THE RELATIONSHIP BETWEEN ATTACHMENT AND MOTIVATED FORGETTING: INVESTIGATING THE EFFECTS OF ATTACHMENT STYLE AND MENTAL REPRESENTATIONS OF ATTACHMENT FIGURES ON THE DIRECTED FORGETTING OF AUTOBIOGRAPHICAL MEMORIES

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF
TED UNIVERSITY

BY

GÖRKEM GÖVEN

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR
THE DEGREE OF MASTER OF ARTS
IN
THE DEPARTMENT OF PSYCHOLOGY

JULY 2018

Approval of the Institute of Graduate School

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ABSTRACT

THE RELATIONSHIP BETWEEN ATTACHMENT AND MOTIVATED FORGETTING: INVESTIGATING THE EFFECTS OF ATTACHMENT STYLE AND MENTAL REPRESENTATIONS OF ATTACHMENT FIGURES ON THE DIRECTED FORGETTING OF AUTOBIOGRAPHICAL MEMORIES

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July, 2018, 81 pages

Previous research focused on how attachment security is related to regulating emotions after a stressful event has already occurred. But, the role of attachment on antecedent emotion regulation strategies is not clear. Research on autobiographical memory and emotion regulation suggest that remembering memories can be used to regulate emotions in an antecedent manner. In the present study, for the first time, the relationship between attachment and emotion regulation was investigated by looking at whether imagining a secure attachment figure would help to inhibit negative memories. First, the participants were grouped as secure and insecure based on their attachment scores. Next, participants were asked to imagine their attachment figures, friends or acquaintances according to the experimental condition that they were randomly assigned to. Immediately after the mental activation task, participants were provided with two lists which consisted of equal number of positive and negative words. Participants had to remember a specific autobiographical memory for each word. Half of the participants (forget group) in each mental activation group were instructed to forget list 1 memories and remember list 2 memories. Remaining were asked to recall all memories (remember group). All participants were asked to remember all memories in the final recall. The results demonstrated that mental activation did not have any significant effect on inhibiting positive and negative memories. But, the attachment style significantly moderated the relationship between directed forgetting and memory recall. Particularly, insecurely attached participants were able to inhibit their positive memories, while securely attached ones were not. Furthermore, negative memories were not inhibited regardless of attachment style. These results suggest that insecure attachment down-regulates one's mood by facilitating the inhibition of positive memories.

Keywords: Attachment, Emotion Regulation, Intentional Forgetting

ÖZ

BAĞLANMA VE İSTEMLİ UNUTMA İLİŞKİSİ: BAĞLANMA BİÇİMİNİN VE BAĞLANMA FİGÜRLERİNİN ZİHİNSEL TEMSİLLERİNİN OTOBİYOGRAFİK ANILARDA YÖNLENDİRİLMİŞ UNUTMA ÜZERİNDEKİ ETKİLERİNİN ARAŞTIRILMASI

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Temmuz 2018, 81 sayfa

Önceki araştırmalar güvenli bağlanmanın, stresli bir olay gerçekleştikten sonra ortaya çıkan duyguların düzenlenmesi ile ilişkisine odaklanmıştır. Bağlanmanın henüz olumsuz duygu ortaya çıkmadan önceki rolü açık değildir. Otobiyografik bellek ve duygu düzenleme literatürü bize anıları hatırlamanın duyguların ortaya çıkarılmasını ya da bastırılmasını kontrol etmek için de kullanılabildiğini göstermektedir. Bu çalışmayla ilk defa bağlanma ve duygu düzenleme arasındaki ilişki, güvenli bağlanan bir figürü düşünmenin olumsuz anıları baskılamaya olan etkisine bakılarak araştırılmıştır. İlk olarak katılımcılar aldıkları bağlanma puanlarına göre güvenli ve güvensiz olarak iki gruba ayrılmıştır. Daha sonra, katılımcılardan seçkisiz olarak atandıkları deneysel koşula uygun olarak bağlanma figürlerini, arkadaşlarını ya da tanıdıkları birini düşünmeleri istenmiştir. Bu zihinsel imgeleme işleminden hemen sonra katılımcılara eşit sayıda olumlu ve olumsuz kelime içeren iki kelime listesi sırayla sunulmuştur. Katılımcılardan her bir kelime için belirli birer anı hatırlamaları istenmiştir. Her imgeleme koşulunda bulunan katılımcıların yarısına birinci listedeki anıları unutmaları ve sadece ikinci listedeki anıları hatırlamaları gerektiği (unut grubu) söylenirken kalan tüm diğer katılımcılara ise her iki listedeki tüm anıları hatırlamaları gerektiği (hatırla grubu) söylenmiştir. Çalışmanın sonunda, tüm katılımcılardan tüm anılarını hatırlamaları istenmiştir. Sonuçlar imgelemin olumlu ya da olumsuz anıları baskılamada anlamlı bir etkisinin olmadığını göstermiştir. Ancak, yönlendirilmiş unutma ile anı hatırlama arasındaki ilişkide bağlanma stilinin moderatör rolü anlamlı bulunmuştur. Bu etkiye göre, güvenli bağlananlar olumlu anılarını baskılayamazken güvensiz bağlananlar olumlu anılarını baskılayabilmişlerdir. Her iki bağlanma stilinde de olumsuz anılar baskılanamamıştır. Bu sonuçlar güvensiz bağlanma stilinin olumlu anıların baskılanmasını kolaylaştırdığını ve böylelikle kişinin duygu durumunu aşağıya çektiğini göstermektedir.

Anahtar Kelimeler: Bağlanma, Duygu Düzenleme, İstemli Unutma

The thesis is dedicated to all the children of war who see the camera lens as a gun barrel.

ACKNOWLEDGMENTS

I am grateful to my supervisor Assoc. Prof. Dr. Tuğba Uzer Yıldız for her excellent guidance. She has made me feel precious at every stage. I will miss our perfect master-apprentice relationship. Also, I would like to thank Assoc. Prof. Dr. Ilgın Gökler Danışman and Assoc. Prof. Dr. Sait Uluç for their enlightening contributions during my Thesis Examining Committee. It was a proud to present my study in the presence of them.

I want to offer my thanks to Asena Akkaya, Aslı Konaç, Aylin Evrankaya, Ceren Fırıncı, Kevser Çakmak, Merve Aslan, Özlem Kıral and Zeynep Zeynel for their support during data coding.

I am very thankful to my dear friends Ayşenur Güngör, Büşra Sel, Ecem Altop and Gülfem Tanrıkulu for everything. I consider myself lucky since crossing our path.

A very special gratitude goes out to my family. Thanks to my mother and father due to provide me the secure base and safe haven. I have learned from my lovely grandmother how to be strong. Also, I always know that I can lean on my sister when I don't feel that strong.

And I would like to deeply thank my soulmate Yener Namaz. Even when I do not believe in myself, he always believes in me despite the long distance between us. All the time, something in my heart makes me miss him more.

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CHAPTER 1

INTRODUCTION

We know that securely attached mothers relieve their children when they are sad, afraid or worried (Bowlby, 1982). Furthermore, we know that securely attached mothers make it easier for their children to process positive information (Kirsh, & Cassidy, 1997). So what happens when these kids grow up? Are their mothers' comforting features lost when they grow up? In the current study, we investigated the role of attachment figures on inhibiting positive and negative autobiographical memories in late adolescence.

Previous research demonstrated that regulating negative emotions and secure attachment are related. Many studies (Collins, & Ford, 2010; McGowan, 2002; Mikulincer, & Shaver, 2008; Solomon, Ginzburg, Mikulincer, Neria, & Ohry 1998) indicated that coming into contact or even thinking about a secure attachment figure after exposure to an internal or an external stressor helps to reduce negative emotions. These studies mostly focused on the role of response-focused affect regulation, that is, regulating the affect by thinking about a secure attachment figure after the negative emotional state has already emerged. However, another important way of regulating affect is using antecedent-focused strategies (i.e., strategies used before the negative emotional state emerges; Gross, & Thompson, 2007). While the role of attachment on regulating emotions after remembering negative memories has been

demonstrated (Selcuk, Zayas, Günaydin, Hazan, & Kross, 2012), the role of attachment on emotion regulation before experiencing negative emotions is not clear.

It has recently been shown that remembering past experiences helps to regulate emotions (Öner, & Gülgöz, 2018). For example, studies demonstrated that people remember positive memories (Joormann, Hertel, Brozovich, & Gotlib, 2005; Joormann, Siemer, & Gotlib, 2007; Rusting, & DeHart, 2000), or inhibit negative memories (Joormann, 2010; Joormann, & Gotlib, 2010) to reduce their negative emotional state.

Attachment literature suggest that thinking about a secure attachment figure after exposure to a stressor reduces negative emotions. Autobiographical memory literature proposes that remembering positive memories or inhibiting negative memories enables to down-regulate negative emotions. Considering these two findings, we can argue that thinking about a secure attachment figure may also be effective as an antecedent-focused emotion regulation strategy. There are two possible ways in which a secure attachment figure could be used as an antecedent-focused strategy. One possibility might be that physical or mental presence of a secure attachment figure may keep one's positive state by helping the person to avoid thinking about negative experiences. Alternatively, physical or a mental presence of a secure attachment figure may keep one's positive state by making the positive memories more accessible. The present research focused on these two possibilities. Particularly, in the present study, we wanted to

investigate the role of mental presence of an attachment figure on inhibiting negative and positive memories.

First, before the experiment, participants filled out Experiences In Close Relationships Scale Short Form (ECRS-SF) to identify their attachment style with their primary caregivers. During the experiment session, participants were asked to mentally activate the attachment figures or one of their friends or acquaintances. Next, directed forgetting paradigm was applied to examine inhibition of negative and positive memories. The next section discusses the relationship between attachment, emotion regulation and autobiographical memory in more detailed. Finally, overview of the study is summarized by introducing the general procedure, hypotheses and their rationales.

1.1. Attachment, Emotion Regulation and Autobiographical Memory

According to Bowlby (1982), infants are born with a repertoire of behaviors that provide them seeking proximity to primary caregivers. Primary caregivers also have behavioral systems that complement this behavior repertoire. For instance, when infants cry, parents become motivated to soothe them, and infants' smiling and babbling become rewarding for parents. When the parents move away from the infants, infants follow them physically or visually. Although these behaviors seem very different, they all serve to provide proximity to the primary caregiver (Hazan, & Shaver, 1994).

Fundamentally, seeking proximity serves to survive the infant. Also, seeking proximity is an emotion regulation tool that protects the infant against physical and psychological stressors. As a result of positive interactions with available and responsive attachment figures in times of need, infants develop attachment security belief that the world is a safe place and that their primary caregivers will protect and care them. Infants also become to believe that seeking proximity and support are effective ways of regulating distress. Securely attached infants learn that stress is manageable and safe others (e.g. primary attachment figure) support them to overcome stress. Hence, attachment security is closely related to how infants use seeking proximity and support to regulate their emotions to deal with stress (Bowlby, 1982; Mikulincer, Shaver, & Pereg, 2003; Sarason, Pierce, & Sarason, 1990). For example, securely attached infants seek more social support than insecurely attached infants in response to stressors (Berant, Mikulincer, & Florian, 2001; Birnbaum, Orr, Mikulincer, & Florian, 1997; Larose, Bernier, Soucy, & Duchesne, 1999; Ognibene, & Collins, 1998).

The development of seeking proximity or other attachment strategies is closely related to the development of the internal working model (Mikulincer & Shaver, 2008). Basically, internal working model is a cognitive framework that includes mental representations. These representations enable the individual to understand himself, others, and the world (Bretherton, 1991). Mental representations include detailed memories of interactions with attachment figures, and strategies to regulate negative emotion in stressful and threatening situations (Bowlby, 1981; 1982; Zayas, & Shoda, 2005). Therefore, these detailed memories shape the individual's emotion regulation strategy over time. Repeated positive interactions with

attachment figures during times of need strengthen the relationship in long-term memory between seeking support and decline in stress (Mikulincer, & Shaver, 2004). In the early stages of life, the attachment system remains a critical regulator for the survival of the baby (for example, protection against external threats, nutrition) and serves as a mean of regulating emotion throughout life. Furthermore, over time, this system continues to work via mental representation even if the attachment figure is not physically accessible (Cassidy, Jones, & Shaver, 2013; Mikulincer, Shaver, & Pereg, 2003).

As noted above emotion regulation is an essential part of a secure attachment relationship. Infants look for proximity with their attachment figures when they feel stressed. If the attachment figure is accessible and responsive in times of need, the infant can regulate negative emotions. Thus, s/he can feel secure again, and continue to explore the environment, return other daily activities (Bowlby, 1982; Mikulincer, & Shaver, 2009). Indeed, many studies have demonstrated that secure attachment style facilitates emotion regulation. For example, establishing attachment relationship reduces the use of prefrontal cortex for emotion regulation function. With adequate attachment based relational experiences, the relationship between attachment and emotion regulation becomes stronger (Coan, 2008). For instance, when 9-month-old infants got separated from their mothers for 30 minutes their cortisol release increased as compared to when they played with their mothers for 30 minutes (Larson, Gunnar, & Hertsgaard, 1991). Similar findings were replicated with adults. For example, before a public speaking task, women who physically contacted their romantic partners (as attachment figures) had significantly less cortisol release, lower heart rate (Ditzen, Neumann, Bodenmann, von

Dawans, Turner, Ehlert, & Heinrichs, 2007), and lower blood pressure (Grewen, Anderson, Girdler, & Light, 2003) than women who did not receive any physical contact from their partners. In an fMRI study, women were exposed to the threat of electroshock, a more serious stressor than a public speaking task. In this study, neural activation responsible for emotional and behavioral threat responses significantly decreased in women holding the experimenter's hands than in women not receiving support from the experimenter (Coan, Schaefer, & Davidson, 2006).

According to attachment theory, differences in attachment security are related to differences in emotion regulation strategies (Mikulincer, Shaver, & Pereg, 2003). Individuals with different attachment styles think, feel and behave differently about their attachment figures. Individuals with different attachment styles have different content and valance about the representations of the attachment figures. These differences lead to individuals becoming different in the ways they regulate their emotions (Selcuk, Zayas, Günaydin, Hazan, & Kross, 2012). Securely attached individuals attributed more specific and unstable reasons to negative life events, while those insecurely attached perceived negative life events as more stable (Pereg, & Mikulincer, 2004). Securely attached individuals tried to use strategies appropriate to the situation when they experience a stress. The emotion regulation skills of securely attached individuals allowed them to try out new strategies and to revise their dysfunctional beliefs (e.g., "I never succeed in anything.") with functional ones. However, insecurely attached individuals were unable to use such effective emotion regulation skills (Green, & Campbell, 2000; Mikulincer, & Arad, 1999).

There are numerous studies showing that emotion regulation differs according to the attachment style. Securely attached individuals regulated their negative emotions more adaptively than insecurely attached ones (Cooper, Shaver, & Collins, 1998). In the middle childhood, secure attachment was associated with better emotion regulation (Kerns, Abraham, Schlegelmilch, & Morgan, 2007). There is also a similar finding in problem-solving with mothers, one of the developmental specific conflicts in adolescence. Secure adolescents used more functional emotion regulation strategies than those insecure use (Kobak, Cole, Ferenz-Gillies, & Fleming, 1993). More specifically, while secure individuals reacted more constructively to a psychological pain such as being broken, and they reported less negative emotions, insecure individuals couldn't give these adaptive responses given by secure individuals (Cassidy, Shaver, Mikulincer, & Lavy, 2009). The presence of an attachment figure on emotion regulation has also been investigated. While taking part in a stressful task, insecurely attached individuals compared to securely attached ones, gave higher psychophysiological reactions (e.g., heart rate) in the presence of romantic partners (Carpenter, & Kirkpatrick, 1996).

The influence of attachment on emotion regulation was not observed only in stressful contexts. In addition to stressful environments, even in neutral environments, the attachment figure directed the positivity. Securely attached children remembered the positive interactions in stories better than negative interactions, while insecurely attached children had the opposite pattern (Kirsh, & Cassidy, 1997). Subliminal priming of a secure base representation (such as

a picture of a mother holding an infant and looking into eyes) resulted in more positive reactions to stressful and neutral contexts than no prime condition (Mikulincer, Hirschberger, Nachmias, & Gillath, 2001). Similarly, priming of the secure style relational schema (such as writing for 10 minutes about the relationship) resulted in more positive attachment words recall rate (Rowe, & Carnelley, 2003).

As mentioned before, the emotion regulation function of attachment does not work only in the physical presence of the attachment figure. Individuals can enhance their emotion regulation by just mentally activating their attachment figures. For example, McGowan (2002) asked participants to imagine their attachment figures or one of their acquaintances while taking part in a stressful task. Insecurely attached individuals showed high levels of distress in both conditions, while securely attached individuals showed lower levels of distress when they imagined their attachment figure than when they imagined one of their acquaintances. Furthermore, this difference was replicated even in a real stressful situation in a retrospective study about soldiers in prison. Their results indicated that secure prisoners regulated their negative emotions by imagining beautiful memories with their loved ones, on the contrary, insecure prisoners were unable do that (Solomon, Ginzburg, Mikulincer, Neria, & Ohry 1998).

The above-mentioned stressors regulated by attachment figures are external stressors. However, not only external stressors but also internal stressors down-regulate one's emotions (Brewin, 2007; Brosschot, Gerin, & Thayer, 2006; Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008).

Internal stressors are information held in the memory such as negative autobiographical memories. That is, negative autobiographical memories (e.g. upsetting experiences) can down-regulate one's emotional state (Wofford, & Daly, 1997).

Autobiographical memories are not always potential internal stressors. They are also used as means of regulating emotions. The function of the autobiographical memory on emotional regulation is closely related to two concepts: mood congruence effect (Bower, 1981) and mood-incongruence effect (Josephson, 1996). The mood congruence effect refers to processing the memories regarding the emotional valance that is compatible with one's current emotional state. For instance, in the depressive mood, people tend to remember the negative memories consistent with their emotional state (Blaney, 1986). Mood incongruence effect usually occurs to compensate for the negative state. For example, in the negative mood, some people processed positive memories incompatible with current mood (Parrott, & Sabini, 1990). In other words, people try to regulate their negative mood by remembering positive memories (Öner, & Gülgöz, 2018).

The regulatory role of autobiographical memory is related to activation and/or inhibition of mood congruent and/or incongruent memories by working memory (Van-Dillen, & Koole, 2007). The working memory is a system with limited capacity (Baddeley, 2000). In order to effectively use this limited capacity, the content of the working memory needs to be efficiently updated. This update is operated by the inhibition mechanism (Friedman, & Miyake, 2004).

The inhibition mechanism contributes to the emotion regulation by preventing negative thinking and activating positive thinking (Joormann, 2010). While preventing negative thinking is related to inhibiting mood-congruent memories (i.e., negative memories), activating positive thinking is related to processing mood-incongruent memories (i.e., positive memories; Joormann, & Gotlib, 2010). In other words, emotions can be regulated both by inhibiting the negative material (Noreen, & Ridout, 2016) and by activating positive material (Joormann, Siemer, & Gotlib, 2007).

Finally, there are some research indicating that secure people use their autobiographical memories to regulate their emotions more effectively than insecure ones. For example, insecure people keep thinking negatively while secure ones can activate positive memories in response to stress (Solomon, et al., 1998). In addition, while secure people are able to up-regulate their mood by activating mood-incongruent memories, insecure people cannot ignore mood-congruent memories and remain down-regulated (Pereg, & Mikulincer, 2004). In other words, secure people are more likely to inhibit negative memories than insecure people (Fraley, & Shaver, 1997; Gillath, Bunge, Shaver, Wendelken, & Mikulincer, 2005; Mikulincer, Dolev, & Shaver, 2004; Mikulincer, & Orbach, 1995). Also, secure people are more prone to remember positive information than insecure ones (Pereg, & Mikulincer, 2004).

1.2. Overview of the Present Study

As mentioned above, a secure attachment figure facilitates down-regulation of a negative affect that is generated by an external stressor (Sbarra, & Hazan, 2008; Selcuk, Zayas, & Hazan, 2010). Selcuk et al (2012)'s study demonstrated that mental activation of an attachment figure also reduced negative affect created by an internal stressor (e.g., remembering upsetting events). In contrast, the authors reported that mental activation of an attachment figure was not effective in regulating negative emotions if the attachment figure was imagined before negative emotion had been generated. However, attachment theory would predict that when an attachment figure was mentally activated would not make a difference in regulating negative emotions effectively (Zayas, & Shoda, 2005). One possibility could be that the timing of the activation might influence the way people regulate their negative feelings. In fact, an attachment figure can be used as a response-focused or an antecedent-focused emotion regulation strategy. In the former case, thinking about a securely attached figure after remembering a negative experience might help an individual to lessen the intensity of the negative emotion experienced as what Selcuk et al (2012)'s study has implicated. Indeed, Selcuk et al (2012)'s finding confirmed and replicated the effectiveness of thinking of an attachment figure as a response-focused strategy. On the other hand, we know from autobiographical memory literature that one can also regulate his/her mood by remembering positive memories or inhibiting negative memories (Joormann, 2010; Joormann, & Gotlib, 2010; Joormann, Hertel, Brozovich, & Gotlib, 2005; Joormann, Siemer, & Gotlib, 2007; Rusting, & DeHart, 2000; Öner, & Gülgöz, 2018). Therefore, mental presence of a secure attachment figure may help a person to stay in a positive mood by decreasing his/her tendency to think about remember negative events in the first place (Selçuk, et al., 2012) or by

making positive memories more accessible. In other words, mental activation of a securely attached figure may help to regulate emotions antecedently by inhibiting negative memories and/or by activating positive memories.

The present study focused on the role of an attachment figure as an antecedent-focused emotion regulation strategy. We also considered remembering personal experiences as a way of regulating emotions. Particularly, in the present study, we wanted to investigate the role of mental presence of an attachment figure on inhibiting negative and positive memories. Mental representation of the attachment figure was activated before participants thought about their memories. To measure autobiographical memory inhibition, directed forgetting paradigm was applied. Directed forgetting paradigm is one of the standard procedures to study intentional forgetting (Lee, 2013) including autobiographical memories (Barnier, Conway, Mayoh, Speyer, Avizmil, & Harris, 2007).

In a typical directed forgetting task, while some materials (e.g., word lists, personal memories) are asked to be forgotten (forget-list), other materials (remember-list) are asked to be remembered. In a typical directed forgetting study, the recall rate of to be forgotten words is at a low level, in the range 30 to 40%, whereas, recall rate of to be remembered words is at a high level, in the range 60 to 80%. While the former is called directed forgetting cost, the latter is called directed forgetting benefit. One of the widely accepted accounts of the directed forgetting paradigm is so called retrieval inhibition account (Geiselman, Björk & Fishman, 1983). The

retrieval inhibition account assumes that the dramatic recall rate difference between forget and remember words is due to memory inhibition. In other words, this recall rate difference is interpreted as forgetting instructions activate the inhibitory mechanism that reduces the availability of to be forgotten words (memory impairment) and increase the availability of to be remembered words (memory gain) (Barnier, et al., 2007; Conway, Harries, Noyes, Racsmany, & Frankish, 2000; Geiselman, Björk & Fishman, 1983; Lee, 2013).

Particularly, participants, first, were asked to think about either their primary attachment figures, one of their good friends (but not best friend) or an acquaintance depending on their experimental conditions. Next, they were asked to remember their positive and negative memories as two lists. While some of the participants were asked to remember all memories that constitute the two lists, some were asked to forget list-1 memories but to remember list-2 memories. However, all participants were given a final recall test in which they were required to remember all memories in both lists. In addition, the attachment style of each participant was measured by a standard scale beforehand.

If mental activation of a secure attachment figure is being used in inhibiting negative memories or activating positive memories, and if insecurely attached participants are unable to regulate their emotions as effectively as securely attached participants in this way, then possible outcomes for securely and insecurely attached groups are summarized below.

Secure Attachment:

1) Securely attached participants who have imagined their attachment figures in forget group should remember fewer negative memories than those in remember group for List 1 items (i.e., directed forgetting cost). In addition, securely attached participants who have imagined their attachment figures in forget group should remember more negative memories than those in remember group for List 2 items (i.e., directed forgetting benefit).

2) Directed forgetting cost effect and benefit effect should be eliminated for positive memories among securely attached participants who have imagined their attachment figures. In other words, for securely attached individuals who have imagined their attachment figure we expected similar positive memory recall rate among forget and remember groups.

Insecure Attachment:

1) Conversely, directed forgetting cost effect and benefit effect should be eliminated for negative memories among insecurely attached participants who have imagined their attachment figures. In other words, for insecurely attached individuals who have imagined their attachment figure we expected similar negative memory recall rate among forget and remember groups.

2) Insecurely attached participants who have imagined their attachment figures in forget group should remember fewer positive memories than those in remember group for List 1 items (i.e., directed forgetting cost). In addition, insecurely attached participants who have imagined their attachment figures in forget group should remember more positive memories than those in remember group for List 2 items (i.e., directed forgetting benefit).

CHAPTER 2

METHOD

2.1. Participants

Participants were selected from a pool of 584 people based on their attachment scale scores. Attachment style categorization criterion was based on their anxiety and avoidance scores. Participants who met the criterion were determined according to scoring below or above the median on both anxiety and avoidance subscales. One hundred and forty-four 18-22 years old (M = 20.02, SD = 1.06) participants (85.29% are female) who scored below or above the median on both anxiety and avoidance subscales were invited in the laboratory for experimental phase. Participants were assigned to attachment style conditions based on their anxiety and avoidance scores. Participants scored below the median on both anxiety and avoidance were classified as secure (n = 72), whereas participants scored above the median on both subscales were classified as insecure (n = 72). The participants were recruited from different universities and departments and they participated in the study voluntarily.

2.1.1. Data Exclusion

Eight participants who were assigned to acquaintance condition were excluded from the analyses. This was because these participants reported their very close relatives (e.g., grandmother, uncle, aunt) as acquaintances. Therefore, the findings were based on 136 participants' data.

2.2. Materials

2.2.1. Experiences in Close Relationships Scale Short Form

Experiences in Close Relationships Scale Short Form (ECRS-SF) was used to measure the attachment style with the primary caregiver. Thus, items were domain specified for the attachment figure (e.g., I get uncomfortable when my primary caregiver wants to be very close.). ECRS-SF with 12 items was originally developed by Wei, Russell, Mallinckrodt and Vogel (2007). Savcı and Aysan (2016) adapted ECRS-SF to Turkish. Items of ECRS-SF are measured on 5 likert-type scale ("1" I absolutely disagree; "5" I absolutely agree). In this scale, two sub-dimensions are measured as avoidance and anxiety. The odd-numbered items measure the avoidance sub-dimension while the even-numbered items measure the anxiety sub-dimension. The high scores on the anxiety sub-dimension indicate insecure-anxious attachment style, while the high scores on the avoidance sub-dimension indicate insecure-avoidant attachment style. Low scores on both sub-dimensions indicate secure attachment style. According to item analysis, total correlation coefficients of the scale range from .65 to .80. The internal consistency and reliability coefficients of the ECRS-SF are .90, .90 and .94 for the anxiety sub-scale, the avoidance subscale, and the overall scale respectively (Savcı, & Aysan, 2016). In the current study's sample (including 584 participants), the reliability coefficients of the ECRS-SF are 0.54 and 0.75 for the anxiety sub-scale, the avoidance subscale, respectively (see Appendix A).

2.2.2. Word Lists

Twelve cue words (6 positive, and 6 negative) were used to elicit memories. The negative words were *misfortune*, *resentment*, *helplessness*, *sadness*, *anger*, *fear*, and the positive words were *happiness*, *skill*, *eagerness*, *entertainment*, *success*, *honesty*. These words were selected from the words commonly used in the literature. In addition to similarity in length and frequency, selected positive and negative words were also similar in terms of emotional valence (Baran, 2011). Cue words were presented visually in the booklet one at a time to the participant. Half of the cues constituted List 1 and other half formed List 2. Each cue was randomly assigned to List 1 and List 2 across participants with the restriction that in each list there was equal number of positive and negative words. In addition, the presentation order of the words in both lists was random across participants.

2.2.3. Rating Questions of Memory Characteristics

Immediately after writing a memory, participants also rated questions of memory characteristics for each memory for **importance,** (How important is the event you remembered for you?), **clarity** (How vivid do you remember this event?), **intensity at the time of event, (**How was the intensity of your feelings when you experienced this event?), **intensity when recalling** (How intense are your feelings when you remember this event right now?) and, **frequency of rehearsal**, (How often do you think about this event?) using 5-point scales ranging from 1 (not important, vague, no emotion, rarely thought/talked) to 5 (important, clear, extremely intense/emotional, frequently think/thought), respectively.

2.3. Procedure

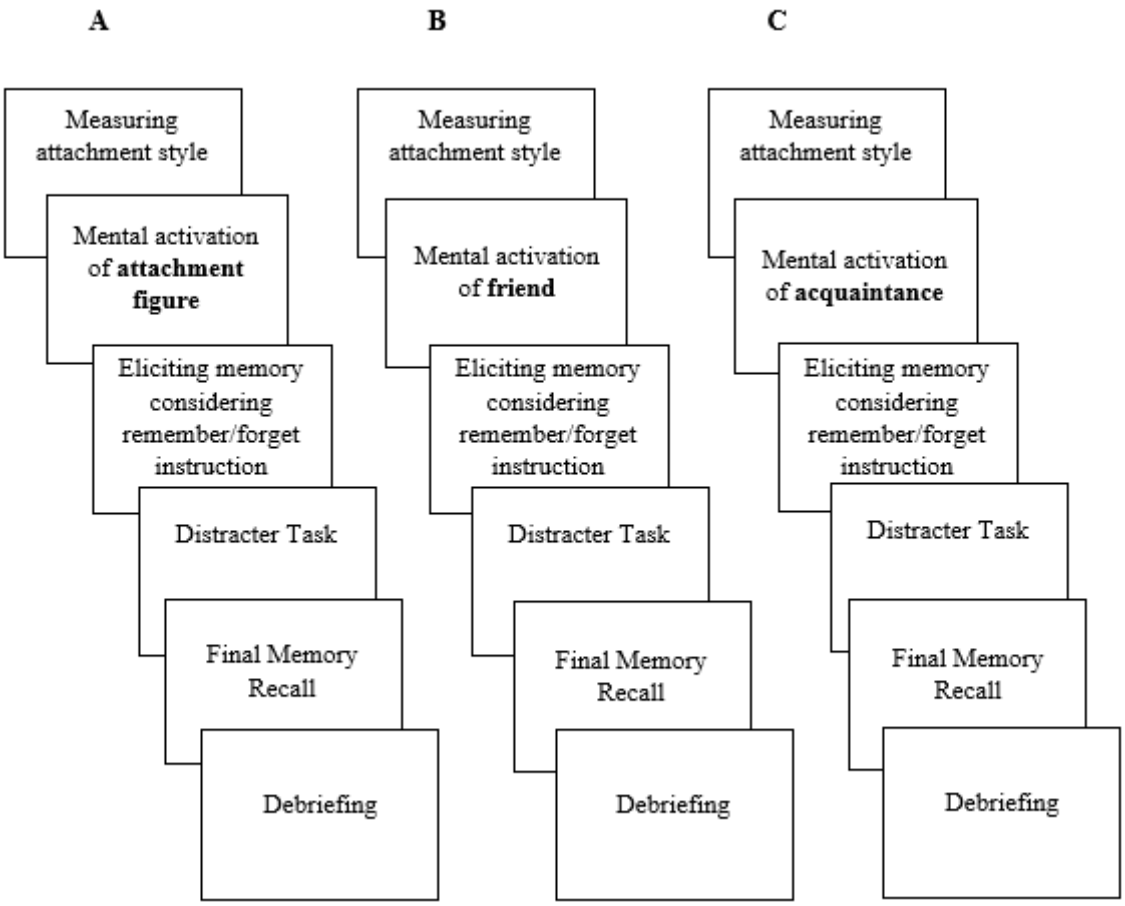

Figure 2.1. Schematic representation of procedure *Note*. (A) attachment figure condition, (B) friend condition, (C) acquaintance condition

Figure 2.1 demonstrates the basic design of the experiment. First of all, Ethical Committee Aproval was received (see Appendix I). At the beginning of the Fall semester, undergraduate students filled out pre-participation inform consent (see Appendix B), ECRS-SF for their primary attachment figures, and reported their primary attachment figures, one of their good

friends, and one of their acquaintances (see Appendix C). In this way, we assigned equal number of securely and insecurely attached participants to our experimental conditions. In addition, all students who took part in the experiment were later asked to exclude memories related to their reported primary attachment figures, good friends, and acquaintances.

Participants were semi randomly assigned to one of the three experimental conditions: the attachment figure, friend and acquaintance such that the number of securely attached and insecurely attached participants in each condition was equal. Before the autobiographical directed forgetting procedure, the participants received their mental activation manipulation according to their randomly assigned condition. In attachment figure condition, participants were given instruction for activating mental representation of their attachment figure. In friend and acquaintance condition, the same instruction was given for friend and acquaintance respectively. Mental activation took about 6-7 minutes (Appendix D).

After the mental activation phase, directed forgetting paradigm was applied. The experimenter informed that each cue word would be presented one at a time, and the participants' task would be to recall a specific memory related to the given cue as quickly as possible. The memories were described as "particular memories of any area of their life experiences that occurred at least 1 month ago". In addition, they were asked to provide unique memories for each cue. A particular memory was characterized as an event that participants directly experienced and that lasted over minutes or hours but no longer than a day. The participants were informed that the words would be presented as two lists (List 1 and List 2). Furthermore, they were informed that

they should identify the cue word and its associated memory if they were asked later. In addition, participants were instructed to provide a brief description of each memory (i.e., title) that would remind them the memory and its cue word. Next, in boxes existed below the memory title, participants wrote briefly about where and when the memories happened as well as who and what the memories involved. Participants also rated memory characteristics for each memory.

After these instructions, each cue word from List 1 was presented one at a time. After completing List 1, participants were treated according to the directed forgetting group that they were randomly assigned to. The participants in the forget group (n=72) were instructed that List 1 words and their associated memories were exercises to warm up List 2 which would be the main words and their associated memories to be remembered later. In addition, these participants were informed that they should forget List 1 words and associated memories so that List 2 words and associated memories would later be remembered much more easily. In short, the participants in forget group were instructed that "Forget the first list memories, and instead concentrate on the second list memories". The participants in the remember group were informed that they had completed the half of the study, and they would now be presented with the second list. Participants in this group were also instructed that they would have to remember all the cue words and their associated memories from both lists after completing List 2 phase. After these instructions, List 2 words were presented like List 1, and the participants were asked to recall memories related to each word presented in List 2. Each word was given on a separate

page of the booklet and the participants did not see that page again after memory generation and description (see Appendix E).

Right after this task, participants were asked to count backwards by 3's from 100 as a distracter task. Then, the participants were given a separate sheet of paper and were asked to write all memories they had created earlier (final memory recall phase, see Appendix F). In memory tasks, recalling accuracy decreases towards the last items. This decreasing is named as output interference (Tulving, & Arbuckle, 1966). To control the output interference, half of the participants were asked to recall List 2 memories first and then recall List 1 memories (List 2 first final memory recall) and other half were asked to recall List 1 memories first and then recall List 2 memories (List1 first final memory recall). Participants were randomly assigned to List 1 first final recall condition or List 2 first final recall condition. All participants were instructed to write a brief memory description (who, what, where, and when) to check the memory accuracy (among memory eliciting phase and final recall phase). Participants were given 7 minutes for each final memory recall phase (List 1 and List 2). In addition, the participants rated how much the mental activation was effective by using 5-point scale ranging from 1 to 5 (see Appendix G). Finally, the experimenter debriefed participants and answered their questions (see Appendix H).

2.3.1. Data Coding

The memories collected from all participants were coded by 8 independent coders in terms of accuracy. It was coded to check whether memories at the final recall refer to the generating

phase. For accuracy coding, the following criteria were taken into consideration: The memories in the memory generating phase and in the final recall phase must contain the same (a) cue words, (b) events, (c) people, (d) objects and (e) places. Only minor differences among the two memory descriptions were ignored (e.g., supermarket and market).

Firstly, 8 coders formed 4 groups consisting of two coders (Group A-B-C-D). Groups A and B independently coded the memories of the odd-numbered participants (ID 1, 3 5, …, 143), while group C and D coded the memories of the even- numbered participants (ID 2, 4, 6, …, 144). End of the first coding, inter-rater reliability of group A-B, and C-D were 92% and 88% respectively.

Immediately after calculating the inter-rater reliability, the coders came together to code the accuracy of the memories that they disagreed. Thus, a single list was generated by the coders after resolving all disagreements. According to this final list, memories which were coded as inaccurate were accepted as forgotten.

CHAPTER 3

RESULTS

3.1. Data Analysis Scheme

First of all, whether secure and insecure attachment groups were different from each other on anxiety and avoidance scores was tested by using independent samples t-test. Next, whether attachment style is associated with different relaxation levels on attachment figure, friend, and acquaintance imagination conditions was tested by using 2x3 between-subjects factorial ANOVA as attachment style (secure vs insecure) and mental activation (mental attachment figure, friend vs acquaintance) were independent variables and mental manipulation check score was the dependent variable. Then, to examine whether the relationship between directed forgetting and memory recall changes depending on mental activation type and attachment style moderation analysis was conducted using Process macro v3.0. The effects of the mental activation and attachment style (Moderators) on the relationship between directed forgetting (IV) and memory recall (DV) have been examined separately for positive and negative memories (See Figure 3.1). Finally, to check possible output order effects on directed forgetting and memory recall, 2x2x2x3 between-subjects factorial ANOVAs were conducted separately for list 1 positive, list 1 negative, list 2 positive and list 2 negative memories. In each analysis, output order, attachment style, mental activation type and directed forgetting task were the independent variables and memory recall was the dependent variable.

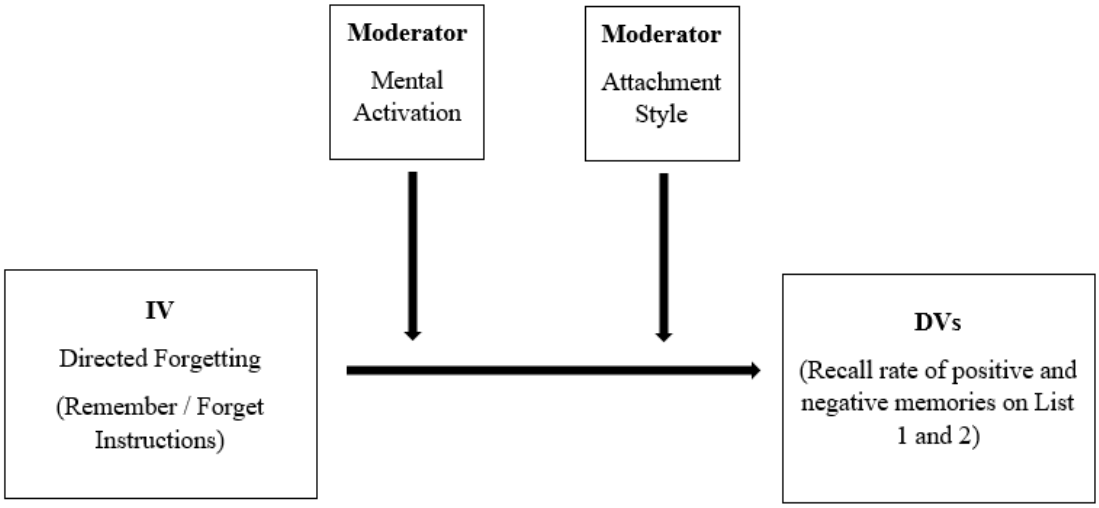

Figure 3.1. Moderation Model of the Relationship Between Mental Activation Type and Attachment Style and Directed Forgetting Groups and Memory Recall Rate

3.1.1. Attachment Style Categorization

Participants in secure attachment group (M = 13.20, SE =. 29) had significantly lower anxious scores than those in insecure attachment group (M = 18.85, SE = .34; t (134) = 12.58, p < .05). In addition, securely attached participants (M = 9.79, SE = .20) received significantly lower scores on avoidance than insecurely attached participants (M = 15.96, SE = *.35; t* (134) = 15.39, p < .05). These analyses indicated that these two groups were significantly different from each other in terms of attachment security.

3.1.2. Relaxation Ratings by Mental Activation Type and Attachment Style

Participants were asked to rate to what degree the mental activation task was relaxing for them by scoring from 1 to 5 (5 is being the most relaxing experience). Results indicated that three groups differed in terms of the degree to which the mental activation task was relaxing (F (2,130) = 3.88, $p < .05$). Post hoc tests revealed that imagining an attachment figure was significantly more relaxing than imagining an acquaintance (*Mean Difference* = 0.52, *SE* = 0.19; $p < .05$). However, there was no significant difference in terms of relaxing ratings neither between mental activation of an attachment figure group and mental activation of a friend group (*Mean Difference* = 0.20, *SE* = 0.18; $p > .05$) nor between mental activation of a friend group and mental activation of an acquaintance group (*Mean Difference* = 0.32, *SE* = 0.18; $p > .05$). There was no significant main effect of attachment on relaxing scores (F (1, 130) = 1.83, $p > .05$). The interaction between attachment style and mental activation type was also insignificant (F (2, 130) = .822, $p > .05$).

3.1.3. Ratings of Memory Characteristics

As noted in method section, participants rated each memory for importance, clarity, intensity at the time of event, intensity when recalling, and frequency of rehearsal using 5-point scales ranging from 1 (not important, vague, no emotion, rarely thought/talked) to 5 (important, clear, extremely intense/emotional, frequently think/thought), respectively. Memory characteristics ratings were calculated for list 1 positive, list 1 negative, list 2 positive and list 2 negative memories. For each participant, a single importance rating score for list 1 positive memories

was calculated by taking the average of all importance ratings given for all list 1 positive memories. Same calculation method was applied to list 1 negative, list 2 positive and list 2 negative memories for all memory characteristics as well. Any of the memory characteristics were not correlated with recall rates (*r* values were ranging from -.02 to .11; all *ps* > .05). Therefore, memory characteristics ratings were not further included in the analysis.

3.1.4. The Relationships among Mental Activation Type, Attachment Style and Directed Forgetting on Recall of Positive and Negative Memories

Figure 3.2 demonstrates the predictions of the study regarding the recall rates of positive and negative memories by mental activation type, attachment style and directed forgetting group.

Figure 3.3 demonstrates obtained recall rates of positive and negative memories by mental activation type, attachment style and directed forgetting group.

The mental activation did not moderate the relationship between directed forgetting and memory recall of list 1 negative (β = 0.05, *SE* = 0.07, *p* > .05, 95% CI = [-0.09, 0.18]) and memory recall of list 1 positive (β = -0.11, *SE* = 0.06, *p* > .05, 95% CI = [-0.24, 0.02]) and memory recall of list 2 negative (β = 0.04, *SE* = 0.06, *p* > .05, 95% CI = [-0.08, 0.16]) and memory recall of list 2 positive (β = 0.05, *SE* = 0.06, *p* >.05, 95% CI = [-0.07, 0.17]) memories. But, only attachment style moderated the relationship between directed forgetting task and

memory recall. These effects will be explained for cost (positive and negative memories) and benefit (positive and negative memories) effects separately.

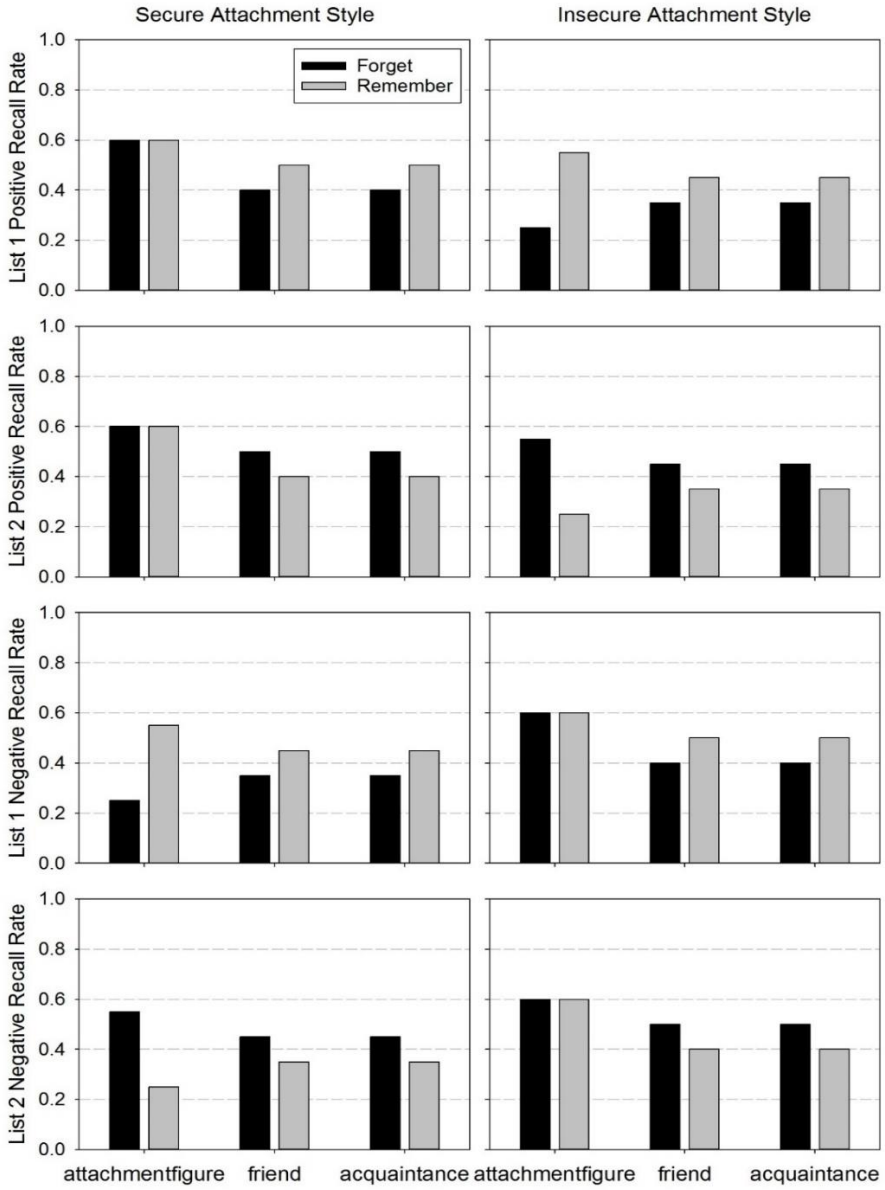

Figure 3.2. Predictions for Memory Recall Rate by Attachment Style, Directed Forgetting Group and Mental Activation Type

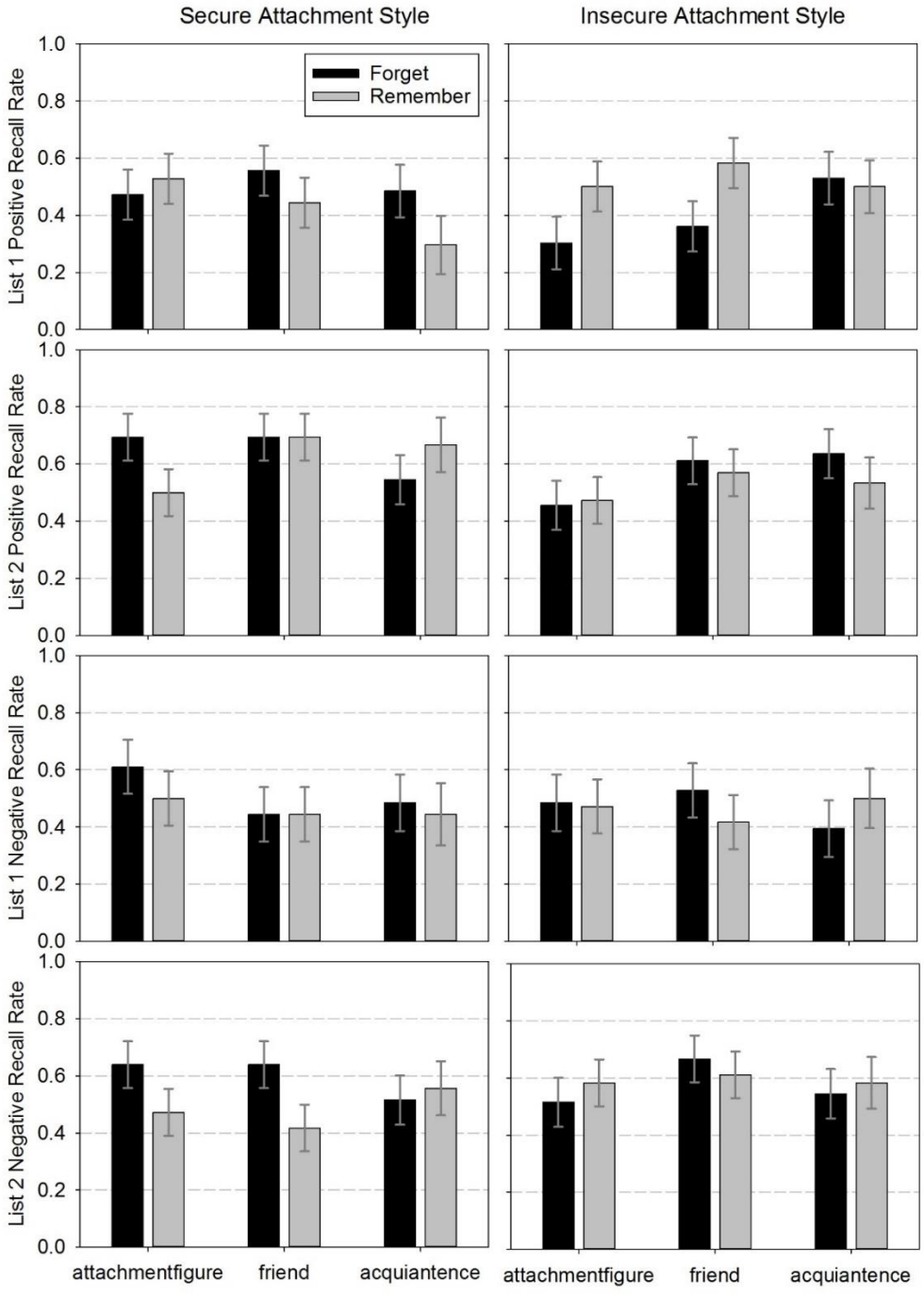

Figure 3.3. Proportion of Positive and Negative Memories Recalled Correctly by Attachment Style, Directed Forgetting and Mental Activation Groups

3.1.4.1. Cost Effects

The cost effect refers to lower List 1 memory recall in forget group than in remember group. Moderation analyses indicated that there were different patterns in terms of cost effects for positive and negative memories. First, how the attachment groups differed in remembering List 1 positive memories will be explained. Next, patterns in List 1 negative memories will be provided.

3.1.4.1.1. List 1 Positive Memories

There was a significant relationship between directed forgetting task and List 1 positive memory recall (β = 0.36, *SE* = 0.15, $p < .05$, 95% CI = [0.06, 0.65]). Remember group (*M* = 1.45, *SE* = 0.11) recalled more positive memories than forget group (*M* = 1.33, *SE* = 0.11) in list 1. There was a cost effect for positive memories. Furthermore, the attachment style moderated the relationship between directed forgetting task and List 1 positive memory recall (β = -0.21, *SE* = 0.10, $p < .05$, 95% CI = [-0.41, -0.10]). More specifically, for securely attached individuals there was no cost effect for positive memories (*Mean Difference* = 0.081, *SE* = 0.08; $p > .05$). In contrast, for insecurely attached individuals there was a significant cost effect for positive memories (*Mean Difference* = 0.130, *SE* = 0.07; $p < 0.05$). In other words, regardless of imagining an attachment figure or a friend or an acquaintance, the insecurely attached participants in the forget group recalled fewer list 1 positive memories than those in the remember group (See Figure 4).

3.1.4.1.2. List 1 Negative Memories

There was no significant relationship between directed forgetting task and List 1 negative memory recall (β = -0.10, *SE* = 0.16, $p > .05$). The attachment style did not moderate the relationship between directed forgetting task and List 1 negative memory recall (β = -0.04, *SE* = 0.11, $p > 0.05$, 95% CI = [-0.26, 0.18]). No cost effect was found for negative memories. Nor secure and insecurely attached participants differed from each other in terms of cost effect for negative memories (See Figure 3.4).

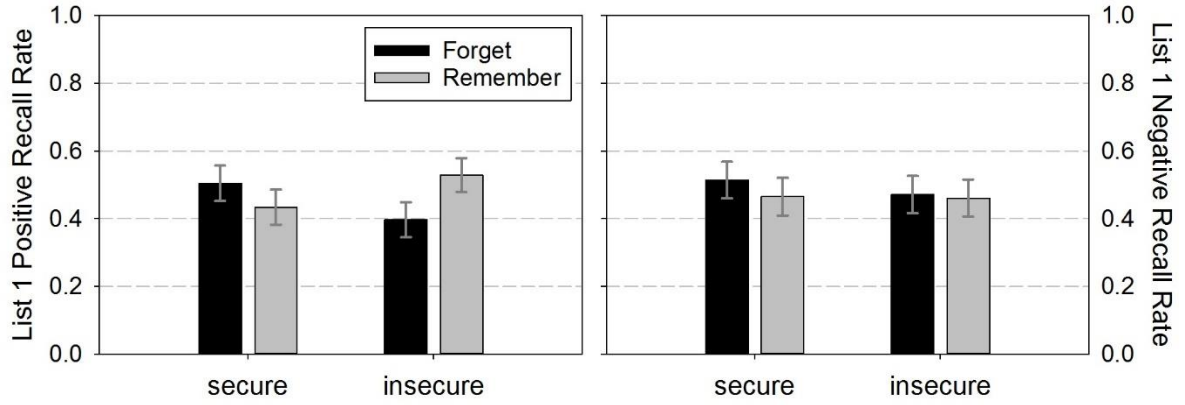

Figure 3.4. Recall Rate of List 1 Positive and Negative Memories by Directed Forgetting Task and Attachment Style.

3.1.4.2. Benefit Effects

The benefit effect refers to higher List 2 memory recall in forget group than in remember group. Moderation analyses indicated that attachment style did not moderate the relationship between directed forgetting task and List 2 recall of positive or negative memories.

3.1.4.2.1. List 2 Positive Memories

There was no significant relationship between directed forgetting task and List 2 positive memory recall (β = -0.15, *SE* = 0.14, $p > .05$, 95% CI = [-0.42, 0.13]). The attachment style did not moderate the relationship between directed forgetting task and List 2 positive memory recall (β = 0.01, *SE* = 0.10, $p > .05$, 95% CI = [-0.18, 0.21]). No benefit effect was found for positive memories. Nor secure and insecurely attached participants differed from each other in terms of benefit effect for positive memories.

3.1.4.2.2. List 2 Negative Memories

There was no significant relationship between directed forgetting task and List 2 negative memory recall (β = -0.07, *SE* = 0.14, $p > .05$, 95% CI = [-0.34, 0.20]). The attachment style did not moderate the relationship between directed forgetting task and List 2 negative memory recall (β = -0.14, *SE* = 0.10, $p > .05$, 95% CI = [-0.33, 0.05]). No benefit effect was found for

negative memories. Nor secure and insecurely attached participants differed from each other in terms of benefit effect for negative memories.

3.1.5. Analysis of Output Order

For list 1 positive memory recall, main effect of list order and all possible interactions between list order and other variables were insignificant ($p > .05$). For list 1 negative memory recall, the main effect of output order was not significant ($p > .05$). The interaction between list order and directed forgetting task was significant (F (1,112) = 4.17, $p < .05$) as well as the interaction between list order and attachment style (F (1, 112) = 5. 61, $p < .05$). Simple effect analyses indicated that remember group recalled more negative memories from list 1 when list 1 memories were asked to recall first than when list 2 memories were asked to recall first (*Mean Difference* = .17; *SE* =.08; $p < .05$). In contrast, there was no output order effect for forget group ($p > .05$). Insecure attachment group recalled more negative memories from list 1 when list 1 memories were asked to recall first than when list 2 memories were asked to recall first (*Mean Difference* = .19; *SE* =.08; $p < .05$). In contrast, there was no output order effect for secure attachment group ($p > .05$).

For list 2 positive memory recall, only main effect of list order was significant (F (1, 112) = 9. 49, $p < .05$). Participants recalled more positive memories from list 2 when list 2 memories were asked to recall first (*Mean Difference* = .16, *SE* = .05, $p < .05$). For list 2 negative memory recall, main effect of list order and all possible interactions between list order and other variables were insignificant ($p > .05$).

3.1.6. Summary of the Results

Our findings basically indicated that the relationship between directed forgetting and memory recall was moderated by attachment style for positive memories only. Directed forgetting cost (i.e., lower List 1 recall in forget group than in remember group) was observed in insecurely attached participants for positive memories. There was no cost effect for negative memories. There was no benefit effect for negative or positive memories, either.

CHAPTER 4

DISCUSSION

The difficulty in regulating emotions in response to internal stressors (e.g., remembering a negative experience) is closely related to many psychological disturbances (Joormann, & Gotlib, 2010; Vasterling, Brailey, Constans & Sutker, 1998). Surprisingly, there are only a few studies on attachment and internal stressors as compared to studies on external stressors and attachment (Selcuk et al., 2012). These studies focused on how attachment security is related to regulating emotions after a stressful event has already occurred. Previous research on autobiographical memory and emotion regulation also suggest that remembering positive memories and/or inhibiting negative memories are used to regulate current mood (Joormann, 2010; Rusting, & DeHart, 2000).

In the present study, for the first time, the relationship between attachment and emotion regulation was investigated by looking at whether imagining a secure attachment figure would help to inhibit negative memories. Particularly, mental representation of the attachment figure was activated before participants thought about their memories. To measure autobiographical memory inhibition, directed forgetting paradigm was applied. Firstly, participants were asked to imagine about either their primary attachment figures, one of their good friends or an acquaintance depending on their experimental conditions. Next, they were asked to remember

their positive and negative memories as two lists. While some of the participants were asked to remember all memories that constitute the two lists, some were asked to forget list-1 memories but to remember list-2 memories. However, all participants were given a final recall test in which they were required to remember all memories in both lists. While lower recall rate of to-be-forgotten-memories in list 1 refers to cost effect of directed forgetting, higher recall rate of to-be-remembered-memories in list 2 refers to benefit effect of directed forgetting. Cost effect is considered to be resulted from inhibiting memories under the forget instruction (Barnier et al., 2007).

Mainly, it was found that only attachment style changed the relationship between directed forgetting and memory recall. Directed forgetting cost was found in insecurely attached participants for positive memories only. There was no cost effect for negative memories. There was no benefit effect for negative or positive memories, either. These results may suggest that insecure attachment down-regulates one's mood by facilitating the inhibition of positive memories.

The results will be discussed for negative and positive memories of securely and insecurely attached groups separately under four sections. These sections will be followed by the interpretation of some output order effects as well as by a more detailed discussion about why mental activation type did not have any effect. Next, clinical implications of the study will be

discussed. Finally, limitations will be acknowledged along with some suggestions for future studies.

4.1. Negative Memories of Securely Attached Group

The first hypothesis about secure attachment was related to cost effect on list 1 negative memories and benefit effect on list 2 negative memories. It was predicted that securely attached participants who have imagined their attachment figures in forget group would remember fewer negative memories than those in remember group for List 1 items. In addition, it was predicted that securely attached participants who have imagined their attachment figures in forget group would remember more negative memories than those in remember group for List 2 items. Unexpectedly, the first hypothesis about secure attachment was rejected. No matter who was imagined by the secure group, neither the cost effect nor the benefit effect on negative memories were demonstrated. One rationale for the predictions stated above was the relationship between ability to regulate negative emotions and attachment security confirmed by the related literature.

One possible explanation for no inhibition of negative memories would be related to the influence of imagining an attachment figure on one's mood. Thinking about a securely attached figure would probably induce a positive mood. Related literature demonstrated that positive mood influences cognitive performance. For instance, Phillips, Bull, Adams and Fraser (2002) found that positive mood reduced performance in an inhibition task (i.e., Stroop task) compared to neutral mood. Similar effect was also observed in directed forgetting studies. For example,

while cost effect was found in negative or neutral mood, it wasn't found in positive mood (Bauml & Kuhbandner, 2009; Bauml, Pastötter, & Hanslmayr, 2010). These findings imply that positive mood can eliminate directed forgetting effects. Indeed, it is consistent with the idea that positive mood triggers extended activation of associated networks (Clore & Huntsinger, 2007). Positive mood may have led spreading activation which reactivated list-1-memories of securely attached individuals and thereby impaired directed forgetting effects.

Another explanation could be that emotional nature of the material would eliminate the directed forgetting effect. Emotion and memory literature assert that emotional information is more resistant to forget than neutral information (Bailey & Chapman, 2012). Consistent with this proposal, there are studies in which the directed forgetting effect was eliminated, especially for negative materials. For example, in Hauswald, Schulz, Iordanov, & Kissler, (2010)'s study, while in neutral images directed forgetting effect was demonstrated, in negative images it was not demonstrated. Also, Barnier, Hung and Conway (2004) reported that individuals are prone to recall much more negative words than neutral or positive words. In the directed forgetting study of Minnema and Knowlton (2008), the to-be-forgotten negative words were recalled more than the-to-be remembered negative words. Furthermore, brain imaging studies have shown that inhibition of negative materials triggers more frontal mechanism activation (Yang et al., 2012) and stronger activation in neural networks in the right hemisphere (Nowicka, Marchewka, Jednorog, Tacikowski, & Brechmann, 2010), compared to neutral materials. Since the inhibition of negative materials is very demanding, imagining a secure attachment figure

for a relatively short period of time may have not been very effective to inhibit negative memories. As a result, we may not have found directed forgetting effect for negative memories.

Another possibility for why there was no cost or benefit effect was found in negative memories would be that emotional process may have competed against cognitive process in the directed forgetting task (Bailey & Chapman, 2012). This competition may have interfered with the intentional forgetting of negative memories. Because remembering negative memories is biologically advantageous the individual does not forget the potentially threatening stimuli, which enhances the individual's adaptive well-being (Bailey & Chapman, 2012). To be forgotten memories are irrelevant in terms of the directed forgetting task, but maybe motivationally relevant in terms of their emotional content, even if they need to be forgotten. In this conflict, emotional relevance may have prevailed and therefore the inhibition of negative memories may be disrupted. Besides, negative memories may have led to source memory impairment. In Otani et al., (2012)'s study, there was no directed forgetting effect on negative images. Furthermore, the authors demonstrated that negative images were misattributed. In our study it is also possible that negative memories may have made it difficult to distinguish between to be forgotten and to be remembered memories due to impaired source memory.

Finally, there are some other studies which could explain why the inhibition of negative memories would be difficult for securely attached individuals. For example, it was demonstrated that securely attached individuals access easier to negative information without feeling bad and being over-sensitive (Mikulincer, Orbach, 1995). In a study with preschoolers,

it was found that mother and insecurely attached daughters talked more about negative memories than with securely attached ones. However, while insecurely attached girls detailed positive themes more, securely attached ones detailed both negative and positive themes (Farrar, Fasig, & Welch-Ross, 1997). Even, a study conducted with a clinical population demonstrated that securely attached individuals recalled more negative words than insecurely attached ones in free recall task of Stroop (one of an inhibition task) (Van Emmichoven, Van Ijzendoorn, De Ruiter, & Brosschot, 2003).

4.2. Negative Memories of Insecurely Attached Group

The first hypothesis about insecure attachment was related to elimination of the cost and benefit effects of negative memories. It was predicted that insecurely attached participants who have imagined their attachment figures would not differ among remember and forget groups for both list 1 and list 2 recall rate. The first hypothesis about insecure attachment was accepted. Rather, not only in attachment figure condition but also in friend and in acquaintance conditions, cost and benefit effects for negative memories were eliminated.

These results suggest that insecurely attached individuals are unable to inhibit their negative memories whoever they think about. Likewise, Sutin and Gillath (2009) have found that insecurely attached individuals are unable to inhibit negative memories (Sutin & Gillath, 2009). Insecurely attached individuals can easily access negative memories and become feel uncomfortable once they remember these memories (Mikulincer & Orbach, 1995). The positive relationships among attachment security, access to negative information and emotion regulation

were supported by an fMRI study. In that study, Gillath, Bunge, Shaver, Wendelken, and Mikulincer, (2005) asked participants to think about negative scenarios of a relationship first and then stop thinking about it (inhibit it). The authors reported that the inhibition of the negative material triggered the activation of emotion-related areas (e.g. anterior temporal lobe) of insecurely attached individuals, but it did not trigger the activation of the areas related to emotion regulation (e.g. orbitofrontal cortex). In short, insecurely attached individuals have easily available negative memories. Also, as the current study indicated, they are insufficient to inhibit it.

4.3. Positive Memories of Securely Attached Group

The second hypothesis about secure attachment was related to elimination of the cost and benefit effects of positive memories. It was predicted that securely attached participants who have imagined their attachment figures would not differ among remember and forget groups for both list 1 and list 2 recall rate. The second hypothesis about secure attachment was accepted. Rather, not only in attachment figure condition but also in friend and in acquaintance conditions, cost and benefit effects for positive memories were eliminated. In other words, securely attached individuals whoever they think about remembered their positive memories despite the forget instructions.

Secure attachment is associated with the better recall of positive information in childhood (Belsky, Spritz & Crnic, 1996) and in adulthood (Rowe & Carnelley, 2003). Securely attached

individuals recall positive material better even in negative mood (Pereg & Mikulincer, 2004). Furthermore, securely attached soldiers, who had been taken captive in a war, reported in a retrospective study that they relieved by recalling their positive memories (Solomon et al., 1998). Also, securely attached individuals reported through the diary studies that they had more positive emotions in the recent past than insecurely attached ones (Magai, Distel & Liker, 1995; Tidwell, Reis & Shaver, 1996). Consequently, consistent with the literature, the current study indicated that secure attachment made positive memories difficult to inhibit.

4.4. Positive Memories of Insecurely Attached Group

The second hypothesis about insecure attachment was related to the cost and benefit effects of positive memories. It was predicted that insecurely attached participants who have imagined their attachment figures in forget group would remember fewer positive memories than those in remember group for list 1 items. Also, it was predicted that insecurely attached participants who have imagined their attachment figures in forget group would remember more positive memories than those in remember group for list 2 items. The second hypothesis about insecure attachment was rejected. There was no cost and benefit effect on positive memories in insecurely attached participants who have imaged their attachment figure. However, irrespective of mental activation, there was a cost effect on positive memories, but not benefit effect. Overall, no matter whoever they imagined, insecurely attached participants in forget group recalled fewer positive memories than those in remember group for list 1.

According to the relevant literature, insecurely attached individuals are worse about positive events/information recall (Belsky et al., 1996; Pereg & Mikulincer, 2004) and they are less likely to engage in positive memory talk (Farrar et al., 1997). Besides, insecurely attached individuals declare that they feel positive emotion less often than securely attached ones (Magai et al., 1995). Even if insecurely attached individuals experienced positive emotions, later they reported lower levels of positive emotions about their emotional state in the recent past (Gentzler & Kerns, 2006). As the literature suggests that, insecure attachment is negatively correlated with engaging in positive material including memories. Consistently, the present study indicated that accessing positive memories was reduced through forget instruction in insecurely attached individuals.

According to the directed forgetting paradigm, while accessing of list 1 items are reduced by forget-instruction, accessing of list 2 items are increased. Mostly, list 2 recall performance shows the mirror symmetry of list 1 recall, due to benefit-effect (Bauml & Kuhbandner, 2009). But sometimes, even if there is a cost effect on list-1-memories, benefit-effect on list 2 memories could be eliminated (Sahakyan & Goodmon, 2007). In the current study, for list 2 positive memories of insecure group, while cost effect was significant, the benefit effect was not. Although forget group's recall rate was higher than remember group's recall rate, there was no significant benefit effect. Generally, benefit effect is referred to escaping from proactive interference on list 2 recall for forget group (Joslyn & Oakes, 2005). Since there are other accounts apart from retrieval inhibition that explain benefit effect (Sahakyan & Delaney, 2003), it is hard to say why this effect has been eliminated. One possibility for the elimination of

benefit effects could be due to inability to escape from proactive interference of list 2 memories in the context of the other autobiographical memories remembered outside the task. Remembering other autobiographical memories outside the task may have increased the proactive interference on list 2, thereby eliminating the benefit effect.

4.5. Output Order

In the current study, there was no output order effect on list 1 positive memory recall. Therefore, directed forgetting of list 1 positive memories was not due to output order. The output order effect was significant on list 1 negative and list 2 positive memory recall. One possible reason why there was no cost effect on list 1 negative memories among securely attached groups could be due to output order effect. Likewise, output order on list 2 positive memories could explain why there was no benefit effect on list 2 positive memories among insecurely attached group.

4.6. Mental Activation Manipulation

In the present study, we asked participants to imagine one of their relaxing moments with their primary caregivers. Our expectation was that insecurely attached participants should feel less relaxed when they were imaging their attachment figure than securely attached participants. However, mental activation manipulation check scores indicated no interaction between attachment style and mental activation type. Regardless of attachment style, imagining an attachment figure was more relaxing than imagining an acquaintance. However, there were no differences across "attachment figure vs. friend" and "friend vs. acquaintance" groups in terms

of mental activation in manipulation checks. One possibility why mental activation did not moderate the relationship between directed forgetting, attachment style and memory recall rate could be due to mental activation of an attachment figure did not create a strong difference between securely and insecurely attached participants. We involved friend condition in the present study to better explain cognitive components of the mental activation of attachment figure. But, as analyses implied, friend condition did not work well, and it resulted in losing statistical power. Perhaps, if friend condition were not involved in the current study, we could have observed mental activation effects. Future studies should ask for a random moment with the attachment figure rather than a relaxing moment to better differentiate between secure and insecurely attached groups.

Another possibility why there was no significant effect of mental activation could be that experimental task took a long time (approximately one hour). Even if imagining of attachment figure activated attachment related security, we may not have observed its effects on memory recall due to the long task duration. In addition, emotional and cognitive processes may have competed against each other (Bailey & Chapman, 2012), in this way cognitive processes may have outperformed than emotional process during the task. Directed forgetting task and memory generation task have too many instructions. On the one hand, participants should remember what types of memories are to be acceptable by instructions. At the same time, they should differentiate which list involves to-be-remembered or to-be-forgotten memories. The effort to follow the instructions may have weakened the effects of emotional processes. Perhaps, mental activation effect could not have been observed due to high cognitive load of instructions.

4.7. Clinical Implications

In the present study, attachment and its cognitive characteristics have been emphasized. In DSM-V, lots of disorders which are directly related to attachment have mentioned (e.g., reactive attachment disorder, disinhibited social engagement disorder) (American Psychiatric Association, 2013). Furthermore, attachment is a protective factor in childhood (Edwards, Eiden & Leonard, 2006) and in adolescence (Franke, 2000) for behavioral problems. As for cognitive components of attachment, impairment of negative memory inhibition (Joormann, & Gotlib, 2010; Vasterling et al., 1998) or easily ignoring positive memory (Domes et al., 2006; Joormann, Hertel, Brozovich & Gotlib, 2005) are related to various psychopathology (e.g. depression, PTSD). Thus, the findings of the present study have implications about how people with different attachment styles use their personal memories to regulate their emotions.

Inability to forget bad and remember good are one of the important issues in psychotherapy (e.g. schema therapy, narrative therapy). For instance, in a schema-based therapy, activating corrective emotional experience helps a client in terms of expressing negative experience and assessing one's problem more adaptively, thereby improving emotion regulation (Bridges, 2006). Even, according to psychoanalytic psychotherapy, activating correct emotional experience facilitates attachment and healing by providing a new perspective which indicates that bad things may not be so bad (Knight, 2005). Also, in therapy, a client can compensate for the negative experiences through the therapeutic relationship with the therapists during the

process of corrective emotional experience (Mallinckrodt, 2010). Moreover, during a narrative therapy process, a client would get an opportunity to identify alternative ways related to the problems. Identifying new solutions allow the client to separate him/herself from his/her problems. Thus, the negative feelings aroused from these problems may decrease (Gehart, 2014). The basic findings of the current study was that insecurely attached individuals inhibit their positive memories easily. This particular finding could contribute to application of corrective emotional experience in psychotherapy. In other words, psychotherapists can also work on strengthening positive memories of insecurely attached clients. This would help a client to overcome unfinished businesses and to modify his/her perspective more adaptively.

4.8. Summary, Limitations and Future Suggestions

To summarize, the present study is the first study which is related to how positive and negative autobiographical memories can be used differently to regulate emotions antecedently by securely and insecurely attached individuals. Our findings demonstrated that both securely attached and insecurely attached individuals, regardless of they imagined their attachment figures, friends or one of an ordinary person from their lives, had difficulty in inhibiting their negative past personal experiences. Securely attached participants, were unable to inhibit their positive memories either. Contrast to securely attached individuals, insecurely attached individuals inhibited their positive past personal experiences. The results of the present study have suggested that imagining an attachment figure does not help in reducing negative

memories and regulating current mood but an insecure attachment style is associated with some traits, which make insecurely attached individuals' positive memories easier to inhibit.

We categorized attachment security as secure and insecure based on 584 participants' scores from ECRS-SF. This kind of categorization may conceal the possible differences between anxious and avoidant insecurity. Alternatively, future studies would treat attachment security as a continuous variable.

We have included the mental activation of a friend condition in the experimental design to better understand the nature of the mental activation of an attachment figure condition. However, the study lost statistical power because of the additional between-subjects condition. Future studies should exclude friend condition or study it as a variable in an additional experiment. As noted earlier, when making participants imagine their attachment figures, future studies should let participants themselves decide which moments (e.g., enjoying or uncomfortable) they will choose rather than forcing them to choose a relaxing one. When participants were asked to freely choose, insecurely attached ones would be more likely to choose uncomfortable experiences while securely attached ones would be more likely to choose enjoyable moments. Thus, we believe that, the mental activation manipulation would indicate the predicted differences.

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APPENDICIES

Appendix A: Experiences in Close Relationships Scale Short Form

Lütfen aşağıdaki sorularda belirtilen durumların sizi ne ölçüde tanımladığını belirtiniz. Lütfen her soru için sadece bir seçeneği işaretleyiniz ve hiçbir soruyu boş bırakmayınız. Sizi yetiştiren kişi, bugüne kadar yetişmenizde en çok katkısı olan kişidir.

	Hiç katılmıyorum	Katılmıyorum	Kısmen katılıyorum	Çok katılıyorum	Tamamen katılıyorum
1. İhtiyaç duyduğumda beni yetiştiren kişinin yardımına başvurmak benim için faydalı olur.					
2. Beni yetiştiren kişi tarafından sevildiğime ilişkin çok fazla güvence beklerim.					
3. Beni yetiştiren kişiye yakın olmayı istememe rağmen kendimi geri çekmeye devam ediyorum.					
4. Beni yetiştiren kişi bana istediğim kadar yakın olmayı istemiyor.					
5. Rahatlama ve güvence dahil birçok şeyi beni yetiştiren kişiden beklerim.					
6. İnsanlara çok yakın olmayı istemem onları bazen ürkütür.					
7. Beni yetiştiren kişiye gereğinden fazla yakın olmaktan kaçınırım.					
8. Genellikle terk edilmekten korkmam.					
9. Genellikle sorunlarımı ve kaygılarımı beni yetiştiren kişi ile konuşurum.					
10. Beni yetiştiren kişi, ihtiyaç duyduğumda yanımda olmadığında hayal kırıklığına uğrarım.					
11. Beni yetiştiren kişi bana çok yakınlaştığında gergin hissederim.					
12. Beni yetiştiren kişiyi önemsediğim kadar onun beni önemsemeyeceğinden endişelenirim.					

Appendix B: Inform Consent for Pre-participation
ONAM FORMU

Sayın Katılımcı,

Bu araştırma, TED Üniversitesi, Psikoloji Bölümü'nde yüksek lisans öğrencisi Görkem Göven tarafından yürütülmektedir. Araştırmanın amacı **üniversite öğrencilerinin otobiyografik anılarına ilişkin bellek performanslarını** araştırmaktır. Bu çalışmanın katılımcılarını **18-22 yaşları** arasındaki üniversite öğrencileri oluşturmaktadır.

Bu araştırmaya katılımınızı onayladığınız taktirde projenin katılımcısı olacaksınız. Proje kapsamında çalışmaya ilişkin bir ölçek doldurmanız ve bellek performansını ölçen bir uygulamaya katılmanız istenecektir. Çalışma süresince ve sonrasında kimlik bilgileriniz proje dışındaki hiç kimseyle izniniz dışında paylaşılmayacaktır. Bu çalışma kapsamında elde edilecek olan bilimsel bilgiler sadece araştırmacılar tarafından yapılan bilimsel yayınlarda, sunumlarda ve eğitim amaçlı çevrimiçi bir ortamda paylaşılacaktır. Toplanan veriler isiminiz silinerek, bilgisayarda şifreli bir dosyada tutulacaktır. Bu çalışmaya katılım gönüllük esasına dayalıdır. Çalışmaya katılmanız durumunda dönem içerisinde psikoloji bölümünden almakta olduğunuz PSY kodlu derslerden birinden (PSY102, PSY 217, PSY 203 vb.) 1 ekstra puan alacaksınız. Uygulamada yer alan hiçbir aşama kişisel rahatsızlık verecek nitelikte değildir. Ancak herhangi bir nedenden ötürü kendinizi rahatsız hissederseniz, uygulamaları nedenini açıklamaksızın yarıda bırakıp araştırmadan çıkmakta serbestsiniz. Bu durumda da yine 1 ekstra puanı alacaksınız. Böyle bir durumda vermiş olduğunuz bilgilerin araştırmacı tarafından kullanılması ancak sizin onayınızla mümkün olacaktır. Bu çalışmaya katıldığınız için şimdiden teşekkür ederim. Çalışma hakkında daha fazla bilgi almak ve yanıtlanmasını istediğiniz sorularınız için araştırmayı yürüten Görkem Göven (E-posta: gorkem.goven@tedu.edu.tr), GSM: 05548095573) ve Yrd. Doç. Dr. Tuğba Uzer-Yıldız (tugba.uzer@tedu.edu.tr) ile iletişim kurabilirsiniz.

Bu çalışmaya tamamen gönüllü olarak katılıyorum ve istediğim zaman yarıda kesip çıkabileceğimi biliyorum. Bu proje kapsamında gereken ölçek doldurma ve bellek performansı uygulamalarında yer alacağımı biliyorum. Verdiğim bilgilerin bilimsel amaçlı yayımlarda kullanılmasını kabul ediyorum.

Projeye katılmak istiyorum Evet / Hayır

Ad Soyad: .....

Katılımcının İmzası: .....

Tarih .....

Teşekkürler,
Araştırmacının adı, soyadı ve imzası
Görkem Göven
Ziya Gökalp Cad. No:48 Kolej/ Çankaya ANKARA

Araştırmaya katılımınız ve haklarınızın korunmasına yönelik sorularınız varsa ya da herhangi bir şekilde risk altında olduğunuza veya strese maruz kalacağına inanıyorsanız TED Üniversitesi İnsan Araştırmaları Etik Kurulu'na (0312 585 00 11) telefon numarasından veya iaek@tedu.edu.tr *eposta adresinden ulaşabilirsiniz.*

Appendix C: Identification Form of Attachment Figure, Friend and Acquaintance

Lütfen aşağıdaki boşlukları doldurunuz.

Kimliğinizi deşifre etmeden size tekrar ulaşabilmemiz için isminizin ilk üç harfini ve doğum gününüzü gün-ay olarak rumuz kısmına yazınız (Örneğin, Gör2606).

Rumuz: .....

İletişim: E-posta: ..... **Tel:** .....

Doğum Tarihiniz: ..... **Cinsiyetiniz: Kadın ( ) Erkek ( )**

Üniversite: ..... **Bölüm:** .....

Sizin yetişmenize <u>en çok</u> katkı sağlayan kişi kimdir?

Anne ( ) Baba ( ) Diğer: .....

İyi vakit geçirdiğiniz -<u>ama en iyi arkadaşınız da olmayan-</u> bir arkadaşınızın ismini yazınız: .....

Hayatınız üzerinde çok az etkisi olan bir tanıdığınızın ismini yazınız: .....

<u>(Bu kişi yüzeysel bir biçimde düzenli olarak etkileşim halinde olduğunuz ya da yalnızca birkaç kez karşılaştığınız biri olabilir.)</u>

Appendix D: Mental Activation Instruction

Olabildiğince rahat bir pozisyonda oturun. Hazırsanız gözlerinizi kapatın. Burnunuzdan yavaşça aldığınız havayı ağzınızdan yavaşça verin. Burnunuzdan alın, ağzınızdan verin…

Şimdi ***sizi yetiştiren/arkadaşınız/tanıdığınız kişinin*** sizi güvende, huzurlu ve rahat hissettirdiği bir anı düşünün. Tamamen güvende olduğunuz, hiçbir şeyin sizi rahatsız etmeyeceği bir anı bulduğunuzdan emin olun. Şimdi rahat bir nefes alın… Nefes alıp vermeye devam edin…

Sizi yetiştiren/arkadaşınız/tanıdığınız kişinin size güven verdiği bu anınızın resmini olabildiğince canlı bir şekilde gözünüzün önüne getirin ve kendinizi o anın içinde görmeye çalışın. Orada mısınız? Kendinizi görebiliyor musunuz? ***Sizi yetiştiren/arkadaşınız/tanıdığınız kişiyi*** görebiliyor musunuz?

Çevrenize bakın neler görüyorsunuz? Tüm ayrıntıları görmeye çalışın. Ne tür şeyler var? Farklı renkleri görmeye çalışın… Çevrenizdeki nesnelere uzanıp dokunmaya çalışın. Nasıl bir his olduğunu fark edin. Unutmayın burası ***sizi yetiştiren/arkadaşınız/tanıdığınız kişinin*** size güvenli hissettirdiği bir anınız… Bu anıya gittiğinizde kendinizi tamamen rahat ve huzurlu hissediyorsunuz…

Herhangi bir ses var mı? Yoksa tamamen sessiz mi? Sesleri ya da sessizliği hissedin… Bu anla özdeşleşen bir koku var mı? Nefes alıp bu kokuyu fark etmeye çalışın… Şimdi bir an için kendinizi bu güvenli anın içinde dışarıdan izlemeye çalışın. Kendinize bakın, nasılsınız, ne yapıyorsunuz? ***Sizi yetiştiren/arkadaşınız/tanıdığınız kişiye*** bakın, o nasıl? Ne yapıyor? Nasıl görünüyor? Konuşuyor mu yoksa sessiz mi? Konuşuyorsa ses tonu nasıl?

Çevrenize bir kez daha bakın. Sesleri, sessizliği duymaya, kokuları almaya çalışın. ***Sizi yetiştiren/arkadaşınız/tanıdığınız kişiye*** bir kez daha bakın. ***Sizi yetiştiren/arkadaşınız/tanıdığınız kişinin*** yüzünü iyice aklınıza getirin. ***Sizi yetiştiren/arkadaşınız/tanıdığınız kişinin*** kokusunu iyice içinize çekin. Hazır olduğunuzda gözlerinizi yavaş yavaş açıp odaya dönün.

Appendix E: Memory Eliciting Forms

MUTLULUK

Yukarıdaki kelimeyle ilgili, **olumlu duygular hissettiğiniz**, en az 1 ay önce hayatınızın herhangi bir alanında yaşadığınız belirli bir anınızı yazınız.

Bu anının, araştırmanın en başında size verilen ölçekte belirttiğiniz **"sizi yetiştiren kişi, arkadaşınız ve tanıdığınız"** ile ilgili **olmamasına** dikkat ediniz.

Lütfen bir-iki cümleyi geçmeyecek şekilde hatırladığınız anınızı aşağıdaki kutuya yazın.

Hatırladığınız anı:

Kimi içeriyor?		Nerede geçiyor?	
Neyi içeriyor?		Ne zaman yaşandı?	

Hatırladığınız bu olay sizin için ne kadar önemli?

Hiç önemli değil				Çok önemli
1	2	3	4	5

Bazı olayları hatırlarken insan o olayları yeniden yaşıyor gibi olur. Bazı olayların ise olduğunu hatırlar ama hatırası pek canlı değildir. Bu hatıranız sizin için ne derece canlı?

Sadece böyle bir olayın olduğunu hatırladım		Olayların birazını canlı hatırlıyorum		Yeniden yaşıyor gibi canlı hatırlıyorum
1	2	3	4	5

Bu olayı yaşadığınız sırada duygularınız ne kadar yoğundu?

Hiç				Çok yoğun
1	2	3	4	5

Şu anda bu olayı hatırlarken duygularınız ne kadar yoğun?

Hiç				Çok yoğun
1	2	3	4	5

Bu olay hakkında ne kadar sık düşünürsünüz?

Hiç		Ara-sıra		Çok sık
1	2	3	4	5

BAŞARI

Yukarıdaki kelimeyle ilgili, **olumlu duygular hissettiğiniz**, en az 1 ay önce hayatınızın herhangi bir alanında yaşadığınız belirli bir anınızı yazınız.

Bu anının, araştırmanın en başında size verilen ölçekte belirttiğiniz **"sizi yetiştiren kişi, arkadaşınız ve tanıdığınız"** ile ilgili **olmamasına** dikkat ediniz.

Lütfen bir-iki cümleyi geçmeyecek şekilde hatırladığınız anınızı aşağıdaki kutuya yazın.

Hatırladığınız anı:

Kimi içeriyor? | | Nerede geçiyor? | |

Neyi içeriyor? | | Ne zaman yaşandı? | |

Hatırladığınız bu olay sizin için ne kadar önemli?

Hiç önemli değil				Çok önemli
1	2	3	4	5

Bazı olayları hatırlarken insan o olayları yeniden yaşıyor gibi olur. Bazı olayların ise olduğunu hatırlar ama hatırası pek canlı değildir. Bu hatıranız sizin için ne derece canlı?

Sadece böyle bir olayın olduğunu hatırladım		Olayların birazını canlı hatırlıyorum		Yeniden yaşıyor gibi canlı hatırlıyorum
1	2	3	4	5

Bu olayı yaşadığınız sırada duygularınız ne kadar yoğundu?

Hiç				Çok yoğun
1	2	3	4	5

Şu anda bu olayı hatırlarken duygularınız ne kadar yoğun?

Hiç				Çok yoğun
1	2	3	4	5

Bu olay hakkında ne kadar sık düşünürsünüz?

Hiç		Ara-sıra		Çok sık
1	2	3	4	5

HEVES

Yukarıdaki kelimeyle ilgili, **olumlu duygular hissettiğiniz**, en az 1 ay önce hayatınızın herhangi bir alanında yaşadığınız belirli bir anınızı yazınız.

Bu anının, araştırmanın en başında size verilen ölçekte belirttiğiniz **"sizi yetiştiren kişi, arkadaşınız ve tanıdığınız"** ile ilgili **olmamasına** dikkat ediniz.

Lütfen bir-iki cümleyi geçmeyecek şekilde hatırladığınız anınızı aşağıdaki kutuya yazın.

Hatırladığınız anı:

Kimi içeriyor? | | Nerede geçiyor? | |

Neyi içeriyor? | | Ne zaman yaşandı? | |

Hatırladığınız bu olay sizin için ne kadar önemli?

Hiç önemli değil				Çok önemli
1	2	3	4	5

Bazı olayları hatırlarken insan o olayları yeniden yaşıyor gibi olur. Bazı olayların ise olduğunu hatırlar ama hatırası pek canlı değildir. Bu hatıranız sizin için ne derece canlı?

Sadece böyle bir olayın olduğunu hatırladım		Olayların birazını canlı hatırlıyorum		Yeniden yaşıyor gibi canlı hatırlıyorum
1	2	3	4	5

Bu olayı yaşadığınız sırada duygularınız ne kadar yoğundu?

Hiç				Çok yoğun
1	2	3	4	5

Şu anda bu olayı hatırlarken duygularınız ne kadar yoğun?

Hiç				Çok yoğun
1	2	3	4	5

Bu olay hakkında ne kadar sık düşünürsünüz?

Hiç		Ara-sıra		Çok sık
1	2	3	4	5

EĞLENCE

Yukarıdaki kelimeyle ilgili, **olumlu duygular hissettiğiniz**, en az 1 ay önce hayatınızın herhangi bir alanında yaşadığınız belirli bir anınızı yazınız.

Bu anının, araştırmanın en başında size verilen ölçekte belirttiğiniz **"sizi yetiştiren kişi, arkadaşınız ve tanıdığınız"** ile ilgili **olmamasına** dikkat ediniz.

Lütfen bir-iki cümleyi geçmeyecek şekilde hatırladığınız anınızı aşağıdaki kutuya yazın.

Hatırladığınız anı:

Kimi içeriyor? | |

Nerede geçiyor? | |

Neyi içeriyor? | |

Ne zaman yaşandı? | |

Hatırladığınız bu olay sizin için ne kadar önemli?

Hiç önemli değil				Çok önemli
1	2	3	4	5

Bazı olayları hatırlarken insan o olayları yeniden yaşıyor gibi olur. Bazı olayların ise olduğunu hatırlar ama hatırası pek canlı değildir. Bu hatıranız sizin için ne derece canlı?

Sadece böyle bir olayın olduğunu hatırladım		Olayların birazını canlı hatırlıyorum		Yeniden yaşıyor gibi canlı hatırlıyorum
1	2	3	4	5

Bu olayı yaşadığınız sırada duygularınız ne kadar yoğundu?

Hiç				Çok yoğun
1	2	3	4	5

Şu anda bu olayı hatırlarken duygularınız ne kadar yoğun?

Hiç				Çok yoğun
1	2	3	4	5

Bu olay hakkında ne kadar sık düşünürsünüz?

Hiç		Ara-sıra		Çok sık
1	2	3	4	5

BECERİ

Yukarıdaki kelimeyle ilgili, **olumlu duygular hissettiğiniz**, en az 1 ay önce hayatınızın herhangi bir alanında yaşadığınız belirli bir anınızı yazınız.

Bu anının, araştırmanın en başında size verilen ölçekte belirttiğiniz **"sizi yetiştiren kişi, arkadaşınız ve tanıdığınız"** ile ilgili **olmamasına** dikkat ediniz.

Lütfen bir-iki cümleyi geçmeyecek şekilde hatırladığınız anınızı aşağıdaki kutuya yazın.

Hatırladığınız anı:

Kimi içeriyor?		Nerede geçiyor?	
Neyi içeriyor?		Ne zaman yaşandı?	

Hatırladığınız bu olay sizin için ne kadar önemli?

Hiç önemli değil				Çok önemli
1	2	3	4	5

Bazı olayları hatırlarken insan o olayları yeniden yaşıyor gibi olur. Bazı olayların ise olduğunu hatırlar ama hatırası pek canlı değildir. Bu hatıranız sizin için ne derece canlı?

Sadece böyle bir olayın olduğunu hatırladım		Olayların birazını canlı hatırlıyorum		Yeniden yaşıyor gibi canlı hatırlıyorum
1	2	3	4	5

Bu olayı yaşadığınız sırada duygularınız ne kadar yoğundu?

Hiç				Çok yoğun
1	2	3	4	5

Şu anda bu olayı hatırlarken duygularınız ne kadar yoğun?

Hiç				Çok yoğun
1	2	3	4	5

Bu olay hakkında ne kadar sık düşünürsünüz?

Hiç		Ara-sıra		Çok sık
1	2	3	4	5

DÜRÜSTLÜK

Yukarıdaki kelimeyle ilgili, **olumlu duygular hissettiğiniz**, en az 1 ay önce hayatınızın herhangi bir alanında yaşadığınız belirli bir anınızı yazınız.

Bu anının, araştırmanın en başında size verilen ölçekte belirttiğiniz **"sizi yetiştiren kişi, arkadaşınız ve tanıdığınız"** ile ilgili **olmamasına** dikkat ediniz.

Lütfen bir-iki cümleyi geçmeyecek şekilde hatırladığınız anınızı aşağıdaki kutuya yazın.

Hatırladığınız anı:

Kimi içeriyor? | | Nerede geçiyor? | |

Neyi içeriyor? | | Ne zaman yaşandı? | |

Hatırladığınız bu olay sizin için ne kadar önemli?

Hiç önemli değil				Çok önemli
1	2	3	4	5

Bazı olayları hatırlarken insan o olayları yeniden yaşıyor gibi olur. Bazı olayların ise olduğunu hatırlar ama hatırası pek canlı değildir. Bu hatıranız sizin için ne derece canlı?

Sadece böyle bir olayın olduğunu hatırladım		Olayların birazını canlı hatırlıyorum		Yeniden yaşıyor gibi canlı hatırlıyorum
1	2	3	4	5

Bu olayı yaşadığınız sırada duygularınız ne kadar yoğundu?

Hiç				Çok yoğun
1	2	3	4	5

Şu anda bu olayı hatırlarken duygularınız ne kadar yoğun?

Hiç				Çok yoğun
1	2	3	4	5

Bu olay hakkında ne kadar sık düşünürsünüz?

Hiç		Ara-sıra		Çok sık
1	2	3	4	5

ÜZÜNTÜ

Yukarıdaki kelimeyle ilgili, **olumsuz duygular hissettiğiniz**, en az 1 ay önce hayatınızın herhangi bir alanında yaşadığınız belirli bir anınızı yazınız.

Bu anının, araştırmanın en başında size verilen ölçekte belirttiğiniz **"sizi yetiştiren kişi, arkadaşınız ve tanıdığınız"** ile ilgili **olmamasına** dikkat ediniz.

Lütfen bir-iki cümleyi geçmeyecek şekilde hatırladığınız anınızı aşağıdaki kutuya yazın.

Hatırladığınız anı:

Kimi içeriyor? | |

Nerede geçiyor? | |

Neyi içeriyor? | |

Ne zaman yaşandı? | |

Hatırladığınız bu olay sizin için ne kadar önemli?

Hiç önemli değil				Çok önemli
1	2	3	4	5

Bazı olayları hatırlarken insan o olayları yeniden yaşıyor gibi olur. Bazı olayların ise olduğunu hatırlar ama hatırası pek canlı değildir. Bu hatıranız sizin için ne derece canlı?

Sadece böyle bir olayın olduğunu hatırladım		Olayların birazını canlı hatırlıyorum		Yeniden yaşıyor gibi canlı hatırlıyorum
1	2	3	4	5

Bu olayı yaşadığınız sırada duygularınız ne kadar yoğundu?

Hiç				Çok yoğun
1	2	3	4	5

Şu anda bu olayı hatırlarken duygularınız ne kadar yoğun?

Hiç				Çok yoğun
1	2	3	4	5

Bu olay hakkında ne kadar sık düşünürsünüz?

Hiç		Ara-sıra		Çok sık
1	2	3	4	5

ÖFKE

Yukarıdaki kelimeyle ilgili, **olumsuz duygular hissettiğiniz**, en az 1 ay önce hayatınızın herhangi bir alanında yaşadığınız belirli bir anınızı yazınız.

Bu anının, araştırmanın en başında size verilen ölçekte belirttiğiniz **"sizi yetiştiren kişi, arkadaşınız ve tanıdığınız"** ile ilgili **olmamasına** dikkat ediniz.

Lütfen bir-iki cümleyi geçmeyecek şekilde hatırladığınız anınızı aşağıdaki kutuya yazın.

Hatırladığınız anı:

Kimi içeriyor? | |

Nerede geçiyor? | |

Neyi içeriyor? | |

Ne zaman yaşandı? | |

Hatırladığınız bu olay sizin için ne kadar önemli?

Hiç önemli değil				Çok önemli
1	2	3	4	5

Bazı olayları hatırlarken insan o olayları yeniden yaşıyor gibi olur. Bazı olayların ise olduğunu hatırlar ama hatırası pek canlı değildir. Bu hatıranız sizin için ne derece canlı?

Sadece böyle bir olayın olduğunu hatırladım		Olayların birazını canlı hatırlıyorum		Yeniden yaşıyor gibi canlı hatırlıyorum
1	2	3	4	5

Bu olayı yaşadığınız sırada duygularınız ne kadar yoğundu?

Hiç				Çok yoğun
1	2	3	4	5

Şu anda bu olayı hatırlarken duygularınız ne kadar yoğun?

Hiç				Çok yoğun
1	2	3	4	5

Bu olay hakkında ne kadar sık düşünürsünüz?

Hiç		Ara-sıra		Çok sık
1	2	3	4	5

KORKU

Yukarıdaki kelimeyle ilgili, **olumsuz duygular hissettiğiniz**, en az 1 ay önce hayatınızın herhangi bir alanında yaşadığınız belirli bir anınızı yazınız.

Bu anının, araştırmanın en başında size verilen ölçekte belirttiğiniz **"sizi yetiştiren kişi, arkadaşınız ve tanıdığınız"** ile ilgili **olmamasına** dikkat ediniz.

Lütfen bir-iki cümleyi geçmeyecek şekilde hatırladığınız anınızı aşağıdaki kutuya yazın.

Hatırladığınız anı:

Kimi içeriyor?		Nerede geçiyor?	
Neyi içeriyor?		Ne zaman yaşandı?	

Hatırladığınız bu olay sizin için ne kadar önemli?

Hiç önemli değil				Çok önemli
1	2	3	4	5

Bazı olayları hatırlarken insan o olayları yeniden yaşıyor gibi olur. Bazı olayların ise olduğunu hatırlar ama hatırası pek canlı değildir. Bu hatıranız sizin için ne derece canlı?

Sadece böyle bir olayın olduğunu hatırladım		Olayların birazını canlı hatırlıyorum		Yeniden yaşıyor gibi canlı hatırlıyorum
1	2	3	4	5

Bu olayı yaşadığınız sırada duygularınız ne kadar yoğundu?

Hiç				Çok yoğun
1	2	3	4	5

Şu anda bu olayı hatırlarken duygularınız ne kadar yoğun?

Hiç				Çok yoğun
1	2	3	4	5

Bu olay hakkında ne kadar sık düşünürsünüz?

Hiç		Ara-sıra		Çok sık
1	2	3	4	5

TALİHSİZLİK

Yukarıdaki kelimeyle ilgili, **olumsuz duygular hissettiğiniz**, en az 1 ay önce hayatınızın herhangi bir alanında yaşadığınız belirli bir anınızı yazınız.

Bu anının, araştırmanın en başında size verilen ölçekte belirttiğiniz **"sizi yetiştiren kişi, arkadaşınız ve tanıdığınız"** ile ilgili **olmamasına** dikkat ediniz.

Lütfen bir-iki cümleyi geçmeyecek şekilde hatırladığınız anınızı aşağıdaki kutuya yazın.

Hatırladığınız anı:

Kimi içeriyor?		Nerede geçiyor?	
Neyi içeriyor?		Ne zaman yaşandı?	

Hatırladığınız bu olay sizin için ne kadar önemli?

Hiç önemli değil				Çok önemli
1	2	3	4	5

Bazı olayları hatırlarken insan o olayları yeniden yaşıyor gibi olur. Bazı olayların ise olduğunu hatırlar ama hatırası pek canlı değildir. Bu hatıranız sizin için ne derece canlı?

Sadece böyle bir olayın olduğunu hatırladım		Olayların birazını canlı hatırlıyorum		Yeniden yaşıyor gibi canlı hatırlıyorum
1	2	3	4	5

Bu olayı yaşadığınız sırada duygularınız ne kadar yoğundu?

Hiç				Çok yoğun
1	2	3	4	5

Şu anda bu olayı hatırlarken duygularınız ne kadar yoğun?

Hiç				Çok yoğun
1	2	3	4	5

Bu olay hakkında ne kadar sık düşünürsünüz?

Hiç		Ara-sıra		Çok sık
1	2	3	4	5

KIRGINLIK

Yukarıdaki kelimeyle ilgili, **olumsuz duygular hissettiğiniz**, en az 1 ay önce hayatınızın herhangi bir alanında yaşadığınız belirli bir anınızı yazınız.

Bu anının, araştırmanın en başında size verilen ölçekte belirttiğiniz **"sizi yetiştiren kişi, arkadaşınız ve tanıdığınız"** ile ilgili **olmamasına** dikkat ediniz.

Lütfen bir-iki cümleyi geçmeyecek şekilde hatırladığınız anınızı aşağıdaki kutuya yazın.

Hatırladığınız anı:

Kimi içeriyor?		Nerede geçiyor?	
Neyi içeriyor?		Ne zaman yaşandı?	

Hatırladığınız bu olay sizin için ne kadar önemli?

Hiç önemli değil				Çok önemli
1	2	3	4	5

Bazı olayları hatırlarken insan o olayları yeniden yaşıyor gibi olur. Bazı olayların ise olduğunu hatırlar ama hatırası pek canlı değildir. Bu hatıranız sizin için ne derece canlı?

Sadece böyle bir olayın olduğunu hatırladım		Olayların birazını canlı hatırlıyorum		Yeniden yaşıyor gibi canlı hatırlıyorum
1	2	3	4	5

Bu olayı yaşadığınız sırada duygularınız ne kadar yoğundu?

Hiç				Çok yoğun
1	2	3	4	5

Şu anda bu olayı hatırlarken duygularınız ne kadar yoğun?

Hiç				Çok yoğun
1	2	3	4	5

Bu olay hakkında ne kadar sık düşünürsünüz?

Hiç		Ara-sıra		Çok sık
1	2	3	4	5

ZAVALLILIK

Yukarıdaki kelimeyle ilgili, **olumsuz duygular hissettiğiniz**, en az 1 ay önce hayatınızın herhangi bir alanında yaşadığınız belirli bir anınızı yazınız.

Bu anının, araştırmanın en başında size verilen ölçekte belirttiğiniz **"sizi yetiştiren kişi, arkadaşınız ve tanıdığınız"** ile ilgili **olmamasına** dikkat ediniz.

Lütfen bir-iki cümleyi geçmeyecek şekilde hatırladığınız anınızı aşağıdaki kutuya yazın.

Hatırladığınız anı:

Kimi içeriyor?		Nerede geçiyor?	
Neyi içeriyor?		Ne zaman yaşandı?	

Hatırladığınız bu olay sizin için ne kadar önemli?

Hiç önemli değil				Çok önemli
1	2	3	4	5

Bazı olayları hatırlarken insan o olayları yeniden yaşıyor gibi olur. Bazı olayların ise olduğunu hatırlar ama hatırası pek canlı değildir. Bu hatıranız sizin için ne derece canlı?

Sadece böyle bir olayın olduğunu hatırladım		Olayların birazını canlı hatırlıyorum		Yeniden yaşıyor gibi canlı hatırlıyorum
1	2	3	4	5

Bu olayı yaşadığınız sırada duygularınız ne kadar yoğundu?

Hiç				Çok yoğun
1	2	3	4	5

Şu anda bu olayı hatırlarken duygularınız ne kadar yoğun?

Hiç				Çok yoğun
1	2	3	4	5

Bu olay hakkında ne kadar sık düşünürsünüz?

Hiç		Ara-sıra		Çok sık
1	2	3	4	5

Appendix F: Memory Recall Forms

Şimdi sizden, size gösterilen **ilk listedeki** ipucu kelimelerini ve bu kelimelerle ilgili hatırlamış olduğunuz anıları yazmanızı istiyoruz. Anılarınızın kimi, neyi içerdiğini ve nerede, ne zaman geçtiğini belirtiniz.

İpucu Kelime	**Anı**	**Kim**	**Ne**	**Nerede**	**Ne zaman**

Şimdi sizden, size gösterilen **ikinci listedeki** ipucu kelimelerini ve bu kelimelerle ilgili hatırlamış olduğunuz anıları yazmanızı istiyoruz. Anılarınızın kimi, neyi içerdiğini ve nerede, ne zaman geçtiğini belirtiniz.

İpucu Kelime	**Anı**	**Kim**	**Ne**	**Nerede**	**Ne zaman**

Appendix G: Mental Activation Rating

Çalışmanın başında uygulanan rahatlama egzersizi, sizi ne kadar rahatlattı?

Hiç rahatlatmadı	**Çok az rahatlattı**	**Kısmen rahatlattı**	**Çok rahatlattı**	**Tamamen rahatlattı**
1	**2**	**3**	**4**	**5**

Appendix H: Inform Consent for Post-participation

KATILIM SONRASI BİLGİ FORMU

Bu araştırma daha önce de belirtildiği gibi TED Üniversitesi Psikoloji Bölümü Yüksek Lisans öğrencisi Görkem Göven tarafından Yrd. Doç. Dr. Tuğba Uzer-Yıldız danışmanlığındaki yüksek lisans tezi kapsamında yürütülmektedir. Çalışmanın amacı; bireylerin kendilerini yetiştiren kişiyi düşündüklerinde olumsuz anılarını hatırlama performanslarını incelemektir.

Olumsuz anılar, günlük hayatta kişiye rahatsızlık veren önemli stres kaynaklarından biridir. Literatüre göre, kendilerini yetiştiren kişiyle güvenli ilişkisi olan bireyler olumsuz anılarını daha az hatırlıyor olabilirler. Bu çalışmada, öncelikle katılımcıların bir kısmından kendilerini yetiştiren kişiyi düşünmeleri, bir kısmından bir arkadaşlarını düşünmeleri ve bir kısmından da bir tanıdıklarını düşünmeleri istenmiştir. Bu görevden sonra gelen bellek performansı görevinde, kendilerini yetiştiren kişiyi düşünmüş olan katılımcıların olumsuz anılarını daha az hatırlamaları beklenmektedir.

Bu sebeple, çalışmanın amacı "üniversite öğrencilerinin otobiyografik anılarına ilişkin bellek performanslarını araştırmak" olarak sunulmuş; bireylerin kendilerini yetiştiren kişiyi düşünmelerinin olumsuz anılarını hatırlama performansı üzerindeki etkisinin araştırılacağı, araştırmanın doğası gereği başlangıçta sizlerle paylaşılmamıştır.

Bu çalışmadan alınacak ilk verilerin Mayıs 2018 sonunda elde edilmesi amaçlanmaktadır. Elde edilen bilgiler sadece bilimsel araştırma ve yazılarda kullanılacaktır. **Çalışmanın sağlıklı ilerleyebilmesi ve bulguların güvenilir olması için çalışmaya katılacağını bildiğiniz diğer kişilerle çalışma ile ilgili detaylı bilgi paylaşımında bulunmamanızı dileriz.** Bu araştırmaya katıldığınız için tekrar çok teşekkür ederiz.

Araştırmanın sonuçlarını öğrenmek ya da daha fazla bilgi almak için aşağıdaki isimlere başvurabilirsiniz. Görkem Göven (E-posta: gorkem.goven@tedu.edu.tr), Yrd. Doç. Dr. Tuğba Uzer-Yıldız (E-posta: tugba.uzer@tedu.edu.tr)

Çalışmaya katkıda bulunan bir gönüllü olarak katılımcı haklarınızla ilgili veya etik ilkelerle ilgi soru veya görüşlerinizi TED Üniversitesi İnsan Araştırmaları Etik Kurulu Merkezi'ne iletebilirsiniz.

E-posta: iaek@tedu.edu.tr

Appendix I: Ethical Committee Aproval

TED ÜNİVERSİTESİ
İNSAN ARAŞTIRMALARI ETİK KURULU

11.09.2017

Sayı:68

Konu: Etik Kurul Kararı

Sayın

Görkem Göven
Sosyal Bilimler Enstitüsü,
Gelişim Odaklı Klinik Çocuk ve Ergen Psikolojisi Yüksek Lisans Programı
Öğrencisi

TED Üniversitesi İnsan Araştırmaları Etik Kurulunun **07.09.2017** tarih ve **2017/73** sayılı kararı ekte sunulmuştur.

Prof. Dr. Melike SAYIL
TED Üniversitesi
İnsan Araştırmaları Etik Kurul Başkanı

TED ÜNİVERSİTESİ
İNSAN ARAŞTIRMALARI ETİK KURULU

ETİK KURUL KARARLARI

Toplantı Tarihi: **07.09.2017** Toplantı Sayısı: **2017/68**

TED Üniversitesi İnsan Araştırmaları Etik Kurulu **07.09.2017** Perşembe günü saat 11.00'de toplanarak aşağıdaki kararları almıştır.

Karar:(73) TED Üniversitesi, Sosyal Bilimler Enstitüsü, Gelişim Odaklı Klinik Çocuk ve Ergen Psikolojisi Yüksek Lisans Programı öğrencisi Görkem Göven'in sahibi olduğu "Bağlanma ve istemli unutma ilişkisi: Bağlanma biçiminin ve bağlanma figürlerinin zihinsel temsillerinin otobiyografik anılarda yönlendirilmiş unutma üzerindeki etkilerinin araştırılması" başlıklı yüksek lisans tez çalışmasına ilişkin 03.08.2017-1117 tarih ve sayılı etik kurul onay talebi görüşülmüş ve araştırma kapsamında uygulanacağı beyan edilen veri toplama yöntemlerinin araştırma etiğine uygun olduğuna OYBİRLİĞİ ile karar verilmiştir.

Prof. Dr. Melike SAYIL
Başkan

Prof. Dr. Ali CENGİZKAN
Üye

Prof. Dr. Berin GÜR
Üye

Doç. Dr. Cem AKGÜNER
Üye

Yrd. Doç. Dr. Mana Ece Tuna ÖZCİVANOĞLU
Üye

Yrd. Doç. Dr. Tekin KÖSE
Üye

Yrd. Doç. Dr. Elif KARSLI
Üye

Yrd. Doç. Dr. Aylin Çakıroğlu ÇEVİK
Üye

Appendix J: Tez Fotokopisi İzin Formu

ENSTİTÜ

Lisansüstü Programlar Enstitüsü

YAZARIN

Soyadı :Göven

Adı : Görkem

Bölümü : Psikoloji

TEZİN ADI (İngilizce): The Relationship Between Attachment and Motivated Forgetting: Investigating the Effects of Attachment Style and Mental Representations of Attachment Figures on The Directed Forgetting of Autobiographical Memories

TEZİN TÜRÜ: Yüksek Lisans [X] Doktora [ ]

1. Tezimin tamamından kaynak gösterilmek şartıyla fotokopi alınabilir. [ ]

2. Tezimin içindekiler sayfası, özet, indeks sayfalarından ve/veya bir bölümünden kaynak gösterilmek şartıyla fotokopi alınabilir. [ ]

3. Tezimden bir bir (1) yıl süreyle fotokopi alınamaz. [X]

TEZİN KÜTÜPHANEYE TESLİM TARİHİ: