttraumatic stress disorder through deliberate rumination. Moreover, it was found that there were not a significant and full mediation between centrality of event and posttraumatic stress disorder through intrusive rumination. However, the results indicated that there were a significant and partial mediation on the relationship between centrality of event and posttraumatic stress disorder through deliberate rumination (see Figure 3.) Also, it was found that there were a significant and partial mediation between centrality of event and posttraumatic stress disorder through intrusive rumination (see Figure 4)

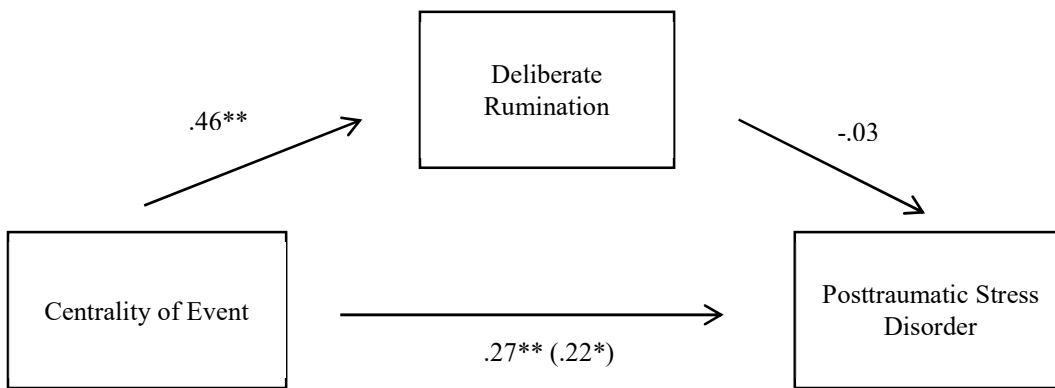*Figure 3. The Test of Relationship between Centrality of Event and PTSD with the Mediating Role of Deliberate Rumination*
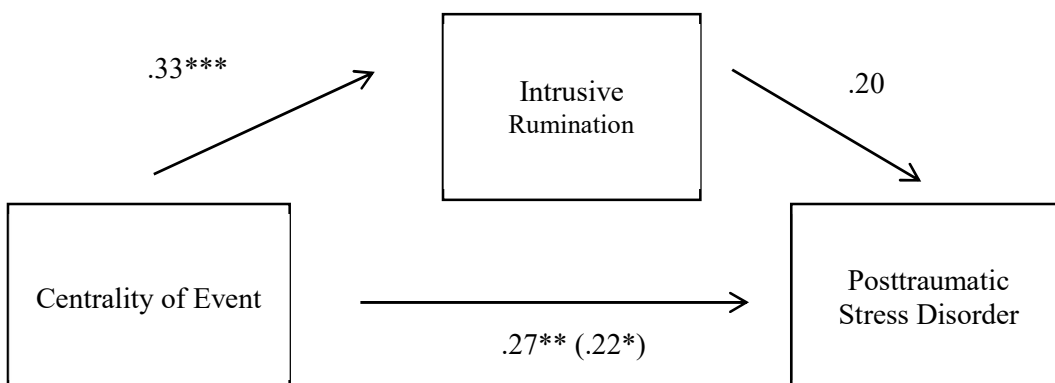Note: *p* < .05*, *p* < .01**, *p* < .001***

Figure 4. The Test of Relationship between Centrality of Event and PTSD with the Mediating Role of Intrusive Rumination
Note: *p* < .05*, *p* < .01**, *p* < .001***

4. Discussion and Conclusion

The current study has the purpose to examine whether a relationship between posttraumatic stress disorder symptoms, posttraumatic growth, centrality of event, and types of rumination. Furthermore, the most important aim of the present was to examine the mediating effect of rumination types (deliberate and intrusive) in the relationship between the path of posttraumatic growth and posttraumatic stress disorder within centrality of event among breast cancer survivors from all around Turkey. In the next sections, the results of the current study will be discussed within consideration of related literature. Moreover, clinical implications and contributions will be presented. Finally, limitations and possible implications for future studies will discussed.

4.1. Preliminary Findings

The general demographic information as age, marital status, education level, and degree of cancer of the participants were analyzed in accordance with their relationship with posttraumatic growth, posttraumatic stress disorder, centrality of event, deliberate rumination, and intrusive rumination. The investigation between age and the main variables, which were post-traumatic stress disorder symptoms, post-traumatic growth, centrality of event, and types of rumination were analyzed in the current study. The results revealed that the age was significantly and negatively correlated with both deliberate and intrusive deliberation. It means that as participants gets older, it is less likely to experience intrusive and deliberate rumination. These findings were consistent with the findings of Sütterlin et al. (2012) research, which suggested that the older an individual becomes, indicators of low rumination process would presented with possible explanation of decline in physiological functions. Additively, the knowledge which comes from past experiences called "crystallized intelligence" (Horn & Cattell, 1967) could have an effect of decline of rumination with the reason that it contains knowledge and skills which were acquired over a lifetime experiences which may more meaning making from the experience. The current study revealed that age does not differ in terms of posttraumatic growth, which was consistent with the finding of Cordova et al. (2001) and Fromm et al. (2001) suggested that lack of relationship between age and posttraumatic growth. However, there are contradictory results in terms of the relationship between age and posttraumatic growth. Klauer and Flipp (1997) and Powell, Rosner, Butollo, Tedeschi, and Calhoun (2003), revealed that younger age is positively correlated with amount of posttraumatic growth than older individuals. It is a plausible result since young people may be more flexible and not closed to change in life. Moreover, the absence of the relationship between age and posttraumatic stress disorder symptoms was established in the present study. However, the literature generally suggested that posttraumatic stress disorder symptoms are likely to increase with older age (Cook, 2001; Norris, 1992) due to the fact that with old age, the prevalence to experience more "traumatic" events may increase, the occurrence of physical and cognitive impairments may increase and social support may be restricted. In the cancer literature, a contradictory results appears. Andrykowski and Cordova (1998) had indicated that posttraumatic stress disorder symptoms in cancer patient are likely to appear more in younger age. Additively, in several studies on breast cancer survivors, it was found that younger breast cancer survivors have higher level of posttraumatic stress disorder symptoms (Abbey et al., 2015; Ozer et al., 2003). One of possible explanation might because of younger individuals attribution a meaning to life more constructively in the period of their life with questioning through existential approach and being arrear in the continuum of self-actualization phase and possibility to be in a more naive position while considering them. The present study also found that there is no relationship between age and centrality of event although Boals et al. (2011) suggested that older people tend to centralize events more than younger people due to the impaired physical and cognitive impairments. Within inconsistency between the current study and revealed literature, developmental life span perspective application could have a considerable role. Because of developmental life span within age is multidimensional and continuous, the inconsistency about approach of each individual can be more complicated. Another possible explanation for the inconsistency between the present study and the revealed literature could be imbalanced

distribution of respondents' age. It was indicated that the participants' age ranged between 29 to 79 with the sample size of 40, which might affect the results.

The second investigation was conducted to see the relationship between marital status of the respondents and the posttraumatic growth, posttraumatic stress disorder symptoms, types of rumination and centrality of event. The findings of the present study indicated that married participants have higher levels of deliberate rumination process than single participants. On the other hand, in the literature, there is a lack of research that had focused on the relationship between types of rumination and marital status. Although Updegraff and Taylor (2000) suggested that being married could be partial preventer for stress and have possibility to predict posttraumatic growth and Bellizzi and Blank (2006) indicated that being married is associated with high level of posttraumatic growth of breast cancer patients; the present study revealed no relationship between marital status and posttraumatic growth. Moreover, with inconsistent to the current study, the most recent literature suggested that posttraumatic stress disorder observed more in the married individuals than single and divorced individuals (Chang et al., 2017). Finally, the present study revealed no relationship between marital status and centrality of event. The literature has the lack of explanation between marital status and centrality of event, however it was suggested that with the centralization of problems in the romantic relationships leads to increase in posttraumatic stress responses (Boals, 2014). Therefore, it could be expected to single individuals to centralize events more than married individuals due to the fact that romantic relationships are an important part of social support. However, the findings do not allow to make generalized comparisons due to the imbalanced samples sizes of marital status.

Education level was also analyzed in the current study. Bellizzi and Blank (2006) indicated that the higher levels of posttraumatic growth is related to low level of education. Cordova et al. (1995) indicated that, among breast cancer patients, low level of education has association with post-traumatic stress disorder symptoms. Moreover, Jacobsen et al. (1998) revealed in their study that less educated women had less cognitive and emotional resources with dealing with distress and for that, those women more likely to have posttraumatic stress disorder symptoms. Additively, Weiss (2004) has fund that breast cancer survivors who have high level of education exhibited low level of posttraumatic growth. In the current study, the results of education level status were analyzed and indicated that there was no relationship between the below undergraduate degree or above undergraduate degree and post-traumatic stress disorder symptoms, post-traumatic growth, centrality of event, and rumination types. The investigated literature and the outcomes of the present study indicted some inconsistencies of the relationship between education level and its psychological outcomes. However, one possible explanation for that inconsistent result might be the limited participant sample.

The relationship between the degree of cancer and the main variables were also analyzed. Andrykowski and Cordova (1998) indicated that while breast cancer's stage is increased, the posttraumatic stress disorder symptoms also increases; on the other hand, another study was investigated that lower stage of breast cancer is negatively correlated with posttraumatic stress disorder symptoms (Amir & Ramati, 2002). Moreover, Tomich and Helgeson (2004) mentioned that patients who diagnosed with more advanced breast cancer stage perceived more advantages from experience of cancer aftermath diagnosis that women with less advanced breast cancer stage. The current study revealed that there was no significant relationship between the degree of cancer and post-traumatic stress disorder symptoms, post-traumatic growth, centrality of event, and types of rumination. This is an apprehensible finding since the sample in the current study contain more cancer survivors from the stage 2 cancer. Therefore, unfortunately it is impossible to make generalized comparisons.

4.2. The Relationship between the Posttraumatic Stress Disorder, Posttraumatic Growth, Centrality of Event, and Types of Rumination

The literature suggest that more centralization of a traumatic event leads to an increase on posttraumatic stress disorder symptoms (Groleau, Calhoun, Cann, & Tedeschi, 2013; Boals & Schuettler, 2011; Bernsten & Rubin, 2006). Moreover, event centrality has been found on of the strongest posttraumatic stress disorder predictors even after controlling anxiety, depression, and dissociation (Boals & Schuttler, 2011). Consistent with the literature, the present study also found that centralization of event increases the posttraumatic stress disorder symptoms. It is plausible since centralization of event refers significant change and more questioning of the individuals' both self, environment and life. If the individual experience the event as rooted in the self and life, stress level might increase, feelings of helplessness and hopelessness might increase and these two increases might lead decreases the motivation to fight against the cancer experience which all together increase the possibility of posttraumatic stress disorder symptoms severity. Wolfe and Ray (2015) has also suggested that higher level of event centrality negative predictors of resilience of the individual as consistent with the explanation mentioned above. Moreover, in the literature it was found that centrality of negative life event had predicted posttraumatic growth and suggested that negative life events can contribute in promoting growth (Groleau, Calhoun, Cann, & Tedeschi, 2013; Boals & Schuettler, 2011). It has been suggested that centrality of the event could be reported as "double-edged sword" in which traumatic events that considered as central to individual's identity evoke both maladaptive psychological functioning or could be a contributor to various form of adaptive functioning; because, having a traumatic life event that shaped as an individual's central in building identity could cause maladaptive psychological functioning; however it can also contribute to different types of adaptive functioning (Schuettler & Boals, 2011). In the current study, it was indicated that centrality of event was found positively correlated with posttraumatic growth consistent with the literature.

In the literature, it was suggested that deliberate rumination and intrusive rumination has a positive relationship (Wu, Zhou, Wu, & An, 2015; Taku, Cann, Tedeschi, & Calhoun, 2015). In the current study it was found consistent with the literature that deliberate rumination was positively related with intrusive rumination. One possible explanation to this relationship might be the fact that although deliberate rumination and intrusive rumination has different characteristics, they generate a general cognitive process of a repetitive thinking. Boals and Schuettler (2011) also explains that positive relationship by suggesting that the adaptability of rumination is considered as changeable and depends on the context; for that the extension to which event becomes crucial and fundamental to individual's identity might effect adaptability of rumination (Bonanno, Pat-Horenczyk, & Noll, 2011). Moreover, Calhoun et al. (2010) mentioned that deliberate and intrusive rumination acts different roles concurrently or separately for effecting and directing consequences following an aftermath a highly upsetting event. There is a literature about how people who have been deal with traumatic event have increased level of intrusive rumination; however, posttraumatic growth is established to occur for people who move from intrusive rumination and start to ruminate more deliberately as time since the event increases (Tedeschi & Calhoun, 2004). Event-related deliberate rumination is more likely to focused on posttraumatic growth which is not focusing on negative effects of traumatic experience (Cann et al., 2010). It must be greatly and positively related to the concept of posttraumatic growth when intrusive rumination is related with posttraumatic stress disorder (Janoff-Bulman, 2004; Affleck & Tennen, 1996). According to several studies, having deliberate rumination has association with high level of self-reported posttraumatic growth (Cann et al., 2011; Triplett, Tedeschi, Cann, Calhoun, & Reeve, 2011). The possible explanation of having deliberate rumination in the road of posttraumatic growth can be finding meaning and thinking about possible reason of having the event in the traumatic event itself. Individuals that interest in meaningful and aimful cognitive processing of the traumatic event might be more likely to seek the aim and significance of the event which can help to restructure the assumptive world (Groleau et al., 2013). The current study was found the consistent results with the literature. However, there was no significant correlation between intrusive rumination and posttraumatic growth which might be explained with the fragile characteristics of sample in the current study. The Cognitive Growth and Stress Model of Brooks

et al. (2017) suggested that centrality of event motivates a change from stressful thought and thinking to deliberate rumination, which bring about positive changes in an individual's perspective of life. Consistent with the literature, deliberate rumination was found to be positively correlated with centrality of event in the current study.

Finally, the correlation between posttraumatic growth and posttraumatic stress disorder was not found significant. Several studies have addressed that association between posttraumatic stress disorder symptoms and posttraumatic growth were not found significant (Cordova et al., 2001) while some research have indicated that there is positive relationship between them (Bluvstein et al., 2013); and some of them have indicated that there is negative manner (Frazier et al., 2001). One of the possible explanation might having restricted sample size and also the definition of traumatic event in the current study as being diagnosed as breast cancer before. Moreover, if an individual does not see that cancer experience as trauma, then having posttraumatic growth or posttraumatic stress disorder symptoms related to the event would not make consistent and sustainable outcomes.

4.3. The Mediating Role of Types of Rumination on the Relationship between Centrality of Event and Posttraumatic Growth

The current study has one of the hypothesis that deliberate rumination would mediate the relationship between centrality of event and posttraumatic growth of the breast cancer survivor. The results of the test of mediation model revealed that deliberate rumination and also intrusive rumination partially mediates the relationship between centrality of event and posttraumatic growth, separately.

As the first step in the analysis, it was revealed that centrality of event predicts posttraumatic growth consistent with the literature. The challenge and centralization of individuals' core beliefs about the world; additively, that challenge about assumptive world of person's lead to cognitive processing of the traumatic event (Cann et al., 2010). The diagnosis of breast cancer increases the awareness of difficulties in individual's life and survivors could face positive changes in their life with this increase in awareness which is a consequence of the centralization of event (Tedeschi & Calhoun, 2004). Consistent with the literature, Mosher, Danoff-Burg, and Brunker (2006) also showed that cancer related traumatic experiences lead personal growth in individual, individuals' spouses and offspring. Therefore, it can be concluded that number of researchers commented that the high level of severity of the traumatic event will lead higher level of disruption in an individual's life and it will lead more advantages for occurrence of growth (Park, 1998; Tedeschi & Calhoun, 1996).

Moreover, the direct effect of centrality of event on deliberate rumination and on intrusive rumination was found to be consistent with the literature. Deliberate rumination refers to possible positive consequences of the highly upsetting and difficult traumatic events and it can include conscious actions to remind self of advantages of traumatic experience as a consequence of challenged by a high level of difficult event (Folkman, 2008). On the other hand, Bernard et al. (2015) suggested that centrality to negative event found in association with maladaptive psychological functioning like traumatic cognitions, intrusions and symptoms of avoidance. Therefore, it can be understood as the more centralized event, the cognitive processes of the individual become more focused on the event. If the event experienced and perceived as a negative event and/or a traumatic event, the compulsory and repetitive intrusive rumination would increase. If the event experienced and perceived from the a more positive point of view and concluded as a reminder of advantages, deliberate rumination would increase.

Furthermore, it was found that there were nonsignificant direct effects of deliberate rumination and intrusive rumination on posttraumatic growth. The literature suggested that deliberate rumination has association with high level of self-reported posttraumatic growth (Cann et al.,

2011; Triplett, Tedeschi, Cann, Calhoun, & Reeve, 2011). One possible explanation of deliberate rumination to occur in context of posttraumatic growth can the need to find meaning and to think about hidden, maybe mystical, reason to face the traumatic event. Individuals that interest in meaningful and aimful cognitive processing of the traumatic event might be more likely to seek the aim and significance of the event which can help to restructure the assumptive world (Groleau et al., 2013). The reason behind the inconsistency between the finding and the literature might be due to the fact that in Turkey, cancer can be perceived as a necessarily negative event generally and even after the survival of cancer, individuals cannot maintain a positive point of view toward the experience. Moreover, the individuals may concentrate on the rumination of the event's itself rather than the survival process's advantages. It is also possible for individuals to focus on the opportunity cost of the cancer and the treatment process. Furthermore, to the knowledge, there were no study in the literature focused on the relationship between intrusive rumination and posttraumatic growth. Intrusive rumination was more likely to evaluated in terms of posttraumatic stress disorder. Therefore, it is not a surprising finding of the current study which did not found a direct effect of intrusive rumination on posttraumatic growth.

The results indicated that there were a significant and partial mediation on the relationship between centrality of event and posttraumatic growth through deliberate rumination. The aforementioned partial mediation revealed that breast cancer survivors who centralized the event of experience of cancer into their life tend to experience more posttraumatic growth when they also deliberately ruminate about the experience of diagnosing cancer. Also, it was found that there were a significant and partial mediation between centrality of event and posttraumatic growth through intrusive rumination. Another partial mediation of the current study revealed that breast cancer survivors who centralized the event of experience of cancer into their life tend to experience more posttraumatic growth when they also intrusively ruminate about the experience of diagnosing cancer. The reason that rumination had chosen as mediator in the relationship between centrality of event and posttraumatic growth in a breast cancer survivor was to assume that cognitive concept as rumination types could have a crucial role in the relationship. It was investigated as individual reactions to the traumatic event; also, extent to that an event is contained into person's self-identity and accordingly becomes central of individual's self-sense. Because of having a cancer as trauma in individual's life and its effects on every aspect person's life, focusing cognitive process like rumination will be inadequate to see general framework of the experience. The nature of the cancer is changeable in itself and naturally the psychological effects on it even being in a recovery period would be incalculable. Rumination and its types considered as just a part of that complexity; for that it was found to impossible to explain the process with just focusing on one cognitive concept like rumination.

Since the partial mediator roles of deliberate and intrusive rumination on the relationship between centrality of event and the path of posttraumatic growth and posttraumatic stress disorder symptoms were confirmed, some therapeutic interventions can be applied. It was revealed through the current study's results of not full mediation models, it was gathered that the role of cognitive concept as rumination types had not fully mediates the relationship between event centrality and path of posttraumatic stress disorder symptoms and posttraumatic growth among breast cancer survivors. However, because of cancer as trauma has effects in individual's life in several domains and because of its complex nature, it was impossible to evaluate the process with just cognitive concepts. In several oncology hospitals, the using of art therapy becomes a trend in cancer area. The vulnerable reason of using art therapy techniques among cancer patients could be reason that art therapy not just focusing on cognitive process of the patient but also focusing of the emotional process.

4.4. The Mediating Role of Types of Rumination on the Relationship between Centrality of Event and Posttraumatic Stress Disorder

The relationship of posttraumatic stress disorder and centrality of event with the mediating role of types of rumination was assessed in the current study. A partial mediation by intrusive

rumination and deliberate rumination on the relationship between centrality of event and posttraumatic stress disorder symptoms was found to be significant. It was found that centrality of event enables the breast cancer survivor to develop posttraumatic stress disorder symptoms and deliberate rumination and intrusive rumination stimulates the relationship between them. Furthermore, to the knowledge, there were no study in the literature focused on the significant relationship between deliberate rumination and posttraumatic stress disorder symptoms. Ehlers and Steil's (1995) study with the survivors of both car accident and sexual abuse suggested that a nonsignificant association between deliberate rumination and posttraumatic stress disorder symptoms. The sample group chosen in the aforementioned study contained individuals who needed a hospitalization period (who received an inpatient and/or outpatient treatment), so the consistency between the study's finding and the present study's finding is understandable. Deliberate rumination was more likely to evaluated in terms of posttraumatic growth. Moreover, the present study was failed to find a relationship between intrusive rumination and posttraumatic stress disorder symptoms. However, Cann et al. (2010) suggested that when a person engages in intrusive rumination type, focusing on negative aspects of the traumatic event become clearer and it leads to failure for dealing with issues that are related with traumatic event itself and at the end, the level of posttraumatic stress disorder symptoms increases. Those ruminative thinking processes put an individual to the development of posttraumatic stress disorder symptoms while some of them important for developing posttraumatic growth (Janoff-Bulman, 1992; Linley & Joseph, 2004). One possible explanation of the inconsistency with the literature might be the fact that breast cancer survivors can be conditioned to think positive or to think less. The researcher of the present study observed that most of the cancer foundations generally convey the idea of being an "Amazon" to the breast cancer survivors.

It was found a direct effect of centrality of event on posttraumatic stress disorder was found to be significant, which means that centrality of event predicts posttraumatic stress disorder symptoms. It was found consistent with several studies which mentioned that centrality of traumatic event has been found to be correlated positively with symptoms of posttraumatic stress disorder, depression, and dissociation which was repeated in several studies (Groleau, Calhoun, Cann, & Tedeschi, 2013; Boals & Schuettler, 2011; Bernsten & Rubin, 2006). Having a negative life event may cause negative outcomes of an individual after a traumatic experience and it is referred as leading to posttraumatic stress disorder symptoms (Perez et al., 2014; Wachen, Patidar, Mulligan, Naik, & Moye, 2014). In big amount of research, researcher have found out that posttraumatic stress symptoms have been reported in patients who has been diagnosed as cancer (Perez et al., 2014; Wachen, Patidar, Mulligan, Naik, & Moye, 2014). Negative centrality to event found in association with maladaptive psychological functioning like posttraumatic stress disorder symptoms, traumatic cognitions, intrusions and symptoms of avoidance (Bernard et. al, 2015). Therefore, the direct effect of centrality of event and posttraumatic stress disorder symptoms confirmed by the literature.

It was concluded that there were not a significant and full mediation between centrality of event and posttraumatic stress disorder through deliberate rumination. Moreover, it was found that there were not a significant and full mediation between centrality of event and posttraumatic stress disorder through intrusive rumination. One explanation to that might be the complex nature of the cancer experience. The psychological, developmental, social and cognitive aspects should be considered in a deeper manner. They can operate separately but inter-relations between them cannot be underestimated due to that complexity.

4.5 Limitations and Implications for Further Research

The current study has some limitations that must be considered. First of all, the survey was conducted through social media, and findings of the study can only be generalized to people who are actively using online platforms to seek social support following recovery from cancer.

The current study was prepared and investigated with self-report technique which might allow to respondents to have a possibility to socially desirable answers. For that, in the future studies, it

would be better to contain face-to-face interviews in addition to decrease that limitation. Additively, size of the sample was not adequate to make general conclusions about the breast cancer survivor population in Turkey.. Furthermore, the sample size of age, marital status, education level and degree of cancer of the participants were imbalanced; therefore, the comparison among the descriptive information on the posttraumatic stress disorder symptoms, posttraumatic growth, centrality of event, types of rumination could not be generalized in the current study.

Moreover, the different aspects of cognitive concepts like "fear" of reoccurrence of cancer, occurrence of meaning in life in an existential approach of the individual, coping strategies, resilience, positive repeated framing; and social concepts like sharing the experience of diagnosed of breast cancer with others, relationship satisfaction or received social support of the breast cancer survivor might be considered in the further research. In the related literature, existence of absence of social support is regarded as one of the main predictors of path on posttraumatic stress disorder symptoms and posttraumatic growth. In further studies, taking account of social support will contribute to the related literature.

4.6. Clinical Implications and Contributions of the Present Study

Breast cancer survivors were chosen in the current study since they are one of the major risk groups to develop posttraumatic stress disorder symptoms aftermath an experience of being diagnosed of breast cancer within its treatments' side effects. Breast cancer survivors' centrality of event plays a crucial role on the path of several psychological effects of the experience. It is very important to consider personal effect of the traumatic event; however various measures screen for trauma history has been fail for assessing the perceived impact of the trauma. For the reason, it is very considerable to examine the perceived meaning of traumatic experience within individual's unique reaction to the trauma (Norris & Hamblen, 2004). Within those information, putting traumatic experience in the individual's life in a center is very crucial to investigate while it is considering the effect of traumatic experiences.

Although there has been a growing literature on the relationship between event centrality, posttraumatic stress disorder symptoms and posttraumatic growth and also the relationship between types of rumination and the indirect relationship between types of rumination with centrality of event separately; there is no study in which the relationship between all of these concepts is examined. For this reason, the goal of the current study was to expand the knowledge on breast cancer survivors' experience of posttraumatic growth and posttraumatic stress disorder symptoms by exploring its relationship with centrality of event on the mediating effect of the types of rumination to catch the reason of developing negative or positive outcome after the traumatic experience and prevent posttraumatic stress disorder symptoms with making cognitive interventions in the related process. Because, while a person is ruminating about an event, it is more likely for the individual to reflect events while they are tried to understand and seeking for understanding, and trying to find alternative solution to the obstacles in life (Martin & Tesser, 1996).

McCready (2004) showed that having idea of risk factor of developing breast cancer and being aware of how to decreased the risk factor are very crucial. While treatment procedures and screening are considering, being informative by being aware of early diagnosis of breast cancer decreased the possibility of mortality rates. Procedures of screening for women with breast cancers could be breast awareness-raising education that includes normal and abnormal image of their breast, clinical breast examination, self-controlling/checking, and having mammography in clinics. Therefore, the present study has a contribution on expanding the knowledge in the rumination types of breast cancer survivors to detect the possible effects on posttraumatic stress disorder symptoms and posttraumatic growth and to make contribution with identifying cognitive

concept like rumination type in their possible therapeutic process and improving the quality of the treatment process in the clinical practice.

At the clinical level, the current study highlighted the importance of the seeking different cognitive concepts in the road of negative and positive psychological effect of the centralized traumatic experience for focusing on the therapeutic interventions. It was indicated that there must be still another variables for investigating antecedents of positive and negative effects of the traumatic event itself. For cognitive therapy approach as Cognitive-Behavioral Therapy, focusing on the function of repetitive thinking process is one of the most considerable agenda of the process and understanding and intervening the rumination process with its types might be contribution.

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The Relationship between Teachers' Attitudes towards Educational Technologies and School Administrators' Technology Leadership Roles

Cem Efeoğlu, *Turkish Airforce, Turkey*
ORCID: https://orcid.org/ 0000-0005-7329-3057

Adil Çoruk, *Çanakkale Onsekiz Mart University, Turkey*
ORCID: https://orcid.org/ 0000-0001-5858-0317

Abstract

This study examines the relationship between school administrators' technology leadership roles and elementary school teachers' attitudes towards educational technologies with an emphasis on their potential indirect impacts on education quality provided, while exploring existing state of the technology use among the school administrators and teachers. In this study, two scales have been used. Both scales have been administered to 283 teachers working at elementary schools in Çanakkale. The findings show that teachers perceive their school administrators' leadership roles quite high. In the sub-dimensions, highest level is "Support" and lowest level is "Vision". In "Human-Centralism" sub-dimension, difference has been observed according to branch, in "Vision" sub-dimension difference has been observed according to branch and seniority, and in "Support" sub-dimension difference has been observed according to gender. According to "seniority and branch" variable, there is no significant difference in teachers' attitudes towards educational technologies. However, difference has been observed according to gender. There was a correlation between primary school administrators' technology leadership roles and teachers' attitudes towards educational technologies.

Keywords: Technology Leadership, Teachers, Elementary Schools, Attitudes Towards Educational Technologies

1. Introduction

The aim of the research is to present the relationship between school administrators' technology leadership roles with teacher's attitudes of education technologies. The study has inspired by a new ability-technology leadership- added to school administrators' leadership roles. Further more teachers attitudes toward education technologies also have significant case in both school and education system.

Nowadays education is one of the most important issue across the world. Education System worldwide is changing and developing so rapidly. Internet, distance learning and even artificial intelligence has integrating education system. Information technologies become widespread all around the world, using internet become prevalent (Aksoy, 2005) for this reason education system have to be alter and should be more compatible with these developments. Schools and educational system including more technology day by day. Electronic learning or distance learning is concrete

evidence for it. (Hayytov, 2013). Individual-based learning has emerged. Students and teachers don't have to be in the same place (Aytaç, 2003). Especially human related abilities has become more effective on education management. Similarly, Binbaşıoğlu (2005) has expressed that today's students is our future. In order to prepare them for future, school and its facilities have massive role in it. Teachers and school administrators should keep up with the advances in technology. They have more responsibilities about this issue.

Educational institutions have massive roles to produce and carry over information. Administrators fulfill their leadership roles only to know, to use and adopt technology (Akbaba-Altun, 2002). Administrators ought to have long term determination to assure resources and ensure technical support. They have to be aware of that using technology make education better. Besides that educational technologies has huge contribution to education, to use them effectively teachers should show adequate consideration. Teacher's attitudes toward technology and use educational technologies related to believe its benefits to students (Kaya, 2017).

ISTE (International Society for Technology in Education) has prepared evaluations and standards for school administrators which is called NETS-A (National Education Technology Standards for Administers). According to these standards five bullets have declared. These are;

- Visionary leadership
- Digital age learning culture
- Excellence in professional practice
- Systemic improvement
- Digital citizenship

1.1. Technology Leadership and Roles
Across the world, technology enclose every part of the human life and has become an essential point. Especially obtaining an information and using this information via technology outstanding. Conversely this situation came up with new problems which has to be solved. Akbaba-Altun (2002) reported in their research that technology leaders should have some skills like; integrate technology to education, see the big picture and be a model to other people. Görgülü (2003) mentioned similar view that technology leaders should follow developments, be effective to use it, and support and motivate teachers.

Today, administrators have new responsibilities in the management of the school. Not only use and know how to use technology but also inspire others' school attendance. From this view school administrators adopt technology (Helvacı, 2008).

1.2. Attitudes of Education Technologies
Allport (1935) defined attitude in his social psychology handbook as to being ready to something or being alerted to something. Preferences and decisions important in part of life about attitude. Apart from how to solve a problem or behave when encounter the matter. Yağcı (2012) similarly emphasized in his study that attitude as a readiness to positive or negative situations. And also noted that etymologically it means that come into action. Erdoğan (1994) remarked in his study that attitude can be listed in three topics. These are;

- Mental Factors
- Emotional Factors
- Behavioral Factors

How all the systems or equipment are current and contemporary, the point is using this equipment is more important. Therefore, besides ultimate technology in schools, teachers and school administrators' tendency to use them effect benefit portion. Topaloğlu (2008) reported in his study

that determining the teachers' attitude towards to educational technologies make better and effective education process in schools.

2. Method
The general survey model was used in this research for examining the relationship between the school administrators' technology leadership roles and teachers' attitudes towards educational technologies. General survey model is aiming to explain current state completely as is. The important thing is to find out this state without any changes (Karasar, 2009).

2.1. Participants
Participants of the research were 283 branches and primary teachers who worked at elementary schools from Çanakkale city center during the 2018-2019 academic year (Table 1).

Table 1: Demographic Characteristics of the Sample

Variable		f	%
Gender	Female	178	62.9
	Male	105	37.1
Seniority	1-5	30	10.6
	6-10	33	11.7
	11-15	83	29.3
	16-20	56	19.8
	21 and over	81	28.6
Branch	Primary Teacher	154	54.4
	Branch Teacher	129	45.6

2.2. Data collection tools
In the research, data collection tool had three sections. First part has questions about demographic characteristics of the sample (gender, branch and seniority). Second part is technology leadership roles scale which has twenty-nine items and third part is attitudes towards educational technologies which has forty-three items. In addition to this, Cochran formula has been used to identify the exact number of teachers. According to 0.5 reliability level in this research there is need to reach 264 teachers.

Cochran Formula
n=Nt2pq/d2(N-1)+t2pq

Units to identify sample number:
N : Total number of people in universe= 846
n : Sample number
p : Probability of occurrence = 0,5
q : Probability of not occurrence = 0,5
t : theory value =1,96
d : Sample error = 0,05
n=846x1,962x0,5x0,5/0,052x(846-1)+1,962x0,5x0,5
n=264

2.2.1. School administrators' technology leadership roles scale
In this study, "Technology Leadership Roles Scale" was used to clarify administrators' technology leadership roles according to opinions of teachers. Scale was developed by Sincar (2009) and consists of four sub-dimensions. These are;

- Human centricity
- Vision
- Communication and collaboration
- Support

2.2.2. School administrators' technology leadership roles scale
In this study, "Attitude towards Educational Technologies Scale" was used to clarify teachers' attitudes towards educational technologies. Scale was developed by Pala (2006) and consists of forty-three items.

2.2. Data analysis
SPSS 2.0 (Statistical Package for Social Sciences) was used in the research to analyze data. Skewness and Kurtosis values were between ±1,5 (Table 2). Therefore, data was distributed normal. Because gender and branch variables composed of 2 categories, t-test was used to determine differences. F test (One-Way ANOVA) was used to examine the differences in terms of seniority. Tukey test, one of the Post Hoc analysis techniques, was used when there is a significant difference in F test. To measure the relationship between two scales, correlation analysis was used (Tabachnick & Fidell, 2013).

Table 2: Skewness and Kurtosis Values of Scales

	Skewness	Kurtosis
Attitudes towards Educational Technology	-.306	.317
Technology Leadership Roles	-.555	.260

3. Findings

The findings were presented in this section. The findings were categorized into three sub-titles. These are;

- The Findings Regarding School Administrators' Technology Leadership Roles
- Findings Regarding Teachers' Attitudes Towards Educational Technologies
- Correlation between School Administrators' Technology Leadership Roles and Teachers' Attitudes Towards Educational Technologies

3.1. Examining the school administrators' technology leadership roles according to demographic variables
In this sub-section, school administrators' technology leadership roles were examined in terms of independent variables such as gender, branch, and seniority.

According to opinions of teachers, the difference in the school administrators' technology leadership roles in terms of gender was analyzed by Independent-Samples t-test, and the test result was presented in Table 3.

Table 3: The leadership roles according to gender

	Gender	N	Mean	Sd	df	t	p
Human Centricity	Female	180	4.01	.63	281	-.33	.74
	Male	103	4.04	.56			
Vision	Female	180	3.90	.67	281	-.57	.56
	Male	103	3.95	.71			
Communication Collaboration	Female	180	3.94	.72	281	-.19	.85
	Male	103	3.96	.63			
Support	Female	180	4.01	.64	281	-1.97	.05*
	Male	103	4.17	.61			

Only in support dimension, difference was observed between female and male teachers in favor of male teachers [$t_{(281)}$ = -1.97, p<0.05]. The difference in the school administrators' technology leadership roles in terms of branch was analyzed by Independent-Samples t-test, and the test result was presented in Table 4.

Table 4: The Leadership Roles According to Branch

	Branch	N	Mean	Sd	df	t	p
Human Centricity	Primary	154	4.14	.55	281	3.61	.00*
	Branch	129	3.88	.64			
Vision	Primary	154	4.04	.64	281	3.25	.00*
	Branch	129	3.77	.72			
Communication Collaboration	Primary	154	4.02	.68	281	1.77	.08
	Branch	129	3.87	.69			
Support	Primary	154	4.16	.63	281	2.53	.01*
	Branch	129	3.97	.61			

*p< 0.05

Difference was observed between primary and branch teachers in favor of primary teachers In human-centricity [$t_{(281)}$ = 3.61, p<0.05], vision [$t_{(281)}$ = 3.24, p<0.05] and support dimensions [$t_{(281)}$ = 2.53, p<0.05]. The difference in the school administrators' technology leadership roles in terms seniority was analyzed by F Test (One-Way ANOVA), and the test results were presented in Table 5.

Table 5: The Leadership Roles According to Seniority

Sub-Dimensions		Sum of Squares	df	Mean Square	F	p	Difference
Human Centricity	Between Groups	5.42	4	1.36	3.83	.01*	16-20 year/21 year and above
	Within Groups	98.51	278	.35			
	Total	103.94	282				
Vision	Between Groups	7.24	4	1.81	4.02	.00*	16-20 year/21 year and above 1-5 year/16-20 year
	Within Groups	125.30	278	.45			
	Total	132.54	282				
Communication Collaboration	Between Groups	3.83	4	.96	2.07	.09	
	Within Groups	128.54	278	.46			
	Total	132.37	282				
Support	Between Groups	2.57	4	.64	1.64	.17	
	Within Groups	109.28	278	.39			
	Total	111.85	282				

*p< 0.05

According to seniority, there were differences in Human Centricity and Vision dimensions. Tukey Test was used to find the source(s) of differences. Results showed that there was a significant difference between the teachers having 16-20-year seniority and 21 year and above seniority in Human Centricity and Vision dimensions.

3.2. Examining the Teachers' Attitudes towards Educational Technologies According to Demographic Variables

In this sub-section, teachers' attitudes towards educational technologies was examined in terms of independent variables such as gender, branch, and seniority.

The difference in the teachers' attitudes towards educational technologies in terms of their gender was analyzed by Independent-Samples t-test, and the test result was presented in Table 6.

Table 6: The Attitudes Towards Educational Technologies According to Gender

	Gender	N	Mean	Sd	df	t	p
AET[i]	Female	178	4.13	.43	281	-2.17	.03*
	Male	105	4.24	.42			

i: Attitudes towards Educational Technologies

According to gender, there was a significant difference in teachers' attitudes towards educational technologies between female and male teachers. It can be said that male teachers has higher-level attitudes towards educational technology. The difference in the school administrators' technology leadership roles in terms of their branch was analyzed by Independent-Samples t-test, and the test result was presented in Table 7.

Table 7: The Attitudes Education Technologies According to Branch

	Branch	N	Mean	Sd	df	t	p
AET	Primary	154	4.20	.38	281	1.50	.14
	Branch	129	4.13	.48			

According to branch, there was no significant difference in the attitudes towards educational technologies. It can be concluded that branch variable does not make a difference in the attitudes of teachers towards educational technologies.

The difference in teachers' attitudes towards educational technologies in terms of their seniority was analyzed by F Test (One-Way ANOVA), and the test results were presented in Table 8.

Table 8: The Attitudes Education Technologies According to Seniority

Sub-Dimensions		Sum of Squares	df	Mean Square	F	p
	Between Groups	.93	4	.23		
AET	Within Groups	50.86	278	.18	1.27	.28
	Total	51.79	282			

According to seniority there was no significant difference in the attitudes towards educational technologies [$F_{(4-278)}=1.27$, $p>0,05$]. It can be said that seniority variable does not show a difference in the attitudes of teachers towards educational technologies.

3.3. Examining the Relationship between School Administrators' Technology Leadership Roles and Teachers' Attitudes towards Education Technologies

Table 9: The Relationship Between School Administrators' Technology Leadership Roles and Teachers' Attitudes Towards Education Technologies

Technology Leadership Roles		Attitudes of Education Technologies
Human Centricity	Pearson Correlation	.130
	Sig. (2-tailed	.03*
Vision	Pearson Correlation	.148
	Sig. (2-tailed	.01*
Communication Collaboration	Pearson Correlation	.175
	Sig. (2-tailed	.00*
Support	Pearson Correlation	.238
	Sig. (2-tailed	.00*
Sum	Pearson Correlation	.185
	Sig. (2-tailed	.00*

Table 9 shows the relationship between school administrators' technology leadership roles and teachers' attitudes towards educational technologies. There was a low level positive relationship in all sub-dimensions. It is possible to say that school administrators' technology leadership roles are correlated with teachers' attitudes towards educational technologies. According to the findings, when school administrators' technology leadership roles increase, teachers' attitudes towards educational technologies also increase.

4. Discussion, Conclusion and Suggestions

According to teachers' opinions about school administrators' technology leadership roles in elementary school, administrators show high level technology leadership roles. In sub-dimensions, support is highest and the vision is least. Sincar (2009) found similar results in his study. School administrators give more importance to use and supply technology than to plan future technology at school. In human centralism dimension, school administrators support internet utilization and encourage teachers to use educational technology. In vision dimension, school administrators state innovations. On the other hand, technological development plans are perceived lesser by teachers. In communication and collaboration dimension, internet usage has higher score; however, teachers think that school administrators do not consider opinions of teachers and students.

In respect of gender, there is no significant difference in human centralism, vision and communication and collaboration dimensions. There is a significant difference only in support dimension. Administrators' support level is higher according to female teachers. Yet, Sincar (2009) could not find difference according to gender.

In respect of branch, primary teachers have perceived that school administrators have higher level roles in human centralism, vision and support dimensions than branch teachers.

In respect of seniority, there is no significant difference in communication and collaboration and support dimensions. On the other hand, in human centralism and vision dimensions 21 years and over teachers has thought that their administrators higher level roles than 16-20 years teachers.

In elementary school, teacher's attitudes of education technologies has observed high level. Teachers has thought that education technologies is attracting students and increase their performance Pala (2006) has found similar results in her study. In respect of branch and seniority

difference has not been observed. Only according to gender parameter, in favor of male teachers has observed difference. Ekici (2008) reported that male teachers have shown positive attitude than female teachers in his study. On the other hand, Çınarer, Yurttakal, Karaman and Ünal (2015) reported that there is no significant difference between female and male teachers.

While examining the relationship between school administrators' technology leadership roles with teacher's attitudes of education technologies, there is a positive correlation in low level. Gürkan (2017) reported in his study that there is positive correlation between lifelong learning and technology leadership. Similarly, Gerçek (2016) reported in his study that there is a positive correlation between technology leadership and management effectiveness. Raaman and Thanmalar (2018) has mentioned parallel results in their research. They stated that relationship between school administrators' technology leadership and teacher's improvement level has high level correlation. On the other hand Baş (2012) reported in his study that there is no correlation between technology leadership level and management effectiveness. Hughes (2005) has drawn attention to importance of the issue and has suggested that there should be preparation class in faculty of educations.

Although the findings seem encouraging, it is obvious for this broad study area that more research is necessary for definitive results from which policy changes can be proposed. Preliminary analysis, though, reveals that it is of great significance for administrators and teachers to notice the enormous contributions that technology provides to the education. The results of the preliminary analysis clearly demonstrate a need for administrators to increase their skills about technology use. One of the finding of this study is that the school administrators has shown comparatively low level in vision dimension than other dimensions which is very critical about school management. While there is an essential need for further research, as a preliminary suggestion toward possible policy change could be that the creation of number of courses to entangle this undesired state of the school management from which Ministry of National Education (MoEN) would be better off. When it is considered that this study has carried out solely in government schools, and only by quantitative method, the recommendations for both researches and the MoNE are to cull pieces from the other options currently available as encompassing the private schools and using qualitative methods in the further studies to explore more definitive results to increase the effectiveness of the existing state of the education and to enhance the efforts for improving its capabilities and activities.

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