Traumatic Memories of Parental Loss: The Role of Participant Age, Age of Memory, Expectancy, Consequentiality and Changes in Life

by

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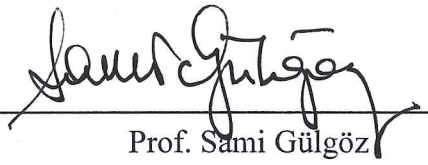

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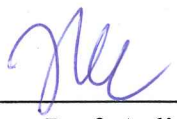

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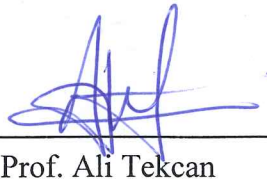

Prof. Ali Tekcan

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To my dear mother, brother and my grandmother who is with angels now…

"An experience may be so exciting as to almost leave a scar on the cerebral tissue"

William James, Principles of Psychology,1890, p. 670

"When someone you love becomes a memory, the memory becomes a treasure"

An Anonymous Writer

STATEMENT of AUTHORSHIP

This thesis contains no material which has been accepted for any award or any other degree or diploma in any university or other institution. It is affirmed by the candidate that, to the best of her knowledge, the thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

Signed Pınar Öztop

ABSTRACT

The goal of this study was to investigate properties of trauma memories in relation to participant age, age of the memory, expectancy, consequentiality and life changes following trauma. Sixty nine participants whose ages ranged from 19 to 70 participated by recalling their memories of parental loss and another self-chosen sad event. They responded to questions about memory characteristics, life changes and also PTSD-C questionnaire. When compared with memory of other events parental loss memories exhibited higher ratings of phenomenological characteristics. The level of surprise in loss affected the life changes; however it has no effect on memory features. As the age of the memory increases, vividness of the memory and frequency of rehearsal decreases. Loss at middle adulthood was accompanied with a higher field perspective in remembering compared to loss at adolescence. In addition, childhood loss correlated more with physical and financial changes, whereas loss at adolescence was related to psychological changes. Correlations between life changes and memory features showed that memory features increased with psychological changes, however decreased with physical and financial changes. Finally, importance of the loss was a significant predictor of several memory features. In conclusion, memory of the trauma found to rely on the consequences rather than the event itself.

Key Words: Trauma, Trauma Memory, Consequentiality, Expectancy, Age, Life Changes

ÖZET

Bu çalışmanın amacı travmatik anıların hatırlanma özelliklerinin katılımcı yaşına, anının yaşandığı zamana, beklenilirliğe, olaya atfedilen öneme ve yaşanılan hayat değişikliklerine göre nasıl değişiklikler gösterdiğini incelemekti. 19–70 yaşlarında altmış dokuz yetişkin ebeveyn kaybı ve seçtikleri başka üzücü bir olayın anılarını hatırladılar. Katılımcılar, Anı Özellikleri, Hayat Değişiklikleri Anketlerini ve Post-travmatik Stres Bozukluğu anketini cevaplandırdılar. Ebeveyn kaybı anılarının diğer olay anılarına göre daha yüksek fenomonolojik özelliklerle hatırlandığı bulundu. Sürpriz faktörünün hafıza üzerinde beklenildiği gibi bir etkisi bulunmasa da yaşanılan hayat değişikleri üzerinde etkisi olduğu gözlemlendi. Anının yaşandığı zaman uzaklaştıkça, olayın canlılığı ve tekrar edilme sıklığında azalma olduğu görüldü. Bunların yanı sıra, katılımcıların orta yetişkinlikte yaşanılan kayıpları ergenlikte yaşanılan kayıplara göre daha fazla tekrar yaşıyormuş gibi hatırladıkları bulundu. Çocuklukta yaşanılan kaybın çevresel ve finansal sonuçlarının, ergenlikte yaşanılan kaybınsa psikolojik sonuçlarının öne çıktığı görüldü. Son olarak, kayba atfedilen önemin bir takım anı özelliklerini anlamlı olarak yordadığı bulundu. Sonuç olarak, travmanın hatırlanmasının olayın kendisinden çok sonuçlarına bağlı olabileceği öne sürülmüştür.

Anahtar Sözcükler: Travma, Travmatik Bellek, Olayın Önemi, Beklenilirlik, Yaş, Hayat Değişiklikleri

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CHAPTER 1: INTRODUCTION

Autobiographical memory is defined by Brewer (1986, p. 25) as "memory for information related to the self". Most of the theorists agree that autobiographical memory is a type of memory which is explicit, declarative and includes a sense of self experiencing the event at a specific point in time and space (Nelson & Fivush, 2004). Conway and Rubin (1993) argued that autobiographical memory is not only referenced to self, but also related to episodes which have personal meaning (as cited in Nelson & Fivush, 2004). Specifically, emotions, motivations and goals add personal significance to these episodes. This is why autobiographical memory is differentiated from memory of facts, lists or skills and rather accepted as a type of explicit memory that is formed by self in relation to others and references to specific points in the past (Nelson & Fivush, 2004). Rubin (2005) also emphasized uniqueness of autobiographical memory and tried to differentiate it from other memories by comparing it with laboratory memories retrieved in episodic memory experiments. Laboratory memories were limited in sensory modality and variation in terms of spatial, temporal, narrative content and they lacked personal relevance. Unlike laboratory episodic memories, autobiographical memories have multimodal components including vision, sound, smell, taste, touch and kinesthesia or body sense, they have personal relevance and they vary in terms of their spatial, temporal, emotional and narrative content (Rubin, 2005).

Further understanding of autobiographical memory can be gained by looking at its phenomenological characteristics. Vividness, coherence, emotional valence and intensity, time and visual perspectives, distancing, accessibility, sensory detail, sharing are among the most studied phenomenological characteristics of autobiographical memory. These

characteristics are important in terms of retrieval of autobiographical memories and the role of these memories in our future goals and actions (Sutin & Robins, 2007).

CHAPTER 2: LITERATURE REVIEW

In this chapter, first, the literature on the emotion and memory is summarized. Then, views and findings about trauma memories are presented. Factors effecting the retrieval of trauma memories are included in the literature review part as well.

2.1.Emotion and Memory

Autobiographical memories of certain types of events can be remembered with more detail than others. These events may contain more contextual, sensorial and affective details such as the people who were present, the action they did, the color of their clothes, location of objects and the emotions felt during the event and they can be re-experienced mentally (Comblain & D'Argembeau, 2005). One important factor which makes some memories more likely to remember is the emotional content of the event (D'Argambeau, Comblain & Van Der Linden, 2003). Conway and Holmes (2004) also highlighted the importance of emotions and they claimed that an emotional or a motivational significance for the self-related information is what characterizes autobiographical memories. In other words, personal significance of the memory for self is determined by emotional content. Likewise, Talarico, LaBar and Rubin (2004) stated that rich emotional content predicts perceptual, cognitive and emotional properties of autobiographical memory. When Berntsen and Rubin (2002) compared ages of people's most important, happiest, saddest and most traumatic memories they found that different emotional memories had different retention patterns. For instance; the happiest and the most important memories formed a bump in 20's, whereas there was no bump for the saddest and the most traumatic memories. They concluded that emotions also had an important role in the distribution of autobiographical memories across the lifespan.

The main focus of researchers who investigate the relationship between emotion and memory has been to understand whether emotions improve memory or not. According to

Levine and Pizarro (2004) there are four types of views on that issue: some researchers argue that emotional memories are indelible, some state that there is no specific effect of emotion on memory, other group of researchers claim that emotion improves memory for only emotion-congruent information, and finally another group claims that emotion enhances memory for the central details of the event, but not for the peripheral details.

2.1.1. Emotional Memories as Indelible

LeDoux (1992) is one of the researchers arguing for the indelibility of emotional memories. He proposes that, it is not the memory of the emotional event, but it is the emotions evoked by the event that become indelible. This view was based on the finding that classically conditioned avoidance responses of animals can be restored in case of unrelated exposure to stressful stimuli. This is because although emotional memories are formed by subcortical circuits involving amygdala, the behavioral expression of emotional memory is controlled by some other additional memory systems. He added that since extinction operates on memory systems that control the behavioral expression of emotional memory like hippocampus or frontal cortex, not on the subcortical circuits that form the emotional behavior, emotional memories indelible. Some other researchers also claimed for the permanence of emotional memories on the basis of findings from studies conducted with rats. For instance, Fanselow & Gale (2003) found that fear memories of adult rats were permanent and this was due to the activity of the frontotemporal region of the amygdala.

Some of the researchers studying flashbulb memories also argued for the indelibility of emotional memory, but unlike LeDoux they didn't refer to the memory for the emotions evoked by the event. Instead, they were interested in the memory for the details about the first time people heard about an emotional event. Brown and Kulik (1977) who studied individuals' memories of learning about John F. Kennedy's assassination stated that highly surprising, important and emotional events form distinctive memories by a specific encoding

mechanism called NOW PRINT! When they asked people to describe the time they first learned about the highly emotional event, people did not only accurately remember details related to the event, but also remembered details like their exact location, the time of learning the event, activity that was being done during the event, who told about the event, etc. They suggested that emotional memories do not fade over by time like typical memories; in fact they are more vivid, accurate and contained higher details about the event.

The opponents of permanent emotional memory view argued that although emotional memories were superior in some ways like their vividness and that they were recalled with greater amount of details, this does not indicate that these memories are always accurate (Levine & Pizarro, 2004). In their flashbulb memory study, Talarico and Rubin (2003) tested participants' memory for the time they first heard about the events of September 11, 2001 and compared this with their memory for a recent every day event. They found that emotional intensity predicts memory confidence. However, there was no difference in terms of the number of inconsistent and consistent details reported for the two events.

Moreover, there are controversial findings about the indelibility of memory for the emotions evoked by an event. For instance, Talarico and Rubin (2003) found that people's memory for their distress when they learned about September 11, 2001 attack changed over time and this change was parallel to how they appraised the impact of the event at the time of remembering. Another evidence showing that emotions evoked by an event can be reconstructed by their appraisal at the time of retrieval comes from Safer, Levine and Drapalski's (2002) study. In this study, college students rated their test anxiety and emotions before the exam and recalled those ratings one week later. One group learned their grades before they were questioned about their pre-exam feelings; the other group learned their grades after they were questioned for their feelings about the exam. Participants who learned that they had done well on the exam underestimated and those who learned that they had done

poor on the exam overestimated their test anxiety before the exam. Although there is considerable evidence for the effect of emotion on memory, there is not much support for the notion that emotional memories or memory for emotions triggered by the event are indelible.

2.1.2. No specific effect of emotions on memory

The other perspective on emotion and memory is that emotions have no specific effect on memory (Levine & Pizarro, 2004). For instance, some researchers studying flashbulb memories argued that there is no specific encoding mechanism and flashbulb memories are not very different from ordinary memories (Brewer, 1992; McCloskey, Wible & Cohen , 1988; Schooler & Eich, 2000; Schobe & Kihlstorm, 1997; Talarico & Rubin, 2003). Specifically, McCloskey, Wible and Cohen (1988) argued that the experience of learning may be more memorable since it is significant and distinctive. Also, event itself can be more memorable because of its surprisingness and consequentiality. In other words, emotional memories are accepted as different from natural event memories due to other features of the emotional event such as novelty, distinctiveness and importance. Moreover, some other researchers claimed that emotional event memory is remembered only because of high levels of rehearsal (Neisser, Winograd, Shreiber, Palmer, & Weldon, 1996; Finkenauer, Liminet, Gisle, El-Ahmadi, Van Der Linden, & Philippot, 1998). Later, this view was challenged by other researchers who found that although rehearsal influenced recall, it was not sufficient to explain enhanced recall for emotional memory (Bohannon, 1988; Conway, Anderson, Larsen, Steen, Donnelly, McDaniel, McClelland, Rawles, & Logie, 1994).

2.1.3. Emotions enhance memory

There is substantial evidence in favor of the idea that even if they do not make memories indelible, emotions enhance memory encoding and this process results in more accurate and long-lasting memories compared to neutral event memories (Bluck & Li, 2001;

Brewer, 1988; Christianson & Safer, 1996). Evidence supporting this idea comes not only from autobiographical memory studies, but also from animal and human laboratory studies, and brain imaging studies (Levine & Pizarro, 2006). D'Argambeau, Comblain & Van Der Linden (2003) investigated memory qualities for positive, negative and neutral autobiographical events. They found that positive memories contained more sensorial and contextual details than both negative and neutral events and showed that emotional memory was more richly recollected than the neutral memory. Furthermore, neurological findings from laboratory studies conducted with humans also provided evidence for the notion that emotions improve memory. Researchers (Cahill, 1997; Cahill, Prins, Weber & McGaugh, 1994) found that activation of fundamental neurobiological system elements such as endogenous stress hormones and amygdale only occurred in emotionally stressful learning situations but not in non-emotional situations. These neurobiological elements were found to mediate the storage of long term memory formation for emotional events.

2.1.4. Improvement of memory including emotion-congruent information

One way that emotions enhance memory is that being in a certain emotional state enhances encoding or retrieval of memories that have the same valence (Levine & Pizarro, 2004). There are some studies supporting this argument (Bower, 1981; Bower, Gilligan & Monteiro, 1981; Singer & Salovey, 1988), and many of the studies are influenced by predictions of Bower's associative network theory (Rusting & DeHart, 2000). According to Bower (1981) each specific emotion is represented by nodes in the associate network which is composed of memories and cognitions related to that emotion. So, when a particular emotion is activated, activation spreads to all the other connected parts and emotional memories are activated. Therefore, in Bower's theory, mood congruency effect is the result of activation of mood congruent concepts by the current emotional state. Although a substantial number of studies supported the associate network theory, it didn't go unchallenged (Rusting & DeHart,

2000). Some researchers demonstrated that positive affect had more impact on mood-congruent retrieval compared to negative affect and this asymmetry challenged the associative network view (e.g. Nasby & Yando, 1982). Moreover, some studies even had results showing that moods enhance retrieval of mood-incongruent information (Erber & Erber, 1994; Parrot & Sabini, 1990).

2.1.5. Improvement of memory according to the type of information

Enhanced memory for emotional information is also explained by the type of information that the emotion accompanies. A substantial number of researchers argued that emotions improve memory for central details which refers to the gist of the event, whereas most of the peripheral details are lost (Christianson & Loftus, 1987, 1990, 1991; Burke, Heuer & Reisberg, 1992, Reisberg & Heuer, 2004). On the other hand, Levine and Burgess (1997) claimed that emotions enhance encoding of the information relevant to the current circumstances and the information which is central for one emotional state may not be central for another emotional state. Reisberg (2006) also came up with a criticism and stated that broad conceptualizations like central or peripheral are very simple for explaining the phenomena since what is central for one emotional state may not be for the other state. In sum, reservation of central details for emotional memories might be true, but it provides only limited information about improvement of memory for emotional information.

Some other researchers claim that emotion has a detrimental effect on the retrieval of specific details in autobiographical memory. Different from the proponents of preservation of central details of the emotional memory, these researchers focused on episodic and semantic details in the retrieval of memory. Schaefer and Philippot (2005) controlled their participants' emotional responses during retrieval and they found that there were more semantic details or schema-relevant details in emotional autobiographical memories compared to neutral ones. At the same time, they found emotional memories to be more vivid than neutral memories. Thus,

they concluded that emotion might decrease retrieval of specific episodic details whereas retain semantic details.

2.2.Emotional Valence and Intensity

Although there is a plenty amount of different views about relation between emotion and memory, most of these researches have not taken into account more basic and fundamental qualities of the emotions such as emotional valence and intensity. Majority of the studies investigated the role of emotions by comparing emotional material with neutral ones and did not take specific effects of valence into account. Also, most of the trauma, eyewitness and flashbulb memory research disregarded the effects of intensity by comparing highly intense negative targets with neutral ones (Talarico et al. 2004). However, by considering the evidence which shows that there are also important differences between emotionally positive and emotionally negative memory and highly intense and less intense emotional memory, relationship between memory and emotion might be understood better.

Brain imaging studies about positive and negative emotional memories directed researchers to the possibility that two valences might not be remembered in the same way (Reisberg, 2006). For instance, Canli, Zhao, Desmond, Glover & Gabrieli (1999) argued that a very complex network of interacting brain regions might take part in encoding of emotional experience and they used functional magnetic resonance imaging to locate the brain structures activated in encoding of positive and neutral stimuli. They found that brain activation patterns responsible for encoding of the memory are different for emotionally positive and emotionally negative stimuli. There are a number of studies confirming the findings of the brain imaging study of Canli et al. (1999) but their findings related to the effects of valence are mixed in terms of which specific valence improved retrieval. For instance, in studies of valenced words and pictures, there is an advantage for pleasant stimuli over non-pleasant. Also, in diary studies participants displayed better recall for positive events (Wagenaar, 1985). Moreover,

D'Argembeau et al. (2003) asked participants to recall positive, negative and neutral autobiographical events and to rate their contextual and sensory details. They found that positive memories contained more sensory and contextual information than negative memories, and overall negative memories were not more detailed than neutral ones. But there are also some studies providing evidence of advantage for negative memories over positive memories. Bernsten (2001) investigated tunnel memories-enhanced memories for the central details or in other words the gist of an event- of college students by recording details of their highly negative and highly positive events. She found that for negative event memories central details were recorded more frequently than peripheral details (irrelevant information), whereas for positive events a wide range of information were recorded. Moreover negative memories were found to be more accurate than positive ones. When she asked for happiest and most shocking event memories, only in memories of shocking events, central details dominated over peripheral details. In short, she found evidence for dominance of central detail retrieval for emotional memory view only for negative emotional events. Accordingly, Christianson and Engelberg (2006) indicated that both real-life studies and experimental studies suggest that some details of the negative emotional events are retrieved automatically. One example of real life studies is flashbulb events. Many studies showed that there is accuracy for people's memories for the period when they first heard about nationally shocking events (McCloskey, Wible & Cohen, 1988; Pillemer, 1984). Experimental evidence comes from the study conducted by Christianson and Fallman (1990). They showed that recognition of unpleasant stimuli is higher than pleasant stimuli by presenting participants either pictures of victims of traffic accidents, war, famine, malady or pictures of neutral situations like everyday activities. However, it might not be possible to generalize findings of laboratory studies using emotional stimuli or findings of flashbulb studies assessing people's memory for learning a nationally shocking event. Specifically, in laboratory studies emotion is evoked by

using salient visual stimulus. These stimuli might be like “attention magnets” and become responsible for the effects on memory instead of emotional arousal. Therefore, studies investigating real life, naturally occurring negative events like traumatic events are needed in emotional memory research (Christianson & Engelberg, 2006).

The other fundamental aspect of emotional memory is intensity. Most of the researchers compared valence and intensity effects to understand which one predicts emotional memory better. For instance, Holmes (1970) investigated the interaction between valence and intensity. He indicated that the events of which affective intensities decreases by the time are less likely to be recalled than the events which preserved their affective intensity, and memories of unpleasant events decreased in intensity more quickly compared to pleasant event memories. He concluded that intensity was predicting differences in recall of emotional memory better than valence. Talarico et al. (2004) similarly argued that emotional intensity has a more profound effect on autobiographical memory properties than does valence. Specifically, they found that highly intense events tended to be remembered longer, with greater vividness and a greater sense of recollection. Furthermore, they suggested that emotions’ effect on memory might be mediated by intensity more strongly because, for example, intensity might enhance the attention mechanism at encoding which in turn affects other features of the event at recall.

2.3.Trauma Memory

Considering the evidence for the intensity of the emotions in an event, it is necessary to examine highly intense emotional memories and to compare them with less intense ones. Traumatic experiences are the most intense types of negative life events. The DSM – IV (American Psychiatric Association, 1994) defines traumatic event as an event involving “actual or threatened death or serious injury, or other threat to one’s physical integrity; or witnessing an event that involves death, injury or a threat to the physical integrity of another

person; or learning about unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate" (p. 424).

Traumatic events are very intense and negative, constituting a distinctive point in the chart of valence and intensity. They are highly stressful and consequential events and include extremely negative emotions. They are different from ordinary emotional events in that emotional memories, in general are not as overwhelming and stressful as trauma memories (Sotgiu & Mormont, 2008). Another feature that differentiates traumatic events from ordinary emotional events is duration. Emotional episodes are constituted of intense but short-lived experiences (Ekman, 1999), whereas traumatic experiences are longer in duration. These differences between emotional and traumatic events might direct us to questions like whether storage of these memories in long-term memory are also different and if so, how (Sotgiu & Mormont, 2008). These questions in turn, bring forth the need for investigate trauma memories as a distinct group of emotional memories.

The effect of trauma on memory has been investigated with various theoretical perspectives. These are 4 major perspectives: traumatic memory argument, Easterbrook hypothesis, ordinary memory argument, and trauma superiority argument. In addition to these major perspectives, flashbulb hypothesis is also used as an explanation for memory of trauma by some researchers.

2.3.1. Traumatic Memory Argument

According to *traumatic memory argument*, as labeled by Shobe and Kihlstrom (1997), cognitive mechanisms that process traumatic events complicate retrieval of traumatic events as coherent narratives. So, memories of these traumatic experiences are impaired. The traumatic memory argument has its roots in repression theories of psychoanalytic perspective. Freud claimed that certain events, especially traumatic experiences, are buried by the mind in the unconscious (Freud, 1915/1957, as cited in Byrne, Hyman & Scott, 2001). In repression,

since the information related to experience is not consciously available, the individual cannot remember the experience. However, the person suffers from psychological problems due to traumatic experiences although memory of the experience could not be retrieved in the narrative form. Repressed memories cannot be remembered generally, but under special circumstances they might be recovered (Byrne et al. 2001).

Some researchers rejected the notion that traumatic memories have special properties and they are banished from consciousness through mechanisms like repression or dissociation. For instance Shobe and Kihlstorm (1997) criticized the evidence favoring trauma memory argument and they argued that reports of amnesia due to traumatic events like childhood sexual abuse are methodologically flawed. Moreover, evidence for repression of traumatic experiences comes mostly from clinical case studies or surveys with individuals who reported that they have experienced traumatic events. However, there was not a strong evidence in these studies assuring that these events actually occurred, that they were forgotten for a while or they were recovered in the way that repression theorists argued (Byrne et al., 2001).

2.3.2. Easterbrook hypothesis

Even though repression hypothesis was found highly contradictory and criticized to be based on weak and methodologically flawed studies, some researchers claimed that memory for traumatic events may be less clear than memory for non-traumatic events in some ways. For instance, Byrne et al. (2001) claimed that while central details related to traumatic events are retained, memory for peripheral details is mostly impaired and called this view Easterbrook hypothesis. In his theory, Easterbrook (1959) claimed that as arousal increases attention narrows down. But narrowing down of the attention is an advantage for only moderate levels of arousal. In high levels of arousal, attention is impaired and the person can't retrieve the event (Heuer & Reisberg, 1992). For instance, in their laboratory experiment

Christianson and Loftus (1987) concluded that subjects were better at retaining the central details of the traumatic events over long retention intervals compared to peripheral details which were either less well stored or less well retained. On the other hand, peripheral details were lost over time. Moreover, less clear memory for traumatic events argument is not only assessed by central versus peripheral details, but also by phenomenological qualities. Byrne et al. (2001) examined similarities and differences between traumatic, negative, and positive life experiences. Their study showed that traumatic and negative experiences were less well-recalled than positive experiences in terms of visual, olfactory, taste and tactile information. Similarly the things that occurred before the traumatic and negative experiences were less well-recalled. For the other phenomenological assessments like emotional responses to events, importance of the event, frequency of different kinds of rehearsals, overall vividness, and confidence in the accuracy of memories, there were no differences between participants' ratings for traumatic, negative and positive experiences. Overall their findings showed that there is more limited memory for traumatic events.

2.3.3. Ordinary memory argument

Some other researchers also emphasized the non-superiority of trauma memories by arguing that traumatic memories are not unique; rather they are ordinary memories that are expected to deteriorate over time. According to this view, there is no need to refer to special mechanisms like repression to explain forgetting of trauma. This is labeled as *the ordinary memory argument* by Brewin (2007). For instance, Loftus & Ketcham (1994) said that sometimes, traumatic experience memories can be forgotten. However, instead of repression mechanism, processes such as ordinary forgetting or distorting influences like blocking of memory by subsequent learning might explain the observation about traumatic memories. In line with this claim, certain factors like intensity of the experience and decay over time can determine the fate of recovery. For instance, the intensity of recovered memories becomes

weaker with less traumatic events and with younger population (Brian & Port, 2001). In addition to these processes, some theorists argue that inhibition of some memories is simply a part of everyday memory. Individuals prefer to retrieve desirable information and they prevent undesirable ones from coming to consciousness. This is accepted as an executive control process, which is not unique to trauma memories (Anderson & Green, 2001). In short, although traumatic memories can be forgotten it might not be due to a special mechanism like repression.

2.3.4. Trauma equivalency/superiority argument

Contrary to trauma-memory argument belief which argues that trauma memories are impaired and are not accessible consciously, *trauma equivalency* or *trauma superiority argument* as labeled by Porter & Birt (2001) holds that trauma memories are well-remembered. For instance, Shobe and Kihlstrom (1997) by relying on neuroscientific evidence argued that trauma memory is extremely well-remembered, because stress does not impair memory, on the contrary it enhances it. Due to the positive effect of stress, trauma memories are accepted as distinct and permanent. They claimed that special therapeutic techniques are not needed to reach these memories because they are easily retrieved. Also they added that laboratory studies provide more accurate evidence relating to trauma superiority compared to clinical studies conducted with trauma victims.

Related evidence comes from a longitudinal study conducted by Porter & Peace (2007). Participants were asked to describe and rate their memories of traumatic victimization (such as violent assaults and sexual assaults) and a positive event. They found that traumatic memories were highly consistent and vivid over five years while positive autobiographical memories were distorted and they faded away over time. In another study, Porter & Birt (2001) required participants to report both their most traumatic experience and most positive experience. Reported traumatic experiences contained more details, more references to

emotional states at the time of the event, fewer sensory details compared to positive emotional memories. Additionally, participants reported that they thought about their traumatic experiences more often than their positive experiences. However, there were also some commonalities between trauma memories and positive event memories such as similar degrees of vividness, coherence and overall memory quality. These findings showed that trauma memories are neither inaccessible nor impaired and they provided evidence for the trauma superiority argument.

2.3.5. Flashbulb memory hypothesis

Some researchers consider the flashbulb memory hypothesis as a possible approach to the traumatic memories. In their seminal work on flashbulb memories, Brown and Kulik (1977) examined individuals' memories for learning that John F. Kennedy was assassinated. They proposed that very emotional, surprising and consequential events are encoded by a special memory mechanism. This mechanism is a rarely used one and it takes the snapshot of the moment with details of time, place, location and other people present in the situation. Thus, due to this special mechanism, these kinds of memories don't fade away over time; they remain clear and more accurate compared to typical memories. However, when Neisser and Harsch (1992) asked people about the moment that they learned of Space Shuttle Challenger explosion, they saw that individuals made errors in remembering the person who told them the news, place they were in at that time and ongoing activity they were doing at the time. Contrary to what Brown and Kulik (1977) suggested, highly surprising news did not turn into accurate memories. Apart from the criticisms about the accuracy of flashbulb memories, whether they can be used as examples of traumatic memories is also questioned. Byrne et al. (2001) indicated that there is little overlap between features of the events which are claimed to lead to flashbulb memories and The DSM-IV (APA, 1994) definition of traumatic events. So,

events like John F. Kennedy's assassination or Space Shuttle Challenger explosion might be emotional and surprising, but they might not be represented as a traumatic event.

In sum, there are many different perspectives about memories of traumatic events. Although all of these perspectives provide some information about memory for traumatic events, further examination is needed regarding the specific factors affecting retrieval of trauma memories such as the perspective of the rememberer, whether the traumatic event is a single event or is repeated, age of the memory, direct exposure to the event, and individual differences among the participants. The next section will review findings related to these important factors.

2.4.Factors That Affect the Retrieval of Trauma Memories

2.4.1. Direct vs. Indirect Exposure

Some researchers claimed that whether individuals are directly exposed to the traumatic event might also affect memory (eg, Sotgiu & Galati, 2007). Neisser et al. (1996) required participants to recall their experiences of 1989 Loma Prieta earthquake both immediately after the event and a year and a half later. One group consisted of subjects from Atlanta, which is thousands of miles away from the center of the earthquake, and the other two groups were from the California, which is the place the earthquake occurred. The individuals who had directly experienced the event gave a more accurate report of the event compared to individuals who had not experienced it. Also from those participants in the unaffected area, the ones who had relatives in the affected area remembered significantly more in terms of the place of hearing the event, ongoing activity before hearing the event and others present while hearing about the event. It is clear that differences exist between direct and indirect exposure to a traumatic event but this should be self-evident from the fact that these two circumstances cannot be considered equally traumatic.

2.4.2. Age of the memory

Another factor that has been claimed to have an influence on trauma memory characteristics is the age of the memory. For example in Berntsen's (2001) study, some of the subjects indicated that they experienced the traumatic event five or more years ago, whereas some indicated that they had experienced it within the recent year. In terms of the prevalence of PTSD, recently traumatized individuals reported more symptoms and more severe symptoms compared to the remotely traumatized ones. Specifically, there were significant differences in reexperience symptoms, avoidance symptoms, reexperience severity, avoidance severity, total severity and daily life impact ratings. For the significant role of the traumatic event age, Berntsen proposed that trauma may lose its original intensity with time and subsequently its impact on the individual would decrease. However, in Berntsen's (2001) second study, in which subjects rated their involuntary memories daily on a diary, trauma memories were rated as extraordinarily vivid in terms of imagery, physiological and emotional relieving and this finding was not influenced by the age of the event. So she concluded that in severe cases like trauma, even if an event happened a long time ago, memories may continue to be vivid and emotionally significant.

2.4.3. Age at the time of the event

The other factor that should be considered for understanding trauma memory is the age of the participants at the time of the event. For example; Sigal, John & McGill (2001) examined World War II Holocaust survivors' coping ability with traumatic stress 40 years after the experience. Participants were children, adolescents, or young adults at the end of World War II. They found that survivors who were adolescents or young adults at the end of the war displayed more paranoid or depressive symptoms compared to other age groups. Likewise, biological studies also showed that adolescent brain is more sensitive to effects of

stress. Moreover, various forms of psychological diseases like depression and anxiety increase in prevalence in adolescence period (Lupien et al., 2009).

2.4.4. Field/Observer Perspective

Nigro and Neisser (1983) indicated that there are two ways of remembering personal events. A person with a field perspective remembers the event from his or her own perspective, whereas a person with an observer perspective remembers the self in the event as an observer would do. They saw emotion as an important determinant of the rememberer's perspective. In their experimental study, they found that in situations where there is high emotional self-awareness, participants used observer perspective in the retrieval of these events. As some researchers claimed, holding an observer point of view is associated with less stress which shows that the observer perspective might bring emotional avoidance (McIsaac & Eich, 2004). Also, Kenny and Bryant (2007) found that remembering a traumatic event from an observer perspective is associated with behavioral and cognitive avoidance of trauma. In line with these researchers, Kenny et al. (2009) found that adopting an observer perspective in the initial week after trauma occurrence is related to more severe PTSD symptoms and it is associated with more probability of having PTSD 12 months later. These findings indicate that adopting an observer perspective may provide avoidance of traumatic experiences and may prevent processing of traumatic experiences (Kenny et al. 2009). Thus, all in turn might affect the nature of the trauma memory.

Robinson and Swanson (1993) suggested that critical role of these different perspectives is that they provide different types of knowledge. In the field perspective both cognitive and affective components of memories would be accessible, whereas, in the observer perspective, it might only be possible to retrieve cognitive information. Moreover, they also found that affect intensity attached to remembering decreased when the participants shifted from field to observer perspective. In sum, the findings that having an observer

perspective is related to avoidance tendencies and also the different types of knowledge gained through these two perspectives all point to the importance of point of view of the rememberer in relation to traumatic memories.

2.4.5. Involvement in the event

Next factor that influences memory of the trauma is the degree of involvement in the traumatic experience. It was found that traumatic events that are directly experienced by individuals such as experiencing an assault, were retrieved more consistently compared to traumatic events that are not experienced directly such as witnessing a crime (Giezen, Arensman, Spinhoven & Wolters, 2005). Thus, there is need to investigate memories of traumatic events in which participants had similar degrees of involvement.

2.4.6. Consequentiality

One variable that emerges as an influential factor in the memorability of the traumatic event is its consequentiality. The literature on flashbulb memories showed that consequentiality of the event is important for the formation and maintenance of a flashbulb memory (eg, Brown & Kulik, 1977). For instance, Conway et al. (1994) studied flashbulb memories related to the resignation of British Prime Minister Margaret Thatcher with participants from U.K., U.S.A and Denmark. Results showed that 86 % of the U.K. participants reported flashbulb memory of the resignation, whereas only 26 % of the non-UK participants reported flashbulb memory of the resignation. Conway et al. (1994) concluded that perceiving an event as important is necessary in the formation of flashbulb memory. Luminet et al. (1994) conducted a study about flashbulb memories of September 11 attacks. They conducted questionnaires with participants from 9 different countries and they compared flashbulb memories of U.S. vs. non-U.S. respondents. They found that participants from U.S. scored higher than the non-U.S. participants on all variables including ratings of importance.

Large effect sizes observed for comparisons with importance ratings and ratings given for event-related facts. Luminet and colleagues also showed that participants from U.S. found September 11 events as more consequential most probably because they are more involved in the events. At the same time, U.S. respondents had better memory for event-related facts. They concluded that the reason for higher level of flashbulb memories in participants from U.S. could be due to the path which connects appraisals of importance/consequentiality to the flashbulb memory of the September 11 events.

This study will investigate the role of consequentiality in a personally experienced traumatic event. It differs from flashbulb memory studies since these studies used shocking events that are experienced by all members of the public. Even though the focus is on personal traumatic events, consequentiality of the traumatic event is expected to have an important role in the formation of memories.

2.4.7. Impact of Trauma on Fabric of Daily Life

Consequentiality of the traumatic event can also be investigated by considering the impact of trauma on the fabric of daily life, that is, impact of trauma on what people do, where they do it, and with whom they do it. The level of consequentiality represents the subjective evaluation of the consequences of the event; however impact of the trauma on life represents the objectively evaluated, in other words, the actual changes in life that occurred as a result of trauma. Brown et al (2009) defined lifetime periods as memory of a block of time. Boundaries of these lifetime periods are defined by landmark events (Shum, 1998 as cited in Brown et al., 2009). Landmark events can be positive (e.g., a wedding) or negative (e.g., a divorce), predictable or unpredictable, standard (e.g., graduation) or different (e.g., expulsion). The common aspect of all the landmark events is that they cause important life changes. In other words, landmark events cause a lot of changes including changes in fabric of daily life. Brown and colleagues (2009) argued for the existence of historically defined

autobiographical periods (H-DAPs) which are also a form of lifetime periods and are bounded by significant, public landmark events. They added that although H-DAPs are result of significant public events, they are very similar to personal landmark events in that they might also cause economic problems, psychological distress and interruptions in social life. According to Brown et al.'s (2009) theory, H-DAPs are not formed only when people experience a historically significant event. Personal significance, in other words consequentiality of the event determines whether individuals will organize their autobiographical memory according to that event and hence produce H-DAPs. In their cross-national study, they found that Bosnians mostly mentioned their civil war and Turks from Izmit mostly mentioned the 1999 earthquake when they are asked to date ordinary autobiographical events. However, Americans from some cities of United States including New York did not refer to September 11 attacks. This was because both Bosnia War and 1999 earthquake produced tremendous changes in the fabric of daily life of people in the affected regions, whereas there was little change in the American way of life due to September 11 attacks.

Similar to personally significant public events which created H-DAPs, traumatic events might also become landmark events and define the lifetime periods. For instance, studies conducted with bereaved individuals showed that especially people, who couldn't succeed to recover from loss, define the loss as a turning point in their lives and use it as a reference point for everyday life (Gluhoski, 1995 as cited in Boelen, 2009). In other words, for those individuals whose loss experience was consequential, loss became a landmark in their life and started to affect their everyday life. Effects of the consequential loss experience on daily life appear as changes in fabric of daily life. In short, as well as the psychological conditions and social life, traumatic experiences are expected to change the bereaved people's fabric of daily life. The present study will investigate how much change in the fabric of daily

life occurred in individuals who lost their parents as well as the psychological changes they have been through and how these changes affected their lives.

2.5.Post-traumatic Stress Disorder

One frequently observed consequence of trauma is Posttraumatic Stress Disorder (PTSD) which can also be defined as the most severe response to traumatic events (Peace & Porter, 2004). PTSD diagnosis requires displaying symptoms of re-experiencing the traumatic event, avoidance of the stimuli related to the event and emotional numbing, and symptoms of increased arousal (DSM-IV; APA, 1994). Memories of PTSD patients were found as different from patients who do not have PTSD. Their memories contained more perceptual features, were highly emotional and included intense relieving of the event. Moreover, their memories were more likely to involve observer perspective. Also, unlike people who do not suffer from PTSD, individuals with this disorder reported fragmented memories for severe traumatic events (Berntsen, Willert & Rubin, 2003). In addition, Schönfeld et al. (2007) required assault survivors to retrieve the most severe assault they experienced. They found that people with PTSD displayed overgeneral memories, that is, rather than retrieving specific events, they were retrieving category of events. They also added that PTSD symptom severity was significantly correlated with the tendency to report overgeneralized memory. Berntsen (2001) compared involuntary trauma and non-trauma memories of 12 individuals with PTSD. She found that when the traumatic event had occurred more than 5 years ago, trauma memories were more vivid and involved more physical reactions than were non-trauma memories. The present study will investigate the relation between memory of trauma and level of PTSD, as well as the relation between effect of trauma on life and level of PTSD.

2.6.Discrepancies in findings

There are a considerable number of studies examining various aspects of trauma memory including the phenomenological characteristics of trauma memory and similarities and differences between trauma memories and other emotional events or neutral events. However, there are highly contradictory findings in the literature, which makes it hard to reach a conclusion about trauma memories. Sotgiu and Mormont (2008) argued that differences in methodologies and strategies of researchers are the reason for discrepant findings in the literature.

One methodological difficulty results from different memory ages (Sotgiu & Mormont, 2008). Some studies required subjects to retrieve relatively recent memories such as within the past 5 years (Gray & Lombardo, 2001) or even one year (Peace & Porter, 2004). Yet, in some studies, participants reported traumatic recollections from childhood or early adulthood (Porter & Birt, 2001; Byrne et al., 2001; Berntsen, 2001). Present study aims to solve this methodological problem by considering the age of the memory as an independent variable with an effect on the nature of trauma memories. On the basis of the findings which showed that the retrieval rate of traumatic experiences from childhood (e.g Widom & Morris, 1997) is low, it is argued that recent traumatic experiences would be remembered more accurately than remote ones (Sotgiu & Mormont, 2008).

Another methodological difficulty is variability in participants' ages (Sotgiu & Mormont, 2008). Some trauma memory studies included samples of undergraduate students (Gray & Lombard, 2001; Berntsen, 2001; Bohanek et al., 2005; Byrne et al, 2001, Porter & Birt, 2001), whereas others included participants from a broader age range (Kenny et al., 2009; Peace & Porter, 2004; Schönfeld et al., 2007; van der Kolk & Fisler, 1995). It is quite likely that one source of mixed findings in literature might be the variable characteristics of trauma memories in people at different ages (Sotgiu & Mormont, 2008) and a lack of

comparison on the basis of the age of the remembering person. The present study will include participants with a broad age range. The age of the participants as well as the age of the memory employed will be included as independent variables.

Yet another methodological pitfall would be the inclusion of memories of various traumatic events. A frequently adapted way to investigate traumatic experiences by researchers is asking participants to remember the most traumatic experience they had so far. Many different kinds of traumas are reported as a response to this question. For instance, Porter and Peace (2007) required participants to share their recently experienced traumatic experience. They used a cut off score of Impact of Event Scale as a criterion of participation so that they include participants who reported experiences that are indeed traumatic. Although they succeed to include participants who experienced traumatic events, participants came up with many different types of traumas. Some reported death or suicide of a loved one, some reported violent victimization events and some reported injuries and accidents. Thus, the fact that individuals are not referring to same type of event would be another source of variability in findings. The present study will diminish this possible variability by investigating memories of only one type of event.

2.7.Overview of the Present Study

2.7.1. Types of traumatic events

Previous literature investigated trauma memory in both actual victims and witnesses who directly experienced events such as homicides, shooting, assaults, robberies (Sotgiu & Galati, 2007). In addition to studies with crime victims, some researchers investigated long-term memory of victims of natural disasters (eg, Fivush,Sales, Goldberg, Bahrick & Parker, 2004; Er, 2003, Sotgiu & Galati, 2007). Moreover, flashbulb memory studies which examined memories of first learning about a shocking public event also provided information about

memory for traumatic events. These studies included events like the explosion of the space shuttle Challenger on January 28, 1986 (eg, McCloskey, Wible & Cohen, 1988), the terrorist attacks on the United States on September 11, 2001 (eg, Talarico &Rubin, 2003) and the assassination of John F. Kennedy (eg, Brown & Kulik, 1977). Although studies about memory of natural disasters or public events provided information about trauma memories, they were not the same category of traumatic as events like domestic violence, assaults, accidents, shooting, robberies in which the victims experienced horror and helplessness (Van der Kolk, Hopper & Osterman, 2001).

A significant trauma that is a common experience is parental loss. However, there are no studies using memories of parental loss to understand the nature of trauma memories. Examining memories related to parental death experience can provide a new insight about the nature of trauma memories. Since the DSM –IV (APA, 1994) expanded the definition of traumatic events from only rare and horrific events (DSM-III, APA, 1980), the definition now includes learning about unexpected death or threat of death for a family member. After this change, researchers started to focus on psychopathology of parental loss and concluded that it has important consequences, especially for children and adolescents (Rheingold, Smith, Ruggiero, Saunders, Kilpatrick & Resnick, 2004). The only study that has examined memories of bereaved participants is conducted by Golden, Dalgleish and Mackintosh (2007). They tried to understand whether there is a difference in memory specificity between bereaved individuals who have complicated grief symptoms and bereaved controls on standard Autobiographical Memory Tasks (AMT), and Biographical Memory Tasks (BMT) which are cueing memories from the life of the deceased and from a living significant other. Golden, Dalgleish and Mackintosh (2007) didn't ask subjects specifically for their parental loss memory. However, present study aimed to focus on parental death memories by investigating their various characteristics.

2.7.2. Relation between age, trauma and fabric of daily life changes

Some researchers tried to understand how age affects responses to trauma and found that preschoolers, school-aged children and adolescents give different responses to traumatic events. They indicated that, pre-school children are more prone to somatic problems, separation anxiety and social withdrawal. School-aged children show a decline in school performance in addition to the usual PTSD symptoms. Finally, adolescents are likely to display a wide range of problem behaviors including both externalizing and internalizing problems such as aggressive behavior, substance use, acting-out behavior, decreased energy and increased anxiety (Eth & Pynoos, 1985 cited in Vizek-Vidovic et al., 2000). Green et al. (1991) studied children who experienced a dam collapse 2 years after the event and they found that children aged 2-8 reported less PTSD symptoms than children aged 9-15. In another study, within the 1787 children who were exposed to war in Crotia, Bosnia and Herzegovina and whose ages ranged from 6 to 15, older children displayed more posttraumatic stress reactions (Dyregrov, Kuterovac & Barath, 1996). It is clear that the age of the experiencing individual has a major influence on trauma effects. Likewise, age might be influencing the memory of trauma. Since individuals from different developmental periods, live the trauma and its consequences in different ways, how the trauma is remembered may change according to the age of the rememberer at the time of trauma.

It is also important to consider how changes in fabric of daily life due to traumatic experiences affect individuals from different age groups. It can be expected that changes in fabric of daily life would affect individuals during times of increased vulnerability. This is a duration that is after a level of maturation is built, but before skills of adaptation has been established. Up to early adolescence, changes in fabric of daily life due to traumatic events are expected to have little effect on the young child. During adolescence, the individual is most vulnerable but as the adaptive skills of the individual develop, the impact of sudden changes

in fabric of daily life would have less lasting effects. The present study aims to show that up to a certain age there will be an increase in changes brought about by parental death in the fabric of daily life. During early adulthood the impact of parental death on fabric of daily life would be expected to decrease. The level that an individual is expected to be affected by such changes would also be influenced by developmental phases such that there would be little awareness of such changes in early childhood but the impact of those changes would be at an influential level during adolescence.

Overall, both how much change occurred in the fabric of daily life and how these changes affected the individual will contribute to the accuracy of memory. It is expected that adolescence or young adulthood would be the peak point of both changes in fabric of daily life due to traumatic experiences and impact of these changes on the individual.

2.7.3. Aftermath of trauma

Studies conducted about trauma memories did not consider aftermath of trauma as a source of variability on the retrieval. Fayyad et al. (2004) indicated that although PTSD reactions of war exposed youth decrease in time, half of them continue to display PTSD symptoms. Persistence of PTSD is due to both severity of trauma and post-war problems like family stressor, maternal dysfunction and poverty. Individuals who have been through changes in the aftermath of trauma might give different profiles of retrieval. Other perspectives also point to the importance of aftermath of trauma. According to the Conservation of Resources theory (Hobfoll, 1991), resource loss is one of the major predictors of psychological impact of stressful event and traumas. Individuals have a tendency to obtain, retain and protect their resources. Resources can be either things that are highly valued by the person, or things that are helpful in getting those things that are highly valuable. There are four major group of resources; a) object resources (eg. car, home), b) condition resources (success at work or good marriage), c) personal resources (eg. sense of self-esteem), and d)

energy resources (eg. money, insurance). According to the theory, if there is an actual loss of resources, stress occurs (Freedy & Hobfoll, 1995). In line with these, it can be claimed that the impact of a traumatic event might vary according to the degree of resource loss. Parental death has a potential to result in multiple resource losses which might then result in both psychological and economical problems. So, whether the parental death experience resulted in resource losses or not might also make contributions to memory accuracy. The current study will examine the effects of resource loss on parental death memories.

2.7.4. Expectation

Flashbulb memories are defined as very vivid and long-lasting memories for the reception context of unexpected and shocking public events (Brown & Kulik, 1977), yet some researchers studied flashbulb memories with expected events (eg. Curci, Luminet, Finkenaur & Gisle, 2001; Tekcan, 2001; Weaver, 1993). Although predictability of an event is considered as a factor in the formation of flashbulb memories for public events, this factor has not been taken into account in trauma memory studies. Evidence from clinical trauma studies showed that unexpected traumatic events are more likely to result in PTSD (Davidson, 1993 cited in Pelcovitz et al., 1998). In a similar fashion, whether the event is expected or not might change the characteristics of the trauma memory as well. The current study aims to fill this gap by examining whether unexpected parental death experiences will result in memories with different characteristics compared to expected parental death experiences.

2.7.5. Comparison of memory of traumatic event with memory of other events

In studying trauma memory, the difficult decision is what sort of memory would be an appropriate comparison. Byrne et al. (2001) compared memories for traumatic, negative and positive life experiences. They tried to understand whether traumatic experiences are differentiated from other emotional memories through the competing theories regarding

trauma and memory such as flashbulb mechanism (Brown & Kulik, 1977), repression theories (Freud, 1915/1957 as cited in Byrne, Hyman & Scott, 2001) and the Easterbrook hypothesis (Heuer & Reisberg, 1992). They reported that participants rated traumatic memories as emotional as positive experiences but more important than positive experiences. Additionally, for traumatic experiences participants reported less information for the events prior to the experience and this was interpreted by researchers as an indication of surprise since the traumatic experiences interrupted ongoing actions. However, their participants rated traumatic experiences as less clear and less rich in terms of sensory details. Researchers concluded that due to these contradictory findings traumatic experiences would not result in flashbulb memories. Also, in Byrne et al. (1992) study both traumatic, positive and negative experiences were rated as highly emotional. However, the present study intends to show whether flashbulb memories occur in the reception context of traumatic event by comparing events that have different emotional intensities. Parental death memories will be compared with memories of other intense negative experiences.

2.8.Hypotheses of the Present Study Overview of the Present Study

1- Trauma-memory argument proponents argued that memories of traumatic experiences are well remembered since stress enhances memory rather than impairing it (Porter & Birt, 2001; Porter & Peace, 2007; Shobe & Kihlstrom, 1997). In this study, it is also hypothesized that memories of parental loss will be well-remembered and they will exhibit higher ratings of phenomenological and psychological characteristics compared to memories of other negative emotional events.

2- Participants who reported that parental death was unexpected will rate the phenomenological and psychological characteristics higher than participants who reported that the event was expected. This hypothesis is based on the finding that unexpected traumatic events are more likely to result in PTSD (Davidson, 1993 as cited in Pelcovitz et al., 1998). In line with this, participants who lost their parents due to unexpected reasons like accident, external causes (injury, poisoning, microbial or toxic agents), murder, suicide or sudden health-defined conditions (sudden heart attack) are expected to give higher ratings on flashbulb and phenomenological characteristics of the memory compared to participants who lost their parents due to expected reasons like extended disease (cancer, stroke) and old age.

3- In all of the age groups, more recent parental death experiences are expected to exhibit higher ratings on phenomenological characteristics compared to remote parental death experiences. This expectation is an extension of the findings of Berntsen's (2001) study in which recently traumatized individuals reported more PTSD symptoms, and reported more severe symptoms compared to remotely traumatized individuals. As Berntsen's study showed, traumas lose their original intensity with time. In a similar way, traumatic parental death experience memories may also deteriorate over time.

4- According to Green et al.'s (1991) study, among the children who experienced a dam collapse, the ones aged 2-8 reported less PTSD symptoms than the ones aged 9-15. Other

researchers studying 1787 children aged between 6 and 15 and exposed to war in Crotia, Bosnia and Herzegovina found that older children displayed more posttraumatic stress reactions (Dyregrov, Kuterovac & Barath, 1996). In addition to these findings, when one considers the changes in the fabric of daily life due to traumatic experiences it is expected that older children and adolescents would be more vulnerable to the impact of trauma. Adolescence is the period of vulnerability since a certain level of maturation is built, but the necessary adaptation skills have not been established yet. Therefore, children and adolescents are more likely to be affected from changes in their fabric of daily life due to parental death and their memory related to the event will be more detailed. In this study, participants who were children or adolescents during parental loss are expected to display higher ratings on phenomenological characteristics compared to participants who were adults during parental loss.

5- a) Participants who reported more fabric of daily life changes due to parental loss are expected to exhibit higher ratings on flashbulb and phenomenological characteristics of the memory compared to participants who did not report any change in the fabric of daily life.

b) Participants who reported that they found the parental loss as consequential are expected to exhibit higher ratings on flashbulb and phenomenological characteristics of the memory compared to participants who did not find the parental loss as consequential.

CHAPTER 3: METHOD

3.1. Participants

There were 69 participants who were aged between 19 and 70 at the time of testing. They experienced parental loss after age 3. Ages at parental loss ranged between 4 and 51, whereas ages at sad event ranged between 5 and 56. Participants were from all education levels, primary school graduate (4), high school graduate (15), college graduate (23), and graduate (13); however the majority was highly educated. 39 of them were female and 30 were male. They were recruited from the community by snowball sampling.

3.2. Measures

First section of the questionnaire included the questions regarding the demographic information of the participants. Other sections included Memory Questionnaire, Life Changes Questionnaire and the PTSD-Checklist Civilian version. There were two versions of the each scale except the PTSD-Checklist; one for parental loss memory and the other for self-chosen emotional event memory.

3.2.1. Demographic Questions

Demographic questions included questions on the age of the participant, education level and gender of the participants.

3.2.2. Memory Questionnaire

A memory questionnaire was used to measure characteristics of the event and the phenomenology of remembering**.** There were 19 questions that are about the participants' loss memory in terms of phenomenological and flashbulb characteristics. Eleven questions, related to phenomenological characteristics of the memory were taken from Autobiographical Memory Questionnaire used by Gülgöz and Rubin (2001) and these questions investigated

core characteristics like reliving of the event, visual imagery, auditory imagery, emotions attached to the event, remember/know phenomena, field/observer perspective taken in the event, importance of the event, and the frequency of rehearsal of the event. Addition to these, extent to which the participant perceives the event as a turning point in life was questioned. Different from the original scale, both emotions felt at the time of the event and emotions about the event at the time of remembering were asked. Also, rehearsal in terms of talking about the event was investigated in two parts: talking about the event with people who also experienced the event like family members and talking about the event with people who did not experience the event firsthand such as friends and neighbors. (Please see *Appendix 2* for detailed information). Participants were asked to rate the phenomenological characteristics questions in 5-point Likert-type scale. Moreover, 8 questions related to flashbulb characteristics of the memory are included in the questionnaire and they were taken from the Flashbulb memory questionnaire used by Tekcan et al. (2003). The questions are about the core characteristics of the reception context of the event such as, memory of the source, time, location of the event, ongoing activity, others present during the event, first thought that came to mind, first emotions, and also reaction level of these emotions related to the event. In addition to these, whether the event was surprising or not and whether participants expected to lose their parents at that age or not were asked. Afterwards, detail analyses were conducted for the responses. (Please see *Appendix 1* for detailed information).

3.2.3. Life Changes Questionnaire

Seven further questions were asked to the participants in order to understand the life changes that they experienced following the parental loss. These questions asked twice with slight changes in their wording to investigate the life changes that participants experienced following the self-chosen sad event. In these questions participants rated the degree of physical, financial and psychological changes they have been through in the following days of

parental loss or event. Physical changes referred to changes like household movement, job changes, school changes, etc. Financial changes for parental loss included changes like interruption of the deceased parent's salary, heritage from the deceased parent. Psychological changes referred to the changes related to participants' personality, attitudes, behaviors, emotions. For instance, parental loss could result in a sense of loneliness, desperateness, and regret in the first instance. Both immediate and long-term consequences of the parental loss and other event were investigated by these questions. Participants rated their responses on 5-point Likert-type scales. (Please see *Appendix 3* for detailed information).

3.2.4. The PTSD Checklist- Civilian Version (PCL-C)

The PTSD Checklist- Civilian Version (PCL-C, Westhers, Huska & Keane, 1991) consists of 17 questions that cover DSM-IV criteria of post-traumatic experience. In the present study, a modified version of this scale was used and 15 questions were asked. Two questions were omitted from the original scale because they were very similar to the questions that were used in the memory scale and so they would not be repeated. Subjects were required to refer to their parental loss experience while responding to symptoms in the questions. They were asked to rate how often they have been troubled by the indicated symptoms in the last month on a 5-point Likert-type scale. (Please see *Appendix 4* for detailed information).

3.3.Procedure

Participants were interviewed individually in a quiet place. They were told that the present study aims to investigate some characteristics of the memory related to their parental death experience and changes occurred in their lives following the experience. In order to make a comparison, they were also asked to retrieve another negative event from their lives and to respond to same questions for that event too. Same scales were used for both the parental loss and the negative experience, except that the wordings of the scales were slightly

different since they investigated memories related to different events. Furthermore, the item about frequency of rehearsal years after the event was asked only to participants who lost their parents five or more years ago. If the participants lost their parent in five or less years, they were only asked to rate their frequency of rehearsal in the last five years. The same procedure was applied for the event memories. Finally, the PCL-C was conducted only after the parental loss questions since it was regarding the PTSD condition as a result of one trauma.

Impact on life items were rated on a 5 point likert scale. In the first question participants rated the degree of physical, financial and psychological changes they have been through in the immediate days following loss. Meanwhile, examples about each of these three life changes were presented them in order to make sure that they understand what these changes refer to. In the second question, participants who indicated any amount of change in these three aspects of life changes rated the amount of effect of these changes. So, if they didn't indicate a life change in any of these aspects in the first item, they didn't reply for the second item. In the third item they rated the level of positivity of these life changes that happened in immediate days of event. Again, they were not asked this question if they didn't indicate a life change in any of these aspects in the first item. In the fourth question, participants rated the amount of physical, financial and psychological changes that they have been through in later times of loss. In the fifth question, only participants who indicated any amount of change in any of these three aspects of later life changes rated the amount of effect of these change. In the sixth item they rated the level of positivity of these life changes that happened in later times of event. Again, if they didn't indicate a life change in any of these aspects in the fourth item, they didn't reply for this item. In the final item, participants who reported any life change either for immediate days or later times of the event rated the level of extent to which these changes still persist today (Please see *Appendix 3* detailed information).

CHAPTER 4: RESULTS

4.1. Data Coding

Age of the participants at testing, age of the participants at loss and event, loss and event memory ages, subjective ratings for phenomenological and flashbulb features of both memories, subjective ratings for both events' impact on life, and finally PTSD scores were the between-subjects variables of the study. The only within subject variable was content of the memory which was considered in comparing trauma memories with event memories.

Phenomenological characteristics of memories were coded on the basis of 5 point-likert scale responses. For the item in which the participants were required to report up to 3 emotions they felt while remembering the event, only the emotion with the highest rating was considered. For flashbulb memory questions, which were open-ended questions, a detail analysis was conducted. The question which asks about the source of the event and first thoughts that came to mind at the time of event were coded either as 2 (detailed memory), 1 (less-detailed memory) or 0 (no response). Likewise, responses given to questions which asked the time of the event were coded in the same way and participants who could remember a specific time were given 2 points, participants who could not remember a specific time, but at least the specific period of day, such as morning or early in the evening were given 1 point and participants who reported that they did not remember anything related to time were given 0 point. The question which asked about the people who were present at the time of the event coded similarly and if all of the people around and their names were reported 2 points were given, if the participant could report only some of the names and indicated that there were other people as well, 1 point was given, and finally if the participant couldn't give any response 0 point was given. The other questions that were asked

about the place of the event and the ongoing activity at the time of the event were coded as either 1 point (remember) or 0 point (no response). Because, participants were expected to either remember or forget the place of the event and the ongoing activity at the time of the event and whether the response was detailed or not was not considered important.

4.2. Descriptive statistics

Table 1 summarizes frequencies, minimum and maximum levels, means and standard deviations for the phenomenological feature ratings. Average rating for each item is accepted as 3, which indicated that participants had a tendency to give higher ratings for vividness of memory, frequency of rehearsal years after event, emotionality at remembering and remember rather than know phenomena. On the other hand, they had a tendency to give lower ratings for frequency of sharing loss with people in event and with people not in event.

Table 1.
Descriptive Statistics for Phenomenological Features of Loss Memory

	N	Min	Max	*M*	*SD*
Vividness	69	2	5	4.20	0.85
Auditory imagery	68	1	5	3.16	1.39
Frequency of rehearsal years after event*	58	1	5	3.83	1.16
Frequency of rehearsal recent years	69	1	5	3.19	0.91
Frequency of sharing with people in event	69	1	5	2.33	1.09
Frequency of sharing with people not in event	68	1	5	2.49	1.01
Emotionality attached remembering	69	1	5	4.57	0.80
Remember rather than know	69	1	5	4.19	0.97
Field perspective	69	1	5	3.26	1.29

Note.*, This item is asked only to participants who lost their parents five or more years ago.

Table 2 summarizes frequencies, minimum and maximum levels, means and standard deviations for the phenomenological feature ratings. Participants had a tendency to give higher

ratings for vividness of memory, frequency of rehearsal in recent years, emotionality at remembering and remember rather than know phenomenon.

Table 2.

Descriptive Statistics for Phenomenological Features of Event Memory

	N	Min	Max	*M*	*SD*
Vividness	69	1	5	3.68	1.21
Auditory imagery	69	1	5	2.99	1.41
Frequency of rehearsal years after event*	47	1	5	3.47	1.10
Frequency of rehearsal recent years	68	1	5	2.76	1.21
Frequency of sharing with people in event	68	1	5	2.65	1.14
Frequency of sharing with people not in event	69	1	5	2.39	1.24
Emotionality attached remembering	64	1	5	3.77	1.24
Remember rather than know	69	1	5	3.88	1.28
Field perspective	69	1	5	2.96	1.47

Note.*, This item is asked only to participants who lost their parents five or more years ago.

Table 3 and Table 4 summarize the frequencies, minimum and maximum levels, means and standard deviations for the detail levels reported for flashbulb features of parental loss memory and sad event memory, respectively. Minimum detail level reported for the first flashbulb item in which participants were questioned about the source that they learned the loss was 1. So, it can be concluded that all participants remember the source of the news to some extent. For the other flashbulb items, except the ones about importance and emotionality, there were participants who couldn't give any response. Moreover, importance attributed to loss and emotions reported for the time they learned about loss were rated between 4.5 and 5. Ratings of these items showed that, participants had a tendency to give very high ratings for these items.

Like the detail analysis conducted for the parental loss memory , item in which participants were questioned about source of the event were coded minimum 1 in terms of detail level which showed that participants remembered source from which they learned the event to

some extent. Furthermore, flashbulb items in which importance attributed to loss and emotions reported for the time they learned about loss were given high ratings.

Table 3. *Descriptive statistics for detail levels reported for flashbulb features of parental loss memory*

	N	Min	Max	*M*	*SD*
Source of the memory	69	1	2	1.72	0.45
Time of event	69	0	2	1.57	0.56
Place of the event	69	0	1	0.99	0.12
Ongoing activity at the time of the event	69	0	1	0.90	0.30
People around at the event	69	0	2	1.71	0.55
First thoughts that came to mind	69	0	2	1.42	0.72
Importance attributed at the time of event	68	1	5	4.50	0.97
Emotionality attached to event	66	1	5	4.76	0.63

Table 4.

Descriptive statistics for detail levels reported for flashbulb features of sad event memory

	N	Min	Max	*M*	*SD*
Source of the memory	69	1	2	1.58	0.50
Time of event	68	0	2	1.41	0.70
Place of the event	69	0	1	0.94	0.24
Ongoing activity at the time of the event	69	0	2	0.84	0.41
People around at the event	69	0	2	1.74	0.59
First thoughts that came to mind	69	0	2	1.57	0.65
Importance attributed at the time of event	68	1	5	4.19	1.11
Emotionality attached to event	68	3	5	4.66	0.61

Table 5 summarizes frequencies and categories of all sad events. Reported sad events have been classified into 22 categories in terms of the content of memories. The main focus of all sad events was investigated and classification into categories was made accordingly. Of the sad events, illness experienced by self, a significant other's illness and to learn about diagnosis of an

illness were accepted as one category, i.e, illness, which was the most frequently reported category (17.4 %). Loss of grandparents was the second most frequently reported category (14.5 %) followed by learning about negative thoughts of others about self as the third most frequently reported category (11.6 %) .

Table 5.
Frequencies and percentages of sad event memories in terms of category

Content	Total number	Percentage of memories
Illness	12	17.40%
Loss of grandparents	10	14.50%
Negative thoughts of others	8	11.60%
Termination of relationship	8	11.60%
Death of a significant person	7	10.10%
Miscarriage	2	2.90%
Argument	2	2.90%
Learning about loved one dating another person	2	2.90%
Getting fired	2	2.90%
Termination of daughter's engagement	1	1.40%
Not being allowed to see daughter	1	1.40%
First day in home with college friends	1	1.40%
To be thrown a gun on	1	1.40%
Death of pet	1	1.40%
Second marriage of parent	1	1.40%
First day at school	1	1.40%
Father's getting fired	1	1.40%
Conversation with teacher about a sensitive topic	1	1.40%
Getting financial aid from others	1	1.40%

Table 6 and 7 summarizes frequencies, minimum and maximum levels, means and standard deviations for the impact on life ratings. There are more items that were rated between 1 and 2 for sad event memories compared to parental loss memories. Moreover, there are more

items that were rated higher than 3 for parental loss memories compared to sad event memories. Thus, participants had tendency to give higher ratings for parental loss memories.

4.3. Testing of the Hypotheses

4.3.1. Hypothesis 1

The first hypothesis of the present study was that the subjective ratings of the phenomenological properties, detail level reported for flashbulb properties as well as ratings of impact on life questions of the trauma memories would be higher than those of the sad event memories. More specifically, parental loss memories were expected to have higher ratings for the items measuring vividness, auditory imagery, emotions attached to remembering, remember/know phenomena, field perspective taken in the event, frequency of rehearsal of the event either in years after the event or in the recent years and sharing the event with people who were in it and people who were not in event compared to other sad event memories.

Similarly, loss memories were expected to have higher ratings on impact on life items which measured physical, financial and psychological changes both happened in immediate times and later times of the event as well as the effect of these changes and whether they persist today. Also, detail levels reported for questions about flashbulb features of the memory in which participants were asked about source of the event, time and place that they learned it,

Table 6.
Descriptive Statistics for Impact on Life items of Parental Loss Memory

	Frequency	Min	Max	*M*	*SD*
Immediate physical changes	68	1	5	2.40	1.55
Immediate financial changes	68	1	5	1.72	1.23
Immediate psychological changes	61	1	5	3.39	1.46
Effect of immediate physical changes*	32	1	5	3.41	1.46
Effect of immediate financial changes*	22	1	5	3.00	1.60
Effect of immediate psychological changes*	48	1	5	3.69	1.21
Later physical changes	69	1	5	2.61	1.53
Later financial changes	68	1	5	2.29	1.42
Later psychological changes	66	1	5	3.38	1.31
Effect of later physical changes**	41	1	5	3.20	1.38
Effect of later financial changes**	39	1	5	2.97	1.09
Effect of later psychological changes**	55	1	5	3.62	1.13
Physical changes persist today***	48	1	5	2.52	1.47
Financial changes persist today***	42	1	5	2.19	1.40
Psychological changes persist today***	61	1	5	3.03	1.14

Note. *, only rated by participants who rated intensity immediate changes higher than 1. **, only responded by participants who rated intensity of later changes higher than 1, ***, only responded by participants who gave ratings higher than 1 for any of the aspects in immediate or later life changes.

Table 7.
Descriptive Statistics for Impact on Life items of Event Memory

	Frequency	Min	Max	*M*	*SD*
Immediate physical changes	68	1	5	1.63	1.23
Immediate financial changes	67	1	5	1.15	0.61
Immediate psychological changes	66	1	5	3.21	1.12
Effect of immediate physical changes*	17	1	5	3.29	1.45
Effect of immediate financial changes*	4	1	5	2.50	1.73
Effect of immediate psychological changes*	59	1	5	3.39	1.11
Later physical changes	68	1	5	1.67	1.24
Later financial changes	69	1	5	1.30	0.85
Later psychological changes	66	1	5	2.67	1.26
Effect of later physical changes**	20	1	5	3.10	1.45
Effect of later financial changes**	8	1	5	2.38	1.06
Effect of later psychological changes**	51	1	5	3.14	1.20
Physical changes persist today***	32	1	5	2.22	1.39
Financial changes persist today***	19	1	5	1.74	1.15
Psychological changes persist today***	58	1	5	2.79	1.34

Note. *, only rated by participants who rated intensity of immediate changes higher than 1. **, only responded by participants who rated intensity of later changes higher than 1, ***, only responded by participants who gave ratings higher than 1 for any of the aspects in immediate or later life changes.

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their ongoing activities and people around while they learned it, importance they attributed to event at that moment and the first thoughts that came to their minds at that moment were expected to be higher for loss memories compared to event memories.

To compare memories of parental death and memories of sad events paired samples t-tests were conducted. Content of the memory (parental loss or sad event) was within-subjects variable, whereas ratings of phenomenological properties of memories, detail level reported for flashbulb properties and ratings given for impact on life questions were between-subjects variables.

Table 8 summarizes means (standard deviations) of ratings given for phenomenological features of loss and event memories. The results indicated that of the phenomenological characteristics, subjective ratings of vividness (t (68)= 3.25, p <.01), frequency of rehearsal within the first years of it (t(44)= 2.09, p <.05), frequency of rehearsing the event within recent years (t(67) = 2.58, p <.05) and emotions attached to remembering (t(63) = 4.43, p <.001) were significantly different for loss memory and event memory. In all of the comparisons, means of ratings given for loss memories were higher than means of ratings given for event memories.

Table 9 summarizes means (standard deviations) of detail levels reported for flashbulb features of loss and event memories. In order to compare flashbulb features of loss and event memories, detail analysis was conducted for flashbulb items. For the items in which participants were asked about the source from which they learned about the event, the time that they learned about the event, people around at the time they learned and first thoughts that came to their mind when they learned it, responses were given either 2 points (detailed memory), 1 point (less detailed memory) or 0 (no response). For the items in which participants were asked about their ongoing activity at the time they learned the event

Table 8.
Comparisons of the phenomenological characteristics of loss and negative event memories

Memory feature	Loss memory	Event memory		
	M(SD)	M(SD)	*t*	*df*
Vividness	4.20 (0.85)	3.68 (1.21)	3.25**	68
Auditory imagery	3.16 (1.39)	3.01 (1.40)	0.77	67
Frequency of rehearsal within first years	3.91 (1.08)	3.49 (1.10)	2.09*	44
Frequency of rehearsal within last years	3.19 (0.91)	2.76 (1.21)	2.58*	67
Frequency of sharing with people in event	2.34 (1.10)	2.65 (1.14)	1.81	67
Frequency of sharing with people not in event	2.49 (1.10)	2.40 (1.25)	0.49	67
Emotionality attached remembering	4.56 (0.81)	3.77 (1.24)	4.43***	63
Remember rather than know	4.19 (0.97)	3.88 (1.28)	1.95	68
Field perspective	3.26 (1.29)	2.96 (1.47)	1.52	68

Note.*p < .05; **p < .01.; ***p<.001

and the place where they learned it responses were given either 1 point (remember) or 0 (no response). The analyses conducted for detail ratings of flashbulb features indicated a significantly higher score for parental loss memories compared to other sad event memories in terms of the detail level reported for source of the event ($t(68) = 2.31$, $p < .05$). Moreover, comparison between ratings of importance attributed to event at the time it was learned was marginally significant ($t(66) = 1.95$, $p < .10$) and again scores of parental loss memories were higher. Comparisons between detail ratings of other flashbulb features were not significant. There were significant differences between subjective ratings of impact on life questions given for parental loss and other sad event. Table 10 displays means (standard deviations) of ratings given for impact on life items for loss and event memories. Of the immediate changes which happened within very few days or weeks of the event, scores of the immediate physical changes and immediate financial changes were significantly higher in parental loss compared to sad event ($t(66) = 3.60$, $p < .01$, $t(65) = 3.15$, $p < .01$; respectively). Moreover, for physical changes ($t(67) = 4.21$, $p < .001$), financial changes ($t(67) = 4.79$, $p < .001$) and

Table 9.
Comparisons of the flashbulb characteristics of loss and negative event memories

Memory feature	Loss memory	Event memory		
	M(SD)	M(SD)	*t*	*df*
Source of memory	1.72 (0.45)	1.58 (0.50)	2.31*	68
Time of event	1.57 (0.56)	1.41(0.70)	1.42	67
Place of the event	1.00 (0.17)	0.94(0.24)	1.65	68
Ongoing activity at the time of event	0.90 (0.30)	0.84(0.41)	0.94	68
People around at the event	1.71 (0.55)	1.74(0.59)	-0.32	68
First thoughts that came to mind	1.46 (0.83)	1.57(0.65)	-0.81	68
Importance attributed at the time of event	4.49 (0.98)	4.18(1.11)	1.95	66
Emotionality attached at the time of event	4.75 (0.64)	4.65(0.62)	0.96	64

Note. *p < .05

psychological changes ($t(64) = 3.49$, $p < .01$) happened in later periods of the event, ratings given for parental loss and sad event significantly differed and for all of these items changes due to parental loss were reported with higher ratings than changes due to sad event.

Although there were significant differences between impact on life items responded for parental loss and sad event, in some comparisons sample size was not sufficient enough to make a decision. The reason of sample size decrease in some comparisons was that not all of the participants responded to all of the items. For instance, for the item about immediate financial changes, if a participant reported that there was not any financial change in first few days of loss, next items which were about the effect and the positivity of these changes were not asked. In the previous analysis, paired sample t-tests conducted since life change ratings for parental loss and other sad event were given by the same participants. However, in the next step, to prevent the effect of sample size decrease on results, life change ratings given for parental loss and other sad event were compared as if they were coming from independent samples, ratings for the effect of immediate and later life changes, positivity of immediate and later life changes and whether life changes persist today compared accordingly. Results

showed there was a significant difference between parental loss and other sad event only in terms of the effect of later psychological changes (t (104) = 2.13, p <. 05). Table 11 displays means (standard deviations) of ratings given for impact on life items for loss and event memories.

Overall, significant differences observed between loss and event memories for subjective ratings of phenomenal properties of memories, detail levels coded for flashbulb properties of memories and finally subjective ratings given for items about life changes.

Table 10. *Comparisons of the life change items for loss and event memories*

Memory feature	Loss memory	Event memory	*df*	*t*	*p*
Immediate physical changes	2.40 (1.56)	1.64 (1.24)	66	3.60	.001
Immediate financial changes	1.70 (1.22)	1.15 (0.61)	65	3.15	.002
Immediate psychological changes	3.43 (1.44)	3.27 (1.15)	59	0.75	.46
Effect of immediate physical changes*	3.62 (1.33)	3.31 (1.55)	12	0.59	.57
Effect of immediate financial changes*	1.00 (0.00)	3.50 (2.12)	1[a]		
Effect of immediate psychological changes*	3.66 (1.26)	3.41 (1.21)	43	1.17	.25
Positivity of immediate physical changes*	3.25 (1.49)	2.33 (1.15)	11	1.45	.18
Positivity of immediate financial changes*	3.00 (0.00)	3.00 (0.00)	2[a]		
Positivity of immediate psychological changes*	1.83 (0.94)	1.83 (0.99)	46	0.00	1.00
Later physical changes	2.63 (1.53)	1.69 (1.24)	67	4.21	.000
Later financial changes	2.29 (1.42)	1.31 (0.85)	67	4.79	.000
Later psychological changes	3.37 (1.32)	2.68 (1.26)	64	3.49	.001
Effect of later physical changes**	3.47 (1.41)	3.33 (1.40)	14	0.26	.80
Effect of later financial changes**	3.00 (1.00)	2.20 (1.10)	4[a]		
Effect of later psychological changes**	3.76 (0.96)	3.09 (1.22)	44	2.88	.01
Positivity of immediate physical changes**	2.86 (1.29)	3. 86 (1.03)	13	-2.75	.02
Positivity of immediate financial changes**	3.20 (1.48)	2. 80 (1.48)	4[a]		
Positivity of immediate psychological changes**	2.63 (1.32)	2.78 (1.49)	45	-0.57	.57
Physical changes persist today***	2.54 (1.59)	2.50 (1.38)	23	0.11	.92
Financial changes persist today***	2.33 (1.61)	1.67 (0.99)	11	1.17	.27
Psychological changes persist today***	3.18 (1.09)	2.84 (1.34)	54	1.96	.06

Note.* only responded by participants who rated intensity of immediate changes higher than 1,
**, only responded by participants who rated intensity of later changes higher than 1,
***, only responded by participants who gave ratings higher than 1 for any of the aspects in immediate or later life changes.
a, these analyses were not conducted due to insufficient degrees of freedom

Table 11.
Comparisons of the life change items for loss and event memories

Memory feature	Loss memory	Event memory	*df*	*t*	*p*
Effect of immediate physical changes*	3.62 (1.33)	3.31 (1.55)	47	0.26	.78
Effect of immediate financial changes*	1.00 (0.00)	3.50 (2.12)	24	0.57	.58
Effect of immediate psychological changes*	3.66 (1.26)	3.41 (1.21)	105	1.33	.19
Positivity of immediate physical changes*	3.25 (1.49)	2.33 (1.15)	47	1.82	.08
Positivity of immediate financial changes*	3.00 (0.00)	3.00 (0.00)	25	-.87	.40
Positivity of immediate psychological changes*	1.83 (0.94)	1.83 (0.99)	109	-.44	.66
Effect of later physical changes**	3.47 (1.41)	3.33 (1.40)	59	0.25	.81
Effect of later financial changes**	3.00 (1.00)	2.20 (1.10)	45	1.43	.16
Effect of later psychological changes**	3.76 (0.96)	3.09 (1.22)	104	2.13	.04
Positivity of immediate physical changes**	2.86 (1.29)	3. 86 (1.03)	61	-1.68	.10
Positivity of immediate financial changes**	3.20 (1.48)	2. 80 (1.48)	46	-1.00	.32
Positivity of immediate psychological changes**	2.63 (1.32)	2.78 (1.49)	105	0.80	.94
Physical changes persist today***	2.54 (1.59)	2.50 (1.38)	78	0.92	.36
Financial changes persist today***	2.33 (1.61)	1.67 (0.99)	59	1.24	.22
Psychological changes persist today***	3.18 (1.09)	2.84 (1.34)	117	1.06	.29

Note:* only responded by participants who rated intensity of immediate changes higher than 1, **, only responded by participants who rated intensity of later changes higher than 1, *** only responded by participants who gave ratings higher than 1 for any of the aspects in immediate or later life changes.

4.3.2. Hypothesis 2

The second hypothesis of the present study was that whether the event is expected or surprising would make a difference in retrieval of trauma memories. This hypothesis particularly anticipated that participants for whom the parental death was unexpected, will exhibit higher ratings on phenomenological characteristics and life change items compared to participants for whom the event was expected. In order to test this hypothesis, expectancy item was recoded as a categorical variable and expectancy ratings given as 1, 2 or 3 named *expected* group and ratings given as 4 or 5, named as *surprise* group. Afterwards, a series of Multivariate Analyses of Variance (MANOVA) were conducted with expectancy level as independent variable and ratings of phenomenological features and life change items of parental loss memory as dependent variables.

The result of the first MANOVA was not significant, Wilks' Lambda = .85, F (1, 54) = .92, *n.s.* indicating that there is no effect of expectancy level on subjective ratings of phenomenological memory features. However, the univariate F tests showed that there was a significant difference between ratings of participants who reported the parental loss was expected and those who reported it as surprising in terms of the frequency of sharing loss with people who were not in it, F (1, 54) = 6.87, $p < .05$. Participants who reported that parental loss was surprising shared loss more with people who were not involved in it compared to participants who reported that parental loss was expected. See table 12 for means (standard deviations) of phenomenological properties.

In the next step, a MANOVA was conducted with items about later life changes. Results of the multivariate test as well as the univariate tests conducted with later life change items and items about life changes that persist today were not significant. Although the multivariate test conducted for later life changes was also not significant, the effect of

Table 12.
Means (standard deviations) of phenomenological features according to surprise level of loss

	Expected	Expected N	Surprise	Surprise N
1.Vividness of loss	4.13 (0.81)	16	4.13 (0.94)	40
2.Auditory imagery	3.00 (1.37)	16	3.25 (1.43)	40
3.Frequency of rehearsal within years of event	3.75 (0.68)	16	3.95 (1.24)	40
4.Frequency of rehearsal within recent years	3.00 (0.73)	16	3.28 (0.91)	40
5.Frequency of sharing with people in event	2.25 (1.00)	16	2.20 (1.07)	40
6.Frequency of sharing with people not in event	1.81 (0.75)	16	2.58 (1.06)	40
7.Emotionality attached to remembering	4.38 (0.89)	16	4.60 (0.81)	40
8.Remember rather than know	4.31 (0.79)	16	4.10 (1.06)	40
9.Field Perspective	3.13 (1.15)	16	3.30 (1.42)	40

surprise level on physical changes occurred in later periods of loss was marginally significant F (1, 63)= 3.53, p= .64. Participants who rated the loss as surprising experienced more physical changes in their lives (M= 2.82, SD= 1.61) compared to participants for whom the loss was expected (M= 2.10, SD= 1.32).

Overall, expectancy level is not a significant factor for ratings of phenomenological features of loss memories as it is hypothesized. However, whether the loss was expected or not is was found as a significant factor for the physical life changes that occurred in the later times of parental loss.

4.3.3. Hypothesis 3

The third hypothesis was that in all of the age groups, more recent parental death experiences are expected to exhibit higher ratings on phenomenological characteristics compared to remote parental death experiences. Particularly, according to the proposed relation, subjective ratings given for phenomenological features of trauma memories are expected to decrease as the age of the memory increases.

Pearson product-moment correlation coefficient was computed to assess the relationship between age and phenomenological properties of loss memory. Table 13 displays correlation coefficients between variables. There was a significant negative correlation between age of memory and vividness (r (69) = -.327, p < .01) and rehearsal frequency immediately following loss (r (58) = -.331, p < .05).

Thus, the proposed relation between age of the memory and memory characteristics was confirmed for vividness and rehearsal. As the age of the memory increases, vividness of the memory decreases and participants rehearse it less within the first years of loss.

4.3.4. Hypothesis 4

The fourth hypothesis was that participants in younger ages during parental loss are expected to display higher ratings on phenomenological characteristics and life change items. Particularly, it was hypothesized that participants who were children or adolescents during parental loss would have higher ratings on phenomenological properties of memory and would have higher ratings on life change items compared to participants who were adults during parental loss.

To compare scores of participants who lost their parents in different lifetime periods, the ages at parental loss were defined in four categories. The first group was called childhood and it constituted of 19 participants who lost their parent(s) when they were 4-11 years old. The second group, adolescence group constituted of 19 individuals who lost their parent(s) when they were 12-19 years old. The young adulthood group constituted of 17 participants who experienced parental loss when they were 21-30 years old. The final group, middle

Table 13.
Correlations among age of memory for loss and phenomenological features of loss memory

Variable	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
1.Age of the memory	-									
2.Vividness of loss	-.33**	-								
3.Auditory imagery	-.11	.45**	-							
4.Rehearsal within years of event	-.33*	.18	.20	-						
5.Rehearsal within recent years	.09	-.05	-.04	.59**	-					
6.Sharing with people in event	-.18	.23	.06	.34**	.32**	-				
7.Sharing with people not in event	.04	.05	.16	.25	.22	.21	-			
8.Emotionality attached remembering	.06	.22	.16	.01	.05	.17	.19	-		
9.Remember rather than know	-.15	.26*	.16	.07	-.07	-.07	-.23	-.18	-	
10.Field Perspective	-.22	.41**	.31*	.13	-.13	.23	.00	.11	.23	-

Note. *p < .05; **p < .001.

adulthood group constituted of 13 individuals who lost their parent(s) when they were 32-51 years old. After defining groups of loss ages, several multivariate analyses of variance were conducted in order to investigate differences between groups in terms of subjective ratings of phenomenological features and impact on life items.

The first Multivariate Analysis of Variance was conducted with phenomenological features' ratings as dependant variables and age of the participant at loss as independent variable. See Table 14 for means and standard deviations of ratings of phenomenological features according to age of participants at loss. The multivariate F test showed that the effect of age was marginally significant, Wilks' Lambda= .367, F (3, 52) = 4.02, $p < .05$. Moreover, univariate tests showed significant effect of age at loss for field perspective taken while remembering loss. According to pairwise comparisons, participants who lost their parents in middle adulthood (M= 4.25, SD= .89) rated the extent they took field perspective while remembering significantly higher than participants who lost their parents in adolescence (M=2.75, SD= 1.18). Also, effect of age at loss was marginally significant for the emotions attached to remembering, F (3, 52) = 2.53, p= .07.

A series of Multivariate Analyses of Variance conducted with impact on life items' ratings as dependant variables and participant's period of parental loss as independent variable. The first MANOVA was conducted with items about the degree of immediate life changes as dependant variables and the result of multivariate F test was significant, Wilks' Lambda= .724, F(3,62)= 2.31, $p < 05$. Univariate tests showed that there was a significant effect of age at loss on ratings of immediate physical changes, F (3, 62) = 4.22, $p < 01$. Results of pairwise comparisons showed that participants who lost their parents in childhood

Table 14.

Means (standard deviations) of phenomenological features according to age of the participants at loss (N=56)

	Childhood	Adolescence	Young Adulthood	Middle Adulthood
1.Vividness of loss	4.00 (0.82)	4.00 (0.97)	4.38 (0.77)	4.50(0.76)
2.Auditory imagery	2.89 (1.37)	2.75(1.24)	4.00(1.23)	3.38 (1.69)
3.Frequency of rehearsal within years of event	3.74 (1.28)	3.56 (1.15)	4.54 (0.66)	3.88 (0.84)
4. Frequency of rehearsal within recent years	3.21 (1.03)	3.13 (1.03)	3.15 (0.69)	3.00 (0.76)
5.Frequency of sharing with people in event	2.05 (1.17)	2.00 (0.89)	2.38 (0.87)	2.75 (0.17)
6. Frequency of sharing with people not in event	2.32 (1.06)	2.25 (1.07)	2.77 (1.09)	1.75 (0.71)
7.Emotionality attached to remembering	4.79 (0.42)	4.13 (1.20)	4.77 (0.44)	4.38 (0.92)
8.Remember rather than know	4.05 (0.97)	4.31 (0.87)	3.92 (1.26)	4.50 (0.76)
9.Field perspective	3.00 (1.41)	2.75 (1.18)[a]	3.85 (1.07)	4.25 (0.89)[b]

Note: a,b, means with different superscripts are significantly different from each other.

rated physical change items significantly higher than the ones who lost their parents in adolescence, young adulthood or middle adulthood. See table 15 for F and p values of MANOVA with impact on life variables and descriptive statistics of life change items according to age of the participants at loss.

The next MANOVA was conducted with items about amount of later life changes as dependent variables and age of the participant at loss as independent variable. Omnibus F test was significant, Wilks' Lambda= .489, F (3, 63) = 5.64, $p < .01$. Effect of age at loss on the intensity of later physical changes (F(3,63)= 11.09, $p <$. 001) , later financial changes (F (3, 63) = 4.48, $p < .05$) and later psychological changes (F (3, 63) = 3.15, $p < .01$) was significant. As pairwise comparisons indicated, for the physical changes happened in later periods after parental death, those who were children at the time of loss reported significantly higher ratings compared to those who were adolescents, young adults or who were in middle adulthood. Also, the difference between ratings of participants who experienced parental loss in childhood and ratings of those who experienced it in young adulthood was marginally significant and the former group reported higher ratings than the latter. Finally, parental loss at childhood group scored significantly higher than parental loss at middle adulthood group. See table 15 for F and p values of multivariate analysis of variance with impact on life variables and descriptive statistics of life change items according to age of the participants at loss. Also, see figure 1 which displays intensity of later life changes according to age groups and figure 2 which displays the intensity of immediate financial changes according to age groups.

Table 15.

Means (standart deviations) of life change scores according to age of the participant at loss

Variables	Childhood	Adolescence	Young adulthood	Middle adulthood	N	df	F
Immediate physical changes	3.21 (1.63)[a]	1.81 (1.17)[b]	2.06 (1.48)	2.00 (1.41)	59	3	2.86*
Immediate financial changes	1.86 (1.03)	1.69 (1.08)	1.31 (1.01)	1.54 (1.20)	59	3	0.69
Immediate psychological changes	3.21 (1.37)	3.56 (1.46)	3.56 (1.59)	3.15 (1.63)	59	3	0.31
Later physical changes	4.13 (1.20)[a]	2.22 (1.26)[b]	2.06 (1.44)[b]	1.69 (1.03)[b]	64	3	11.69***
Later financial changes	2.69 (1.45)[a]	2.72 (1.64)	1.71 (.99)[b]	1.46 (.78)[b]	64	3	4.00*
Later psychological changes	3.69 (1.30)	4.00 (0.91)[a]	3.24 (1.20)	2.38 (1.50)[b]	64	3	4.83**
Physical changes persist today	2.67 (1.67)	2.67 (1.66)	1.57 (0.79)	3.00 (1.41)	33	3	1.18
Financial changes persist today	2.08 (1.51)	2.67 (1.41)	2.14 (1.22)	1.60 (0.89)	33	3	0.72
Psychological changes persist today	3.50 (1.17)	3.00 (1.00)	3.00 (1.56)	3.60 (0.89)	33	3	0.66

Note: a,b, means with different superscripts are significantly different from each other.
*p < .05; **p < .01, *** p< .001.

Figure 1. Perceived intensity of later financial changes according to age at loss

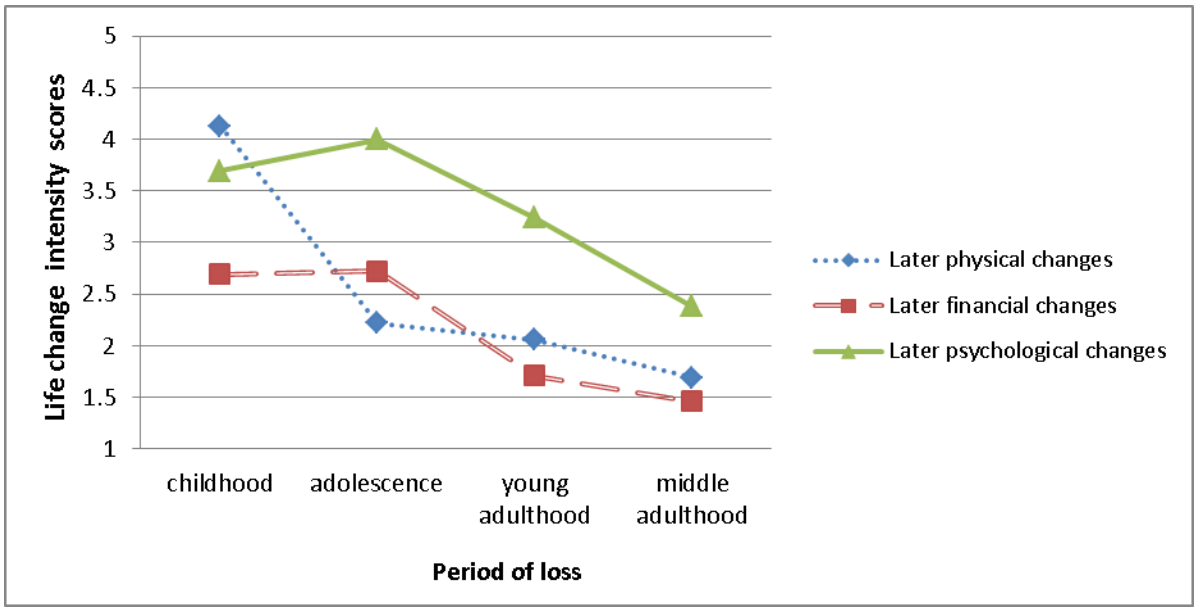
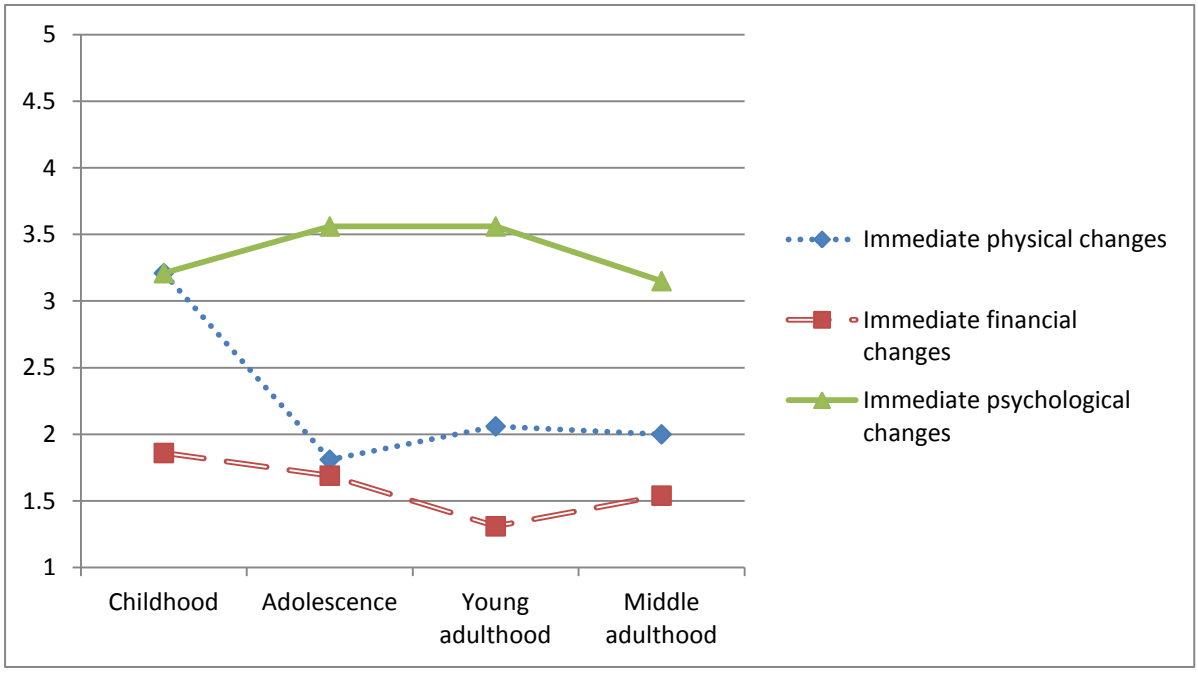


Figure 2. Perceived intensity of immediate financial changes according to age at loss



4.3.5. Hypothesis 5-a

The fifth hypothesis of the present study was that participants who reported more life changes due to parental loss were expected to exhibit higher ratings on flashbulb measures and phenomenological characteristics of the memory compared to participants who did not report any change in their lives.

In order to test the proposed relation between memory features and life change items, Pearson product-moment correlation coefficients were computed. Table 16 displays the correlation coefficients between ratings of phenomenological features and life changes. There were positive correlations between immediate psychological changes and frequency of rehearsal years after event, frequency of rehearsal within last five years of loss and frequency of sharing loss with people who were not involved in. These correlations implied that the more psychological changes in people's life due to parental loss, the memory of loss is more rehearsed both in recent and remote times and also it is more shared with people who were not involved in the event.

Scores of later physical changes correlated negatively with vividness of parental loss memory and the extent to which the participant takes field perspective while remembering parental loss, and positively with frequency of later rehearsal. Moreover, ratings of later financial changes were also negatively correlated with the field perspective. Finally, later psychological changes in life were positively correlated with frequency of rehearsal within recent years, and frequency of sharing parental loss with people who did not experienced it with the participants. These findings show that as the psychological changes happened in later times of loss increase, the memory of loss is more rehearsed in last years and it is also more shared with others who were outside the event. On the other hand, as the physical and financial changes due to loss

Table 16.
Correlations Among Variables

Variable	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1.Vividness of loss	-								
2.Auditory imagery	.45**	-							
3.Frequency of rehearsal years after event	.18	.20	-						
4.Frequency of rehearsal recent years	-.05	-.04	.59**	-					
5.Frequency of sharing with people in event	.23	.06	.34**	.32**	-				
6.Frequency of sharing with people not in event	.05	.16	.25	.22	.21	-			
7.Emotionality at remembering	.22	.16	.01	.05	.17	.19	-		
8.Remember rather than know	.26*	.16	.07	-.07	-.07	-.23	-.18	-	
9.Field Perspective	.41**	.31*	.13	-.13	.23	.00	.11	.23	-
10.Immediate physical changes	-.13	.07	.02	.04	-.04	-.03	.13	.05	-.01
11.Immediate financial changes	-.13	-.04	-.09	-.27*	.04	-.07	-.06	-.21	.11
12.Immediate psychological changes	.17	.06	.45**	.30*	.02	.27*	.11	.02	.15
13.Later physical changes	-.38**	-.18	.17	.29*	.00	.14	.12	-.16	-.27*
14.Later financial changes	-.12	-.12	-.21	.00	-.20	-.03	-.19	-.06	-.40**
15.Later psychological changes	.08	.14	.26	.33**	.02	.26*	.16	.09	-.11
16.Physical changes persist today	-.25	.10	-.07	-.04	-.01	.27	-.07	-.30*	-.15
17.Financial changes persist today	-.16	.07	-.17	-.12	-.12	-.03	-.07	-.22	-.30
18.Psychological changes persist today	-.08	.01	-.20	.24	-.14	.05	.28*	-.04	-.24

increase, there is a decrease in phenomenological features like vividness of the memory and remembering it from the own perspective.

Finally, correlations between ratings for life changes that persist today and ratings for phenomenological features were investigated. There is a negative correlation between physical changes that persist today and the extent to which participant remembers the event rather than knowing it. Furthermore, emotionality attached to remembering is positively correlated with psychological changes that persist today.

Overall, findings about correlations between life change variables and phenomenological properties of memory imply that generally, as the amount of physical and financial changes in life experienced by participants increased, loss is remembered with lower phenomenological features. However, if there was an increase in changes in terms of psychological conditions of individuals, there was also an increase in phenomenology of remembering the loss. Further analyses are needed in order to test the causal relation between life changes and memory. Nevertheless, these relations showed that the changes that participants have been through might be affecting the way they remember the trauma.

4.3.6. Hypothesis 5-b

The final hypothesis of the present study was that participants who reported that they found the parental loss as consequential are expected to exhibit higher ratings on phenomenological characteristics of the memory compared to participants who did not find the parental loss as consequential. To investigate the consequentiality of the loss, two items were presented to participants. The first item was asked to investigate the level of importance

attributed to the event and the second item was asked to determine the extent to which participants perceived this experience as a turning point in their lives.

In order to test this hypothesis, stepwise regressions were conducted to see the role of consequentiality in predicting the phenomenological features. Scores of the items about importance of the loss and the extent to which loss is seen as a turning point in life were entered as predictors and phenomenological items were entered as dependent variables of the equation. Moreover, ages of the participants at testing as well as age at loss were also entered as other predictors of the equation in order to control their confounding effects. However, since they are not found out as significant predictors, they were excluded from the tables. See tables 17, 18 and 19 for a summary of regression analyses.

Separate stepwise regressions showed that importance attributed to loss is a significant predictor of vividness of the memory, the frequency of sharing the memory with people who were not in the event and the intensity of emotions attached to remembering. On the other hand, the extent to which loss is seen as a turning point in life did not significantly predict any of the phenomenological features. Overall, these regression analyses showed that the extent to which the loss is perceived as important is a significant predictor of some phenomenological features of memory.

Table 17.
Summary of Regression Analysis for variables predicting vividness

	Model 1		
Variable	*B*	*SE* B	β
Importance of loss	.50	.15	.41
R^2	.17		
F	11.04*		

Note. *N*=68. *B* = unstandardized regression coefficient; *β (*Beta) = standardized regression coefficient
*p < .01

Table 18.
Summary of Regression Analysis for variables predicting frequency of sharing with people not in event

	Model 1		
Variable	*B*	*SE* B	β
Importance of loss	.44	.15	.35
R^2	.12		
F	8.90*		

Note. *N*=57. *B* = unstandardized regression coefficient;
*β (*Beta) = standardized regression coefficient, *,p< .01

Table 19.
Summary of Regression Analysis for variables predicting emotions attached to remembering

	Model 1		
Variable	*B*	*SE* B	β
Importance of loss	.29	.11	.31
R^2	.10		
F	7.25*		

Note. *N*=60. *B* = unstandardized regression coefficient;
β (Beta) = standardized regression coefficient. *p< .01

4.4. Additional Analyses

4.4.1. Post- traumatic Stress Disorder

Another important aspect of remembering trauma lies within its clinical boundaries. Post-traumatic stress disorder (PTSD) is a one common result of traumatic experiences. However, not every trauma might be followed by PTSD. Similar to memory of trauma, PTSD as well may depend on the effect of several factors. In that manner, life changes that individuals have been through after trauma may be one of the factors that lead to PTSD.

In order to understand whether there is a role of life changes that individuals experienced on their PTSD level, several stepwise regression analyses were conducted. Table 20 summarizes the results of regression analysis. In addition to life change items, age of the participants at loss and also age at testing were also included in the equations separately, to control their effect. However, since they were not significant predictors of PTSD, they were excluded from the equation. Also, to prevent any decrease in sample size because of the items that were not responded by all of the participants, PTSD was regressed on life change items separately, which means first immediate life changes, then later life changes and then whether life changes persist today were entered in the equation. According to stepwise regression analysis, the effect of financial changes that occurred in later times of parental loss was the only significant predictor of PTSD score (ß= .82, p <.05). Later financial changes accounted for 73 % of the variance in PTSD score. So, the effect of financial changes that individuals have been through in later days of parental loss, were found as a significant indicator of PTSD level. As the level of financial changes that they experience in following days increase, the level of PTSD increases as well.

Table 20.
Summary of Regression Analysis for variables predicting PTSD score

Variable	*B*	*SE* B	β
Later financial changes	7.28	1.66	.86*
R^2	.73		
F	19.13		
Change in R^2	.73		
Change in *F*	19.13		

Note. *N*=60. *B* = unstandardized regression coefficient; *β (*Beta) = standardized regression coefficient
*p < .05

4.4.2 Sex of the participants

Previous studies about autobiographical memory showed that males and females differ in terms of their memory performance. Therefore sex of the participants could be another factor that might cause a difference in the memory ratings. As well as the importance attributed to loss, and the participants' PTSD levels.

Independent sample t-tests were conducted with subjective ratings given for the parental loss memories and PTSD scores as dependent variables. Table 21 summarizes the means (standard deviations) of groups and t values of comparisons. Results of the comparisons showed that there were significant differences between males and females in terms of intensity of emotionality attached to remembering (t (67)= -2.00, $p < .05$), the extent to which individuals remember parental loss rather than knowing it (t (67)= 2.48, $p < .05$) and also the extent to which they perceive loss as a turning point in their lives (t (67)= -3.35, $p < .01$). Thus, females experience more intense emotions while remembering the parental loss and perceive loss more as a turning point in their lives compared to men. On the other hand, men report higher ratings for the extent they remember the event rather than knowing it compared to women.

4.4.3. Sex of the parents

Another variable in which the participants who took part in the present study differ is the sex of their deceased parent. Although there were more participants who reported that they lost their fathers (N=49) compared to participants who lost their mothers (N=20), sex of the deceased parents could still be a confounding factor for the subjective ratings given for loss memories since maternal loss and paternal loss could be interpreted as different experiences.

Table 21.
Means (standard deviations) and significance levels for comparison of ratings of males and females

Variables	*Male*	*Female*	*t*	*df*
Visual imagery	4.07 (0.84)	4.30 (0.85)	-1.12	67
Auditory imagery	2.83 (1.44)	3.41 (1.31)	-1.74	66
Frequency of rehearsal within years of loss	3.78 (1.19)	3.87 (1.15)	-0.30	56
Frequency of rehearsal within recent years	3.03 (0.82)	3.30 (0.97)	-1.20	67
Frequency of sharing with people in loss	2.31 (1.37)	2.35 (1.08)	-0.15	67
Frequency of sharing with people not in loss	2.21 (0.10)	2.68 (1.14)	-1.73	66
Emotionality attached to remembering	4.34 (0.97)	4.73 (0.60)	-2.00*	67
Remember rather than know	4.52 (0.63)	3.95 (1.11)	2.48*	67
Field perspective	3.38 (1.29)	3.18 (1.30)	0.65	67
Importance attributed to loss	4.38 (0.78)	4.53 (0.93)	-0.69	67
Loss as a turning point	3.69 (1.23)	4.55 (0.90)	-3.35**	67
PTSD score	25.62 (9.39)	29.00 (9.31)	-1.86	67

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

Participants who lost their fathers and mothers were compared by using independent samples t-tests. Table 22 summarizes the means (standard deviations) of groups and t values of comparisons. Results showed that, for phenomenological feature ratings, there is a significant difference between the two groups for the frequency of rehearsal in years after event (t (67) = -2.16, $p < .05$), intensity of emotionality attached to remembering (t (67) = -2.68, $p < .01$). Moreover, there was also a significant difference for the importance attributed to event (t (67) = -2.80, $p < .01$) and for the total PTSD scores (t (67) = -3.28, $p < .01$). In all of these differences, those who lost their mothers reported higher ratings compared to those who lost their fathers.

4.4.4. Loss as a turning point in life

In order to understand the level of consequentiality of the loss for individuals, the level of importance they attributed to the event and the extent to which they perceive the event as a turning point in their lives were examined. Whether consequentiality level predicts memory ratings was investigated in previous parts. However, it is also necessary to understand the variables that predict consequentiality. Especially understanding the relation between life changes and consequentiality is important. To understand the nature of this relation, the role of life changes that participants have been through in predicting the extent to which loss is seen as a turning point in life was investigated.

Several stepwise regression analyses were conducted and ratings of "loss as a turning point in life" item were regressed on ratings given for life change items. Furthermore, age of the participants at loss was also included in the analyses in order to control its possible confounding effect.

Table 22.
Means (standard deviations) and significance levels for comparison of ratings of participants according to deceased parent's sex

Variables	*Father*	*Mother*	*t*	*df*
Visual imagery	4.16 (0.85)	4.30 (0.87)	-0.60	67
Auditory imagery	3.04 (1.37)	3.45 (1.43)	-1.11	66
Frequency of rehearsal in years of event	3.67 (1.19)	4.27 (0.96)	-1.74	56
Frequency of rehearsal in recent years	3.04 (0.84)	3.55 (1.00)	-2.16*	67
Frequency of sharing with people in event	2.22 (1.23)	2.60 (1.00)	-1.30	67
Frequency of sharing with people not in event	2.44 (1.09)	2.60 (1.14)	-0.55	66
Emotionality attached to remembering	4.41 (0.89)	4.95 (0.22)	-2.68**	67
Remember rather than know	4.24 (0.97)	4.05 (1.00)	0.75	67
Field perspective	3.27 (1.22)	3.25 (1.48)	0.04	67
Importance attributed to loss	4.29 (0.94)	4.90 (0.45)	-2.80**	67
Loss as a turning point	4.02 (1.22)	4.60 (0.75)	-1.98	67
PTSD score	25.39 (8.76)	32.95 (9.01)	-3.28**	67

Note. *p < .05 **p < .01.

First three regression analyses were conducted with life change items and in order not to decrease number of participants, life changes reported for immediate times, for later times and whether life changes still persist at the present time were included in equation through separate analyses. Also, the items in which the effect and positivity of these changes were questioned were not included to prevent decrement in sample size. Table 23 summarizes the regression analysis for immediate life change variables and age at loss predicting loss as a turning point in life. First, ratings of life changes that happened in the immediate days of loss were entered into the equation together with age of the participants at loss. Results showed that age of the participants at loss was a significant predictor (ß=-. 47, $p < .001$). Of the immediate life changes, only psychological changes predicted the extent to which loss is seen as a turning point in life significantly (ß=.42, $p< .001$). Together with age at loss, immediate psychological changes accounted for 41 % of the variance.

Table 23.
Summary of Regression Analysis for variables predicting loss as turning point in life

	Model 1			Model 2		
Variable	*B*	*SE* B	β	*B*	*SE* B	β
Age at loss	-.04	.01	-.48	-.04	.01	-.47**
Immediate psychological changes				.32	.08	.42**
R^2	.23			.41		
F	17.04**			19.03**		
Change in R^2	.23			.17		
Change in *F*	17.04			16.40		

Note. *N*=59. *B* = unstandardized regression coefficient; *β (*Beta) = standardized regression coefficient,
*$p < .05$; **$p < .001$.

In the second regression model, ratings of life changes that happened in later times of loss were entered into the equation with age at loss. Table 24 summarizes the regression analysis for later life change variables and age at loss predicting loss as a turning point in life. According to results, age at loss (ß= -.28, $p< .05$) as well as psychological changes that

happened in the later times (ß=. 45, $p< .001$) were significant predictors and together they accounted for the 39 % of the variance in the ratings for "loss as a turning point in life" item.

Table 24.
Summary of Regression Analysis for variables predicting loss as turning point in life

	Model 1			Model 2		
Variable	*B*	*SE* B	β	*B*	*SE* B	β
Age at loss	-.04	.01	-.47*	-.02	.01	-.28**
Later psychological changes				.39	.10	.45**
R^2	.22			.39		
F	17.61**			19.41**		
Change in R^2	.22			.17		
Change in *F*	17.61			16.75		

Note. *N*=64. *B* = unstandardized regression coefficient; *β (*Beta) = standardized regression coefficient
*p < .05; **p < .001.

In the final regression model with life change items, only ratings of life changes that persist today and age at loss were included in the equation. Although age at loss were not found as a significant predictor (ß=.-.18, *ns.*), of the life change variables, psychological changes that persist today was found as a significant predictor (ß=.42, $p< .05$) for the extent to which loss was perceived as a turning point in life. The final model accounted for 22 % of the variance. Table 25 summarizes the regression analysis for later life change variables and age at loss predicting loss as a turning point in life.

These analyses showed that, of the life changes times for immediate times, later times and present time, only psychological changes predicted how much the parental loss is seen as a turning point in participants' life. So, as the amount of psychological changes that participants have been through increases, they perceive the loss more as a turning point in their lives.

Table 25.
Summary of Regression Analysis for variables predicting loss as a turning point in life

	Model 1			Model 2		
Variable	*B*	*SE* B	β	*B*	*SE* B	β
Age at loss	-.01	.01	-.20	-.01	.01	-.18
Psychological changes today				.31	.12	.42*
R^2	.04			.22		
F	1.26			4.13*		
Change in R^2	.04			.18		
Change in *F*	1.26			6.80		

Note. *N*=33. *B* = unstandardized regression coefficient; *β (*Beta) = standardized regression coefficient.
*p < .05; **p < .001.

CHAPTER 5: DISCUSSION

5.1. Summary of the Hypotheses

The present study aimed to verify five main hypotheses. According to the first hypothesis, traumatic loss memories were expected to be retrieved with higher ratings in terms of phenomenological and flashbulb features and also to involve more life changes compared to other negative event memories. In the second hypothesis surprising loss experiences were expected to be retrieved with higher ratings in terms of phenomenological features and perceived life changes compared to expected loss experiences. The third hypothesis was, as the age of the memory increases there will be decreases in phenomenology of remembering as well as perceived life changes due to parental loss. In the next hypothesis, it was proposed that participants who lost their parents in childhood or adolescence would report more life changes compared to participants who experienced the loss in young or middle adulthood. According to the final hypothesis, participants who have been through more life changes due to parental loss were expected to report higher subjective ratings on phenomenological features compared to participants whose life has changed less. In that manner, it was also proposed that parental loss that was perceived as more consequential would be accompanied with higher levels of phenomenological features and more perceived life changes as the final hypothesis.

5.2.Summary and Discussion of the Findings

5.2.1. Comparison of trauma and sad event memories

The first hypothesis of the present study addresses the difference of trauma memories from other negative emotional memories in terms of their phenomenological features, flashbulb features as well as their perceived impact on the participants' life. In other words, parental loss memories were expected to be retrieved with higher ratings of phenomenological, flashbulb features and perceived life changes compared to other event memories chosen by participants.

Three separate analyses were conducted for ratings of phenomenological features, for detail levels reported in flashbulb items and for ratings of impact on life items. The first analysis confirmed the first hypothesis; traumatic loss memories were retrieved with higher ratings in terms of their phenomenology. Specifically, parental loss memories were rated as more vivid, were rehearsed more both within immediate years of loss and also in the recent 5 years, and also were retrieved with more intense emotions compared to sad event memories. Although the difference between parental loss memories and event memories were not significant in other features like auditory imagery attached to remembering, frequency of sharing the event with people who also experienced the event or frequency of sharing with people who were not involved in the event, the extent to which the event is remembered rather than known, there was a trend of higher means in loss memories. Thus, similarities of trauma memories with negative event memories in some phenomenological features are counter evidence for the repression of trauma view. Results corroborate to trauma memory argument which argues for the superiority of trauma memory and at the same time ordinary memory argument which argues that trauma memory is not different than any other autobiographical memory. Porter and Birt (2001) came up with similar results when they compared trauma memories with positive event memories. They found that trauma memories were thought

about more often and contained more emotional components compared to positive event memories. Different from the present study, they also found that trauma memories contained less sensory components and more remembered from the first person perspective. Rubin and Kozin (1984) required their participants to recall three flashbulb memories and rate them on several aspects such as level of national importance, personal importance, level of surprise, vividness, and so on. Unlike the present study, they found no difference of frequency of rehearsal between trauma memories and other emotional event memories. However they found that one of the important factors that differentiates flashbulb memories was their vividness. On the basis of this finding; one important factor that differentiates trauma memories from emotional memories might be vividness.

Intensity and the valence of the emotional events to be remembered are accepted as fundamental aspects of emotional memory (Christianson & Engelberg, 2006; Talarico et al., 2004). The difference between loss memories and sad event memories in terms of intensity of the emotions attached to remembering is an important finding since it brings light to the issue of whether valence or intensity of the event has a more profound role in retrieval of emotional memories. The present study showed that although both the parental loss and the other sad event were negative in terms of valence, memories of these events differed in terms of emotional intensity in remembering. Similarly, Talarico et al. (2004) found that highly intense events were remembered, with a greater vividness, greater sense of recollection and for longer periods than less intense events. They also showed that as opposed to valence, intensity has a more significant effect on emotional memories. On the basis of these, it can be argued that intensity of the trauma is one important factor that differentiates trauma memories from emotional memories and this is why trauma memories are retrieved with more intense emotions compared to sad event memories even though both of them had negative valence.

In the next analysis, flashbulb feature ratings of parental loss and sad event memories were compared. Although the difference was small, loss memories differed significantly from event memories only for the item about the source of the news. In other words, participants gave a more detailed account about the source from which they learned about parental loss compared to the source from which they learned about the sad event. Since there was only one significant difference between loss and event memories regarding their flashbulb features, it was concluded that participants gave equally detailed information about flashbulb items for parental loss and sad event. Hence, traumatic experiences resulted in flashbulb memories that were no different than those of other negative event experiences. In addition to that, similar detail levels reported for parental loss and sad event memories; this offers as a counter evidence for the proponents of the view that trauma memories are impaired (Brewin et al., 1996; Herman, 1992). Finally, although these findings implicate that trauma memories are not different from other emotional memories in terms of flashbulb details, they should be interpreted cautiously. Since detail analyses conducted for narratives resulted in a score of 0 or 1 point in some items and a score of 0, 1 point or 2 points in other items, there is a limited variability in the detail levels of items. So, the actual difference between detail levels of flashbulb items of two memories might not be observed due to the limited variability in responses.

The final comparison conducted between parental loss and sad event memories were in terms of their impact on life. Results supported the first hypothesis; participants reported that they have been through more physical and financial changes immediately after parental loss compared to the physical and financial changes they experienced immediately after sad event. For instance, most of them reported that after parental loss, they immediately changed their residence either temporarily or permanently. Likewise, they reported that there were more physical, financial and psychological changes in their lives after loss. For instance, as a

response to question about physical changes, some of the participants reported that they had to start school at a young age or had to change their existing school due to parental loss. Furthermore, decrement in the level of income due to interruption of deceased parent's salary was a frequently reported financial change occurring as a delayed consequence of loss. Psychological life changes constituted another aspect of life changes in which highly significant differences were observed between parental loss and sad event. Feeling lonely, being afraid of the future, becoming more mature or stronger can be given as examples of frequently reported psychological changes that followed parental loss. Thus, as it was hypothesized it can be said that people reported more life changes for the traumatic experiences compared to other sad experiences.

5.2.2. Comparison of surprising and expected traumatic experiences

The second hypothesis of the present study addressed whether expecting the traumatic event would make a difference in the retrieval of trauma memories. Specifically, it was proposed that participants for whom the parental death was unexpected will exhibit higher ratings on phenomenological characteristics and life change items compared to participants for whom the death was expected.

The results of the analyses conducted with phenomenological ratings showed that the surprise factor made a difference only in terms of the frequency of sharing parental loss with people who were not in it. Participants who reported that their loss experience was surprising, shared the experience more with people who were not involved in it, compared to those whose loss was expected. Thus, whether the trauma was expected or not makes difference only in terms of sharing it and traumatic experiences were shared with people who did not experience it such as friends and relatives. These findings cast a doubt for the necessity of expectancy on the formation of flashbulb memories which were argued by Brown and Kulik (1977). Berntsen and Thomsen conducted a study about flashbulb memories with older

Danes and they required participants to retrieve memories of their reception of the news for Danish occupation which took place in April 1940 and liberation which took place in May 1945 and their most positive and most negative personal memories from World War II. Of the four memories, the liberation memories had the highest clarity scores and lowest surprise ratings. Thus, similar to present study's findings, Berntsen and Thomsen also concluded that the surprise factor is not linked to the clarity or accuracy of flashbulb memory.

Moreover, surprise was a significant factor only for the physical life changes that individuals have been through in later times of parental loss. Individuals for whom the parental loss was surprising have lived more environmental changes such as household movement, work or school change or a change in relationships with people, especially with bereaved parent's family, compared to those for whom the parental loss was expected.

Overall, although whether loss was surprising or not is not a significant factor for phenomenological features of trauma memory or life changes that individual's experience, it should be noted that surprising parental loss were shared more with people who were not in the event which shows that people had a tendency to share their surprising traumatic experiences especially with people like friends, neighbors or distant relatives. Moreover, if parental loss was surprising for them, it led to more physical changes in their lives, which might show that unexpected trauma affects the individuals most through the environmental changes that happened at later times. One problem with the present findings is that subjective ratings given for surprise factor do not capture the full range of surprise appraisal. Since most of the individuals rated average or high level of surprise , they were included in the "surprise" group (N=40) as opposed to individuals who rated level of surprise lower and included in the "expected" group (N=16), there is a high difference between surprise and expected groups in terms of their sample size. That most of the participants rated the parental loss as surprising is a problem for interpretation of the results.

5.2.3. The relation between recency and trauma memory

The third hypothesis addressed the relation between recency of the memory and phenomenological features of the memory. Particularly, subjective ratings given for phenomenological features of trauma memories were proposed to decrease as the age of the memory increases.

Correlation analysis partially supported the proposed relation and it was found that as the age of the memory increases, vividness and frequency of the rehearsal within years of event decreases. In other words, more remote parental loss experiences were remembered less vividly and they were less rehearsed in the immediate years of loss.

The findings for memory age contradict Berntsen's (2001) findings. She required subjects to rate their involuntary memories on a diary and found that trauma memories were rated as vivid in terms of imagery, physiological and emotional relieving and the age of the memory did not affect the ratings of involuntary memories. The present study showed that trauma may lose its intensity with time and the vividness of trauma memory as well as frequency of rehearsing it decreases with time.

In the second study, Berntsen (2001) required subjects to rate their involuntary memories daily on a diary, and trauma memories were rated as extraordinarily vivid in terms of both imagery, physiological and emotional relieving and this finding was not influenced by the age of the event. So she concluded that in severe cases like trauma, even if an event happened a long time ago, memories may continue to be vivid and emotionally significant. However, the present study came up with opposite results, and it was found that even if the trauma is a very intense experience, memory of trauma weakens by the time.

5.2.4. The effect of age at loss on phenomenology of memory and life changes

The fourth hypothesis was that participants in younger ages during parental loss were expected to display higher ratings on phenomenological characteristics and life change items.

Particularly, it was hypothesized that participants who were children or adolescents during parental loss would have higher ratings on phenomenological properties of memory and would have higher ratings on life change items compared to participants who were adults during parental loss. This hypothesis was confirmed for the effect of age at loss on life changes.

In terms of the phenomenological features, participants only differed in the field perspective that they take while remembering. Specifically, those who lost their parents at middle adulthood reported that they remember the event more from the field perspective compared to participants who lost their parents in adolescence. In other words, individuals who experienced parental loss in their middle adulthood remembered the loss from the first person perspective and they did so more compared to individuals who experienced it in adolescence. The proposed hypothesis couldn't be confirmed for the other items. Therefore, age of the participants at loss is not an important factor for the phenomenology of remembering trauma.

In the next step, the effect of loss age on life changes was investigated. There were significant differences between individuals from different loss age groups in terms of immediate physical changes, later physical changes, later financial changes and later psychological changes. First, individuals who experienced parental loss in childhood reported that they experienced more physical changes shortly after loss compared to individuals who experienced loss in adolescence. So, parental death experienced in very early ages leads to more severe physical changes such as school change or household movement compared to parental death experienced in adolescence. Moreover, for the physical changes happened in later times of loss, again childhood is the most critical period. Participants who experienced parental loss in childhood reported that they have been through more physical life changes compared to ones who experienced it in adolescence, young adulthood or middle adulthood.

For later physical changes, a similar profile was observed and childhood was found as a more critical period compared to young adulthood and middle adulthood. At the same time, loss at childhood resulted in more financial changes compared to loss at young or middle adulthood. However, in terms of the psychological changes that occurred in later times of parental loss, loss at adolescence is found as the most critical period and participants who lost their parents at adolescence reported significantly higher changes compared to participants who lost their parents during middle adulthood.

To sum up, adolescence was found as a more critical period for the psychological effects of parental loss as it was hypothesized. Sigal, John & McGill (2001) also showed that adolescence is a critical period for psychological consequences of the trauma. They examined World War II Holocaust survivors' coping ability with traumatic stress 40 years after the experience and found that participants, who were adolescents or young adults at the time the war ended, displayed more paranoid and depressive symptoms compared to participants who were children. On the other hand, those who were children when they lost their parents were affected more from the physical and financial changes of loss. Children do not have the ability to interpret psychological consequences of parental loss. However, as more obvious life changes, physical and financial changes has more consequences for children.

5.2.5.a. The relation between trauma memory and life changes

The first part of the final hypothesis addressed the relation between remembering trauma and life changes that happened due to trauma. Particularly, as the participants experienced more life changes as a consequence of parental loss, they were expected to report higher ratings on phenomenological and flashbulb features of their loss memory.

Results with immediate life changes displayed a significant negative association between immediate financial changes and frequency of rehearsing the event in last five years. So, as the degree of financial changes that happened shortly after parental loss increased,

there was a decrease in thinking about the event in recent years. In order to understand what this finding implies one should look at the whole aftermath of trauma, not just the immediate aftermath. Although parental loss affects the financial situation right after trauma, as they get further away from the financial changes, the effects might decrease and the individuals might even reach a point of stabilization in later periods after trauma. Since the individuals get free from the effects of trauma, they rehearse it less in recent years.

In addition to findings about immediate financial changes, it was also found that as the immediate psychological changes due to parental loss increases, the memory of loss is rehearsed more both in years shortly after the event and in the past few years. It is important to note that the relation between psychological changes and rehearsal in years after the event is stronger than the relation between psychological changes and rehearsal in recent years. So, as people experience more psychological changes in their lives, they think more about their experience, especially in the aftermath of parental loss. Besides, frequency of sharing loss with people not in it also increases with psychological changes in immediate times. Hence, as the individuals experience more psychological changes right after trauma, they share it more with people as they rehearse it. One interesting point is that, sharing the trauma with people who were not in the event increases with immediate psychological changes, rather than sharing it with people who experienced it with the individual. Thus, it might be proposed that as the individuals get affected more from trauma psychologically, they display a tendency to share the memory of trauma with people like friends, colleagues, or relatives who are not first degree or in short, with people who did not experienced the event from the first hand. In other words, individuals would prefer to talk about their trauma with psychological impact especially with those who will find the event novel.

The relation between memory features and later life changes was also investigated within the same analysis. It was found that as the physical changes in later times of loss

increased, there is a decrease in vividness of the memory and the extent to which individuals take the field perspective in remembering it. At the same time, increase in late physical changes was associated with increase in frequency of rehearsing it in recent years. A possible explanation can be proposed for the negative association of later physical changes with vividness and field perspective on the basis of importance of traumatic reminders. As the individuals experience environmental changes like household change, school change or getting a new job, they are detached from the contexts that include reminders of trauma. Ehlers and Clark (2000) argued that reminders of the trauma provide retrieval cues and lack of these cues result in a less elaborate trauma memory. Hence, the same effect could be observed in traumatic loss memories. As individuals change the context which might remind them their deceased parent, they get further away from their memory, and this is why vividness of memory decreases and they remember the loss less from their own perspective.

Financial changes occurred in further periods of parental loss were related with field perspective. Specifically, increase in later financial changes was associated with a decrease in field perspective. Thus, as the individuals experience more financial transitions in their life, they remember the memory of loss less from the first person perspective. This finding could be interpreted similarly with finding that shows the negative association of physical changes and memory. Individuals who have been through remarkable financial changes due to parental loss such as quitting school or getting a job get highly involved with the financial changes resulting from the trauma and they try to find ways of coping with the situation. As they try more to cope with it and try to get used to these changes, they begin to focus more on the consequences of the event rather than the memory of event. As a result, memory of the trauma gets blurry and the individuals start to remember the event less from their own perspective.

Finally, similar to immediate psychological changes, later psychological changes were also found to be related to rehearsal and sharing. Specifically, as the amount of psychological

changes that people experience in later times of loss increase, they rehearse it more in recent years and they share it more with people who were not in event. Again, it can be concluded that people have a tendency to think more about trauma as its psychological consequences increase. The fact that the correlation between later psychological changes and rehearsal in recent years is higher than the correlation between immediate psychological changes and rehearsal in recent years shows that the psychological changes in later times are more strongly associated with rehearsal. Hence, as individuals experiences more psychological changes in later times they rehearse it even more in recent years. In addition to that, similar to the relation observed for increases in immediate psychological changes, frequency of sharing loss with people not in it also increases with later psychological changes. As a result, on the basis of findings for immediate and psychological changes, it can be concluded that people have a tendency to share the trauma with others as they experience more psychological changes due to trauma. Particularly, tendency to share the trauma with people who did not experience it increases. Thus, it seems that people do not prefer to talk about trauma which had psychological consequences for them with people who are close to them like family members or close relatives; rather they prefer to share it with people who did not experience it with them like friends, distant relatives or co-workers.

5.2.5.b. Consequentiality as a predictor of trauma memory

The second part of the final hypothesis addressed whether consequentiality of the loss was a significant predictor of phenomenological memory features. Consequentiality was investigated with items about importance attributed to the event and the extent to which the event was perceived as a turning point in life. This hypothesis was partially confirmed; although the role of importance attributed to loss in predicting memory features was supported, the extent to which parental loss is seen as a turning point in life was not a significant predictor for any of the memory features. Overall, increases in importance

attributed to trauma were associated with increases in vividness, frequency of sharing the memory with people who were not in the event, and finally intensity of emotions attached to memory. Thus, more important traumatic experiences were more vivid, more shared with others who are not involved in event and remembered with more intense emotions.

In order to understand the role of consequentiality in autobiographical memory, models of flashbulb memory literature should be investigated. Conway et al. (1994) studied flashbulb memories of resignation of British Prime Minister Margaret Thatcher and developed a model with three main processes that can work independently or together which was called "The Comprehensive Model". They found that prior knowledge about the event is the starting point for formation of flashbulb memory. In the next step, evaluation of importance follows. In the third step, evaluation of importance triggers either evaluation of surprise and emotional feeling state or rehearsal. Finally, if the event that is appraised is important enough, and lead to an increase in affective state or rehearsal, flashbulb memory is formed.

The comprehensive model was criticized to be based on empirical findings related to pathways between concepts involved in flashbulb memory formation, rather than theoretical basis. Finkenaur and colleagues (1998) developed another model which was called "Emotional Integrative Model". They argued that the event is first appraised in terms of its novelty. Next, the appraisal of novelty leads to reaction of surprise. Further, both appraisal of importance, surprise reaction and the affective status determines the emotional feeling state. Then, emotional feeling state affects the original memory of the event through triggering rehearsal. In other words, rehearsal mediates the relation between emotional state and original memory of the event. In the final step, original memory of the event forms flashbulb memory.

The present study presents a finding which fits with models. Both of the models propose that appraisal of importance determines the emotional feeling state. Also, both models show that rehearsal is also triggered by the emotional feeling states. Although the

present study does not test the exact relations between these concepts, it is shown that more important traumatic experiences are remembered with a higher emotional feeling state and they are shared more with others. Further studies are necessary to determine the exact pathways predicting traumatic memory formation.

5.3. Summary and discussion of the additional findings

5.3.1. Life change as a predictor of Post-traumatic Stress Disorder

In the previous sections, the role of life changes in predicting different memory features has been investigated. In addition to these, the role of life changes in predicting post-traumatic stress disorder (PTSD) was also investigated. The only life change that was predicting PTSD level was the intensity of financial changes that occurred at a later time after loss. Thus, financial changes that happen due to parental loss such as the interruption of the deceased parent's salary are so important and stressful for the individuals that, increases in such changes are directly related to increases in PTSD levels.

5.3.2. The effect of sex on trauma memory, PTSD and consequentiality

Neurobiological studies showed that there is a sex difference in retrieval of emotional event memories (Cahill et al., 2001). Previous studies about autobiographical memory also showed the same difference when females were found to retrieve emotional autobiographical memories easily than males (Pillemer et al., 2003; Rubin & Berntsen, 2009). Related with these, there is also a sex difference in terms of the prevalence of PTSD. In their general population study, Kessler, Sonnega, Bromet, Hughes and Nelson (1995) demonstrated that in a representative sample of adults from U.S., women were found to experience PTSD in higher numbers than men (cited in Rubin, Berntsen,& Bohni, 2008). Cahill (2003) formed a link between gender differences in emotional memories and gender difference in PTSD, and

speculated that higher prevalence of PTSD might be caused by sex differences in encoding of the emotional events.

On the basis of all these findings stated above, differences between male and female participants in terms of the phenomenological features of loss memory, PTSD scores and also consequentiality of the loss were investigated. Results of the comparison showed that females scored higher than males in their intensity of emotionality attached to remembering and the extent to which they perceive parental loss as a turning point in their lives; however males scored higher than females in the extent to which they remember loss rather than know it. PTSD scores were not significantly different for males and females. Females were found to report phenomenological properties with higher ratings for trauma memories compared to males and they also perceived trauma more as a turning point in their lives. Although PTSD level was not found to differ in women and men as shown by previous research, findings about phenomenology of trauma memories were analogous to literature findings about sex differences in autobiographical memory. Possible casualties between these findings should be investigated in further research. It can be speculated that the fact that women perceive loss more as a turning point in their lives might be the reason why their memories related to loss are reported with higher ratings.

5.3.3. The effect of deceased parent's sex on trauma memory, PTSD and consequentiality

One important variable in determining the consequences of parental loss would be the gender of deceased parent. From the earliest period of development, children form an attachment with their parents. However, the level of attachment would not be equal for both parents and children display greater closeness for their mothers. Indeed, Rossi (1990) showed that adult children share more values and views, greater closeness and stability in their relationships with their mothers compared to their relationships with their fathers. This is why

loss of a mother would be more distressful than loss of a father. Lawrence, Jeglic, Matthews & Pepper (2006) conducted a study about gender differences in terms of the psychological condition of college students who lost a parent. They found that the ones who lost their mother had higher tendencies to have depression and attempt suicide.

On the basis of these findings, gender of the deceased parent is proposed to have some implications for trauma memory, PTSD and consequentiality and that proposition was confirmed. Participants who lost their mothers scored higher in terms of the frequency of rehearsal in years after the event, intensity of emotionality attached to remembering, importance attributed to loss and their PTSD scores. Those individuals who lost their mothers retrieve their memory with a higher sense of reliving and imagery phenomenology as they think more often about the loss especially immediately, and report a higher affective intensity while remembering it. Probably because a greater closeness formed with the mother (Rossi, 1990), losing a mother is perceived as a more important experience than losing a father and at the same time as a more distressful experience so that results in higher PTSD level.

5.3.4. Loss as a turning point in life

The implications of trauma for the individual are important and have a critical role in determining the process of recovery. One important point that defines what that trauma means for the individual is the centrality of this event for life. Centrality of the event would depend on whether it is a landmark event and thus, a turning point in life. Recently, Berntsen and Rubin (2006) put emphasis on the role of centrality and they developed the concept of "centrality of the event". They defined centrality of the traumatic event on the basis of three dimensions; whether traumatic memory formed a reference point for life, a turning point in life story and a central component for identity. As the individual attribute higher values for these concepts, he/she is accepted to perceive the trauma as more central to his/her life. Attributing high levels of centrality to loss is generally considered to be a problematic

situation. For instance, it is argued that because it results in difficulty in retrieving memories unrelated to deceased, high centrality of the loss is an obstacle for recovery from grief (Boelen, van den Hout, & van den Bout, 2006).

Although the present study presented findings about the consequences of perceiving trauma as a highly important and reference point for life, what is causing trauma to be perceived as central is not clear. The present study addressed whether life changes due to trauma predict the extent to which trauma is perceived as a turning point in life. When the effect of age is controlled, intensity of immediate psychological changes, intensity of later psychological changes and finally psychological changes that persist today predicts the extent to which parental loss is seen as a turning point in life. Thus, it is not the environmental or financial changes, rather it is the psychological changes that individuals experience shortly after loss, at later times and today that determines whether the trauma is a turning point in life. Although exact psychological changes which makes the trauma a turning point is not clear, it definitely has to do with changes that are directly related to the individual, individual's feelings, attitudes etc. The present study demonstrates a similar concept with Berntsen and Rubin's (2006) centrality of the event concept in which the centrality of an event was determined by whether traumatic memory formed a reference point, a turning point in life story and a central component for identity. Thus, both Berntsen and Rubin's conceptualization and the findings of this study show that the extent to which trauma is a turning point in life is related to what that trauma means for the person psychologically.

5.4. Contributions of the present study

Literature about trauma memories includes mixed findings, and it is difficult to reach a decision about whether trauma memories are different than any other emotional autobiographical memory. The present study demonstrates important findings that will enable

researchers to further understand the nature of trauma memory and its difference from other emotional memories.

First of all, the present study pointed out that there is need for research which investigates memory of one type of personally experienced traumas since the nature of trauma that is formed as a result of public events would not be the same with trauma that is formed as a result of personal events. In other words, events like earthquake, flood, September 11 Attack, assassination or resignation of presidents would be traumatic for the whole society, but they will not be equally traumatic for each member of the society. On the other hand, events like assaults, divorce, accident or loss represent traumas with serious personal consequences for most of the individuals who experience them since these experiences are accompanied with feelings like horror and helplessness (Van der Kolk, Hopper & Osterman, 2001). This is why the type of trauma was controlled and only memories of parental loss were investigated in the present study. Also, that parental loss is a traumatic experience which has been experienced on a personal level allows reaching more accurate observations about trauma memories, unlike natural disasters or public events which may not be interpreted as even traumatic by each member of the society. Moreover, parental loss is one of the most reported traumatic experiences in studies about trauma memory which also shows that it is a significant traumatic experience. In sum, the present study contributes to the trauma memory literature with consideration of memory of only one, frequently reported and personally experienced trauma.

In addition to that, another important contribution of the present study was that not only the trauma but also the consequences of the trauma were taken into account. There is no study that considered the aftermath of trauma as an important variable for the formation of trauma memories. In their study about PTSD reactions of young individuals who were exposed to war, Fayyad et al. (2004) indicated that although participants' PTSD reactions

decrease in time, half of them continue to display PTSD symptoms due to factors like severity of trauma and post-war problems like family stressor, maternal dysfunction and poverty. Since PTSD and trauma memory are highly intertwined with each other, post-traumatic problems could also alter the trauma memories. In their mnemonic model of PTSD, Rubin et al. (2008) argued that PTSD should be considered in terms of the cognitions, rather than the DSM criteria. They indicate:

> A negative event occurs to a person. This produces changes in the person, which we describe through the concept of memory. The memory is not fixed but changes over time due to factors that characterize all memories in all people, factors related to individual differences among people, factors related to extremely stressful events, and factors related to the current goals and concerns of the person. There is no partial or complete, indelible memory of the initial encoding that can be recovered. There is only a selective, current memory that is produced differently at different times and that can be changed.

Thus, memory of trauma is not fixed and it changes according to the conditions related to individual, event, and also the environment. The present study considered life changes that are caused by the event as an important variable that could explain this non-stable trauma memory.

Another contribution of the present study is that factors that are previously considered in the formation of flashbulb memories for public events are included. Specifically, it was investigated whether expectancy and consequentiality of the event also plays a role in personally experienced trauma memories and consequentiality found to be a significant factor for personally experienced trauma memories as well.

5.5. Future Directions

There are a number of suggestions for future studies that can be proposed on the basis of findings of the present study. First, future studies about trauma memories should be conducted by taking event type into consideration. Generally, researchers adopted the strategy of letting participants choose the most traumatic event they experienced. The problem with this strategy is not only that traumas are subjectively selected, but also that the diversity of selected traumatic events creates an uncontrollable variability.

Another direction for future research is to consider the transitions that occur due to trauma. As also indicated by Rubin et al. (1998) memory is not fixed and it changes over time due to multiple factors which affect how the individual currently appraises the event. Life changes resulting from trauma are among these factors and they should be taken into account. Brown et al. (2009) simply stated that transitions caused by landmark events alter the fabric of daily life. Since they caused abrupt changes in life, the landmark events become a reference point and individuals organize their autobiographical memory accordingly. The present study extended the concept of fabric of daily life changes and included the psychological transitions as well. Thus, future studies should also consider these significant life changes as important determiners of the memory of the trauma.

Finally, future research should also consider the possibility that the relation between life changes that follow trauma and memory of the trauma may be different for different types of life changes. For instance, the present study showed that although there is a negative correlation between financial changes and memory features like vividness and also a negative correlation between physical changes and some memory features, psychological changes increased with ratings of memory features. So, differences between the effects of life changes on memory related to trauma should be investigated if there are any and the reason for these differences should also be identified.

To sum up, this study is an initial step towards research that will consider different factors that affect trauma memory, especially the ones related to the individual. Moreover, the importance of the transitions due to trauma both for the individual and for the memory of the event is also explored in the present study.

Appendix 1

Memory Questionnaire Part 1

I. Araştırmanın bu kısmında size ebeveyn kaybını öğrendiğiniz anla ilgili sorular yöneltilecektir. Bu soruları lütfen mümkün olduğunca ayrıntılı olarak yanıtlamaya çalışın. Kesin olarak emin olmadığınız yanıtları da verin. Ancak kesinlikle hatırlamadığınız bilgiler için lütfen tahminde bulunmayın; araştırma açısından hatırlanan bilgilerin yanı sıra hatırlanmayan bilgiler de önem taşımaktadır.

1.Annenizi/babanızı kaybettiğinizi nasıl öğrendiniz?

2. O sırada saat tam olarak kaçtı? (tam olarak hatırlayamıyorsanız bir zaman aralığı verebilirsiniz.)

3.O sırada neredeydiniz?

4. O sırada ne yapıyordunuz/ ne ile meşguldünüz?

5. Bu olayı öğrendiğiniz/yaşadığınız anda yanınızda kim/kimler vardı? Mümkünse isimleri belirtin.

6. O sırada aklınıza ilk gelen düşünce ne oldu?

7. O anda, bu olayın sizin için ne derece önemli olduğunu düşündünüz?

____ Hiç önemli olduğunu düşünmediniz mi?
____ Biraz önemli olduğunu mu düşündünüz?
____ Orta derecede önemli olduğunu mu düşündünüz?
____ Oldukça fazla önemli olduğunu mu düşündünüz?
____ Çok fazla önemli olduğunu mu düşündünüz?

8. a) O sırada hangi duyguları hissettiniz? Lütfen öncelikle duygularınızın ne olduğunu belirtin.

b) Bu hissettiğiniz duygunun şiddetini 1; çok zayıf, 5; çok kuvvetli olmak üzere belirtin.

Duygu	Çok zayıf	Biraz zayıf	Ne zayıf ne kuvvetli	Biraz kuvvetli	Çok kuvvetli
_____	1	2	3	4	5
_____	1	2	3	4	5
_____	1	2	3	4	5

9. Bu olay sizin için ne derece beklenmeyen/şaşırtıcı bir olaydı?

Hiç şaşırtıcı değildi	Biraz şaşırtıcıydı	Orta düzeyde şaşırtıcıydı	Oldukça fazla şaşırtıcıydı	Çok fazla şaşırtıcıydı
1	2	3	4	5

10. Anne/babanızı kaybettiğiniz yaşı düşünürseniz, bu olayı belirttiğiniz yaşta yaşamanız beklendik bir durum mudur?

____ Olması beklenen zamandan çok mu erken?
____ Olması beklenen zamandan biraz mı erken?
____ Olması beklenen zamanda mı?
____ Olması beklenen zamandan biraz mı geç?
____ Olması beklenen zamandan çok mu geç?

Appendix 2

Memory Questionnaire Part 2

II. i. Araştırmanın bu kısmında, ebeveyn kaybına dair anınızın bazı özelliklerini öğrenmeyi amaçlıyoruz.

1.Bazı anıları hatırlarken insanlar o olayları yeniden yaşıyor gibi olurlar. Bazı olayların ise olmuş olduğu hatırlanır ama hatırası pek canlı değildir. Bu olayı siz ne kadar canlı hatırlıyorsunuz?

____ Sadece böyle bir olayın olduğunu mu hatırlıyorsunuz?
____ Az da olsa bir hatırlama var mı?
____ Birazını mı canlı hatırlıyorsunuz?
____ Oldukça net mi hatırlıyorsunuz?
____ Anlatırken yeniden yaşar gibi misiniz?

2. Bu olayı hatırlarken olaydaki insanların söylediklerini ne derece duyar gibi oluyorsunuz?

____ Hiçbir duyma yok, sadece hatırlıyor musunuz?
____ Çok az duyar gibi mi oluyorsunuz?
____ Biraz duyar gibi mi oluyorsunuz?
____ Çok net biçimde duyar gibi mi oluyorsunuz?
____ Hatırlarken her şeyi yeniden yaşar gibi mi duyuyorsunuz?

3. Olaydan sonraki birkaç yıl içinde, bu olayı ne sıklıkta düşündünüz?

____ Hiç mi düşünmedim dersiniz?
____ Nadiren düşündüm mü dersiniz?
____ Ara-sıra düşündüm mü dersiniz?
____ Çok kez düşündüm mü dersiniz?
____ Sürekli düşündüm mü dersiniz?

4. Son birkaç yıl içinde bu olayı ne sıklıkta düşündünüz? (Olayı en fazla 5 sene önce yaşayanlara sadece bu soru sorulacaktır.)

____ Hiç mi düşünmedim dersiniz?
____ Nadiren düşündüm mü dersiniz?
____ Ara-sıra düşündüm mü dersiniz?
____ Çok kez düşündüm mü dersiniz?
____ Sürekli düşündüm mü dersiniz?

5. Bu olay olduktan sonra, olayı beraber yaşadığınız kişilere (diğer aile üyeleri gibi) bu olayı hiç anlattınız mı?

____ Hiç mi anlatmadınız?
____ Nadiren de olsa anlattınız mı?
____ Ara-sıra mı anlattınız?
____ Çok kez mi anlattınız?
____ Sürekli mi anlattınız?

6. Bu olay olduktan sonra, olayı beraber yaşamadığınız kişilere (arkadaşlar, komşular gibi) bu olayı hiç anlattınız mı?

____ Hiç mi anlatmadınız?
____ Nadiren de olsa anlattınız mı?
____ Ara-sıra mı anlattınız?
____ Çok kez mi anlattınız?
____ Sürekli mi anlattınız?

7. a) Bu olayı hatırladığınız zaman hangi duyguları hissediyorsunuz? Lütfen öncelikle duygularınızın ne olduğunu belirtin.

b) Bu hissettiğiniz duygunun şiddetini 1; çok zayıf, 5; çok kuvvetli olmak üzere belirtin.

Duygu	Çok zayıf	Biraz zayıf	Ne zayıf ne kuvvetli	Biraz kuvvetli	Çok kuvvetli
_____	1	2	3	4	5
_____	1	2	3	4	5
_____	1	2	3	4	5

II. ii. Lütfen bundan sonraki sorularda, ebeveyn kaybınızı hatırlarken, bu kaybın size düşündürdüklerini 1'den 5'e kadar size en uygun olan sayıyı belirterek değerlendiriniz.

8. İnsanlar bazı olayları hatırlamasalar da başlarından geçtiğini bilirler. Ben anımı hatırlarken, bu olayın başımdan geçtiğini bilmekten öte onu gerçekten hatırlayabiliyorum. Bu sizin için ne derece doğru?

Hiç doğru değil	Biraz doğru	Orta düzeyde doğru	Oldukça fazla doğru	Çok fazla doğru
1	2	3	4	5

9. Bazı insanlar olayı hatırlarken, olayın olduğu zamana geri döndüğünü ve olayı dışarıdan seyreden biri değil ona yeniden katılan biri olduğunu hissederler. Bu sizin için ne derece doğru?

Hiç doğru değil	Biraz doğru	Orta düzeyde doğru	Oldukça fazla doğru	Çok fazla doğru
1	2	3	4	5

10. Şu anda geriye dönüp baktığınızda, bu olayın sizin için ne kadar önemli olduğunu düşünüyorsunuz?

Hiç önemli değil	Biraz önemli	Orta düzeyde önemli	Oldukça fazla önemli	Çok fazla önemli
1	2	3	4	5

11. Bu olayı ne derecede bir dönüm noktası olarak değerlendiriyorsunuz?

Hiç	Biraz	Orta düzeyde	Oldukça fazla	Çok fazla
1	2	3	4	5

12. a) Lütfen olayın tarihini (gün /ay/ yıl) olabildiğince doğru bir şekilde hatırlamaya çalışın.

b) Tahmin etmeniz gerekiyorsa bile lütfen bir gün, ay ve yıl yazın. Eğer bu anı uzun bir süreye yayılmışsa, bu sürenin yaklaşık olarak ortasına gelen tarihi yazın. Eğer ayı biliyor ama günü bilmiyorsanız, ayın başı, ortası veya sonu için sırasıyla 1, 15 ya da 30 yazın. Bazen olayın tarihin hatırlamak için tatiller, doğum günleri ya da okulda olduğunuz yıllar gibi bilinen tarihler kullanmak yardımcı olabilir.

_____ / _____ / _____

Appendix 3

Life Changes Questionnaire

Araştırmanın bu kısmında size yaşadığınız ebeveyn kaybının hayatınızı ne derece değiştirdiğiyle ilgili sorular yöneltilecektir. Bu olay sizin hayatınızda maddi bakımdan (ör; babanızı kaybedince maddi sıkıntı yaşamış olabilirsiniz, ya da annenizi kaybedince siz işe girip çalışmaya başlamış olabilirsiniz), çevresel bakımdan (ör; annenizi kaybettikten sonra ev ya da okul değiştirmek durumunda kalmış olabilirsiniz veya komşularınızla ilişkilerinizde değişiklikler olmuş olabilir) veya psikolojik bakımdan (kendinizi çok yalnız hissetmiş olabilirsiniz, ya da eskisine göre daha güçlü hissetmiş de olabilirsiniz) değişiklikler yaratmış olabilir. Lütfen bu değişikliklerle ilgili her ifadeyi 1'den 5'e kadar size en uygun olan sayıyı belirterek cevaplayınız.

1. Bu sorudaki ifadeleri yaşadığınız ebeveyn kaybının, **olayı takip eden birkaç gün** içinde yarattığı değişiklikleri düşünerek yanıtlayınız.

	0.**Bilmiyorum/ hatırlamıyorum**	1.**Hiç**	2.**Çok az**	3.**Orta derecede**	4.**Oldukça fazla**	5.**Çok fazla**
a.Anneninizi/babanızı kaybettikten sonraki birkaç günde çevreniz ne kadar değişti						
(3 ve yukarısını belirtenler için) Bu değişiklikler nelerdir?						
b.Maddi durumunuz ne kadar değişti?						
(3 ve yukarısını belirtenler için) Bu değişiklikler nelerdir?						
c.Psikolojik olarak ne kadar değiştiniz?						
(3 ve yukarısını belirtenler için) Bu değişiklikler nelerdir?						

2. Yaşadığınız ebeveyn kaybını **takip eden birkaç gün içinde** gerçekleşen değişikliklerden ne kadar etkilendiniz?

	0.**Bilmiyorum/ hatırlamıyorum**	1.**Hiç**	2.**Çok az**	3.**Orta derecede**	4.**Oldukça fazla**	5.**Çok fazla**
a.Çevrenizle ilgili olan değişikliklerden ne kadar etkilendiniz?						
b.Maddi durumunuzla ilgili değişikliklerden ne kadar etkilendiniz?						
c.Psikolojik değişikliklerden ne kadar etkilendiniz?						

3. Yaşadığınız ebeveyn kaybını **takip eden birkaç gün** içinde gerçekleşen değişiklikler, sizin için ne kadar olumluydu?

	0.**Bilmiyorum/ hatırlamıyorum**	1.**Tamamen olumsuzdu**	2.**Biraz olumsuzdu**	3.**Ne olumlu ne de olumsuzdu**	4.**Biraz olumluydu**	5.**Tamamen olumluydu**
a.Çevrenizle ilgili değişiklikler ne kadar olumluydu?						
b.Maddi değişiklikler ne kadar olumluydu?						
c.Psikolojik değişiklikler ne kadar olumluydu?						

4. Bu sorudaki ifadeleri yaşadığınız ebeveyn kaybının, **daha sonraki zamanlarda** yarattığı değişiklikleri düşünerek yanıtlayınız.

	0.**Bilmiyorum/ hatırlamıyorum**	1.**Hiç**	2.**Çok az**	3.**Orta derecede**	4.**Oldukça fazla**	5.**Çok fazla**
a.Anneninizi/babanızı kaybettikten sonraki zamanlarda çevreniz ne kadar değişti						
(3 ve yukarısını belirtenler için) Bu değişiklikler nelerdir?						
b.Maddi durumunuz ne kadar değişti?						
(3 ve yukarısını belirtenler için) Bu değişiklikler nelerdir?						
c.Psikolojik olarak ne kadar değiştiniz?						
(3 ve yukarısını belirtenler için) Bu değişiklikler nelerdir?						

5. Yaşadığınız ebeveyn kaybının **daha sonraki zamanlarda** yarattığı değişikliklerden, ne kadar etkilendiniz?

	0.**Bilmiyorum/ hatırlamıyorum**	1.**Hiç etkilenmedim**	2.**Çok az etkilendim**	3.**Orta derecede etkilendim**	4.**Oldukça fazla etkilendim**	5.**Çok fazla etkilendim**
a.Çevrenizle ilgili olan değişikliklerden ne kadar etkilendiniz?						
b.Maddi durumunuzla ilgili değişikliklerden ne kadar etkilendiniz?						
c.Psikolojik değişikliklerden ne kadar etkilendiniz?						

6.Yaşadığınız ebeveyn kaybının **daha sonraki zamanlarda** yarattığı değişiklikler, sizin için ne kadar olumluydu?

	0.**Bilmiyorum/ hatırlamıyorum**	1.**Tamamen olumsuzdu**	2.**Biraz olumsuzdu**	3.**Ne olumlu ne de olumsuzdu**	4.**Biraz olumluydu**	5.**Tamamen olumluydu**
a.Çevrenizle ilgili değişiklikler ne kadar olumluydu?						
b.Maddi değişiklikler ne kadar olumluydu?						
c.Psikolojik değişiklikler ne kadar olumluydu?						

7.**Bugün,** yaşadığınız bu değişikliklerin etkisi ne kadar sürüyor?

	0.**Bilmiyorum/ hatırlamıyorum**	1.**Hiç sürmüyor**	2.**Çok az sürüyor**	3.**Orta derecede sürüyor**	4.**Oldukça fazla sürüyor**	5.**Çok fazla sürüyor**
a.Çevrenizle ilgili değişikliklerin etkisi ne kadar sürüyor?						
b.Maddi durumunuzla ilgili değişiklikler ne kadar sürüyor?						
c.Psikolojik değişiklikler ne kadar sürüyor?						

Appendix 4

The PTSD Checklist- Civilian Version (PCL-C)

Araştırmanın bu kısmında stres veren olayların ardından bazı insanlarda ortaya çıkabilen yakınma ve sorunlarla ilgili ifadeler yer almaktadır. Lütfen size yöneltilen ifadeleri dikkatli biçimde dinleyin ve yaşadığınız ebeveyn kaybının, **son bir ay içinde** sizi ne derece rahatsız ettiğini 1'den 5'e kadar bir sayı seçerek belirtin.

1. Geçmişte yaşamış olduğunuz ebeveyn kaybıyla ilişkili rahatsızlık verecek şekilde tekrarlayan rüyalarınız var mı?

Hiç	Biraz	Orta düzeyde	Oldukça fazla	Çok fazla
1	2	3	4	5

2.Geçmişte yaşamış olduğunuz ebeveyn kaybını hatırlatan konuşma, ortam ve kişiler ve de duygular sizde mutsuzluk, üzüntü ve alt üst olma duygusu yaşatıyor mu?

Hiç	Biraz	Orta düzeyde	Oldukça fazla	Çok fazla
1	2	3	4	5

3. Geçmişte yaşamış olduğunuz ebeveyn kaybını hatırlatan konuşma, ortam ve kişi vb. şeyler, kalp çarpıntısı, terleme, nefes darlığı, titreme, uyuşma, ağrı vb. gibi bedensel tepkilere yol açıyor mu?

Hiç	Biraz	Orta düzeyde	Oldukça fazla	Çok fazla
1	2	3	4	5

4. Geçmişte yaşamış olduğunuz ebeveyn kaybı hakkında konuşmaktan ve düşünmekten kaçınır mısınız?

Hiç	Biraz	Orta düzeyde	Oldukça fazla	Çok fazla
1	2	3	4	5

5. Size geçmişte yaşamış olduğunuz ebeveyn kaybını hatırlattığı için bazı kişilerden, ortamlardan ve eylemlerden kaçınır ve uzak durur musunuz?

Hiç	Biraz	Orta düzeyde	Oldukça fazla	Çok fazla
1	2	3	4	5

6. Geçmişte yaşamış olduğunuz ebeveyn kaybının bazı bölümlerini hatırlamakta zorlanır mısınız? Olaylar arasında bağlantı kurmada zorlandığınız boşluklar var mı?

Hiç	Biraz	Orta düzeyde	Oldukça fazla	Çok fazla
1	2	3	4	5

7. Eskiden hoşlanarak yapmakta olduğunuz etkinliklere olan ilginiz kaybettiniz mi?

Hiç	Biraz	Orta düzeyde	Oldukça fazla	Çok fazla
1	2	3	4	5

8. Kendinizi diğer insanlardan uzak ve ayrı hissediyor musunuz?

Hiç	Biraz	Orta düzeyde	Oldukça fazla	Çok fazla
1	2	3	4	5

9.Kendinizi duygusal açıdan donuklaşmış, yakınlarına ve olaylara karşı sevinme, üzülme ve ağlama duygularınız uyuşmuş gibi hissettiğiniz oluyor mu?

Hiç	Biraz	Orta düzeyde	Oldukça fazla	Çok fazla
1	2	3	4	5

10. Geleceği planlamanın anlamsız ve boş olduğunu hissediyor musunuz?

Hiç	Biraz	Orta düzeyde	Oldukça fazla	Çok fazla
1	2	3	4	5

11.Uykuya dalma ve sürdürme güçlüğünüz var mı?

Hiç	Biraz	Orta düzeyde	Oldukça fazla	Çok fazla
1	2	3	4	5

12.Kendinizin gergin, tahammülsüz, sinirli ve çabuk öfkelenen biri olduğunu hissediyor musunuz?

Hiç	Biraz	Orta düzeyde	Oldukça fazla	Çok fazla

1	2	3	4	5

13.Dikkatiniz toparlamada ve sürdürmede bir güçlüğünüz oldu mu?

Hiç	Biraz	Orta düzeyde	Oldukça fazla	Çok fazla
1	2	3	4	5

14.Kendinizi çok fazla derecede gergin, her an olumsuz bir şey olacağı hissi ile tetikte ve diken üstünde hissediyor musunuz?

Hiç	Biraz	Orta düzeyde	Oldukça fazla	Çok fazla
1	2	3	4	5

15.Çevreden gelen uyarılara abartılı tepkiler gösterdiğiniz, kolaylıkla irkildiğiniz ve sıçradığınız oluyor mu?

Hiç	Biraz	Orta düzeyde	Oldukça fazla	Çok fazla
1	2	3	4	5

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