

THE EFFECTS OF GOAL ATTAINMENT ON  
AUTOBIOGRAPHICAL MEMORY

DENİZ ŞENELT KALELIOĞLU

BOĞAZİÇİ UNIVERSITY

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The Effects of Goal Attainment on Autobiographical Memory

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Deniz Şenelt Kalelioğlu

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## DECLARATION OF ORIGINALITY

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## ABSTRACT

### Effects of Goal Attainment on Autobiographical Memory

The aim of the current study was to explore the effect of goal attainment and valence on characteristics of autobiographical memories. University students and young adults recalled four autobiographical memories related to their goals: a) a memory positively related to an achieved goal, b) a memory negatively related to the achieved goal, c) a memory positively related to an unachieved goal, and finally d) a memory negatively related to the unachieved goal. They, then, filled out the Autobiographical Memory Questionnaire and the Centrality of Event Scale for each memory. Results showed an effect of goal attainment and valence for most of the memory characteristics. More importantly, there was a consistent interaction indicating that memories positively related to attained goals were recalled better with stronger phenomenological properties compared to other memories. More specifically, ABMs regarding achieved goals were remembered in more detail, with stronger phenomenology and more central to self than the ones related to unachieved goals.

## ÖZET

### Hedeflere Ulaşmanın Otobiyografik Hafızaya Etkisi

Bu çalışmanın amacı, hedeflere ulaşmanın ve anıların hedefle olumlu veya olumsuz ilişkisinin, otobiyografik anıların özellikleri üzerindeki etkisini araştırmaktır.

Üniversite öğrencileri ve genç yetişkinlerden hedefleriyle ilişkili dört otobiyografik anılarını hatırlamaları istendi: a) ulaşılmış hedefleri ile olumlu ilişkisi olan bir anı, b) ulaşılmış hedefleri ile olumsuz ilişkisi olan bir anı, c) ulaşılmamış hedefleri ile olumlu ilişkisi olan bir anı ve d) ulaşılmamış hedefleri ile olumsuz ilişkisi olan bir anı. Anıların ardından her katılımcı her bir anı için Otobiyografik Bellek Anketini ve Olayın Merkeziliği Anketini doldurdu. Sonuçlar anıların karakteristikleri genelinde oldukça tutarlı bir etkileşim ortaya koydu ki bu da ulaşılmış hedeflerle olumlu ilişkisi olan anıların diğer anılara nazaran daha iyi ve daha güçlü fenomenolojik özelliklerle hatırlandığını göstermektedir. Daha spesifik olarak, ulaşılmış hedeflerle ilgili otobiyografik anılar, ulaşılmamış hedeflerle ilgili olanlara nazaran, daha detaylı, daha güçlü fenomenolojik özelliklerle ve benlikle daha merkezi olarak hatırlanmaktadır. Benzer şekilde, hedeflerle olumlu ilişkisi olan otobiyografik anılar, hedeflerle olumsuz ilişkisi olanlara nazaran, daha detaylı, daha güçlü fenomenolojik özelliklerle ve benlikle daha merkezi olarak hatırlanmaktadır.

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## CHAPTER 1

### INTRODUCTION

#### 1.1 Autobiographical memory, self and goals

Autobiographical memory is what most people refer to when they talk about memory, although memory is not unitary. While there are more than 30 types of memory, the classical divisions include Episodic (autobiographical) Memory, such as the last dinner with the parents, Semantic Memory, such as remembering the capital city of Turkey as Ankara and Procedural Memory such as swimming or riding a bicycle. Autobiographical memory is the memory of past experiences and refers to episodic memory for personally experienced events in an individual's life, such as taking the university exam, the 18<sup>th</sup> birthday party, or buying one's first car. It is the memory of a specific event that includes the unique circumstances of the rememberer. (Tulving, 1985; Pillemer, 1998 and 2003). This refers to the memory of an event that takes place at a given time and a given place, including the phenomenological, subjective experiences of the rememberer. The main phenomenological dimensions identified by Sutin and Robins (2007) are vividness, the visual clarity and intensity, coherence, involving a logical story, accessibility, the ease of retrieval, time perspective, perceived clarity of when the remembered event happened, sensory detail, which sensory details reexperienced during retrieval, emotional intensity, intensity of emotions experienced at encoding retrieval, visual perspective, remembering the memory in first person as if reliving or in third person as if observing, sharing, the extent to which it is shared with others, distancing, the degree to which the person tries to psychologically distance himself from the event

remembered and valence, the degree to which the event remembered is perceived to be positive or negative. Tulving (2002) puts forward that due to phenomenology we can relive the events that we remember.

Conway (1990) explains autobiographical memory as subjective remembering of the event with self-reference and personal interpretation. Autobiographical memories are characterized with being a recollective experience that contains summary records of sensory, perceptual, conceptual, affective processing. They are associated with visual images and have field or observer perspective. And the overarching principle is that it is strongly related with the self and identity (Conway & Rubin, 1993; Rubin, Schrauf & Greenberg, 2003; Nelson, 2003; Davison & Feeney, 2008; Conway, 2009). Self is an important and natural component of autobiographical memory, as it is the memory for personal life events that includes self, emotions, goals and personal meanings. Self would be referred to who the one is believed to be, the knowledge and beliefs about one's own being (Neisser, 1988). The self is influenced by autobiographical memories and Pillemer (1998) would say it is guided by "autobiographical intelligence".

Conway and Pleydell-Pearce (2000) put forward a cognitive motivational model of ABM, introducing Self Memory System (SMS) as the sum of Working Self and Autobiographical Knowledge; working self-consisting of goals with different activation and autobiographical knowledge with varying specificity. People can have access to their past at different levels of generality. The levels of specificity increases from life time periods to general events, to event specific knowledge. Life time periods are the time frame with a beginning and an end, with related details in between; general events are repeated, or single events related to one theme; event specific knowledge refers to specific details about a single event. For example;

university years or while working at Vakko would fit to life time periods, going to your summer house in Ayvalık during August would be general events and the 18<sup>th</sup> birthday celebration at the summer house would be considered event specific knowledge. Working-self controls the activation, the construction and the encoding of memories according to the current goals.

The autobiographical memories have personal significance and they are connected to one's goal history and to current working self goal hierarchy (Conway, 2003; 2005). Goals can be defined as the personal aims set by the individual, pursued in time to be achieved. Goal attainment is the achievement or failure, in other words, the advancement or frustration of the goal (Singer, 1990). Personal goals are an important part of human cognition as it is strongly related to the self.

Autobiographical memories help establishing important goals, supporting and constraining self-goals and maintaining goal engagement, with focus on goals (Singer & Salovey, 1993; Conway, 2003; Williams, et al., 2007; Sutin & Robins, 2008). Reciprocally, goals help accessibility of relevant autobiographical memories, in this scope goal congruent memories are more accessible (Conway & Pleydell-Pearce, 2000; Conway, 2003). Similarly, Pillemer (2001) suggests that personal event memories which are related to the self-goals retained better across life span.

In Working-Self Goals theory (Higgins, 1987) self is explained in three domains, Actual Self, Ideal Self and Ought Self. Actual self is the accurate representation of one's self, ideal self is ideally what the self aspires to be, and ought self is what the self should be, according to others. Then the Aim of Goals is defined as the reduction of the discrepancies between these domains (Conway & Pleydell-Pearce, 2000). In self related studies, Mutlutürk and Tekcan (2016) asked 100 undergraduates to recall self-consistent and self-discrepant memories. The study

revealed that memories that are consistent or discrepant with self, were both found to be self-defining, resulting in similar effect to retrieval time, specificity and phenomenology. Yet self discrepant memory narratives, contained more meaning making and less autonomy statements than self-consistent memories and being told to fewer people and the listener responses were more negative. Since self-discrepant memories were still found to be self-defining, they were still accessible and vivid. These findings can shed a light on our research and our study can reveal that unachieved but still pursued goals can be affecting the accessibility and vividness of autobiographical memories more than achieved goals, due to the Working-Self Goals theory of Higgins (1987).

## 1.2 Relationship of autobiographical memory and goals

Conway and Pleydell-Pearce (2000) states that autobiographical memory and self are reciprocally interconnected, while goal states of self, influences which memories to be stored, those autobiographical memories influence the formation of goals. A goal cannot be maintained if it contradicts autobiographical knowledge. If ABM of own children can be accessed, then the goal of becoming a parent cannot be maintained. The perception of self defines how the life experiences will be encoded and retrieved. Woike et al. (1999) investigated two groups, first achievement and independence oriented agentic people that structure knowledge in terms of differences, emphasizing independence and the second group, interdependence and relationship oriented communal people that structure knowledge in terms of integration, emphasizing similarities. They found that the first group recalled memories that involved issues of agency with content structured in terms of differentiation, whereas the second group recalled memories featuring others in acts

of love and friendship with content structured in terms of integration. These findings reveal that self determines recall and working self affects the accessibility of goal related memories. Conway (2003) states that this study (Woike, 2003) is strong evidence showing that goal congruent memories are more accessible. Not many studies assess encoding, but it is evident that autobiographical memories relevant to goals at encoding and retrieval are more accessible, Anderson and Pichert (1978, cited in Moberly and Macleod, 2006) made participants implicitly adopt the goal of a house buyer or burglar priming them with a story from one of the two perspectives, then they recalled more details relevant to their adopted perspective, that shows the effect of goals on encoding and retrieval.

Johannessen & Berntsen (2009) named uncompleted goals as current concerns, meaning the goals that are still pursued. Johannessen & Berntsen's findings (2009 and 2010), investigating both voluntary and involuntary autobiographical memories, are consistent with autobiographical memory theories of Conway and Pleydell-Pearce (2000). The findings (Johannessen & Berntsen, 2009, 2010) support the self-defining memory theories of Singer & Salovey (1993), that memories related to current concerns to be more relevant to the self and more central to one's identity. (Johannessen & Berntsen, 2010)

Conway, Singer & Tagini (2004) adds the concepts of correspondence and coherence to the SMS model, emphasizing the importance of self-coherence of autobiographical knowledge and the adaptive correspondence, corresponding to experience. Correspondence used as the accuracy of memories and coherence means the memories' consistency with the self. They put forward the long-term self as the sum of autobiographical knowledge base and conceptual self, and the working-self creates the bond between the long-term self and episodic memory system. In this

model Conway et al. (2004) added life story schema above the life time periods, having the least specific knowledge, covering the goals and activities of the self. The most specific level of autobiographical knowledge, which is the event specific knowledge, are replaced by episodic memories in the updated model. Episodic memories are accessible while they are relevant to the current goals of the working self and need to be consistent with the long-term goal in case of a current goal change.

According to the above-mentioned concepts added to the SMS model, the effect of goals, which are not achieved but not pursued anymore, would mean the goal is current goal during encoding of the ABM but not during retrieval. As those goals are not current anymore, related ABM will not be coherent with the self, therefore it will be remembered in less detail, with weaker phenomenology and less central to self than the ones related to achieved goals, which are more coherent with the self.

Conway (2005) discusses the interconnected self memory system, saying that memory is the database of self-containing active goals and their associated self-images. He argues that working self is the one that modulates access to long term knowledge and talks about episodic memories and the knowledge structures in autobiographical memory.

Moberly & MacLeod (2006) integrate the self-determination theory and claim that the effect on accessibility of autobiographical knowledge is regulated by the degree of self-concordance of the goals and whether the goal is currently pursued or not. They discussed the reasons for pursuing a goal and the underlying motivations. Their three consecutive studies revealed that general event knowledge relating to self-concordant goals were more accessible, and autobiographical knowledge relating



to current pursued goals were more accessible than that relating to non-pursued goals.

Besides the influence of goals being currently pursued or not, effect of goal relevance during encoding and retrieval and the relation of goal attainment or failure are important aspects of goal and autobiographical memory theories. Conway and Playdell-Pearce (2000) suggest goal relevant events may be encoded more efficiently. Pillemer (2003) argues that event specific knowledge relating to goal failure may be more accessible as they require attention due to personal concerns. Similarly Conway (2005) proposes that knowledge about unachieved goals or about the goals that are not being pursued anymore, may also have high accessibility. This brings into our attention that those might be highly instructive or directive (Bluck, 2003; Pillemer, 1998) or they might provide a confirmatory context for the achievement of other goals, just like 'I was not successful at school, so I chose going to work for earning money', which is in line with the life themes approach proposed by Csikszentmihalkyi & Beattie (1979).

While Conway says "Memory is the content of self. But we have no conscious control over what we remember." (Conway, 2005) and research shows that goals have an effect on autobiographical memory (Conway & Pleydell-Pearce, 2000; Conway, Singer & Tagini, 2004; Pillemer, 2003; Singer & Salovey, 1993; Moberly & MacLeod, 2006; Johannessen & Berntsen, 2009, 2010). Thus, we might expect some conscious control over what to remember, by using goal setting practices.

### 1.3 Relationship of goal attainment and autobiographical memory

One of the early empirical studies about the relationship of goals and autobiographical memory is by Singer (1990), where he investigated

autobiographical memory in relation to goal attainment. At first, 30 students were given 15 life goal sentences and asked to rate how desirable they were. They were asked to retrieve 15 autobiographical memories each cued by a goal from the sheet. Then they rated their affective response to each memory, meaning how positively or negatively they feel now. They also rated their relevance to attainment of cuing goal, examining memories for being interfering or conducive to goal attainment. The results revealed that memories cued by more desirable goals were more relevant to goal attainment, and memories that subjects felt positive about were memories that were relevant to attainment of a long-term goal, so memories that get positive affective response are cued by a goal that's attained, in other words the more relevant the memories were to the attainment of the cueing goals, the more positive their affective responses were. Secondly 62 students made un-cued recall and retrieved 20 memories from 4 content categories, family, friends and relationships, school and activities such as hobbies or part-time jobs. Then they rated each memory for its current affective response. Later they received the list of 15 goals and rated each goal for its desirability and goal attainment and relate their memories to more than one goal. They rated the relevance of each memory to each goal. Both studies showed that desirability of the goal correlates with relevance of memory to the attainment of that goal. Both also revealed a relationship between the attainment of the cueing goal and the affect the related memories evoke.

#### 1.4 Accessibility of goal relevant autobiographical knowledge

Moberly and MacLeod (2006) claims that their studies are the first to examine the accessibility of goal relevant autobiographical knowledge directly. They researched the effects of goal pursuit and goal self-concordance on the accessibility of

autobiographical knowledge (Moberly & MacLeod, 2006). They examined the effect of goal relevance on accessibility of event specific knowledge, by measuring retrieval latencies, first giving a list of 15 goals, asking 36 students to select the ones that they were currently pursuing, rate them for self-concordance and retrieve autobiographical memories. This revealed that goal relevant event specific knowledge is more accessible than non-goal-relevant ones but did not give any evidence about the effect of self-concordance of goals to the accessibility of event specific knowledge. Then with a second study they assessed accessibility of general event knowledge relating to self-concordance of goals. Thirty-six students were given a goal selection form, from which they selected their current goals. They were then given 4 seconds for each judgement to respond to a set of cues describing a general event relating to a goal item as to whether they experienced such an event and response latencies were recorded. After the task, participants rated self-concordance as in the previous study. Comparing response latencies suggested that general event knowledge relating to self-concordant goals were more accessible than general event knowledge relating to non-self-concordant goals.

In a third study they again assessed accessibility of event specific knowledge relating to self-concordance of goals, using an improved methodology. Thirty-six students were asked to generate their listing of 10 personal strivings, then they needed to retrieve and describe as many specific memories relating to their striving within 90 seconds. Then they rated their strivings for self-concordance, additionally they rated each memory for emotionality, as emotionally positive or negative and striving-related success or failure. The number of memories retrieved in 90 seconds used as the measure of accessibility of striving related memories. The findings of the third study was consistent with those of the first study, resulting with failure to detect

accessibility differences for event specific knowledge relating to self-concordant and non-self-concordant goals. Additional analysis suggested memories cued by self-concordant strivings were emotionally more positive and were associated with more striving related success.

In most previous studies researching autobiographical memories and goals (Singer, 1990, Moberly & MacLeod, 2006), the methodology controls the conditions at retrieval and leaves the encoding phase unknown, however goals probably influence both, Moberly & MacLeod mentions that most empirical tests of memory invoke retrieval processes (2006) so this is an area of future development.

### 1.5 Influence of autobiographical memory, goal pursuit and valence

Some studies focus on the effect of motivational processes on autobiographical memory (Woike, 2008). Woike et al (2012) carried out an online diary study on the relationship of implicit and explicit motives, goal pursuit and autobiographical memory. Woike, (2008) brings a functional framework about the influence of implicit and explicit motives on autobiographical memory. Implicit motives, defined as emotional experiences, vivid memories and event specific knowledge, are less conscious and linked to intrinsic rewards. Explicit motives, which are conscious and well-articulated, defined as events linked to self-concept stability change, routine experiences and general event scripts that affect the attainment of current goals. According to dual functional framework of ABM, implicit and explicit motives influence what and how events are remembered. One-hundred-forty-one students participated to a 3-week diary study. Woike et al (2012) found motivational disposition towards achievement and that the characteristics of goal pursuit to affect the recalled memories in the participants' diaries. Results showed that goal

attainability was related to using more communal words and the participants that were high in achievement focus on goal pursuit irrespective of goal conditions.

Recently Rui Xu et al. (2017) studied effect of time on emotional consistency of autobiographical memory using fMRI scanning. In the study they asked 25 healthy participants to recall important ABMs and assess emotional ratings of each of them. Four weeks later, participants retrieved details of positive and negative ABMs, during functional magnetic resonance imaging scanning. Results revealed that over time the emotional valence of negative memories changed more strongly than positive memories. Results may suggest that to maintain a positive self-image, positive ABMs strengthened. These findings can relate to the time difference that the student and adult groups have between their ABMs. The valence might be influenced similarly by the time, that this could be a covariate in the current study.

Another finding that should be taken into consideration is that Conway (2005) puts forward negative memories to be more resistant to directed forgetting than other types of memories. In this directed forgetting experiment participants were given lists of positive, negative and neutral cue words and asked to come up with related autobiographical memories. Half of the group were then asked to forget the first list with the related ABMs. There was a strong directed forgetting effect, however negative memories appeared more resistant. This suggests that valence is a considerable issue for ABMs.

Researchers investigated the relation of self and memory (Beike, Lampinen & Behrend, 2004), and some focus has been directed to self and autobiographical memory (Conway, 2005; Sutin & Robins, 2008), with few concentrated on self-goals (Conway & Pleydell-Pearce, 2000; Conway, Singer & Tagini, 2004; Moberly & MacLeod, 2006; Woike, 2008). Singer (1990) claims the research on memory in

relation to goals is efficient as goals can be articulated consciously. More research can reveal valuable information about the effect of personal goals on autobiographical memory as individuals have control over their personal goals and goal setting can be rewarding if we know more about its effects.

There are different ways of addressing self and autobiographical memory relationship, personality, psychopathology, motivations and goals can be in focus. In this study we will investigate the relationship between self and autobiographical memory focusing on goals.

## 1.6 Current study

The present study investigates whether goal attainment influences autobiographical memory accessibility. As Conway (Conway & Pleydell-Pearce, 2000; Conway, Singer & Tagini, 2004; Conway, 2005) argued memories related to goals are remembered better; what would be the effect of attainment? The main aim of this research is to advance the literature by examining the accessibility of autobiographical memory that relates to goal failure versus success. The effect of positive or negative relation to the goal, and the effect of continuity in the goal pursuit during lifetime were also explored.

To assess all those, the participants were asked to write two of their important goals, one they achieved, and one they did not achieve. They were also asked if they stopped pursuing the unachieved goal or not and why. Right after that, they were asked to write four autobiographical memories, which were positively and negatively related to the goal that they stated as achieved, and as not achieved. Then they filled out the Autobiographical Memory Questionnaire (AMQ; Rubin, Schrauf and Greenberg, 2003) and the Centrality of Event Scale (Sutin and Robins, 2008).

Considering the arguments in previous literature, we expect there to be a main effect of goal attainment and valence. ABMs regarding achieved goals will be remembered in more detail, with stronger phenomenology and more central to self than the ones related to unachieved goals. Similarly, ABM positively related to goals will be remembered in more detail, with stronger phenomenology and more central to self than negatively related ones. We will be looking at the effect of gender and age differences as well.

Present study used a design combining self-revealing writings with questionnaires, to investigate the relation between goals and the attainment of autobiographical memory.

## CHAPTER 2

### METHOD

#### 2.1 Participants

A total of 193 Turkish (93 undergraduate students and 100 mid-career university graduate young adults) took part in the study. The age range of the groups were 18 to 23 and 30 to 39 respectively. Students participated in the study in exchange of course credit and the mid-career graduate adults participated as volunteers. The descriptive statistics regarding the demographic characteristics of the two groups are given in Results.

#### 2.2 Instruments

Recall Task. The participants were asked to write down one of their important goals from the time between their ages of 15 to 20, that they achieved. Then they were asked to write down one of their important goals from the same time period, that they did not achieve. They also were asked if they stopped pursuing the unachieved goal or not and why. Right after that, they were asked to write four autobiographical memories, as detailed as they remember, each fitting into half of an A4 paper, in the following order: One memory which is positively related to the goal that they stated as achieved, next one that is negatively related to the same goal that they stated as achieved and then another one which is positively related to the goal that they mentioned as not achieved and the last one is which is negatively related to the same goal that they mentioned as not achieved. These demands were not counterbalanced in order of questioning (see Appendix A).



Demographic Information Sheet. Participants were asked about their age, gender, education status and occupation.

Autobiographical Memory Questionnaire. Rubin, Schrauf and Greenberg (2003) developed the Autobiographical Memory Questionnaire to measure the phenomenology of the memories. The properties used in the AMQ are measuring recollection and belief in the accuracy of the memory, component processes and reported properties of memories. Recollection is the sense of re-experiencing and belief is the confidence that the memory comes from a real event. Component processes are visual, auditory and spatial imagery, emotional, language and narrative components. Reported properties are importance, rehearsal, number of occurrence, extension of the event and age of memory.

In this study the Turkish version of the Autobiographical Memory Questionnaire (Gulgoz & Rubin, 2007) measuring the major phenomenological properties of autobiographical memories was used. The questionnaire consisted of 13 statements about the vividness, coherence, accessibility, sensory detail, emotional intensity, visual perspective, time perspective, sharing, distancing, and valence for each memory on a 5-point Likert scale. Participants were also asked to state the date of the event as closely as possible.

Centrality of Event Scale. Sutin and Robins (2008) developed the Centrality of Event Scale to measure the influencing functions of memories, being a reference point for daily inferences, or a turning point in life story or main component of personal identity.

In this study, the Turkish version of the CES measuring the centrality of the event to the person's identity and life story was used. Short - Seven item scales were assessed. Participants rated 7 statements on a 5 point Likert scale.

The participants were asked to write down one of their important goals from the time between their ages of 15 to 20, that they achieved. Then they were asked to write down one of their important goals from the same time period, that they did not achieve. They also were asked if they stopped pursuing the unachieved goal or not and why. Right after that, they were asked to write four autobiographical memories, as detailed as they remember, each fitting at the space of a half A4 paper. One memory which is positively related to the goal that they stated as achieved, next one that is negatively related to the same goal that they stated as achieved and then another one which is positively related to the goal that they mentioned as not achieved and the last one is which is negatively related to the same goal that they mentioned as not achieved. These demands were not counterbalanced in order of questioning (see Appendix A).

Demographic Information Sheet. Participants were asked about their age, gender, education status and occupation.

In the second part of the experiments participants rated the degree of vividness, coherence, accessibility, sensory detail, emotional intensity, visual perspective, time perspective, sharing, distancing, and valence of each of the four memories they had written in detail, on a 5 point Likert scale using the Turkish version of the Autobiographical Memory Questionnaire. (see Appendix B)

Participants also filled out the Turkish version of the Centrality of Event Scale for each event (see Appendix C).

### 2.3 Procedure

The experiments were conducted in 3-5 people groups but individually. Each participant signed the consent form at the beginning of the study. Each session took approximately 60 minutes. Participants were informed that this was a study about autobiographical memory. Then they were given the instructions and were asked if they had any questions. They were asked not to leave any part of the questions empty, if possible. There was no limitation of time for any part of the experiment. Memory and questionnaire orders were not counterbalanced. The order of the questionnaires was kept fixed, the Autobiographical Memory Questionnaire being the first and the Centrality of Event Scale being second, as bringing the centrality of event into the minds of participants may increase the ratings of the degree of vividness, coherence, accessibility, sensory detail, emotional intensity, visual perspective, time perspective, sharing, distancing, and valence of their memories. At the end, the participants were debriefed and informed that they can learn the results of the study.

## CHAPTER 3

### RESULTS

Effect of goal attainment and valence on content and characteristics of Autobiographical Memories were analyzed with Factorial repeated measures ANOVAs with goal attainment and valence as within-subjects factors and ratings of memory characteristics and centrality as dependent variables, separately for young and middle-aged groups. Content of memories were also investigated focusing on theme of event and importance.

#### 3.1 Descriptive analyses regarding participants

The descriptive statistics regarding the demographic characteristics of the two groups are as follows:

Mean age of 20,66 years ( $SD = 2,66$ ) being 41 males and 52 females; 100 of them were business people from Istanbul and Ankara with a mean age of 34,86 years ( $SD = 4,13$ ) being 46 males and 54 females.

#### 3.2 Content of goals

The dominant achieved goal of the university students group was to be able to enroll at the university/department they desired (86.0%), whereas their most frequently mentioned unachieved goals were about hobbies/sports (29.0%) and success (22,6%).

For mid-career adults, the most dominant achieved goals were getting into a desired profession (38.0%) and enrolling in the desired university/department

(36.0%). The most dominant unachieved goals of mid-career adults group were hobbies/sports (26.0%) and desired profession (19.0%).

The percentages of goals according to its content, for both groups of university students and mid-career adults, for attained and unattained goals are presented in Table 1.

Table 1. Content of goals

	University Students		Mid-Career Adults	
	Attained Goals	Unattained Goals	Attained Goals	Unattained Goals
univ/dept	86.0 %	-	36.0 %	-
hobbies/sports	-	29.0 %	6.0 %	26.0 %
success	2,2 %	22,6 %	5.0 %	12.0 %
going abroad	3.2 %	16.1 %	4.0 %	12.0 %
profession	2.2 %	7.5 %	38.0 %	19.0 %
earning money	1.1 %	6.5 %	5.0 %	5.0 %
buying property	-	2.2 %	4.0 %	3.0 %
relationships/ social environment	-	10.8 %	-	14.0 %
own business	-	-	-	4.0 %

In the following analyses, we used a 2 (Goal Attainment: attained vs unattained) X 2 (Valence: positive vs negative) repeated measures ANOVA, where both variables were repeated measures. For each variable, we carried out the same analysis for students and adults, separately.

### 3.3 Narrative length

For students, there was a main effect of goal attainment,  $F(1, 91) = 28.30$ ,  $MSe = 164.57$ ,  $\eta^2 = .24$ ,  $p < .001$ ; participants wrote longer memories for attained goals ( $M = 40.09$ ,  $SE = 1.88$ ) than for unattained goals ( $M = 31.27$ ,  $SD = 1.78$ ). There was also main effect of valence,  $F(1, 91) = 25.79$ ,  $MSe = 174.57$ ,  $\eta^2 = .22$ ,  $p < .001$ ; memories positively related to the goal were longer ( $M = 39.34$ ,  $SE = 1.82$ ) than those negatively related to the goal ( $M = 32.02$ ,  $SE = 1.74$ ). More importantly, as can be seen in Figure 1, there was an interaction between goal attainment and valence,  $F(1, 91) = 5.98$ ,  $MSe = 174.57$ ,  $\eta^2 = .06$ ;  $p < .05$ . Memories related to attained goals were longer than those of unattained goals only if the event was positively related to the goal. There was no effect of attainment for memories negatively related to the goal. See Figure 1.

For adults, there was both a main effect of goal attainment and an effect of valence. Memories related to attained goals were longer ( $M = 38.57$ ,  $SE = 1.79$ ) than those related to unattained goals, ( $M = 35.39$ ,  $SE = 1.77$ ),  $F(1, 88) = 5.24$ ,  $MSe = 216.49$ ,  $\eta^2 = .06$ ,  $p < .05$ . Also, memories positively related to the goal was longer ( $M = 38.94$ ,  $SE = 1.81$ ) than those negatively related ( $M = 35.02$ ,  $SE = 1.95$ ),  $F(1, 88) = 4.49$ ,  $MSe = 216.49$ ,  $\eta^2 = .05$ ,  $p < .05$ . The apparent interaction pattern seen in

Figure 1 was similar to that observed for students, but was not significant,  $F(1, 88) = 1.90$ ,  $Mse = 216.49$ ,  $\eta^2 = .02$ ,  $p > .10$ . See Figure 1.

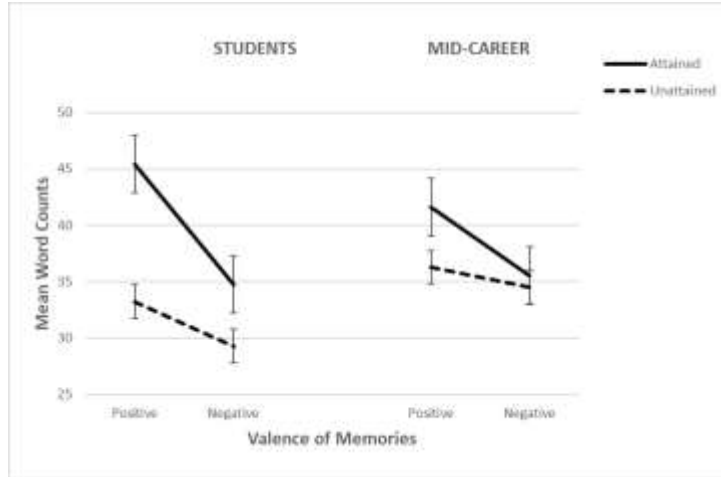


Figure 1. Narrative length as a function of goal-attainment and valence

#### 3.4 Recollection and belief

Within the basic systems approach, Rubin (2003) identified four metacognitive judgments, two measuring recollective experience (*reliving* and *back in time*) and two measuring belief in the accuracy of memories (*remember* and *real*).

Real. For students, there was a marginal effect of goal attainment  $F(1, 84) = 3.52$ ,  $MSe = .57$ ,  $\eta^2 = .04$ ,  $p = .06$ ; participants tended to give higher reliving ratings for attained ( $M = 6.31$ ,  $SE = .11$ ) than for unattained goals ( $M = 6.15$ ,  $SE = .12$ ). There was a main effect of valence,  $F(1, 84) = 5.21$ ,  $MSe = .44$ ,  $\eta^2 = .04$ ,  $p < .05$ ; participants reported higher vividness for positive ( $M = 6.31$ ,  $SE = .10$ ) than for negative memories ( $M = 6.15$ ,  $SE = .12$ ). Importantly, there was an interaction,  $F(1, 84) = 7.56$ ,  $MSe = .40$ ,  $\eta^2 = .08$ ,  $p < .01$ . Participants gave higher reliving ratings for positive memories ( $M = 6.48$ ,  $SE = .10$ ) than for negative memories ( $M = 6.13$ ,  $SE$

.14) for attained-goals. There was no difference between the positive ( $M = 6.14$ ,  $SE = .12$ ) and negative memories ( $M = 6.17$ ,  $SE = .13$ ) for unattained goals.

For adults, there was no main effect or an interaction. See Figure 2.

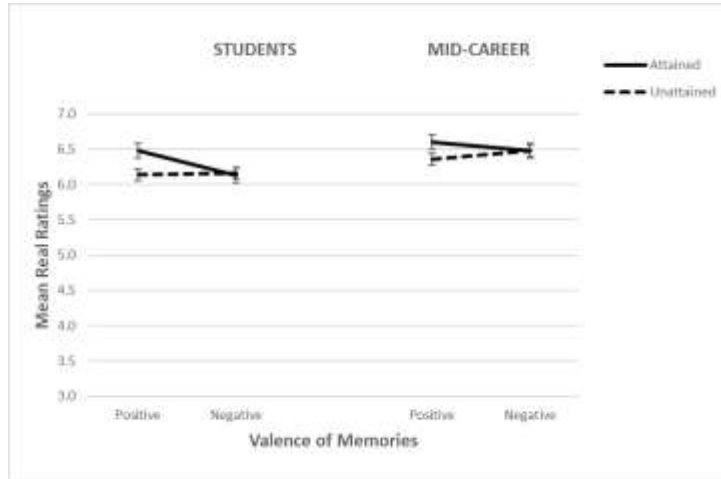


Figure 2. Real ratings as a function of goal-attainment and valence

Remember. For students, there was a main effect of goal attainment,  $F(1, 84) = 6.71$ ,  $MSe = 1.23$ ,  $\eta^2 = .07$ ,  $p = .01$ . For memories of attained goals, positive ones were given higher Remember ratings ( $M = 5.60$ ,  $SE = .12$ ) than negative ones ( $M = 5.25$ ,  $SE = .13$ ). There was, however, no effect of valence,  $F(1, 84) = 2.97$ ,  $MSe = .95$ ,  $\eta^2 = .03$ ,  $p = .08$ . The interaction was significant,  $F(1, 84) = 8.77$ ,  $MSe = .74$ ,  $\eta^2 = .10$ ,  $p < .01$ , indicating that positive memories received higher Remember ratings ( $M = 5.79$ ,  $SE = .14$ ) than negative memories ( $M = 5.33$ ,  $SE = .14$ ) for memories related to attained goals, but there was no difference between positive ( $M = 5.20$ ,  $SE = .15$ ) and negative ( $M = 5.29$ ,  $SE = .14$ ) memories when these memories related to unattained goals. See Figure 3.

For adults, there was no main effect of goal attainment  $F < 1$ . or of valence  $F(1, 86) = 1.53$ ,  $MSe = 1.37$ ,  $\eta^2 = .02$ ,  $p > .10$ . With regard to the interaction between



goal attainment and valence, although the pattern replicated that for students, it was not significant,  $F(1, 86) = 3.18$ ,  $MSe = 1.11$ ,  $\eta^2 = .04$ ,  $p = .08$ . See Figure 3.

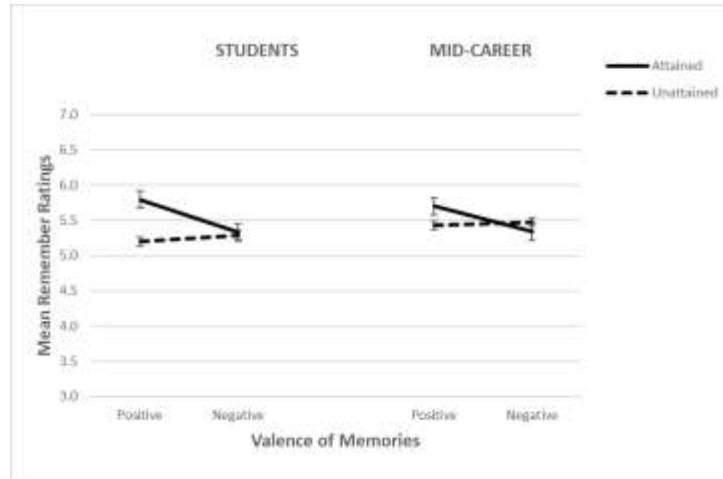


Figure 3. Remember ratings as a function of goal-attainment and valence

Back in time. For either students or adults, there were no main effects or an interaction. See Figure 4.

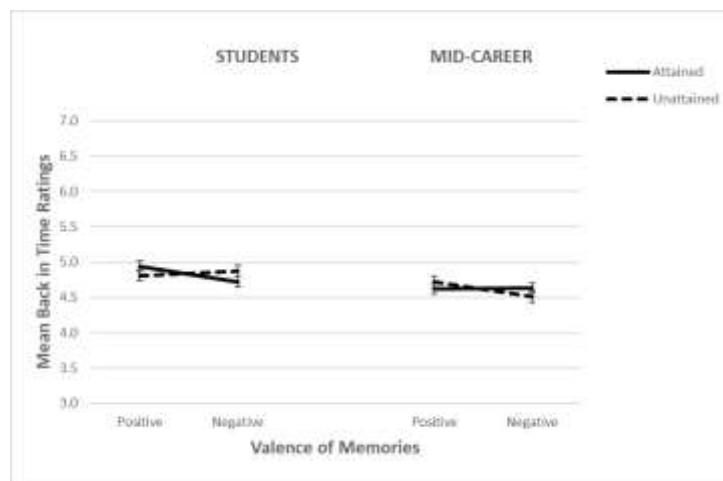


Figure 4. Back in time ratings as a function of goal-attainment and valence

Reliving. For students, there were no main effects of attainment or valence,  $F_s < 1$ . However, there was an interaction,  $F(1, 84) = 4.54$ ,  $MSe = 1.59$ ,  $\eta^2 = .05$ ,  $p < .05$ ; for memories about attained goals, reliving was higher for positive ( $M = 5.19$ ,  $SE = .13$ ) than for negative ( $M = 4.87$ ,  $SE = .15$ ) memories. For memories about unattained goals, however, there was no difference in reliving for positive ( $M = 4.91$ ,  $SD = .15$ ) and negative ( $M = 5.17$ ,  $SE = .18$ ) memories. See Figure 5.

The pattern was identical for adults, with no main effect of goal attainment or valence,  $F_s < 1$ . The interaction was significant,  $F(1, 84) = 4.38$ ,  $MSe = 1.09$ ,  $\eta^2 = .05$ ,  $p < .05$ . For memories about attained goals, reliving was higher for positive ( $M = 5.18$ ,  $SE = .14$ ) than for negative ( $M = 4.89$ ,  $SE = .16$ ) memories. For memories about unattained goals, however, there was no difference in reliving for positive ( $M = 4.93$ ,  $SD = .13$ ) and negative ( $M = 5.10$ ,  $SE = .15$ ) memories. See Figure 5.

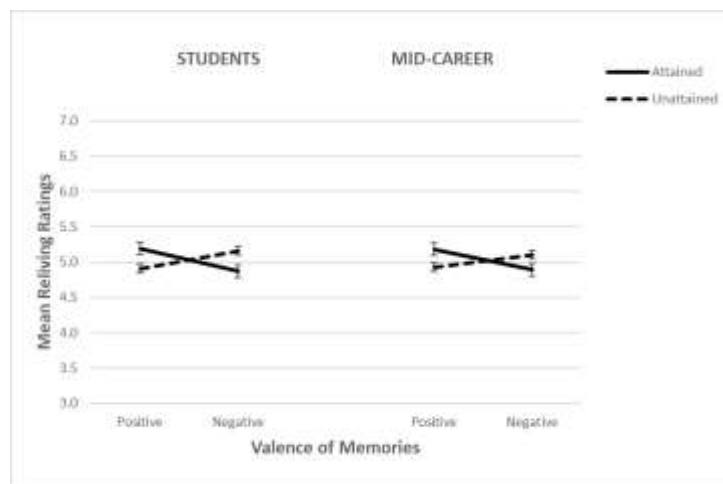


Figure 5. Reliving ratings as a function of goal-attainment and valence

### 3.5 Importance, centrality and rehearsal

Importance. For students, there was an effect of goal attainment,  $F(1, 83) = 7.34$ ,  $MSe = 11.31$ ,  $\eta^2 = .08$ ,  $p < .01$ . Memories of attained goals ( $M = 5.57$ ,  $SE = .38$ )

were considered more important than memories of unattained goals ( $M = 4.58$ ,  $SE = .15$ ). There was also an effect of valence,  $F(1, 83) = 5.06$ ,  $MSe = 14.14$ ,  $\eta^2 = .06$ ,  $p < .05$ ; positive memories were considered more important ( $M = 5.54$ ,  $SE = .40$ ) than negative memories ( $M = 4.61$ ,  $SE = .15$ ). There was an interaction, as well,  $F(1, 83) = 5.92$ ,  $MSe = 13.03$ ,  $\eta^2 = .07$ ,  $p < .05$ . Goal-related positive memories were considered more important ( $M = 6.51$ ,  $SE = .75$ ) than negative memories ( $M = 4.63$ ,  $SE = .19$ ) when the goal was attained, but not when the goal was not attained ( $M = 4.56$ ,  $SE = .19$  vs  $M = 4.60$ ,  $SE = .18$ ). See Figure 6.

For adults, there was a main effect of goal attainment,  $F(1, 86) = 12.72$ ,  $MSe = 1.52$ ,  $\eta^2 = .13$ ,  $p < .001$ ; memories of attained goals were considered more important ( $M = 5.23$ ,  $SE = 0.15$ ) than those of unattained goals ( $M = 4.76$ ,  $SE = .15$ ). There was no effect of valence,  $F(1, 86) = 2.15$ ,  $MSe = 1.74$ ,  $\eta^2 = .02$ ,  $p > .10$ . There was also an interaction,  $F(1, 86) = 4.90$ ,  $MSe = 2.11$ ,  $\eta^2 = .05$ ,  $p < .05$ . Goal-related positive memories were rated more important ( $M = 5.51$ ,  $SE = .17$ ) than negative memories ( $M = 4.95$ ,  $SE = .19$ ) when the goal was attained, but not when the goal was not attained ( $M = 4.69$ ,  $SE = .18$  vs  $M = 4.83$ ,  $SE = .20$ ). See Figure 6.

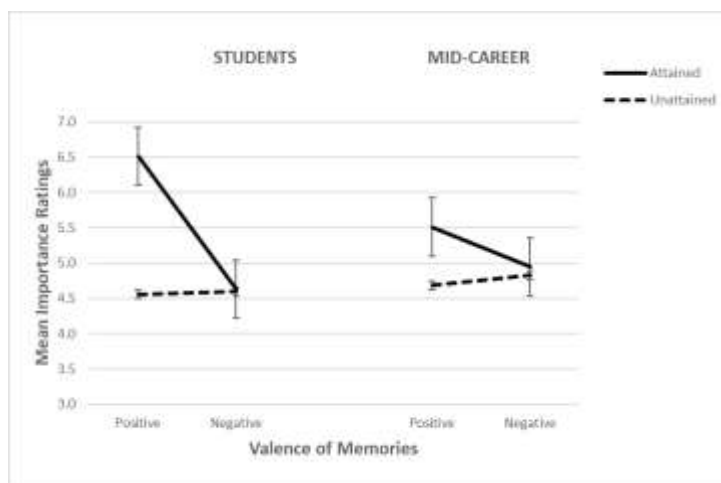


Figure 6. Importance ratings as a function of goal-attainment and valence

Event Centrality. For students, there was a main effect of goal attainment  $F(1, 85) = 16.27$ ,  $MSe = 38.30$ ,  $\eta^2 = .16$ ,  $p < .001$ ; memories related to attained goals were rated as more central ( $M = 21.62$ ,  $SE = 0.61$ ) than those related to unattained goals ( $M = 18.94$ ,  $SE = 0.62$ ). There was also main effect of valence,  $F(1, 85) = 9.56$ ,  $MSe = 38.30$ ,  $\eta^2 = .10$ ,  $p < .01$ ; positive memories were rated as more central ( $M = 21.32$ ,  $SE = 0.56$ ) than negative memories ( $M = 19.24$ ,  $SE = 0.67$ ). As seen in Figure 7, there was an interaction  $F(1, 85) = 28.90$ ,  $MSe = 38.30$ ,  $\eta^2 = .25$ ,  $p < .001$ . Memories of attained goal was rated more central to the self ( $M = 24.45$ ,  $SE = 0.70$ ) than the memories of unattained goals ( $M = 18.19$ ,  $SE = 0.65$ ) only for positive memories, but not when they were negatively related to the goal ( $M = 18.79$ ,  $SE = 0.78$  for attained vs  $M = 19.70$ ,  $SE = 0.75$  for unattained goal). See Figure 7.

For adults, there was a main effect of goal attainment  $F(1, 91) = 17.79$ ,  $MSe = 44.38$ ,  $\eta^2 = .16$ ,  $p < .001$ ; memories related to attained goals were rated as more central ( $M = 21.71$ ,  $SE = 0.68$ ) than those related to unattained goals ( $M = 19.02$ ,  $SE = 0.66$ ). There was, however, no effect of valence,  $F < 1$ ; positive ( $M = 20.56$ ,  $SE = 0.68$ ) and negative memories ( $M = 20.16$ ,  $SE = 0.73$ ) were rated equally central to the self. There was an interaction  $F(1, 91) = 4.24$ ,  $MSe = 38.30$ ,  $\eta^2 = .04$ ,  $p < .05$ . Memories of attained goal was rated more central to the self ( $M = 22.62$ ,  $SE = 0.82$ ) than the memories of unattained goals ( $M = 18.50$ ,  $SE = 0.79$ ) only for positive memories, but not when they were negatively related to the goal ( $M = 20.79$ ,  $SE = 0.87$  for attained vs  $M = 19.53$ ,  $SE = 0.78$  for unattained goal). See Figure 7.

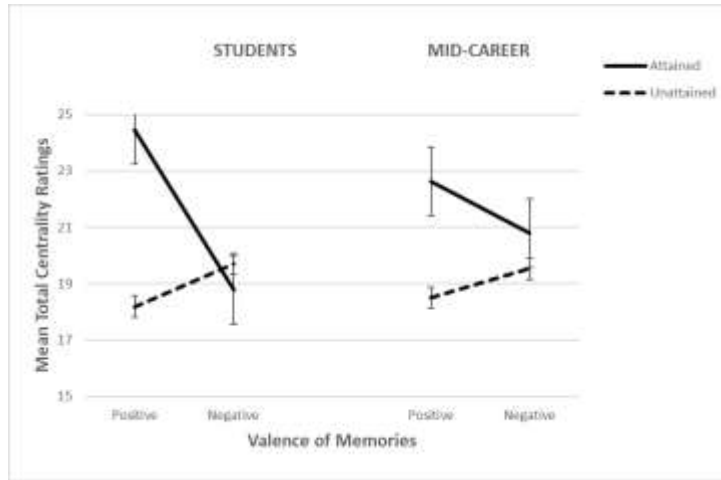


Figure 7. Centrality ratings as a function of goal-attainment and valence

Rehearsal. For students, there was a tendency for an effect of attainment on rehearsal frequency,  $F(1, 84) = 3.39$ ,  $MSe = 5.69$ ,  $\eta^2 = .04$ ,  $p = .069$ ; attained goals were rehearsed more often ( $M = 4.45$ ,  $SD = 0.16$ ), than unattained goals ( $M = 4.19$ ,  $SD = 0.16$ ). There was no effect of valence,  $F(1, 84) = 2.30$ ,  $MSe = 3.01$ ,  $\eta^2 = .03$ ,  $p > .10$ . There was also no interaction,  $F(1, 84) = 1.90$ ,  $MSe = 1.58$ ,  $\eta^2 = .02$ .

For young adults, an almost identical pattern emerged. There was a clear effect of attainment,  $F(1, 86) = 6.96$ ,  $MSe = 14.897$ ,  $\eta^2 = .08$ ,  $p < .01$ ; attained goals were rehearsed more often ( $M = 4.35$ ,  $SD = 0.16$ ) than unattained goals ( $M = 3.94$ ,  $SD = 0.17$ ). There was no main effect of valence  $F(1, 86) = 1.08$ ,  $MSe = 1.94$ ,  $\eta^2 = .01$ ,  $p > .10$  or an interaction  $F < 1$ . See Figure 8.

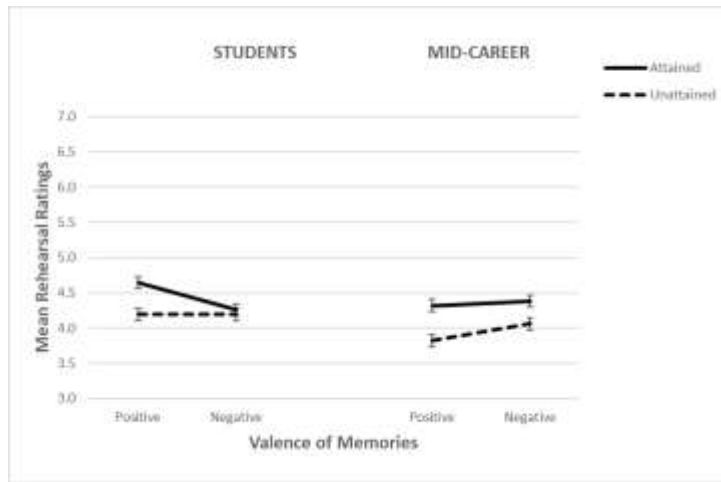


Figure 8. Rehearsal ratings as a function of goal-attainment and valence

### 3.6 Phenomenological characteristics

Visual imagery. For students, higher visual imagery was reported for memories for attained goals ( $M = 5.38$ ,  $SE = .11$ ) than for unattained goals ( $M = 5.02$ ,  $SE = .14$ ),  $F(1, 84) = 8.99$ ,  $MSe = 1.18$ ,  $\eta^2 = .10$ ,  $p < .01$ . There was no effect of valence,  $F(1, 84) = 1.99$ ,  $MSe = .88$ ,  $\eta^2 = .03$ ,  $p > .10$ . There was also an interaction,  $F(1, 84) = 4.53$ ,  $MSe = .75$ ,  $\eta^2 = .05$ ,  $p < .05$ . Higher visual imagery was reported for positive memories ( $M = 5.55$ ,  $SE = .11$ ) compared to negative memories ( $M = 5.20$ ,  $SE = .14$ ) only if the memory was for attained goals but not when it was for unattained goals ( $M = 5.00$ ,  $SE = .15$  vs.  $M = 5.05$ ,  $SE = .15$ ). See Figure 9.

For adults, there was no effect of goal attainment,  $F < 1$ . There was also no effect of valence,  $F(1, 87) = 1.41$ ,  $MSe = .97$ ,  $\eta^2 = .02$ ,  $p > .10$ . There was, however, a strong interaction replicating the pattern for students,  $F(1, 87) = 15.71$ ,  $MSe = .89$ ,  $\eta^2 = .15$ ,  $p < .001$ . Higher visual imagery was reported for positive memories ( $M = 5.24$ ,  $SE = .14$ ) compared to negative memories ( $M = 4.72$ ,  $SE = .16$ ) only if the memory was for attained goals but not for when it was for unattained goals ( $M = 4.91$ ,  $SE = .14$  vs.  $M = 5.18$ ,  $SE = .13$ ). See Figure 9.

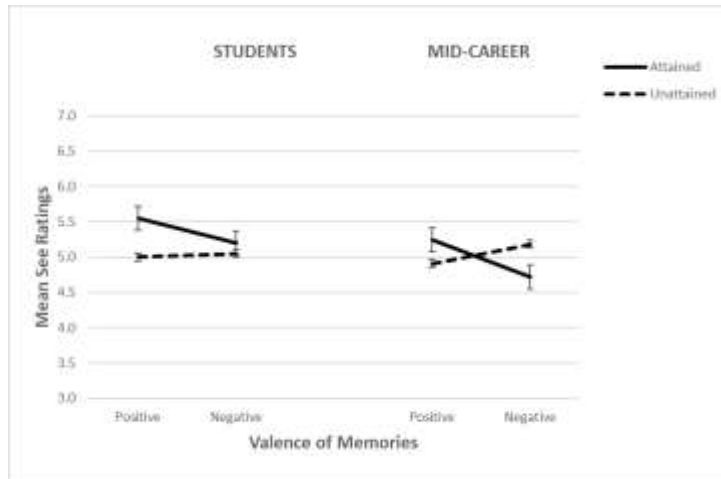


Figure 9. See ratings as a function of goal-attainment and valence

Auditory imagery. For students, there was only an effect of goal attainment,  $F(1, 84) = 6.41$ ,  $MSe = 1.49$ ,  $\eta^2 = .07$ ,  $p < .05$ ; participants reported higher auditory imagery for memories of attained goals ( $M = 4.87$ ,  $SE = .13$ ) than for unattained goals ( $M = 4.54$ ,  $SE = .14$ ). There was no effect of valence,  $F(1, 84) = 1.88$ ,  $MSe = 1.31$ ,  $\eta^2 = .02$ ,  $p > .10$ , or an interaction,  $F(1, 84) = 1.16$ ,  $MSe = .91$ ,  $\eta^2 = .01$ ,  $p > .10$ .

For adults, there was no main effect of goal attainment,  $F(1, 87) = 1.74$ ,  $MSe = 1.78$ ,  $\eta^2 = .02$ ,  $p > .10$  or valence,  $F < 1$ . There was, however, an interaction,  $F(1, 84) = 5.77$ ,  $MSe = 1.38$ ,  $\eta^2 = .06$ ,  $p < .05$ . Although there was no difference between the positive ( $M = 4.60$ ,  $SE = .16$ ) and negative memories ( $M = 4.36$ ,  $SE = .18$ ) for attained goals, participants reported stronger auditory imagery for negative memories ( $M = 4.85$ ,  $SE = .17$ ) than for positive memories ( $M = 4.49$ ,  $SE = .15$ ). See Figure 10.

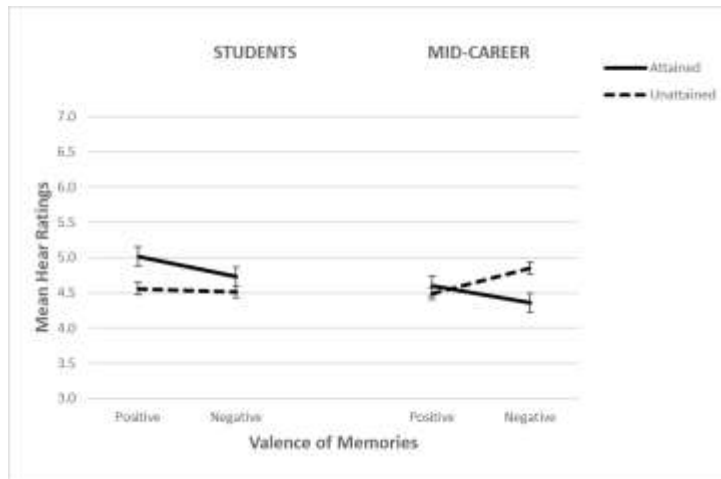


Figure 10. Hear ratings as a function of goal-attainment and valence

Emotion. For both students and adults, there was no main effect of either goal attainment or valence  $F < 1$ . There was also no interaction of goal attainment and valence for either group,  $F < 1$ . See Figure 11.

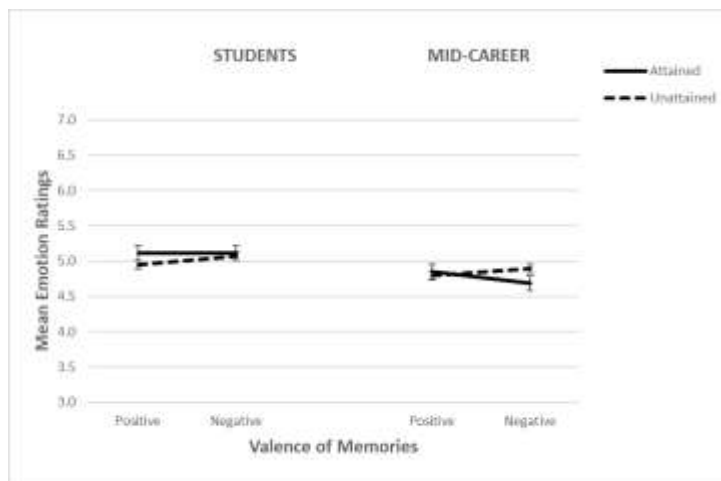


Figure 11. Emotion ratings as a function of goal-attainment and valence

Talk. For students, there was no effect of attainment ( $F < 1$ ) or an effect of valence,  $F(1, 84) = 2.27$ ,  $MSe = 1.33$ ,  $\eta^2 = .03$ ,  $p > .10$ . There was also no interaction,  $F < 1$ . For adults, there was also no effect of goal attainment,  $F(1, 86) =$



1.80,  $MSe = 1.74$ ,  $\eta^2 = .02$ ,  $p > .10$ . There was no effect of valence or an interaction,  $F_s < 1$ . See Figure 12.

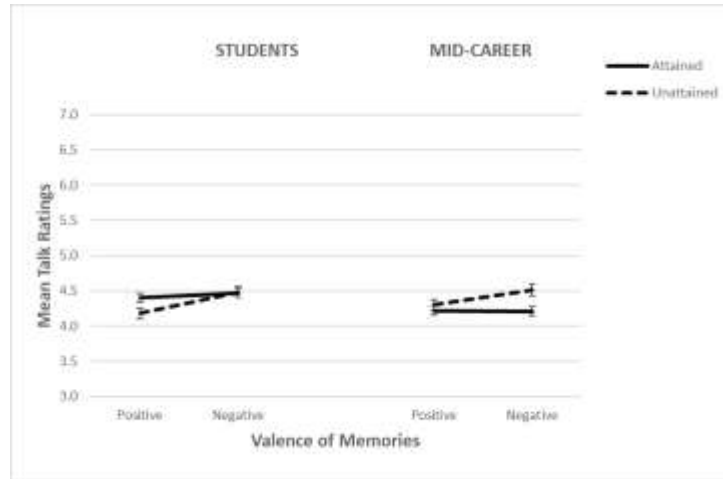


Figure 12. Talk ratings as a function of goal-attainment and valence

Setting. For students, there was a main effect of goal attainment,  $F(1, 84) = 14.83$ ,  $MSe = 1.19$ ,  $\eta^2 = .13$ ,  $p < .01$ ; participants reported remembering more of the setting in memories of attained goals ( $M = 5.95$ ,  $SE = .10$ ) than in memories of unattained goals ( $M = 5.54$ ,  $SE = .14$ ). Although there was no effect of valence ( $F < 1$ ), there was an interaction such that better recall of setting in positive ( $M = 6.07$ ,  $SE = .10$ ) versus negative memories ( $M = 5.84$ ,  $SE = .13$ ) was true for attained goals but not for unattained goals ( $M = 5.46$ ,  $SE = .16$  vs  $M = 5.61$ ,  $SE = .16$ ).

For adults, there was no main effect of either goal attainment or valence,  $F < 1$ . The interaction was similar to that for students,  $F(1, 87) = 10.71$ ,  $MSe = .86$ ,  $\eta^2 = .11$ ,  $p < .01$ . Recall of setting in positive ( $M = 5.61$ ,  $SE = .13$ ) versus negative memories ( $M = 5.19$ ,  $SE = .16$ ) was true for attained goals but not for unattained goals ( $M = 5.31$ ,  $SE = .15$  vs  $M = 5.53$ ,  $SE = .13$ ). See Figure 13.

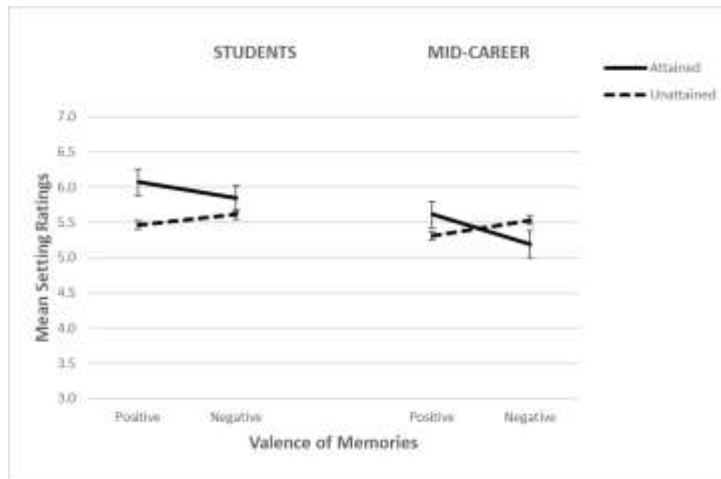


Figure 13. Setting ratings as a function of goal-attainment and valence

In words. For students, there was no effect of goal attainment or valence,  $F < 1$ . There was also no interaction,  $F(1, 83) = 2.21$ ,  $MSe = 1.06$ ,  $\eta^2 = .03$ ,  $p > .10$ . For adults, there was again no effect of goal attainment  $F(1, 86) = 1.49$ ,  $MSe = 15.06$ ,  $\eta^2 = .02$ ,  $p > .10$ . or of valence ( $F < 1$ ). There was no interaction,  $F < 1$ . See Figure 14.

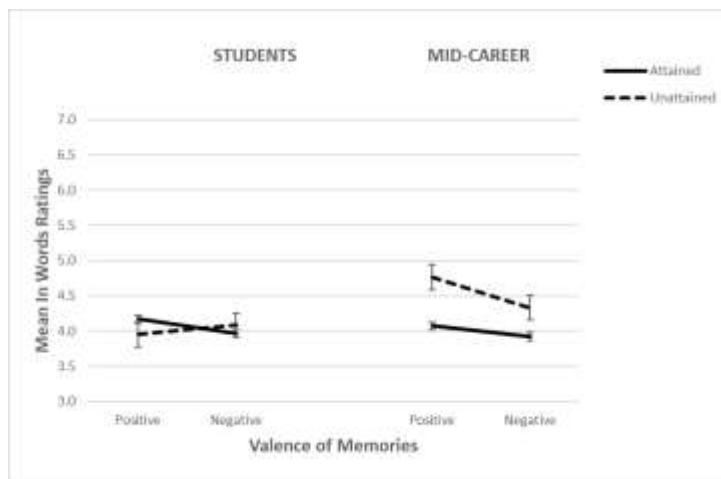


Figure 14. In words ratings as a function of goal-attainment and valence

Narrative. There were no main effects or interactions for students and adults,  $F_s < 1$ . See Figure 15.

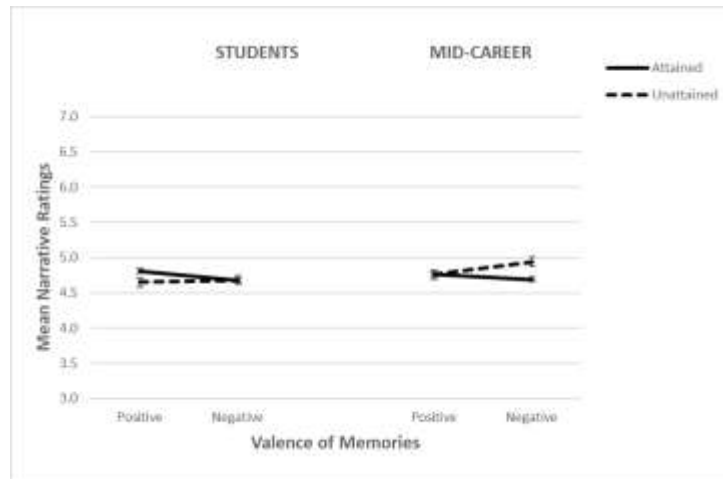


Figure 15. Narrative ratings as a function of goal-attainment and valence

## CHAPTER 4

### DISCUSSION

The current study investigated the effects of goal attainment and valence on characteristics of autobiographical memories. More specifically, we addressed whether memories of experiences related to attained goals would be different than memories of experiences related to unattained goals. In addition, this study also investigated whether the valence of the experiences (positive vs negative) in relation to the goals would affect the memory properties.

The results regarding the nature of the goals showed that for students, the most dominant goal when they were adolescents was performing well in the central university entrance examination and enrolling at the university/department they desired. Interestingly, the frequency with which the same goal was reported by the mid-career adults dropped down to around 35%. Considering the fact that there was only approximately a 10-year gap between the two groups and both groups were asked about their goals during their adolescence, the decline in mention of “university entrance” as a goal is striking. This change is clearly in line with the idea that current concerns or goals of individuals affect how past experiences are remembered (e.g., Conway, 2005).

The results regarding length of the memory narratives, ratings of importance, centrality as well as phenomenological properties presented a very consistent picture. In most cases, a clear effect of goal attainment was obtained; memories about attained goals were longer, considered more important and more central than memories of unattained goals. Similarly, there was an effect of whether the remembered experience was positively or negatively related to the goal; memories

that were positively related to goals (attained or unattained) were recalled better; they were longer and were rated more central and more important than the memories negatively related to the goals.

The most important results in the present study came from the interaction between goal attainment and valence. For all the dependent variables mentioned above, positive memories were remembered better or rated higher than the negative memories, only for attained goals but not for unattained goals. When the interaction pattern is considered, it is clearly seen that there are clearly two different categories of memories: memories positively associated with attained goals vs. the other memories. In other words, memories that are consistent with our goals (or the memories that served to achieve those goals) are remembered better than those inconsistent with these goals. Similarly, they are remembered better than the memories associated with unattained goals. This pattern across memory measures is consistent with the view that one of the important functions of autobiographical memory is the self or self-enhancement function, where memories are used to construct and maintain a positive self-image (e.g., Conway et al., 2004; Pillemer, 2003). The present findings clearly indicate that the effects of this can be seen not only in the content but also in the narrative and phenomenological aspects.

Another interesting finding regards a null effect; there was no difference between the two age groups in any of the dependent variables. Although age effects are expected in terms of goals and goal-related memories, it is not very surprising that there were no differences between the two age groups, given that the age difference was relatively small between the two groups.

There were a number of potential limitations in the study. It might be considered a potential issue to limit the period from which the memories should

come from (age 15-20). Although the goals and the content of memories would certainly be more varied if the age range was not limited, this would also mean that that would be another important factor to consider in the analyses, leading to a decline in statistical power. Another potential issue was that the student group was homogenous in that all were students at Boğaziçi University. While it may be worthwhile to increase the representativeness of the student group, it is important to note that entrance to university as a result of the central university entrance exam is very competitive and is, undoubtedly, a dominant goal for adolescents. Finally, in the present study, the order of presentation of the four memory cues were fixed and not counterbalanced, and the current data do not provide much information about the possible effects of order. This remains an empirical question.

The current study builds upon earlier research of the effect of goals on autobiographical memory and brings unique contribution as the present findings indicates the effects of goal attainment and valence on characteristics of autobiographical memories.

## APPENDIX A

### FIRST PART OF THE QUESTIONNAIRE: GOALS, MEMORIES, OPEN ENDED QUESTIONS AND DEMOGRAPHICAL QUESTIONS

Burada sizden istediğimiz 15-20 yaşlarınız arasındayken belirlemiş olup da sonradan ulaşabildiğiniz, sizin için en önemli hedef/amacınızın ne olduğunu net bir şekilde yazmanızdır.

*(Please write clearly an important goal that you set while you were 15-20 years old and that you achieved afterwards)*

...

...

Burada sizden istediğimiz 15-20 yaşlarınız arasındayken belirlemiş olup da sonradan ulaşamadığınız, sizin için en önemli hedef/amacınızın ne olduğunu net bir şekilde yazmanızdır.

*(Please write clearly an important goal that you set while you were 15-20 years old and that you didn't achieve afterwards)*

...

...

Zaman içinde ulaşamamış olduğunuz bu hedef hala hedefleriniz arasında mı, yoksa vazgeçtiniz mi?

*(Do you still pursue this goal that you didn't achieve?)*

...

Neden hala hedefleriniz arasında ya da neden vazgeçtiniz?

*(Why do you still pursue or why not?)*

...

...

Şimdi sizden birkaç anınızı hatırlamaya çalışmanızı isteyeceğiz. Burada “Anı” ile kastettiğimiz “belirli bir yerde belirli ve kısa bir süre içerisinde olmuş belirli bir olay” dır. Zaman içinde tekrarlanmış olaylar ya da uzun süreli deneyimler anı kapsamına girmez.

*(Now we ask you to remember some of your memories. Here what we mean with ‘memory’ is ‘a specific event that happened at a specific place and a short time period. The re-occurring events and long-term experiences are not in this scope.)*



#### ANI 1 (MEMORY 1)

Burada sizden istenilen yukarda belirttiğiniz ulaşmış olduğunuz hedefinizle uyumlu olduğunu düşündüğünüz, 15-20 yaşınız arasındaki dönemde yaşadığınız bir anınızı birkaç paragrafta mümkün olduğunca detaylı bir şekilde anlatmanızdır.

*(Please write in detail a memory from your 15-20 years old time, that is positively related to the goal you mentioned you achieved.)*

...

#### ANI 2 (MEMORY 2)

Burada sizden istenilen yukarda belirttiğiniz ulaşmış olduğunuz hedefinizle uyumsuz olduğunu düşündüğünüz, 15-20 yaşınız arasındaki dönemde yaşadığınız bir anınızı birkaç paragrafta mümkün olduğunca detaylı bir şekilde anlatmanızdır.

*(Please write in detail a memory from your 15-20 years old time, that is negatively related to the goal you mentioned you achieved.)*

...

#### ANI 3 (MEMORY 3)

Burada sizden istenilen yukarda belirttiğiniz ulaşmamış olduğunuz hedefinizle uyumlu olduğunu düşündüğünüz, 15-20 yaşınız arasındaki dönemde yaşadığınız bir anınızı birkaç paragrafta mümkün olduğunca detaylı bir şekilde anlatmanızdır.

*(Please write in detail a memory from your 15-20 years old time, that is positively related to the goal you mentioned you didn't achieve.)*

...

#### ANI 4 (MEMORY 4)

Burada sizden istenilen yukarda belirttiğiniz ulaşmamış olduğunuz hedefinizle uyumsuz olduğunu düşündüğünüz, 15-20 yaşınız arasındaki dönemde yaşadığınız bir anınızı birkaç paragrafta mümkün olduğunca detaylı bir şekilde anlatmanızdır.

*(Please write in detail a memory from your 15-20 years old time, that is negatively related to the goal you mentioned you didn't achieve.)*

...

Demografik Bilgi:  
(*Demographic info*)

Yaş:  
(*Age*)

Cinsiyet:  
(*Gender*)

Meslek:  
(*Occupation*)

Eğitim:  
(*Education*)

En son bitirdiğiniz ya da halen eğitim görmekte olduğunuz okulu ve bölümünüzü belirtiniz. Öğrenciyseniz kaçınıcı sınıfta olduğunuzu da belirtiniz.

(*Please write the school and department that you graduated or still studying at. If you are a student also mention your class.*)

## APPENDIX B

### SECOND PART OF THE QUESTIONNAIRE: THE TURKISH VERSION OF THE AUTOBIOGRAPHICAL MEMORY QUESTIONNAIRE

Lütfen yazdığınız birinci anıyı düşünerek, aşağıdaki her ifadeye ne kadar katıldığınızı, 1'den 7'ye kadar size en uygun olan sayıyı işaretleyerek değerlendiriniz. Yazdığınız ilgili anıya geri dönüp bakabilirsiniz.

*(Please refer to the first memory you wrote and answer the questionnaire, choosing the most appropriate scale from 1 to 7. You can look back to what you wrote.)*

1. Olayı hatırladığımda, olayı yeniden yaşıyormuş gibi hissediyorum.

*(As I remember the event, I feel as though I am reliving the original event.)*

*(1-not at all, 3-vaguely, 5-distinctly, 7-as clearly as if it was happening right now)*

1	2	3	4	5	6	7
Hiç değil		Belli belirsiz		Net bir biçimde		Şu anda oluyormuş gibi

2. Olayı hatırladığımda, onu zihnimde işitebiliyorum.

*(As I remember the event, I can hear it in my mind.)*

*(1-not at all, 3-vaguely, 5-distinctly, 7-as clearly as if it was happening right now)*

1	2	3	4	5	6	7
Hiç değil		Belli belirsiz		Net bir biçimde		Şu anda oluyormuş gibi

3. Olayı hatırladığımda, onu zihnimde görebiliyorum.

*(As I remember the event, I can see it in my mind.)*

*(1-not at all, 3-vaguely, 5-distinctly, 7-as clearly as if it was happening right now)*

1	2	3	4	5	6	7
Hiç değil		Belli belirsiz		Net bir biçimde		Şu anda oluyormuş gibi

4. Olayı hatırladığımda, ben ya da başka insanlar konuşuyor.

(As I remember the event, I or other people are talking.)

(1-not at all, 3-vaguely, 5-distinctly, 7-as clearly as if it was happening right now)

1	2	3	4	5	6	7
Hiç değil		Belli belirsiz		Net bir biçimde		Şu anda oluyormuş gibi

5. Olayı hatırladığımda, o zamanki duyguları şimdi de hissediyorum.

(As I remember the event, I can feel now the emotions that I felt then.)

(1-not at all, 3-vaguely, 5-distinctly, 7-as clearly as if it was happening right now)

1	2	3	4	5	6	7
Hiç değil		Belli belirsiz		Net bir biçimde		Şu anda oluyormuş gibi

6. Olayı hatırladığımda, olayın geçtiği yeri anımsayabiliyorum.

(As I remember the event, I can recall the setting where it occurred.)

(1-not at all, 3-vaguely, 5-distinctly, 7-as clearly as if it was happening right now)

1	2	3	4	5	6	7
Hiç değil		Belli belirsiz		Net bir biçimde		Şu anda oluyormuş gibi

7. İnsanlar bazı olayları, detaylarını hatırlamasalar da başlarından geçtiğini bilirler. Ben anımı hatırlarken, bu olayın başımdan geçtiğini bilmekten öte onu gerçekten hatırlayabiliyorum.

(Sometimes people know something happened to them without being able to actually remember it. As I think about the event, I can actually remember it rather than just knowing that it happened.)

(1-not at all, 3-vaguely, 5-distinctly, 7-as clearly as if it was happening right now)

1	2	3	4	5	6	7
Hiç değil		Belli belirsiz		Net bir biçimde		Şu anda oluyormuş gibi

8. Olayı kelimeler halinde hatırlıyorum.

(As I remember the event, it comes to me in words.)

(1-not at all, 3-vaguely, 5-distinctly, 7-as clearly as if it was happening right now)

1	2	3	4	5	6	7
Hiç değil		Belli belirsiz		Net bir biçimde		Şu anda oluyormuş gibi

9. Olayı hatırladığımda, olayın olduğu zamana geri döndüğümü ve olayı dışarıdan seyreden biri değil ona yeniden doğrudan katılan biri olduğumu hissediyorum.

(As I remember the event, I feel that I travel back to the time when it happened, that I am a subject in it again, rather than an outside observer tied to the present.)

(1-not at all, 3-vaguely, 5-distinctly, 7-as clearly as if it was happening right now)

1	2	3	4	5	6	7
Hiç değil		Belli belirsiz		Net bir biçimde		Şu anda oluyormuş gibi

10. Olayı hatırladığımda, olay aklıma yalnızca bir durum, gözlem ya da sahne olarak değil; sözcükler ya da resimlerden oluşan bütün bir hikaye ya da olay olarak geliyor.

(As I remember the event, it comes to me in words or in pictures as a coherent story or episode and not as an isolated fact, observation, or scene.)

(1-not at all, 3-vaguely, 5-distinctly, 7-as clearly as if it was happening right now)

1	2	3	4	5	6	7
Hiç değil		Belli belirsiz		Net bir biçimde		Şu anda oluyormuş gibi

11. Bu olay bana bir mesaj verdiği için ya da yaşamımda kritik bir zamanı veya dönüm noktasını simgelediği için benim için önemli bir anıdır.

(This memory is significant for my life because it imparts an important message for me or represents an anchor, critical juncture, or a turning point.)

(1-not at all, 3-vaguely, 5-distinctly, 7-as much as any memory)

1	2	3	4	5	6	7
Hiç değil		Belli belirsiz		Net bir biçimde		En az diğer anılar kadar

12. Bu olayın gerçekten hatırladığım şekilde gerçekleştiğine ve olmamış herhangi bir şeyi hayal etmediğime ya da kurmadığıma inanıyorum.  
(*I believe the event in my memory really occurred in the way I remember it and that I have not imagined or fabricated anything that did not occur.*)

(1-100% imaginary, 7- 100% real)

1	2	3	4	5	6	7
% 100						% 100
hayal						gerçek
ürünü						

13. Olduğundan beri, bu olay hakkında düşündüm ya da konuştum.  
(*Since it happened, I have thought or talked about this event.*)

(1-not at all, 3-sometimes, 5-may times, 7-as often as any event in my life))

1	2	3	4	5	6	7
Hiçbir		Bazen		Bir çok		Hayatımda
zaman				kez		hakkında en
						sık düşünüp
						konuştığım
						olaylardan biri

14. Lütfen olayın tarihini (gün / ay / yıl) olabildiğince doğru bir şekilde hatırlamaya çalışın. Tahmin etmeniz gerekse bile lütfen bir gün, ay ve yıl yazın. Eğer ayı biliyor ama günü bilmiyorsanız, ayın başı, ortası veya sonu için sırasıyla 1, 15 ya da 30 yazın. Bazen olayın tarihini hatırlamak için tatiller, doğum günleri ya da okulda olduğunuz yıllar gibi bilinen tarihler kullanmak yardımcı olabilir.

\_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

(Please date the memory (month/day/year) as accurately as you can. Please fill in a month, day, and year even if you must estimate. If the memory extended over a period of time, report the approximate middle of the period (scored as retention interval in days))

Lütfen yazdığınız ikinci anıyı düşünerek, aşağıdaki her ifadeye ne kadar katıldığınızı, 1'den 7'ye kadar size en uygun olan sayıyı işaretleyerek değerlendiriniz. Yazdığınız ilgili anıya geri dönüp bakabilirsiniz.

*(Please refer to the second memory you wrote and answer the questionnaire, choosing the most appropriate scale from 1 to 7. You can look back to what you wrote.)*

Lütfen yazdığınız üçüncü anıyı düşünerek, aşağıdaki her ifadeye ne kadar katıldığınızı, 1'den 7'ye kadar size en uygun olan sayıyı işaretleyerek değerlendiriniz. Yazdığınız ilgili anıya geri dönüp bakabilirsiniz.

*(Please refer to the third memory you wrote and answer the questionnaire, choosing the most appropriate scale from 1 to 7. You can look back to what you wrote.)*

Lütfen yazdığınız dördüncü anıyı düşünerek, aşağıdaki her ifadeye ne kadar katıldığınızı, 1'den 7'ye kadar size en uygun olan sayıyı işaretleyerek değerlendiriniz. Yazdığınız ilgili anıya geri dönüp bakabilirsiniz.

*(Please refer to the fourth memory you wrote and answer the questionnaire, choosing the most appropriate scale from 1 to 7. You can look back to what you wrote.)*

## APPENDIX C

### THIRD PART OF THE QUESTIONNAIRE:

#### THE TURKISH VERSION OF THE CENTRALITY OF EVENT SCALE

Lütfen aşağıdaki soruları yazdığınız birinci anıyı düşünerek ve altlarındaki ölçek üzerinde sizin için en uygun olan sayıyı işaretleyerek değerlendiriniz. Yazdığınız ilgili anıya geri dönüp bakabilirsiniz.

*(Please refer to the first memory you wrote and answer the questionnaire, choosing the most appropriate scale from 1 to 5. You can look back to what you wrote.)*

- Bu anının kişiliğimin bir parçası olduğunu hissediyorum.

*(I feel that this event has become part of my identity.)*

1                      2                      3                      4                      5

kesinlikle katılmıyorum

kesinlikle katılıyorum

*(1-totally disagree, 5-totally agree)*

- Bu anı, kendimi ve dünyayı anlamamda bir referans noktası haline geldi.

*(This event has become a reference point for the way I understand myself and the world.)*

1                      2                      3                      4                      5

kesinlikle katılmıyorum

kesinlikle katılıyorum

*(1-totally disagree, 5-totally agree)*

- Bu anının hayat hikayemin merkezi bir parçası haline geldiğini hissediyorum.

*(I feel that this event has become a central part of my life story.)*

1                      2                      3                      4                      5

kesinlikle katılmıyorum

kesinlikle katılıyorum

*(1-totally disagree, 5-totally agree)*



- Bu anı, yaşadığım diğer olaylarla ilgili düşüncelerimi ve hislerimi etkiledi.  
(*This event has colored the way I think and feel about other experiences.*)

1                      2                      3                      4                      5

kesinlikle katılmıyorum

kesinlikle katılıyorum

(*1-totally disagree, 5-totally agree*)

- Bu anı hayatımı kalıcı bir şekilde değiştirdi.  
(*This event permanently changed my life.*)

1                      2                      3                      4                      5

kesinlikle katılmıyorum

kesinlikle katılıyorum

(*1-totally disagree, 5-totally agree*)

- Sık sık bu anının geleceğimi nasıl etkileyeceği üzerine düşünürüm.  
(*I often think about the effects this event will have on my future.*)

1                      2                      3                      4                      5

kesinlikle katılmıyorum

kesinlikle katılıyorum

(*1-totally disagree, 5-totally agree*)

- Bu anı hayatımda bir dönüm noktasıydı.  
(*This event was a turning point in my life.*)

1                      2                      3                      4                      5

kesinlikle katılmıyorum

kesinlikle katılıyorum

(*1-totally disagree, 5-totally agree*)

Lütfen aşağıdaki soruları yazdığınız ikinci anıyı düşünerek cevaplayınız.  
(Please refer to the second memory you wrote and answer the questionnaire.)

Lütfen aşağıdaki soruları yazdığınız üçüncü anıyı düşünerek cevaplayınız.  
(Please refer to the third memory you wrote and answer the questionnaire.)

Lütfen aşağıdaki soruları yazdığınız dördüncü anıyı düşünerek cevaplayınız.  
(Please refer to the fourth memory you wrote and answer the questionnaire.)

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