

CHILDHOOD AMNESIA AND ATTACHMENT STYLES

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Childhood Amnesia and Attachment Styles

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## Thesis Abstract

Sinem Özen Canbolat, “Childhood Amnesia and Attachment Styles”

This study was conducted to compare the end age of childhood amnesia, for different attachment styles. It was predicted that high avoidant adults’ end age was later than low avoidant adults’, whereas the end age for anxious adults was earlier than low anxious ones’ end age. This difference was anticipated to be valid for especially attachment-related memories, but not for emotional or neutral memories.

Participants wrote down their twelve earliest childhood memories that were attachment-related, emotional, or neutral. For every recollection, they also answered memory characteristics questions. “Experiences in Close Relationships Scale” (ECR) was used as a measurement of attachment.

The results showed that similar to other interdependent cultures, the end age for childhood amnesia for Turkish culture was found to be later than western cultures that value independency. Earliest memories were found to be neutral. Females had better recall of childhood memories than males.

There was not found any difference among attachment styles for age of childhood memories for different levels of anxious and avoidant people. However, avoidant adults recalled marginally more neutral memories, and before the ages 4 and 5, marginally less positive attachment memories than low avoidants. They had also recalled marginally less positive emotional memories from the first 5 years of life.

This study was crucial as it pointed out a possible relationship between the end age of childhood amnesia and attachment style, and had implications about the type of early memories and the end age of childhood amnesia in Turkish culture.

Keywords: childhood amnesia, attachment, memory, memory characteristics.

## Tez Özeti

Sinem Özen Canbolat, “Çocukluk Amnezisi ve Bağlanma Stilleri”

Bu çalışma farklı bağlanma stillerinin çocukluk amnezisinin bitiş yaşını karşılaştırmak için yapılmıştır. Kaçınmalı bağlanma seviyesi yüksek yetişkinler için bitiş yaşının kaçınmalı bağlanma seviyesi düşük olanlardan daha ileri olması beklenirken; kaygılı bağlanma seviyesi yüksek yetişkinler için bitiş yaşının kaygılı bağlanma seviyesi düşük olanların bitiş yaşından erken olacağı tahmin edilmiştir. Farkın özellikle bağlanma ile ilgili olaylar için geçerli olacağı, ancak duygusal ya da nötr olaylar için geçerli olmayacağı öngörülmüştür.

Katılımcılar bağlanma ile ilgili, duygusal ve nötr olan on iki erken çocukluk anısını yazmışlardır. Ayrıca her anı için hafıza karakterleri sorularına da cevap vermişlerdir. Bağlanma şekilleri “Çok Maddeli Yetişkin Romantik Bağlanma Ölçeği” ile ölçülmüştür.

Sonuçlar, diğer bağımlı kültürlerle benzer olarak, Türk kültüründe de çocukluk amnezisi bitiş yaşının bağımsızlığa değer veren batı kültürlerinden daha geç olduğunu göstermiştir. İlk anıların nötr olduğu bulunmuştur. Kadınlar çocukluk anılarını erkeklerden daha iyi hatırlamıştır.

Farklı kaçınmalı ve kaygılı bağlanma seviyeleri arasında çocukluk anılarının yaşı açısından bir fark bulunmamıştır. Ancak, kaçınmalı bağlanma seviyesi yüksek olanlar nötr olayları, ve 4 ile 5 yaş öncesindeki pozitif bağlanma olaylarını marjinal olarak daha az sayıda hatırlayabilmişlerdir. Bu kişiler ayrıca hayatlarının ilk 5 yılına ait pozitif duygusal hatıraları da marjinal olarak daha az sayıda anımsamışlardır.

.Bu çalışma çocukluk amnezisinin bitiş yaşı ve bağlanma stilleri arasındaki olası bir ilişkiye dikkat çektiğinden, ve, erken anıların çeşidi ve Türk kültüründeki çocukluk amnezisi bitiş yaşı konularındaki çıkarımlarından dolayı önemlidir.

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## CHAPTER I: INTRODUCTION

The aim of this study is to investigate whether end of childhood amnesia is related to adult attachment styles.

Attachment is the tie between infant and her caregiver. This tie may develop either securely or insecurely. In case of insecure attachment, infant might become an anxious one whose caregiver is unpredictable and inconsistent in caregiving activity, or an avoidant one whose caregiver have difficulty in being sensitive to infant's needs. From childhood to adulthood, studies showed that there is mostly continuity in attachment patterns (Hamilton, 2000; Waters, Merrick, Albersheim & Treboux, 1995; as cited in Allen & Land, 1999), which means that secure infants stay as secure, and insecure stay as insecure in general. It is known that avoidant individuals have lack of recall of events about childhood memories (Main, 1995, as cited in Siegel, 1999). One of the possible reasons for that is the quality and amount of interaction they had with their parents when they were children. Their parents talk to them in a less elaborative way on emotions than the parents of secure children do (Laible & Thompson, 2000), and avoid talking about attachment-related events even if they have conversations about other events without any problem (Fraley, Davis, & Shaver, 1998).

Interaction with parents in an elaborative way affects also the end age of childhood amnesia which is adults' inability to remember earliest years of life. According to social interaction theory, the end age of childhood amnesia is affected by both the quality and amount of interaction of children with their parents. Children whose parents engage more conversation in an elaborative way have better memory for past events (Pillemer, 1998). They learn to organize their narratives, and learn how to remember the past events in that way. Hence, by having less interaction in a

non-elaborative way for attachment-related events, avoidant individuals are expected to have later end age for childhood amnesia for attachment-related events than secure and anxious individuals. Even though, anxious individuals have parents who talked less and in a non-elaborative way, too, they are expected to have earlier end age for childhood amnesia, even earlier than secure adults'. Although they can not recall coherent memories, they can recall earlier memories than others, probably due to their rehearsal of these events (Mikulincer & Orbach, 1995).

The difference among attachment types for the end age of childhood amnesia is predicted to be obtained only for attachment-related events. This is because avoidant children's parents avoid talking on attachment-related topics. Similarly, anxious individuals are expected to reminisce constantly their attachment-related memories, but not specifically any other kind of memories.

Although the main goal of the study was to evaluate the end age of childhood amnesia for different attachment patterns, the end age of childhood amnesia for Turkish culture was also analyzed. In addition to these, memory characteristics like level of vividness, coherence, sensory detail, accessibility, sharing, valence, and visual perspective of the recollection for different attachment types were evaluated and revised on the basis of different memory types.

### The Theory of Attachment

Bowlby (1971, 1977) explained attachment as a system that develops on the basis of infant-caregiver relationship and affects expectations, emotions, and memories. It is the bond between weaker and wiser, and it is resulted from the activation of many behavioral systems like feeding, exploration, reproduction etc. It

involves maintaining “proximity to wiser” as a crucial purpose that has a survival value for weaker (Bowlby, 1971). This purpose may be activated by danger, need for food, fatigue or strangeness, and terminated by proximity to wiser, like physical contact with him or her. When exploring the environment, weaker uses wiser as a secure base (Ainsworth, 1940; as cited in Bretherton, 1991) that enables her to feel secure in times of threat and distress. Although wiser is usually a mother, it can be anyone that fulfils the care giving activity (Bowlby, 1971, 1977).

Not all children become attached to their caregivers in the same way. The individual differences in attachment are reflections of caregiver effects and the infant’s modeling of her caregiver, herself, and the interaction between them (Bowlby, 1971). Caregiver effects like early maternal sensitive responsiveness found to be influential for later attachment quality (Maslin, 1983; Belsky, Rovine, & Taylor, 1984; Grossman et al., 1985; all as cited in Bretherton, 1985). According to the consistency of care giving activity, and the extent that infant sees herself as worthy for love, the quality of attachment may change, and infant may develop either a secure or an insecure attachment relationship.

Secure infants know that their attachment figures will be available consistently whenever they need them. In a secure relationship, emotional expressions of both infants and caregivers are in concordance. This concordance can be obtained if only caregiver is sensitive to the state of mind of infant (Siegel, 1999). Being sensitive to infant’s state of mind means figuring out emotional expressions and vocalization of infant, interpret them accordingly, responding appropriately to her needs (Grossman & Grossman, 1991). Infant and caregiver share emotional states of each other, and later in life, their attunement reflects in narratives as verbal focus

on emotional aspects. Even in the first year of life, their communication is found to be more open when compared to the other types of attachment relationships.

Anxious attachment type infants'<sup>1</sup> mothers were not consistent in their availability and sensitivity (Ainsworth, Blehar, Waters & Wall, 1978). They may reject their infants' proximity seeking if they are busy with another thing, or, they may hug and kiss them suddenly when these infants play comfortably on their own. As a result of this, anxious infants' internal working models are constructed on this inconsistency. These infants adapt a strategy for the unpredictable relationship in which they are continuously in alert (Fonagy & Target, 1997). They become extremely focused on their emotions. Their perceptions and expectations about the world, others and self would be in an anxious way (Siegel, 1999).

Caregivers of avoidant type infants'<sup>2</sup> have difficulty in communicating with their children according to their developmental level (Siegel, 1999). Caregivers are indifferent to their children's state of mind. Because of infants' internal working models code this neglect, reunion with caregiver has no function for them. They feel that their emotional needs are not satisfied by their caregivers. Additionally, avoidant infants experience distress. The cause of this distress is the minimization of their expectations as a result of ignorance (Fraley et al., 1998). This distress is a conflict between their needs for care and the ignorance they are confronted with. Although they use defensive strategies to inhibit this stress, these strategies do not deactivate the attachment system (Sroufe & Waters, 1977; as cited in Fraley et al., 1998). As their need for care becomes the cause of their distress, in order to avoid this anxiety, they minimize their expectations about proximity seeking (Main, 1995; as cited in Siegel, 1999). They feel distance to others, to world, and to the self.

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<sup>1</sup> "Anxious infant" or "Anxious child" will be used throughout the text

<sup>2</sup> Avoidant infant" or "Avoidant child" will be used throughout the text

## Continuity and Discontinuity of Patterns in Adolescence and Adulthood

We mentioned that secure children have verbal focus on emotions with their parents, ambivalent infants focus extremely on emotions, and avoidant children try to deactivate their attachment system and try to avoid attachment-related anxiety. These can be crucial to make inferences for later recall of childhood memories. However, firstly, it should be examine whether these attachment patterns show continuity in adulthood. If not, then one can not claim that avoidant individuals have inability to recall attachment-related childhood memories, because they do not have much conversation on them with their parents in the childhood. To make an argument like this, there should be continuity in the attachment patterns.

Bowlby (1971) emphasized that these patterns of attachment in early childhood are similar to ones in adulthood. In the early life, they persist because the caregivers' behavior to child mostly stays unchanged. Living with parents and continuities in parents' behavior are crucial aspects for the stability of attachment pattern from childhood to, at least, adolescent life (Allen & Land, 1999).

Beside the consistency in caregiving activity, circles of behaviors are also effective on the stability of pattern. It means that for a child, some behaviors, which are the outcomes of having a certain attachment pattern, may create same reactions from her caregiver continuously. For example, a secure child is more adorable and less demanding than an anxious one who is more likely to have less favorable responses to her anxious and demanding behaviors. (Bowlby, 1988). Not only their behaviors, but also their vulnerability to life events creates a snow ball effect for the pattern continuity. Insecure patterns are more vulnerable to negative life events, whereby, secure patterns have more chance to handle stressful events, are more socially cooperative...etc.

Another form of continuity is the consistency in attachment patterns of parents and their infants: “the intergenerational transmission of attachment” (Van Ijzendoorn and Bakermans-Kranenburg, 1997). Van Ijzendoorn and Bakermans-Kranenburg (1997) modeled the intergenerational transmission of attachment as a chain that starts with parent’s early attachment experiences which bring out parent’s attachment representations. These representations reflect themselves in parenting behaviors that in turn affect infant’s attachment experiences. Thus, the parents’ childhood experiences mediate the transmission of their attachment patterns to children. Empirical studies showed that the concordance between AAI of parents and strange situation of their children is high (Allen & Land, 1999), and, ranged from 69 % to 85 % (Van Ijzendoorn, 1992).

There is no warranty of continuity of a pattern. A possible cause of discontinuity may be child’s characteristics (Van Ijzendoorn & Bakermans-Kranenburg, 1997). For example, child’s temperament or physical condition may make it difficult for parents to behave sensitively. Additionally, conditions within a life time are not stable (Bretherton, 1985). As an example, attachment styles of participants, who were chosen from a population that have poor developmental circumstances, were assessed during infancy and at the age of 19 in a longitudinal study of Weinfeld, Sroufe, and Egeland (2000). They found that the secure participants turned into insecure ones because of stressful life events like maternal depression and child maltreatment. Also, Hamilton (2000) mentioned that negative life experiences were correlated with discontinuity of attachment patterns. Beside child’s characteristics and social context, there is a third factor for discontinuity of patterns: the chain of intergenerational transmission can be broken by later attachment-related relationships (Bowlby, 1971, 1988). For example, because the

representations of parents are dynamic models, an insecurely attached person may use a therapist as her secure base and focus on early attachment relationships, and become a secure individual through this process. Hence, there is always a possibility that any secure patterns may turn to an insecure one, or vice versa, any of the insecure patterns may become a secure pattern (which is then called earned security).

Nevertheless, it can be said that, mostly, there is continuity for attachment patterns within a life time period. Hamilton (2000) reported in her study a 77% stability of classifications from infancy to adulthood. Similarly Waters, Merrick, Albersheim, and Treboux (1995; as cited in Allen & Land, 1999) found a 70% correlation between their participants' AAI (Adult Attachment Interview) and their earlier strange situation results.

### Adult Attachment

Following the idea about continuity, which means that adult attachment patterns resemble the ones in infancy, and that the parents' attachment styles are in concordance with infants' styles, it becomes important to revise adult attachment issue to make an inference for the ability to remember past.

When research in the area focused on older children and adults, many empirical studies were conducted to assess the pattern in adolescence and adulthood. In general, these studies are supported by the assumption that adult attachment patterns and representations are similar to those of infants. Firstly, George, Kaplan, and Main (1984; as cited in Crowell, Fraley, & Shaver, 1999) developed Adult Attachment Interview to analyze parents' childhood attachment styles. They found that parent's narratives in those interviews are correlated with their children's attachment style. Moreover, it is found that infants' attachment styles as assessed in

the strange situation procedure are correlated with their later attachment styles assessed at adult attachment interview of Main, later in their life (Ogawa, Sroufe, Weinfeld, Carlson, & Egeland, 1997; as cited in Siegel, 1999; Carlson, 1998; Hesse, 1999). The resulting classifications from AAI are “autonomous”, “preoccupied”, and “dismissing” state of minds. The first of them is a secure state of mind about attachment, whereas the others are insecure state of mind. Securely attached children are expected to grow into autonomous adults. Anxious attachment would probably result in a preoccupied state of mind, and avoidant attachment, in a dismissing state of mind.

Beside the interview, many other self-report scales that social psychologists presented like Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987; as cited in Crowell et al., 1999), and, Reciprocal Attachment Questionnaire (West & Sheldon-Keller, 1994; as cited in Crowell et al., 1999) were created. As it was realized that the continuity of an attachment pattern is also established in terms of selecting the romantic partners (Allen & Land, 1999), a self-report measurement for romantic attachment was introduced by Hazan and Shaver (1987; as cited in Crowell et al., 1999).

Many functions of parent-infant attachment relationship may be transferred to the interaction with romantic partners. Although the behavioral patterns of both are similar, a main difference of romantic interaction from parent-infant relationship is the reciprocal nature of the relationship. The three patterns of infancy (secure, anxious, and avoidant) show themselves as “love styles” in adolescence and adulthood. Based on this argument, Hazan and Shaver developed their self-report measurement. They asked participants to choose one of the three vignettes that explain their relationship with their romantic partners in general. Actually, these



paragraphs correspond to 3 attachment styles' possible behaviors in a romantic interaction. They found a correspondence between working models for romantic relationships and early memories about experiences with parents.

Based on these adulthood patterns emerged from the scales, in this section, characteristics of adulthood attachment styles, how different adult attachment types' memories are organized, to what extent they talk to their children or avoid talking, and whether they have memory problems will be argued in general, and will be detailed in the following sections.

#### Adult Attachment Patterns and their Ability to Recall Past

Secure adults have coherent, clear, consistent and detailed memories (Hesse, 1996). They can talk about negative memories as well as positive ones (Siegel, 1999). The important thing is that the narrative about memories with parents is in a coherent way. These adults live in the present, and do not have attachment-related problems for future. As a result, they can organize the information about themselves overtime in a clear and consistent way. This helps them to recall past memories easily. When they become parents, they have elaborative conversations and can talk on emotions with their children (Laible & Thompson, 2000; Siegel, 1999).

Anxious infants worry much about being cared and use a strategy in which they maximize their attention for their attachment figure that is inconsistent in her caregiving. As a result, they become anxious adults who have worries about attachment-related events (Hesse, 1996). Having parents that were inconsistent in their emotional availability presumably have make these adults anxious with the satisfaction of their needs (Siegel, 1999). These past preoccupations show themselves in the present perceptions. Any difficulty in their relationship with others

may trigger the memories of past, and makes them feel the past attachment-related preoccupations. For example, having a distant partner may be perceived as being rejected, which in turn may lead to feeling of frustration that resembles the one at the time of ignorance by parent. They do not have problem in recalling memories, however, their memories are too long and lack of coherence.

Avoidant adults do not have much to say about their childhood memories (Goldberg, 2000). They cannot recollect specific memories, and usually they answer in short narratives. Without any concrete recollections, they talk about their parents in a positive way, and they may even idealize their parents.

Avoidant adults use defensive strategies to disengage the attachment system, and their suppression as a strategy decreases the activation of it (Fraley & Shaver, 1997). In order to keep their attachment system deactivated, there should be special underlying psychological mechanisms that these adults use (Fraley et al., 1998). Attention is one of these mechanisms. Avoidant adults' defensive strategies include avoiding focalization of attention on attachment-related thoughts and feelings. They elaborate less on these issues, which in turn affects the dyads between avoidant parents and their avoidant infants.

Memory is another mechanism. It serves to minimize their distress by not bringing attachment related emotions and thoughts which are the source of this distress into consciousness (Siegel, 1999). Fraley et al. (1998) argued that in order to be able to inhibit this stress and deactivate the attachment system, those adults should be able to shift their attention easily from attachment related thoughts to attachment unrelated thoughts. This easiness in shifting attention is a consequence of isolation of unwanted thoughts from any associative networks. In other words, they create disassociativeness between attachment-related thoughts and events they experience.

Thus, when they confront with an attachment-related experience, the probability of activating these thoughts directly or indirectly diminishes for them. The disassociativeness explained here for avoidant adults is similar to one that Hansen and Hansen (1988) stated for repressive people. They stated this disassociativeness as “repressors’ associative network linking the memory for one emotion-evoking event to another may be weaker and less complex than nonrepressors” (p.812).

It is known that repressors could not easily recall their childhood memories (Davis, 1987; Davis & Schwartz, 1987). However, although the explanation for the deactivation of the attachment system in avoidant adults is similar to the one for repressive adults, there is not much work done for analyzing the relationship between repressive and avoidant adults. Indeed, there is one that is conducted by Mikulincer and Orbach (1995). They showed that avoidant adults repress their early childhood memories more than other adults in order to avoid the activation of certain negative memories.

Although there was only one type of avoidant pattern that was used by social psychologists as an extension of Bowlby’s and Ainsworth’s infancy patterns, later, Bartholomew and Horowitz (1991) divided it into two different categories of attachment. They realized another pattern when they used two dimensions (anxiety and avoidance) to compare attachment patterns. They emphasized that attachment types differ in anxiety and avoidance levels, and also, in the two dimensions of internal working models: “model of self” and “model of other”. According to this model of adult attachment, secure individuals have positive sense of self and other, and, low levels of anxiety and avoidance. Anxious ones see others as trustworthy and accepting, but not see themselves as worthy. Besides, they have high levels of anxiety and dependence, but low levels of avoidance. One type of avoidant adults have self-

esteem and self-acceptance, but see others as rejecting. They are less anxious, but more avoidant than the other groups. Bartholomew and Horowitz named this group as dismissing-avoidant, because there is another group who has negativity in both dimensions: they neither have sense of worthiness nor see others as trustworthy and accepting. They have high levels of both anxiety and avoidance. They were named as fearful-avoidant. Like dismissing-avoidants, they avoid close relationships. The difference was the reason: They do not avoid closeness for keeping off dependence, but for the fear of being rejected. In general, they might have experienced traumatic events with their attachment figure. Because of this traumatic experience, their coherence in integration of different memorial representations might be impaired.

Before elaborating more on memory for attachment styles, especially for avoidant type, I would review the literature for the childhood amnesia in the following section.

### Childhood Amnesia

Childhood amnesia is the adults' inability to remember autobiographical memories for the early years of life (Pillemer, 1998). Empirical findings about the end age of childhood amnesia are quite consistent. Research showed that childhood memories are rarely recalled if they happen before the age of about 3 to 4 (Kihlstrom & Harackiewicz, 1982; McCabe, Capron, & Peterson, 1991; as all cited in Pillemer, 1998; Mullen, 1994; Multhaup, Johnson, & Tetrick, 2005). However, for some specific events this age may be younger. Usher and Neisser (1993) examined 4 specific events in college students. Events in question were birth of a sibling, hospitalization, family move, and death of a family member. They found that birth of

a sibling and hospitalization can be recalled even if they happened at the age of 2.

Thus, they stated that end of childhood amnesia may vary according to event type.

Different factors may play a causal role for the offset of childhood amnesia. From a psychoanalytic view, childhood amnesia is a result of repression of traumatic events (Freud, 1895, 1966; Christianson & Lindholm, 1998; as all cited in Siegel, 1999). Recent research showed that it is not a phenomenon that can be interpreted by repression, but rather with the development of language and autobiographical self (Nelson, 1996), sense of self (Howe & Courage, 1993), theory of mind (Perner & Ruffman, 1995; as cited in Pillemer, 1998), causal and temporal reasoning (Pillemer & White, 1989; as cited in Pillemer, 1998), perception (Hayne & Rovee-Collier, 1995; as cited in Pillemer, 1998) and with the maturation of neural (Nelson & Carver, 1998; as cited in Siegel, 1999) and brain systems (Nelson, 1995; as cited in Rovee-Collier & Hayne, 2000).

One of the approaches that brings causal explanations to the end of childhood amnesia is social interaction theory. It claims that the timing of the end of childhood amnesia is influenced basically by the quality and amount of interaction of children with their parents. The interaction mentioned here is the conversation about past events between parents and children. The way that the development of autobiographical memory is affected by this interaction is a determinative factor in remembering the earliest memories later in life.

The effects of interaction with parents on autobiographical memory development were highly examined in the literature. It was stated that although nonverbal memory exist in very young children (see Pillemer, 1998, for a review), autobiographical memory develops after the emergence of language (Nelson, 1996). Autobiographical memory of child is constructed through conversational interaction

with parents. Parents help children to organize their memories by asking them questions, and talking them about past experiences (Nelson, 1996). In this sense, Reese and Fivush (1993; as cited in Siegel, 1999) stated two dimensions of parenting style in conversation: high elaborative and low elaborative parenting styles. High elaborative parents, as it is understood, are the ones that engage in more elaborative talks. They talk about what their children think and imagine, whereas low elaborative parents talk only about facts. Children of high elaborative parents have more easiness in recalling past details later in their lives (Bauer & Wewerka, 1995; as cited in Siegel, 1999). Tessler and Nelson (1994; as cited in Pillemer, 1998) conducted a research that was consisted of a visit to a museum with children and their parents. Children who communicated in a more elaborative fashion with their mothers recalled more details after the visit, in certain delayed sessions. Thus, interaction with parents lights the way for remembering. A more recent work of Haden, Ornstein, Rudek, and Cameron (2009) confirmed the correlation between elaborative style and recall abilities. They observed mothers and their 18 to 30 months old children together, and divided the group of mothers into two as “high-eliciting” and “low-eliciting” according to their reminiscing style. High-eliciting group asked more elaborative questions by using less detailed statements, and confirmed their children more than low-eliciting mothers. Reminiscing style of mothers predicted the recall ability of their children.

Pillemer (1998) stated the effect of interaction with parents on the ending time of childhood amnesia as follows:

According to the social interaction hypothesis, the extensiveness of childhood amnesia should vary somewhat with the quality and amount of parent-child memory talk and adults’ efforts to make salient early events intelligible to the child. The more sophisticated and elaborate the child’s narrative memory representations, the more likely that memories can be accessed later in life through purposeful retrieval efforts (p.910).

Talking about the past enhances rehearsal, which in turn strengthens the accessibility of the memory (Fivush, 2002). Furthermore, children learn the conventionalized patterns for organizing their narratives and talking about past.

Fivush (2002) argued that childhood amnesia has two phases. At their age of 2, children start to engage in conversation about past with their parents (Hudson, 1993; as cited in Pillemer, 1998, Boyer- Pennington, 1998). However, they can talk about past but they can not organize their memory in a coherent way. This engagement is initiated and directed by parents rather than children. It is more probable that parents discuss more the experience that is distinct for themselves (Fivush, 2002). This might be the reason why Usher and Neisser found in their study that some special events could be remembered at the age of 2. When children reach their 3 to 4 years of age, they acquire the ability to organize their narrative memory. Thus, it is those ages that are stated empirically as the end of childhood amnesia in literature.

### Childhood Amnesia for Different Attachment Types

It is emphasized that children build up their memory by engaging in conversation about past with their parents (Nelson, 1993, Fivush, 1991, Hudson, 1990; as all cited in Pillemer, 1998). Similarly, conversation with parents plays an important role in determining the end point of childhood amnesia (Fivush, 2002). According to Fivush, childhood amnesia does not end suddenly; rather it is a continuous process. He proposed the importance of engagement in conversation with parents during this process. He stated that “It is not simply rehearsal, but the creation of an organized story accessible over time, that leads to enduring personal memories.” (p.97). Thus, communication with parents affects the end point of

childhood amnesia, and contributes to the encoding of memories. Topics that parents choose and the way they talk with their children are also important facts for those children to be able to remember these memories later on.

Talking openly in a sensitive and emotional way during this dialectical process might be influenced by the attachment styles (Farrar, Fasig, & Welch-Ross, 1997). Parents can choose the topics and emotional content according to their own internal working models. It is known that secure parents have coherent and well organized narratives about their childhood, whereas anxious and avoidant parents lack this coherency in their narratives. In this sense, it was found that mothers of securely attached children engage in more frequent, emotionally open and coherent conversation with their children (Laible & Thompson, 2000). This open communication helps child to encode emotions as less threatening and later makes them more accessible at retrieval. As a result of parent's amount and quality of talk about emotions, their children, in future, may have different degrees of accessibility to their childhood memories. Kobak and Sceery (1988; as cited in Farrar et al., 1997) conducted a study with college students to evaluate how different attachment types recollect past events about their parents. Secure ones could recall negative early memories in an organized and coherent way. In spite of their negative memories, they could form an integrative representation about their parents, and qualified them as loving and responsive. On the other hand, students in dismissing group could barely recall their distressing childhood memories.

Bretherton and Munholland (1999) noted about Bowlby's emphasis of the defensive processes and their consequences on memory in later life. Bowlby argued that defensive exclusion is used by children whose attachment behavior is activated but not pacified by caregiver. Defensive exclusion is a kind of strategy used to avoid



feeling and thoughts about experiences that would induce anxiety. Thus, these children may use defensive exclusion about attachment-related events that are stressful for them as their attachment-related needs are not met. As a consequence they do not remember episodic memories which are consisted of specific recollections, but instead, they talk about semantic memories that are general.

Avoidant adults' attempt to deactivate attachment reflects itself in communication with their children. They generally keep emotional or attachment-related topics away from their conversation (Cassidy, 2000; as cited in Alexander, Quas, & Goodman, 2002). Whereby, the secure parents' coherent way of talking about attachment-related events and emotions help their children in acquiring a more organized way of thinking and rehearsing, avoidant adults' attitudes do the opposite for their children (Alexander et al., 2002). Talking less about attachment-related events and emotions would probably result in a less organized memory about these issues for children of avoidant adults.

In the light of these findings, it can be predicted that avoidant adults' end of childhood amnesia for attachment events can be much later than secure and anxious adults'. Their inability to recall details of their childhood goes beyond the general age for the wane of childhood amnesia (Siegel, 1999). This is because being neglected and rejected; having emotionally disconnected relationships with their attachment figure. This disconnection shows itself in verbal interactions between children and their attachment figure. Not having any emphasize on attachment related, in other words, not engaging in any elaboration on these events may lead to a memory deficiency, which can result in a late wane of childhood amnesia for attachment events.

Although there is no empirical study for the end period of childhood amnesia for different attachment types, there is plenty of research for the relationship between attachment and episodic or autobiographical memory. In an experiment, Belsky, Spritz, and Crnic (1996) found that, in a puppet show, securely attached children remembered positive events more accurately than negative events, whereas the opposite situation was observed for insecurely attached children. However, their sample was consisted of only boys, and they did not analyzed insecure attachment types separately. Beside these, their material did not involve attachment related events. Kirsh and Cassidy (1997; as cited in Alexander et al., 2002) gave 6 stories to 3 years old children that were classified according to their attachment styles. Stories were about a child that requested care after injury. Experimenters varied the content of the stories according to the three attachment types. Reactions of parents in the stories were made in accordance with these attachment types. Like in Belsky et al.'s study (1996), it was predicted that every child would recall the story that corresponded to her attachment style better than the other participants. However, it was found that securely attached children remembered all three types better than the insecurely attached ones. Thus, if the material is attachment related, the memory performance of securely attached children is better than insecure ones.

Mikulincer and Orbach's observation (1995) is another example for the studies conducted to research the relationship between attachment and autobiographical memories. They assessed their participants' attachment style and repressive defensiveness with various scales, and asked them to recall early memories associated with four emotions (anger, sadness, anxiety, and happiness). After that, the participants rated how they felt about the recalled situations. Avoidant people recalled memories about sadness and anxiety worse than the secure and

anxious group, whereas, anxious people recalled them better than the other two groups. Anxious group had also more access to negative experiences when compared to sad ones. They recalled earlier memories than avoidant and secure groups did, although the difference between anxious and secure groups was not significant. Avoidants' memories were the latest among three groups. They explained that whereas anxious people's high level anxiety and low level of defensiveness lead them to activate negative emotional schemas continuously, avoidant people's high level of defensiveness seem to limit the accessibility to negative emotional memories.

### The Present Study

The present study investigated whether adult attachment styles have an effect on childhood autobiographical memories. We may state that avoidant individuals have poorer memory performance than others, based on the results of empirical studies done for the relationship between autobiographical memory and attachment patterns. However, there is a question mark for whether avoidant individual's memory impairment is consisted of memory in general or only for attachment-related memory. Edelstein (2006) proposed that it is only the attachment-related themes that lead to a memory impairment in avoidant individuals. In her study, the intensity and emotional valence were the same for both emotional and attachment-related words. However she did not found any effect of emotional words on working memory of different attachment types, but found an effect of attachment-related words. She argued that it is not the emotions that impairs memory of avoidant adults, but rather

threatening facts like rejection, closeness, or intimacy which are evoked by attachment-related words.

Alexander and Edelstein (2001; as cited in Alexander et al., 2002) assessed 5 years old children in a story-telling and play activity. After one and a half weeks they examined children's memory about those activities. They found a significant relationship between attachment and memory for the story-telling activity in which child was required to complete the stories according to attachment issues. However, they did not find any relationship between attachment style and memory for play activity. This may be because the play event is irrelevant to attachment issues as it does not evoke any threatening constructs about attachment.

VanIJzendoorn and Bakersman-Kranenburg (1996) argued that dismissing-avoidant adults do not have any impairment in recalling non-attachment related events. They can easily recall information like major world events.

In the light of these findings, it can be hypothesized that:

Hypothesis 1: As the avoidance level increases, the end age of childhood amnesia for attachment memories increases, too.

If the results showed that the childhood amnesia for all memories ends later for avoidant people, than we can say that it is not only the attachment-related memory that impairs but also the autobiographical memory in general. On the other hand, if it was found that they can not answer for the childhood memories which are related to attachment, but can recollect easily other kind of memories, than it would be apparent that the memory impairment of avoidant people is only for attachment-related experiences

It is not easy to make a prediction about the extensiveness of anxious adults' childhood amnesia. Although empirical studies found that secure infants and adults

are better in recalling past than other insecure attachments, Mikulincer and Orbach (1995) found that anxious-ambivalent adults make recollections from an earlier age than other type of attachment styles. They discussed that this may be because of anxious-ambivalent individuals' constant rumination on emotional thoughts and their low defensiveness (even lower than secure adults), while recalling those memories. So, it can be predicted that

Hypothesis 2: As the anxiety level increases, the end age of childhood amnesia for attachment memories decreases.

Lastly, the effect of non-attachment related words is hypothesized:

Hypothesis 3: For memories other than attachment-related ones, there will be no relationship between anxiety and avoidance levels and end age of childhood amnesia.

## Design

This study used a structured observational design to evaluate the relationship between attachment and childhood amnesia.

The attachment styles of the participants were determined by a scale that was offered by Brennan, Clark, and Shaver (1998). Their scale was based on the two dimensions of Bartholomew's model. Brennan et al. created this two sub-scaled self-report measurement by integrating items of different attachment scales that were either published or unpublished (like Brennan & Shaver, 1995; Collins & Read, 1990; Simpson, 1990; Hazan & Shaver, 1987, 1990; Armsden & Greenberg, 1987...etc.; as all cited in Brennan et al., 1998). As a result of this study, they constitute a scale with 36 items which categorize the individual into one of the 4

attachment styles: autonomous, preoccupied, dismissing, and fearful. However, in this study, the attachment styles were not taken as categorical, because there is not any study that had determined the coefficients for Turkish culture . Instead, only the avoidance and anxiety scores from which the attachment categories are calculated were taken into analyses as independent variables. Analyses were conducted to see the relationship between avoidance /anxiety scores, childhood amnesia, and memory questions

To determine the age for the end point of childhood amnesia, a recall phase was realized for memories from 3 categories: neutral memories, emotional memories, and attachment-related memories. For every memory category, several questions including some cue words that belong to one of the three specific memory categories were asked. The participants were asked to write down their earliest “remember” type childhood memory about the emphasized memory category.

“Remember” memories are the memories that we have a conscious awareness about the occurrence of the event, whereby “know” memories are the ones we know that they happened, but the source of the information is external like parents, pictures, photo albums...etc. (Multhaup et al., 2005). The transition period from know memories to remember memories is the exact age that labels the end of the childhood amnesia. Thus, by asking participants their earliest “remember” memories would give us the beginning age period for the end of childhood amnesia. In order to control the type of the memory asked, an additional check question was given after each recollection. In the analyses, only remember type memories were used as variables.

Participants’ age estimations for every memory type were asked. Average age estimation for childhood memories and average age at earliest memory estimation

were taken as dependent variables. Number of memories and number of memories before 4 and before 5 were other dependent variables for the analyses of the relationship between childhood amnesia and attachment.

Participants rated their confidence about the age estimate for each memory they recollect. To explore the properties of the narratives, the degree of vividness, coherence, accessibility, sensory detail, visual perspective, sharing, and valence of each recollection were asked, accordingly. Sutin and Robins (2007) stated that these are some of the several phenomenological dimensions of autobiographical memory. Vividness is described as visual clarity. Sensory detail refers to the level of reliving the experience during recollection. Both dimensions serve for discriminating imagery from actually perceived events. Coherence measures how well the parts of an experience is fitted together to form a logical story. It is known that preoccupied adults' narratives are far away from being coherent, and, dismissing adults recall often memories from general life period (Siegel, 1999). To measure the ease of recollecting a memory, accessibility dimension was added. Mikulincer and Orbach (1995) claimed that avoidants have low accessibility to memory. Visual perspective is related to whether individual monitorizes the recollected scene from her own eyes or from a third person's view. Because third-person memories have an emotion regulation function (Sutin & Rubins, 2006; as cited in Sutin & Rubins, 2007), avoidant adults might utilize this when remembering their past experiences. Sharing is related to frequency of sharing memory with others. This provides individual a sight for finding meaning in her recollections. Valence was asked to check if the valence of the word given in the question corresponds to subject's perception. Number of words was also counted for each recollection to see if there is difference among high and low avoidant or high and low anxious people. Ten questions asked

after every recollection and the number of words written for every recollection were taken as dependent variables into analyses.



## CHAPTER II: METHOD

### Sample

A sample of 60 students who are attending to “Introduction to Psychology” course in the university was the participants. The students received extra course credit for their participation. There were 33 female and 27 male participants.

Multhaup et al. (2005) argued that the age for the transition period of childhood amnesia does not depend on the age of the participants. The age range was between 17 and 25.

### Instruments of Measurement

#### The Scale

To measure the participants’ attachment style, a self-measurement report named “Experiences in Close Relationships Scale” (ECR) that was developed by Brennan et al. (1998) was used (Appendix A). They used 14 attachment measures including both published papers’ and unpublished conference papers’ scales. Their 60 subscales tapped on two factors: anxiety and avoidance. The correlation between these two factors was .12, and they overlapped with the horizontal and vertical axes of Bartholomew’s diagram of four attachment styles (Figure 1, Bartholomew & Horowitz, 1991).

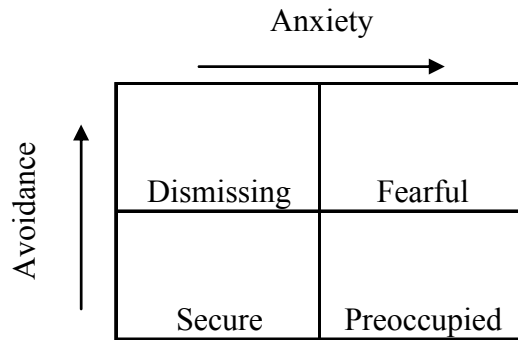


Fig. 1 Bartholomew's four-category diagram

Two subscales were formed with 36 items in total. Anxiety subscale underlies the concepts like fear of rejection, and avoidance subscale measures the discomfort with closeness and dependency. Four clusters of attachment were derived from these two subscales. Participants that score low on both subscales are "secure" Participants who score high on anxiety but low on avoidance scale are "preoccupied". Participants score low on anxiety, but high on avoidance scale are labeled as "dismissing". Participants that score high on both scales are "fearful".

The coefficient alpha's are .91 for anxiety, .94 for avoidance scale. Test-retest reliability was found to be .70 in a three-week period (Brennan, Shaver, & Clark, 2000; as cited in Elizabeth, 2007). The evidence for construct validity comes from the relationships found between attachment anxiety and emotional activity, and attachment avoidance and emotional cut-off (Wei, Vogel, et al., 2005; as cited in Elizabeth, 2007).

Authors discussed that it is more probable to classify a participant as "insecure" when their measure compared to the one of Bartholomew. They stated that their measurement can discriminate different degrees of insecurity more precisely. ECR covers all self-report adult attachment measures conceptually and was applied on a large sample. Furthermore, as long as they used a continuous scale,

their analyses did not suffer from loss of power and precision which is experienced with categorical measurements. The length of the scale is longer than usual, and this may avoid response biases at some level, and make it similar to interviews more than other scales.

The scale was translated into Turkish by Arıkoğlu (2003). The reliability of the translation was tested with the participation of 145 college students. The coefficient alpha's were .90 for anxiety, .92 for avoidance scale. In the present study, these alpha's were found as .89. Six questions added by Arıkoğlu were excluded, and only the original questions were taken (Appendix B)

The main purpose of this study was to compare the end of childhood amnesia of avoidant adults with other types of attachment. However, as mentioned before, the coefficients for calculating the patterns do not exist for Turkish. So, instead of using these categories, the avoidance and the anxiety scores were taken into account as continuous variables. Thus, high scores would represent dismissing-avoidants and fearful-avoidant people for avoidance scale, and, preoccupied and fearful-avoidant people for anxiety scale.

### Questionnaire

A booklet (for an example of a question :Appendix C) with questions (list of questions: Appendix D) about 3 types of was designed after a pilot study with 30 participants.

On the first page of the booklet a nickname was demanded from the participant. The first group of questions was about attachment. The instruction was as follows: "Write down your earliest memory for every single emotion given below. Make sure that you felt the emotion against your mother, father or for both of them".

Five emotions were given: “to feel alone”, “to feel loved”, “to feel not loved”, “to feel cared”, “to feel ignored”.

Following this part, instruction on emotional memories was given: “Write your earliest memory for every single emotion given below. Think about a memory that you felt the emotion against anyone or any circumstance”. Five emotions were “angry”, “pleased”, “sad”, “happy”, “scared”.

On the last section, an instruction was submitted about neutral events: “Write your earliest two memories that you didn’t experience any emotion or emotional reaction and can be assessed as neutral”.

After writing each memory, participants made an age estimate for the memory on a line ranging from 0 to 10 years of age, including quarters for every year.

For every memory, they were also asked to rate the degree of vividness, coherence, accessibility, sensory detail, visual perspective, sharing, confidence in age estimate, and valence on a Likert type scale ranging from 1 to 7.

The order of the three types of memories was not counterbalanced due to the results of the pilot study. It was apparent that if the neutral type is asked before others, than the memory may include emotions, additionally, if the emotional memory is asked before attachment type, the answer contains attachment-related emotions. Hence, the order was fixed as “attachment-emotional-neutral”.

The birth year and gender of the participant were asked at the last page of the booklet.

## Procedure

Participants were tested in groups. The consent form (Appendix E) and attendance paper were signed at the first place. Afterwards, the written instruction (Appendix F) for the questionnaire was distributed. When participants finish reading the instructions, examples for “remember” type memory were given orally and were asked if anyone had a question. They were warned not to leave any questions empty, if it was possible. Following this, the booklet about childhood amnesia was given before the scale to avoid a possible carry-over effect of attachment questions on the remembrance of childhood memories. After completing questionnaire for childhood amnesia, ECR scale was distributed. There was no time limitation for any of the materials. Lastly, participants were debriefed.

## CHAPTER III: RESULTS

### Phenomenology of Childhood Memories

After asking each memory, 9 questions were given and participants were asked to rate the nature of the memory on a Likert Scale ranging from 1 to 7. One of them was about the confidence in age estimate. Seven of the remaining questions were for measuring the degree of vividness, coherence, accessibility, sensory detail, visual perspective, sharing, and valence. The last question was checking whether participant recalled a remember-type memory as demanded from her or him.

In the first place, the ratings for memory type (remember or know) were checked to see whether the participants gave the memory that was requested. Factor analysis was also conducted for all memories. And lastly, memory types were compared with each other for their memory characteristics.

#### Memory Type: Remember or Know?

There was a reason for asking only the remember-type memories. The transition period of the end of childhood amnesia is defined as the end of know-type memories and the beginning of remember-type ones (Multhaup et al., 2005). Hence, the earliest remember-type memories would give us the end age of childhood amnesia.

Participants reported more remember type memories rather than know type ones. Only 2% of the memories recalled was stated definitely as know type (given a score less than 3 on Likert scale), however 78% of the memories recalled was marked as remember type on Likert scale (given a score more than 4). Participants were not sure about 20 % of the memories.

This situation was almost the same for attachment-related, emotional, positive and negative memories. However, things were different for neutral memories.

Although 3 % of the memories recalled was marked as know type, remember type memories were only 60 % of the total. Participants were not sure about 37 % of the memories; they gave 3 or 4 to them on Likert Scale. A One way within subjects ANOVA (5x1) was applied, and it was found that neutral memories (M=4.76, SD=1.19) were more know type than positive attachment (M=5.65, SD=1.05), negative attachment (M=5.63, SD=1.04), positive emotional (M=5.61, SD=1.27) and negative emotional memories (M=5.43, SD=1.21),  $F(4, 192)= 11.66$ ,  $Mse=7.09$ ,  $p<0.01$ ,  $\eta^2= 0.20$ .

As long as the point of interest of the present study was only the remember type memories, the memories that were exactly remember type (rated above 4 on Likert Scale) were taken into the analyses and the memories that were not rated as remember type were excluded from data (except the factor analysis).

### Factor Analysis of Memory Questions

Table 1 shows the factor analysis with varimax rotation for nine questions. Coherence, vividness, accessibility, sensory detail, visual perspective, confidence in age estimate, and type of memory were in one factor, sharing and valence were in another factor. Number of words was neither in the first nor in the second factor. As it did not have any correlations with other questions, it was alone in factor 3.

Table 1

## Factor Analysis for All Memory Questions

|                    | Factor I | Factor II | Factor III |
|--------------------|----------|-----------|------------|
| Coherence          | 0,858*   | 0,202     | 0,031      |
| Vividness          | 0,849*   | 0,039     | 0,088      |
| Accessibility      | 0,832*   | 0,36      | -0,049     |
| Sensory Detail     | 0,784*   | 0,173     | -0,007     |
| Visual Perspective | -0,516*  | 0,152     | 0,403      |
| Sharing            | 0,315    | 0,720*    | -0,253     |
| Valence            | -0,036   | 0,833*    | 0,227      |
| Remember or Know   | 0,866*   | -0,077    | -0,021     |
| Number of Words    | 0,119    | -0,010    | 0,904*     |

Phenomenology of Childhood Memories according to Memory Type

To compare the nature of different memory types, one way within subjects ANOVAs (5x1) was applied. In those analyses, type of memory (neutral, positive attachment, negative attachment, positive emotional, and negative emotional memories) was independent variable, and the memory question was dependent variable.

In almost all analyses, LSD tests showed that nature of neutral memories were different from nature of other memory types. Neutral memories were less coherent, less vivid, less accessible, less shared, and had less sensory details than other type of memories. Participants used fewer words when writing down neutral



memories. They had also less confidence in age estimates about neutral memories. There were a few exceptions like that there were not any differences between neutral and positive attachment memories for accessibility, between neutral and positive emotional memories for number of words, and among neutral, positive attachment and negative attachment memories for sharing ( $p>0.10$ ). Only emotional memories were found to be shared more than neutral memories.

There were a few significant results among other types of memories. Attachment memories were written with more words than emotional memories; people had more confidence in age estimates for positive attachment memories rather than negative emotional memories; and positive attachment memories were rated as less positive than positive emotional memories.

Participants answered to the questions with the memories that had the appropriate valence. Positive attachment memories were more positive than negative attachment memories, and, positive emotional memories were more positive than negative emotional memories. Neutral memories were neutral as they were asked to be. Participants rated them as 4.23 on the Likert Scale. When know type memories were included into analyses, it was seen that valence of the neutral memories diminished to 3.76.

The memory types did not differ for only visual perspective question. Descriptive statistics and the results for Anovas were given in Table 2.

Table 2

Descriptive Statistics and Anova Results for the Phenomenology of Memory Types

| Memory Questions           | Type of Memory   |                                 |                                 |                                |                                | F                | Mse     | $\eta^2$ |
|----------------------------|------------------|---------------------------------|---------------------------------|--------------------------------|--------------------------------|------------------|---------|----------|
|                            | Neutral<br>M(SD) | Positive<br>Attachment<br>M(SD) | Negative<br>Attachment<br>M(SD) | Positive<br>Emotional<br>M(SD) | Negative<br>Emotional<br>M(SD) |                  |         |          |
| Coherence                  | 5.02 (1.60)      | 5.60 (1.75)                     | 6.00 (0.64)                     | 5.73(1.70)                     | 6.00 (0.95)                    | <b>4.42***</b>   | 4.90    | 0.13     |
| Vividness                  | 5.67 (0.82)      | 6.17 (1.12)                     | 6.07 (0.79)                     | 6.10 (1.03)                    | 5.27 (0.69)                    | <b>2.99**</b>    | 1.58    | 0.09     |
| Accessibility              | 5.08 (1.27)      | 5.50 (1.23)                     | 5.77 (1.14)                     | 5.77 (1.10)                    | 5.83 (1.87)                    | <b>3.81***</b>   | 2.89    | 0.12     |
| Sensory Detail             | 4.20 (1.22)      | 5.03 (1.35)                     | 5.07 (0.83)                     | 5.33 (1.30)                    | 5.27 (1.08)                    | <b>8.31***</b>   | 6.19    | 0.22     |
| Visual Perspective         | 2.87 (1.89)      | 2.87 (1.92)                     | 2.67 (1.88)                     | 2.47 (1.83)                    | 2.63 (1.73)                    | 0.39             | 0.87    | 0.01     |
| Confidence in Age Estimate | 5.13 (1.26)      | 6.03 (1.27)                     | 5.90 (1.13)                     | 5.70 (1.32)                    | 5.57 (1.25)                    | <b>3.92***</b>   | 3.63    | 0.12     |
| Sharing                    | 2.48 (1.43)      | 3.03 (1.45)                     | 3.00 (1.17)                     | 3.30 (1.37)                    | 3.00 (1.46)                    | 2.10*            | 2.64    | 0.07     |
| Valence                    | 4.23 (1.48)      | 6.13 (0.82)                     | 1.87 (0.73)                     | 6.53 (0.78)                    | 1.73 (0.98)                    | <b>164.41***</b> | 154.97  | 0.85     |
| Number of Words            | 28.95 (11.57)    | 45.72 (25.63)                   | 45.59 (17.41)                   | 31.66 (12.71)                  | 34.93 (17.56)                  | <b>12.11***</b>  | 1789.52 | 0.30     |

Note.\*p<0.1, \*\*p<0.05, \*\*\*p<0.01. F value that is bold, but has no asterix, mean that overall result was not significant, but post-hoc tests showed a difference among memory types.

## Childhood Amnesia

There were three types of memories: attachment, emotional, and neutral. For attachment and emotional memories, 5 emotions for each memory type were given and participants were asked to write down their earliest remember-type childhood memories about these emotions. For neutral questions, they were simply asked to write down their two earliest, neutral and remember-type childhood memories. Percentage of recall for each emotion or question was given in Table 3.

Table 3

## Percentage of Recall for Each Question Given

| Questions | Memory Type         | Percentage of Recall |
|-----------|---------------------|----------------------|
| Alone     | Negative Attachment | 87%                  |
| Loved     | Positive Attachment | 88%                  |
| Not Loved | Negative Attachment | 60%                  |
| Cared     | Positive Attachment | 70%                  |
| Ignored   | Negative Attachment | 62%                  |
| Angry     | Negative Emotional  | 82%                  |
| Pleased   | Positive Emotional  | 72%                  |
| Sad       | Negative Emotional  | 82%                  |
| Happy     | Positive Emotional  | 78%                  |
| Scared    | Negative Emotional  | 80%                  |
| Neutral 1 | Neutral             | 47%                  |
| Neutral 2 | Neutral             | 47%                  |

To make an inference about the end age of childhood amnesia, several analyses were conducted. Firstly, the average age for all childhood memories for every participant was taken, and related data for different type of memories were compared. Next, the age at earliest memory of each participant was taken, and the average earliest age for every memory type was analyzed. Finally, the percentage of recall for every type of memory were compared to each other for all childhood memories, and for the ones before the ages 4 and 5.

### Average Age for Earliest Childhood Memories

When calculating the average age for earliest childhood memories, mean of age estimates for all memories were taken (“mean age of 12 memories to evaluate the average age for all childhood memories”, “mean age of 5 memories to evaluate the average age for attachment memories”...etc.). Mean age and other descriptive statistics for different type of memories are given in Table 4.

Table 4

Mean Age and Other Descriptive Statistics for Different Types of Memories

|                         | N  | M    | SD   | Min  | Max   |
|-------------------------|----|------|------|------|-------|
| Memory Types            |    |      |      |      |       |
| All memories            | 60 | 6,66 | 1,25 | 3,36 | 9,60  |
| Neutral Memories        | 32 | 5,78 | 1,70 | 3,25 | 11,00 |
| Pos Attachment Memories | 56 | 6,66 | 2,03 | 3,50 | 14,50 |
| Neg Attachment Memories | 56 | 6,95 | 1,65 | 4,00 | 10,33 |
| Pos Emotional Memories  | 52 | 6,81 | 1,73 | 3,13 | 10,00 |
| Neg Emotional Memories  | 55 | 6,48 | 1,48 | 2,67 | 10,00 |

Note. Pos: positive, Neg: negative. In order to calculate the age in months, the decimals before comma should be taken as “years”, and the decimals after comma should be multiplied with 12 and taken as “months” (e.g. 6.66 means 6 years and 8 (0.66 x 12= 7.92) months). N refers to number of participants that could remember the related memory and gave an age estimate.

Earliest childhood memories had an average age of 6.66 (6 years 8 months).

Average age for different types of memories (neutral, positive attachment, negative attachment, positive emotional, and negative emotional memories) was analyzed by running a one way within subjects ANOVA (5x1). The within variable was memory type, the dependent variable was the average mean age for recalled memories.

Main effect of memory type was found to be marginally significant,  $F(4,108)=2.17$ ,  $Mse=4.40$ ,  $p=0.077$ ;  $\eta^2=0.07$ . LSD tests showed that when compared to neutral memories, participants had significantly later positive attachment, negative attachment, and negative emotional childhood memories ( $p<0.05$ ), and, marginally significant delayed positive emotional memories ( $p=0.063$ ). There were no differences between ages for positive and negative memories (attachment or emotional), all have  $p>0.1$ .

### Age at Earliest Memory

In Table 5, the descriptive statistics for ages at earliest memory according to memory types are given. Average age for earliest memory was found to be 4.51 (4 years 6 months).

Table 5

Descriptive Statistics for Age at Earliest Memory according to Different Memory Types

|                         | N  | M    | SD   | Min  | Max   |
|-------------------------|----|------|------|------|-------|
| Memory Types            |    |      |      |      |       |
| All memories            | 60 | 4,51 | 1,34 | 2,25 | 8,75  |
| Neutral Memories        | 34 | 5,27 | 1,55 | 3,00 | 8,00  |
| Pos Attachment Memories | 56 | 6,02 | 1,89 | 3,00 | 10,00 |
| Neg Attachment Memories | 56 | 6,04 | 1,90 | 3,00 | 10,00 |
| Pos Emotional Memories  | 52 | 6,25 | 1,93 | 2,25 | 10,00 |
| Neg Emotional Memories  | 55 | 5,38 | 1,59 | 2,50 | 10,00 |

Note. Pos: positive, Neg: negative. In order to calculate the age in months, the decimals before comma should be taken as “years”, and the decimals after comma should be multiplied with 12 and taken as “months” (e.g 4.51 means 4 years and 6 (0.51 x 12= 6.00) months). N refers to number of participants that could remember the related memory and gave an age estimate.

A One way within subjects ANOVA (5x1) was conducted to analyze if the memory type (neutral, positive attachment, negative attachment, positive emotional, and negative emotional memories) made a difference in age at earliest memory. Age for earliest memories was marginally different for different memory types,  $F(4,116)=2.42$ ,  $Mse=4.44$ ,  $p=0.052$ ,  $\eta^2=0.08$ . LSD tests showed that neutral memories were remembered from an earlier age than positive emotional memories ( $p<0.05$ ), and marginally earlier than positive attachment memories ( $p=0.073$ ). Negative emotional memories were earlier than positive emotional ones ( $p=0.050$ ).

#### Percentage of Memories Remembered According to the Memory Type

The percentage of recollection (each participant's percentage of number of memories remembered to number of memories asked) was analyzed among five types of memories (neutral, positive attachment, negative attachment, positive emotional, and negative emotional memories) by running a one way within subjects ANOVA (5x1),  $F(4,236)=15.79$ ,  $Mse=1.23$ ,  $p<0.01$ ,  $\eta^2=0.21$ . LSD tests showed that participants were able to remember higher proportion of positive attachment (M=79%, SD= 31%), negative attachment (M=68%, SD= 30%), positive emotional (M=75%, SD= 36%), negative (M=81%, SD=32%) emotional memories than in response to neutral memories (M=%46, SD=%44),  $p<0.01$ . Negative attachment memories were recalled less than negative emotional memories, ( $p<0.01$ ), and positive attachment memories, ( $p<0.05$ ).

#### Percentage of Memories Recalled Before Ages 4 and 5

One way within subjects ANOVA (5x1) was conducted to see the difference in percentages of memories recalled from the first 4 ages among memory types

(neutral, positive attachment, negative attachment, positive emotional, and negative emotional memories). The result was not significant,  $F(4, 236) = 0.45$ ,  $Mse = 0.10$ ,  $p > 0.1$ ,  $\eta^2 = 0.01$ . The analysis that was run for the memories before 5 also gave the same insignificant result,  $F(4, 232) = 1.17$ ,  $Mse = 0.05$ ,  $p > 0.10$ ,  $\eta^2 = 0.02$

Frequency distributions are displayed in Table 6 and Table 7.

Table 6

Frequency Distribution of Ratio of 'Memories Recalled from the First 4 Years of Life' to 'Memories Recalled'.

|                          | 0%       | 0% < ≤ 50% | 50% < ≤ 100% | Total     |
|--------------------------|----------|------------|--------------|-----------|
| Memory Types             |          |            |              |           |
| Neutral Memories         | 54 (90%) | 4 (7%)     | 2 (3%)       | 60 (100%) |
| Pos. Attachment Memories | 53 (88%) | 7 (12%)    | 0 (0%)       | 60 (100%) |
| Neg. Attachment Memories | 54 (90%) | 6 (10%)    | 0 (0%)       | 60 (100%) |
| Pos Emotional Memories   | 54 (90%) | 6 (10%)    | 0 (0%)       | 60 (100%) |
| Neg Emotional Memories   | 51 (85%) | 8 (13%)    | 1 (2%)       | 60 (100%) |

Note. Pos: positive, Neg: negative. Columns display the number and percentage of participants. Second column is for the ones who could not recall any memories from the first 4 years of life. Third column is for the ones who had at most the half of the memories from the first 4 years of life. Fourth column is for the ones who had more than half of the memories from the first 4 years of life. Last column displays the total number and percentage of the participants.



Table 7

Frequency Distribution of Ratio of 'Memories Recalled from the First 5 Years of Life' to 'Memories Recalled'.

|                          | 0%       | 0% < ≤ 50% | 50% < ≤ 100% | Total     |
|--------------------------|----------|------------|--------------|-----------|
| Memory Types             |          |            |              |           |
| Neutral Memories         | 47 (78%) | 11 (18%)   | 2 (4%)       | 60 (100%) |
| Pos. Attachment Memories | 47 (78%) | 9 (15%)    | 4 (7%)       | 60 (100%) |
| Neg. Attachment Memories | 44 (73%) | 13 (22%)   | 3 (5%)       | 60 (100%) |
| Pos Emotional Memories   | 50 (85%) | 6 (10%)    | 3 (5%)       | 59 (100%) |
| Neg Emotional Memories   | 39 (65%) | 14 (23%)   | 7 (12%)      | 60 (100%) |

Note. Pos: positive, Neg: negative. Columns display the number and percentage of participants. Second column is for the ones who could not recall any memories from the first 5 years of life. Third column is for the ones who had at most the half of the memories from the first 5 years of life. Fourth column is for the ones who had more than half of the memories from the first 5 years of life. Last column displays the total number and percentage of the participants.

### Gender Differences and The End Age of Childhood Amnesia

Independent Samples T tests were applied to compare the average ages, ages at earliest memory, percentage of recollections, and percentage of recollections before ages 4 and 5 of males and females. It was seen that females recalled marginally earlier memories than males ( $p=0.080$ ). The results are displayed in Table 8.

Table 8

Descriptive Statistics and Independent Samples Test Results According to Gender

|   | Female<br>M(SD) | Male<br>M(SD) | Df | T      |
|---|-----------------|---------------|----|--------|
| Average Age                             | 6.41 (1.30)     | 6.97 (1.12)   | 58 | -1.78* |
| Age At Earliest Memory                  | 4.27 (1.31)     | 4.81 (1.33)   | 55 | -1.60  |
| Percentage of Recollection              | 0.68 (0.26)     | 0.74 (0.22)   | 58 | -0.93  |
| Percentage of Recollection Before Age 4 | 0.07 (0.10)     | 0.03 (0.07)   | 58 | 1.44   |
| Percentage of Recollection Before Age 5 | 0.16 (0.18)     | 0.09 (1.17)   | 58 | 1.57   |

Note. \*p&lt;0.1, \*\*p&lt;0.05, \*\*\*p&lt;0.01.

### Summary

Earliest childhood memories were found to have an average age of 6 years and 8 months, and, average age at earliest memory was found to be 4 years and 6 months. The ages that were found in the present study were approximately 1 year later than the ones found in the other studies which were conducted within the western cultures (Multhaup et al, 2005; Mullen, 1994; Jack & Hayne, 2007; MacDonald, Uesiliana, & Hayne 2000; Wang, 2001). However, other cultures like Asians, Chinese, and Koreans that value interdependency rather than independency like Turkish culture ( Kağıtçıbaşı, 1996; Hofstede, 2001; as cited in Çağlar & Tekcan, under revision) have similar age results like the ones found in the present study.

Although there could not be found any difference between positive and negative memories, age at earliest negative memory was earlier than age at earliest positive memory. Early findings showed that positive memories were recalled earlier than negative ones (Waldfogel, 1948; as cited in Howes, Siegel, & Brown, 1993). On

the other side, recent findings found that the negative memories were remembered at a higher proportion than positive ones (Mullen, 1994; Howes, et al. 1993; Çağlar & Tekcan, ,under revision).

Average age for neutral memories was earlier than average age for emotional and attachment memories. Additionally, age at earliest neutral memory was earlier than age at earliest positive memory. However, the proportion of recall of neutral memories was at a lower rate than emotional and attachment memories. Negative attachment memories were recalled less than negative emotional memories.

Female participants were found to have marginally earlier memories than male participants. Their age at earliest memory was earlier than the males', and before the ages 4 and 5, they recalled memories at higher proportions than males did, however these results were not significant. Result about having earlier childhood memories for females was in concordance with the literature (Wang, 2001; Davis, 1999; Waldfogel, 1948; as cited in Howes et al., 1993; Dudycha & Dudycha, 1941; as cited in MacDonald et al., 2000, Mullen, 1994).

#### Childhood Amnesia and Attachment

Although Brennan et al. categorized anxiety and avoidance scores as attachment patterns, due to the limitations of the present study, the scores of anxiety and avoidance subscales were taken separately, and as continuous variables. The means and standard deviations for anxiety and avoidance scales are shown in Table 8.

Table 9

## Descriptive Statistics for Avoidance and Anxiety Scales

|                 | Total |             | Female |             | Male |             |
|-----------------|-------|-------------|--------|-------------|------|-------------|
|                 | N     | M (SD)      | N      | M (SD)      | N    | M (SD)      |
| The Scales      |       |             |        |             |      |             |
| Avoidance Scale | 60    | 3.24 (1.03) | 33     | 3.41 (0.98) | 27   | 3.02 (1.06) |
| Anxiety Scale   | 60    | 4.15 (1.07) | 33     | 4.19 (1.11) | 27   | 4.09 (1.03) |

Analyzing the relationship between childhood amnesia and attachment styles was the main purpose of this study. For testing the hypotheses, correlational analyses were conducted between avoidance/ anxiety scores and average age for earliest memories, age at earliest memory, percentage of recollection, percentages of recollection before the ages 4 and 5.

It was found that as the avoidance score increased, number of neutral memories increased marginally, too,  $r(58)=0.24$ ,  $p=0.066$ , 2-tail. In addition to this, number of positive attachment memories decreased marginally for the memories recollected from the first 4,  $r(58)= -0.24$ ,  $p=0.061$ , 2-tail, and 5 years of life,  $r(33)=-0.22$ ,  $p=0.090$ , 2-tail. There was also a marginally negative relationship between avoidance scores and number of positive emotional memories that were recollected before age 4,  $r(58)=-0.24$ ,  $p=0.063$ , 2-tail. There were not any significant result for the relationship between avoidance and average age of childhood memories or age at earliest childhood memories, and similarly, there were not any relationship between anxiety and any of the variables for childhood memories.

When age estimates for 10 emotions that were given for reminding attachment and emotional memories were taken separately into the correlational analyses, only the feeling of “not loved” gave a marginally significant result. According to this result, as the avoidance score increased, average age for negative attachment memory increased marginally, too,  $r(34)=.31$ ,  $p=0.071$ , 2-tail.

#### The relationship between Attachment Patterns and Phenomenology of Childhood Memories according to Memory Types

In order to see the relationship between the avoidance /anxiety scores and memory questions, some correlational analyses were conducted. Table 10 shows the resulted significant and marginally significant correlations.

Table 10

Correlation Matrix for the Memory Questions and Attachment Scores

| Memory Types                 | N  | Memory Questions |           |               |                |                    |                        |             |         |              |    |
|------------------------------|----|------------------|-----------|---------------|----------------|--------------------|------------------------|-------------|---------|--------------|----|
|                              |    | Coherence        | Vividness | Accessibility | Sensory Detail | Visual Perspective | Confidence in Estimate | Age Sharing | Valence | Number Words | of |
|                              |    | Avoidance        |           |               |                |                    |                        |             |         |              |    |
| Neutral Memories             | 34 | .139             | .168      | -.212         | .098           | -.188              | .276                   | .043        | -.110   | .066         |    |
| Positive Attachment Memories | 56 | -.106            | -.048     | .043          | -.157          | -.174              | -.254*                 | -.060       | .020    | .093         |    |
| Negative Attachment Memories | 56 | -.274**          | -.103     | -.232*        | -.149          | -.137              | -.117                  | .163        | -.068   | .074         |    |
| Positive Emotional Memories  | 52 | -.322**          | -.355***  | -.116         | -.166          | .012               | -.404***               | -.198       | -.066   | -.098        |    |
| Negative Emotional Memories  | 55 | -.169            | -.236*    | -.141         | -.012          | -.263*             | -.203                  | .076        | -.176   | .035         |    |
|                              |    | Anxiety          |           |               |                |                    |                        |             |         |              |    |
| Neutral Memories             | 34 | -.181            | -.282     | -.129         | .014           | .156               | .030                   | -.147       | -.119   | .281         |    |
| Positive Attachment Memories | 56 | -.243*           | -.249*    | -.199         | -.089          | -.029              | .059                   | -.114       | .192    | -.052        |    |
| Negative Attachment Memories | 56 | -.098            | -.156     | -.007         | .146           | .166               | .079                   | .003        | -.027   | .086         |    |
| Positive Emotional Memories  | 52 | -.104            | -.163     | -.151         | -.273**        | .191               | .105                   | -.035       | .068    | .131         |    |
| Negative Emotional Memories  | 55 | -.195            | -.181     | -.184         | -.180          | .326**             | -.141                  | -.184       | .183    | .106         |    |

Note. \*p<0.1, \*\*p<0.05, \*\*\*p<0.01.

Coherence of negative attachment and positive emotional memories was low for high avoidants. They also had marginally significant difficulty in accessing negative attachment memories ( $p=0.086$ ). They had less vivid emotional memories when compared to low avoidants. Their confidence in age estimates was lower for positive emotional memories and marginally lower for positive attachment memories than low avoidants ( $p=0.059$ ). High avoidants remembered negative emotional memories from a third-person vision ( $p=0.052$ ).

High anxious participants had marginally less coherent positive attachment memories than low anxious participants ( $p=0.072$ ). They also had these memories marginally less vivid ( $p=0.065$ ). Their positive emotional memories include less sensory details. They recollected negative emotional memories from their own point of view when compared to low anxious people.

Neutral memories did not have any correlations with any of the scores.

## CHAPTER IV: DISCUSSION

### Childhood Amnesia

#### The End Age of Childhood Amnesia

The average age for twelve earliest memories asked was found as 6.66 (6 years 8 months). When Multhaup et al (2005) asked participants 10 memories from their first 10 years, they found the age for remember type memories as approximately 6 years. Similarly, they reported that Bruce, Dolan, and Phillips-Grant (2000; as cited at Multhaup et al., 2005) found the average age for remember type memories as 6 years. Çağlar and Tekcan (under revision) researched the age for the earliest memories in Turkish culture with several memory elicitation methods. One of the methods that produced the earliest age results was similar to the method used in our study. With that method, they found the mean age for 9 memories asked as 9.90 (9 years 11 months).

When the average age was calculated by taking earliest memory of every participant, the result of the present study was 4.51 ( 4 years 6 months). In Çağlar and Tekcan's experiment, the earliest age came out to be 5.65 years (5 years 8 months). In the literature, the earliest remember type memory age was found to be approximately 3 and half years for the western cultures (Mullen, 1994; Jack & Hayne, 2007; MacDonald, Uesiliana, & Hayne 2000; Wang, 2001).

The difference between the ages found in the present study and the other studies done with western populations was probably due to the culture effects. The discrepancy that was similar to the one in this study and western culture was also seen among different cultures investigated in other studies. MacDonald et al. (2000) found that Asian participants had an age of 4.82 years (4 years 10 months), European



ones had an age of 3.57 years (3 years 7 months), and Maori participants who value past memories had an age of 2.72 years (2 years 9 months) for their earliest memories. Wang (2001) stated that Americans (3 years 6 months) had memories 6 months earlier than Chinese participants (4 years). Similarly, Mullen (1994) introduced that Asians' earliest memory age was 3.94 years (3 years 11 months), whereas, Caucasians' was 3.20 (3 years 2 months). She used Koreans who grew up in Korea instead of Asians who grew up in America in her 4<sup>th</sup> experiment, and she saw that the gap between groups of west and east was larger which means that the culture had an effect on memory. In another study, Wang, Conway, and Hou (2007) compared Chinese, British, and American participants, and asked them to recall their memories before age five in a period of five minutes. They concluded that Chinese participants recalled fewer memories, and their earliest memories were 6 months later than other cultures' participants. The differences in age between different cultures in those studies were found to be significant.

In literature, cultural differences in autobiographical memory were mainly related to parents' past event narrative practices with their children. In White and Pillemer's (1979; as cited in Mullen, 1994) model of learning, children's participation in conversations about past enables them to build up a narrative structure, which leads to store memories and to access them easily later in life. Mullen and Yi (1995; as cited in MacDonald et al., 2000) obtained that Caucasian mothers talked to their three years old children three times more than Korean mothers did with their own children. However, parents' participating in discussions about past experiences with their children is not a sufficient criteria for developing children's ability to remember. Empirical findings showed that it is the elaborative narrative style which had implications for the development of autobiographical

memory. Wang (2007) observed that Euro-American mothers' conversation with their kids was more elaborative than Chinese mother's. At the same time, Euro-American kids reported more memory information than Chinese ones. In an elaborative style, the narrative is much more detailed and longer, has a wider context, has causality relations, and the memories are more connected to each other. It provides a narrative organization with details like "what, who, where, when" which help accessing memories. On the other hand, pragmatic narrative style is poor in detail, and much shorter, does not have much linkages among memories, and does not enable the construction of a organized narrative style.

Marcus and Kitayama (1991; as cited in Mullen, 1994) stated the difference in talking with children between Americans and Asians as being independent versus interdependent. Americans, who value independency, encourage their children to talk about themselves and in a subjective way, whereby, Asians who rear their children in an interdependent way discourage them to talk in that way. As a result of this, Americans' autobiographical memories come out to be more elaborative. Similarly, Turkish culture is argued to be an interdependent culture by Kağıtçıbaşı (1996) and Hofstede (2001; as cited in Çağlar & Tekcan, under revision). Küntay and Ahtam (2004; as cited in Çağlar & Tekcan, under revision) stated that Turkish parents' dyads with their children were found to be an example of interdependent culture. For this reason, like Çağlar and Tekcan's (under revision) inference, the delay could be a result of the resemblance of our culture to Asian cultures.

There is a gap between our and Çağlar and Tekcan's (under revision) findings. The mean age of all remember type memories came out to be 6 years and 8 months, whereby the other study found that age as 9 years and 11 months. Beside, the average earliest age for childhood memories in the present study was 4 years and

6 months, whereas, it was 5 years and 8 months in the other one. The difference might be a consequence of using different methods. For example, the other Turkish study used cue words like “money, table, paper, sea...etc”. In the present study, emotions like “love, loneliness, ignorance...etc” were used. In the former study, the words used might be too specific for reminiscing past.

### Childhood Amnesia for Different Memory Types

In the literature, there is a debate whether early positive or negative memories are remembered more than the other one. Early findings are evidence for that earliest memories recollected are positive rather than being negative (Waldfoegel, 1948; as cited in Howes, Siegel, & Brown, 1993). More recent studies found that it is negative memories that are remembered at a higher rate when compared to positive ones (Mullen, 1994; Howes, et al. 1993; Çağlar & Tekcan, ,under revision).In the present study, there were not any differences in the average age for childhood memories between positive and negative memories. In addition to this, the rate of recall did not change for neither of them. Interestingly, the percentage of recall for negative attachment memories was lower than the percentage of positive attachment memories. However, age at earliest negative emotional memories was found to be earlier than the age at earliest positive emotional memories.

Having the earliest emotional memories negative rather than positive was in concordance with the recent findings. However, there can be several reasons for other results like the insignificant difference between positive and negative recollections and higher ratio of recall for positive attachment memories with respect to negative attachment memories. Some of the negative memories might be converted into positive or neutral ones by a system that exist for unwanted memories

(Greenwald, 1980; Piaget, 1951; Rubin & Kozin, 1984; all cited in Howes et al., 1993). Distorting negative and traumatic experiences serves to keep unwanted feelings and thoughts from consciousness. Therefore, some of the positive memories might be originally negative ones.

Another possible explanation might be the tendency to rate remember type memories more positively than they were. Lindsay, Wade, Hunter and Read (2004) found that remember type memories have more positive ratings than know type memories. Thus the difference might have appeared if only both remember and know type memories had been asked together.

In addition to these findings, neutral memories that have no emotions attached were remembered earlier than emotional and attachment memories. Age at earliest neutral memory was also earlier than positive memories. In the literature, it is said that early memories include emotions, so, finding memories before a certain age neutral rather than emotional creates a debate. Wang (2001) stated that memories recalled from younger ages are less emotionally intense than the ones recalled from later years. She also concluded that Americans recall emotional childhood memories whereas Chinese recall emotionally neutral ones. The difference between cultures and recalling early memories less emotionally intense might be the reason of our result. Other explanations for having early memories neutral comes from Howes et al. (1993). Firstly, they verified that emotion can strengthen the memory and makes it more accessible. In addition to this, for explaining the recollection of early neutral memories, they made use of Rubin and Kozin's view (1984; as cited in Howes et al., 1993). According to that view, although there is no affectional mechanism for recalling neutral memories, there can be an attentional one instead. In this view, neutral memories are rather scenic episodes instead of fluid ones. However, there

were fluid episodes as well as scenic ones in neutral memories of this study. Hence, this explanation can not be the one. Secondly, Howes et al. (1993) implicated that emotion can fade away from memories with time and memories can become neutralized in that way. They added that this can happen to both positive and negative memories. The loss of emotional content in early memories by leaving only perceptual and semantic details behind seems to be another explanation for our results. In the present study, neutral memories were found to be less coherent, vivid, accessible, shared, and remember type, had less sensory details and confidence in age estimates; and had been written with fewer words than emotional and attachment memories. This weaker nature of neutral memories might be a result of the loss of emotional content in the memory. Although the average age of recall for neutral memories was earlier, the percentage of recall was lower than other memories. As we know that emotional content strengthens the recall of memory, the loss of emotional content might make it difficult to recall more neutral memories.

Having less negative attachment memories than negative emotional memories might be because of distortion. Changing unwanted thoughts that were negative into positive or neutral ones might be the reason of having less negative attachment memories. Negative attachment memories might be more disturbing and evoking distress more than negative emotional memories, so they might be distorted at a higher rate when compared to negative emotional memories. Another reason might be the difference among the cue words used in the study. More direct emotions like “sad” and “angry” were used as cue words for emotional memories instead of indirect emotions like “to feel not loved” and “to feel ignored” which were used for reminiscing attachment memories. In the former situation, participant recalled the memory about the emotion that she felt directly herself, whereas, in the latter one,

she as a child should have an idea about what others felt about her. For example, when one as a child felt “not loved”, she should have recognized or thought what her parents felt for her (like not loving her), then felt that she was not loved. This indirectness might have made it difficult to recall the related memories.

### Gender Differences and Childhood Amnesia

The average age for remember type memories was found to be 6.41 (6 years 5 months) for females and 6.97 for males (7 years). Beside this, females’ earliest memory age was 4.27 (4 years 3 months) in average, whereas males’ was 4.81 (4 years 10 months). Females’ average age for childhood memories was marginally earlier than males’. There were not any differences for age at earliest memory and the percentage of recall.

Earlier empirical findings also show that females recall earlier events than males do (Waldfoegel, 1948; as cited in Howes et al., 1993; Dudycha & Dudycha, 1941; as cited in MacDonald et al., 2000, Mullen, 1994). Wang’s study (2001) showed that Chinese females recalled childhood episodes 4 months earlier than Chinese males. She claimed that gender difference is not seen among Americans. Davis (1999) found that females recall more childhood memories than males.

Females’ ability to remember earlier experiences than males was explained with more elaborative talks with daughters in the literature. Reese and Fivush (1993; as cited in Macdonald et al., 2000) stated that parents engage in more elaborative dialogues with their daughters rather than their sons. Dunn, Bretherton, and Munn (1987; as cited in Davis, 1999) found that mothers involve in emotional talks more with their daughters than their sons. As mentioned before, more elaborative dyads bring out ability to remember earlier experiences.

Not all the studies defend that there is a difference between females and males for early memories (Kihlstrom & Harackiewicz, 1982; Strongman & Kemp, 1991; as all cited in Davis, 1999). However, when there is a difference it is always that females recall more and earlier childhood experiences than males (Maccoby & Jack, 1974; as cited in Mullen, 1994). There is only an exception for that inference. MacDonald et al. (2000) found that Chinese males remember earlier experiences than Chinese females, in spite of Wang's findings. They explained that as the sons are more likely to be seen as sources of security than daughters, one child-policy brings parents' mentioning their son's achievements with a greater emphasis. Nevertheless, males having earlier and more childhood memories is not a general occasion.

#### Childhood Amnesia and Attachment Patterns

Parents' selection about the aspects of experienced events that should be included into conversation would probably be affected by their own attachment types. Thus, avoidant parents would probably prefer topics that are not related to attachment (Fraley et al., 1998) or their narratives would be incoherent (Main et al., 1985; as cited in Alexander et al., 2002). Because they do not have these topics in their conversations, their children can not form schema which diminishes the processing requirements for retrieving related events later on (Farrar & Goodman, 1992; as cited in Alexander et al., 2002). Another possible reason for a deficiency in recalling attachment events was suppressing the feelings and thoughts that arouse anxiety, and creating a disassociativeness between attachment-related events and thoughts (Fraley et al., 1998). Beside these, these children may not feel an emotional

involvement, and as a result, may not encode the attachment related memories as worthy to remember, and do not have any specific attachment memories later in life (Siegel, 1999). Whether the reason is retrieving or encoding, it was expected that avoidant types would have a later end age of childhood amnesia for attachment-related memories when compared to other attachment patterns. This relationship was seen only for one of the questions given in the questionnaire. As the avoidance score increased, it was seen that average age for the negative attachment memories about “feeling not loved” increased marginally, too. Having this effect for only one type of negative attachment memory, but not for others might be because of the cue words selected. “Feeling alone” might not be one of the negative emotions that evoke anxiety for all avoidants, as we know that dismissing-avoidant people value being independent and standing on their own legs unlike anxious people.

No other relationship could be found between age and avoidance / anxiety scores. However, it was seen that as the avoidance score increased, the number of positive attachment memories before the ages 4 and 5, and the number of positive emotional memories before the age 4 decreased marginally.

Contrary to the expectation about an effect for attachment memories in general, a marginal effect in the number of positive attachment memories of avoidant adults was found. Goodman and Melinder (2007) stated that in the first years of the development in autobiographical memory, parents have more conversation on negative events, in a more sophisticated way, than they did on positive events. This makes children to remember negative events more easily than others. Additionally, retrieving negative events easily might have a survival reason, too. Thus, the reason for having the effect for only positive attachment events might be explained in that way.



However, Goodman and Melinder added that the individual differences like attachment patterns might change the fact of remembering negative events better. In addition to that, there were no differences in remembering positive and negative memories in the current study. Although there were studies like Kirsch and Cassidy's (1997; as cited in Goodman & Melinder, 2007) in which they found that secure children recalled stories include positive and responsive dyads between mothers and children better than insecure-avoidant ones, but not found any difference between these two groups for negative and rejecting dyads, similar studies like the present one should be conducted to reach a precise conclusion about this issue.

Another possible explanation which makes more sense for having less early positive attachment memories might be simply having less experience of these events. As avoidant adults have parents with similar attachment styles, they had probably less responsive and sensitive caregiving, which in turn brought out less positive memories. Lindsay et al. (2004) mentioned that some people may have a tendency to recall past experiences more positively than they were. Similarly, avoidant adults may have a bias to remember childhood memories more negatively than they were. Additionally, avoidant people might encode many attachment events in a less positive way, when they were children.

To decide whether their positive memories were positive, and negative memories were really negative, an interview should be made. This confusion might be one of the reasons of having only a marginal effect for avoidants and no effect for anxious people. There might be also other explanations for having a weak effect. Firstly, the end age of childhood amnesia may be a matter of biological maturation rather than social interaction. Having the cognitive abilities developed might be a better predictor than talking elaboratively about experiences with parents. Secondly,

the effect of social interaction might be less in our culture. Pillemer (1998) stated that openness might change from culture to culture, which means that some cultures might be more non-verbal. In a social environment in which words used less, the effect of elaborative talking on the end age of childhood amnesia can be a secondary contributor. Another reason might be the change in attachment patterns from childhood to adulthood. For example, an avoidant child might become an earned secure at the adulthood, or, a secure child might become an avoidant adult because of the stressful life events.

Mikulincer and Orbach (1995) found that the high-avoidants can recall fewer emotional memories than low-avoidants. Cassidy (2000; as cited in Alexander et al., 2002) emphasized that avoidant parents keep both emotional and attachment-related issues away from their dialogues. In the present study, hypotheses 1 and 3 stated that the delay in the end age of childhood amnesia would be only for attachment memories, so, having the same effect for positive emotional memories was not expected. All of the memories that were written down as attachment-related were coded as attachment-related, and the emotional memories that were written in response to emotional words given were coded as emotional memories. However, without interviewing with participants, it was not easy to decide the type of memory precisely. In this sense, some of the emotional memories might be exactly attachment ones, or vice versa. For example, although “feeling not loved” was given as an attachment cue word, it cannot be denied that it involves emotion at high levels. Hence, it was not possible to make a clear discrimination, and it does not mean that the result about positive emotional memories was contradictory to the hypotheses.

Lastly, it was concluded that as the avoidance score increased, the number of neutral memories increased, too. Van IJzendoorn and Bakermans-Kranenburg’s

(1996, 1997) found that dismissing-avoidants have no problem in recalling attachment-unrelated childhood memories; there are not any differences in remembering them among attachment types. Additionally, avoidants might have distorted their negative childhood memories to avoid their distress about unwanted thoughts. In this way, their memories might have become neutralized.

## Memory Characteristics of Early Childhood Memories for Different Attachment Types

### The Relationship among Memory Characteristics

The phenomenological dimensions of memory retrieved are as crucial as the memory itself as they provide a basis to evaluate the characteristics and the structure of the recall. In the present study, very similar to Sutin and Robins' (2007) findings, vividness, coherence, accessibility, sensory detail, visual perspective, confidence in age estimate, and the type of memory tapped in one factor; valence and sharing tapped in the second one. Number of words tapped to neither of them; although it was expected to (e.g. memories that were more accessible, more shared, more detailed might have had more wording).

Having one factor for valence and sharing might be supported by the study of Sutin and Robins (2007). They found that negative memories were shared less than positive memories. They stated that the diversity of valence from other phenomenological dimensions may be meaningful, because valence is more memory-specific, whereas others may be characteristics of a general orientation. This means that a person, who can access memories easier than others, might retrieve experiences easily regardless of their valence. Nevertheless, the results were not so clear in the literature. Some says that negative recollections are less vivid than

positive ones (Larsen, 1998; Raspotnig, 1997; D'arceubeau, Comblain, & Van Der Linder, 2003; as all cited in Talarico, Labar, & Rubin, 2004), whereas others found that happiness and surprise are not related to vividness, but anger and sadness do (Bluck & Li, 2001). Hayes, Conway, and Morris (1992; as cited in Talarico et al., 2004) found no difference in vividness between positive and negative memories.

As emphasized before, only the earliest remember type memories were asked in the present study in order to evaluate the transition period from know type memories to remember type ones. This period is known to be the end of childhood amnesia (Multhaup et al., 2005). When it was asked to the participants whether the memory they wrote was remember or know type, approximately 80 % of the answers were indicating that the memories were definitely remember type. However, this was different for the neutral memories. Only 60 % of the answers were indicating that the memory was exactly a remember type. Participants were not sure whether the memory was a know type or a remember type for the 37% of the answers. This finding was not a surprise according to Lindsay et al.'s (2004) results. They found that neutral memories were less likely to be remember type when compared to positive and negative memories.

### Attachment Types and Memory Characteristics

#### Coherence

It was concluded that as the avoidance score increased, coherence of negative attachment memories decreased. This conclusion was as expected, because when talking about attachment and emotional memories, avoidants are unable to organize their narratives in a coherent way (Bowlby 1988; Main et al., 1985; as all cited in Alexander et al., 2002; Bretherton & Munholland, 1999, Hesse 1996). High

avoidants had also less coherent positive emotional memories which they were found to have difficulty in remembering in the present study.

For anxious people, positive attachment memories were less coherent. It is known that also their narratives were incoherent about attachment memories (Siegel, 1999).

### Vividness

As the avoidance score increased, the level of vividness for positive and negative emotional memories decreased. It is known that the vividness is a good predictor for the strength of the memory (Rubin, 2005), and in the present study, avoidant people were found to have less positive emotional memories than others. It was also seen that anxious people had less vivid positive attachment memories.

### Accessibility

The results showed that avoidants' negative attachment memories were less accessible than others' memories. As it was stated in the literature (Main et al., 1985; as cited in Goodman & Melinder, 2007), high avoidants has difficulty in access to emotional and attachment memories of childhood.

### Confidence in Age Estimate

Avoidants have less confidence in their age estimate about their positive emotional and positive attachment childhood memories. As they were found to have difficulty in remembering these memories, it was reasonable for them to be less confident about their age at the event.

### Visual Perspective

Avoidants had negative emotional recollections from their own point of view. However, it was found that avoidants had problems in recalling their early negative emotional memories. Thus, they were expected to have a third-person vision. Sutin

and Robins (2006; as cited in Sutin & Robins, 2007) stated that third-person vision has an assistance role for emotion regulation. Thus, when remembering negative memories, avoidants were expected to have a third-person point of view to regulate their anxiety.

Anxious people had third-person point of view for negative emotional memories. Recalling negative emotional memories from a third person vision might again have an emotion regulation function for these people.

### Sensory Detail

Anxious people had less sensory detail when recalling positive emotional memories. Although in the current study, it could not be found that they had earlier recollections about negative memories, Mikulincer and Orbach (1995) claimed that they do. They explained this situation by rehearsing negative memories constantly. In this sense, they might not rehearse or reminisce positive emotional memories as they did for negative attachment memories, and hence, sensory details of the positive emotional memories might have weakened.

### Insignificant Results for Memory Characteristics

For other memory characteristics, no relation could be found with anxiety and avoidance dimension. For example, secure parents talk about emotional and attachment memories, whereas avoidants parents do not (Main et al., 1985; as cited in Alexander et al., 2002). So, sharing should have a relationship with attachment patterns. However, Howes et al. (1993) explained that different from public events, sharing autobiographical events like being held up with others in the following years is unlikely. Although they are activated personally by thought, it is not enough to form long-term childhood recollections. So, the obtained result could be meaningful in the light of this explanation. Another insignificant result was for the relationship

between sensory detail and attachment patterns. As this dimension of memory had high correlations with vividness, coherence, accessibility and confidence in age estimate; a significant result was expected to be found, especially for avoidant people. The weakness of memory dimensions for childhood memories could have been a reason for these insignificant results.

### Limitations and Future Directions

More consistent results were expected for the memory characteristics of recollections of different attachment patterns, so the obtained conclusions might be related to the incompetence of single-item measurement for these characteristics. Sutin and Robins (2007) claimed that single-item measurements had problems with reliability.

Although more precise results were expected for the relationship between attachment styles and the end age for childhood amnesia, elaborative talking in our culture might not be as effective as in western cultures. Other possible contributors like language development, development in causal and temporal reasoning, sense of self, development of autobiographical self, and theory of mind should be investigated for our culture as a combination to see their influence on the end age for childhood amnesia.

In the pilot study, it was seen that participants wrote attachment-related memories instead of emotional memories, when the emotional memories were asked first. Similarly, they wrote down emotional memories, instead of neutral memories, if neutral memories were asked before others. So, the order of the memories was fixed

to prevent this confusion. However, this might have had an effect like fatigue for neutral memories which were asked always at the last section.

The main problem in the study could be stated as the measurement of attachment styles. Because there are not any standardized coefficients calculated for Turkish culture to detect the attachment patterns, the analyses were only run for anxiety and avoidance dimensions of ECR. Future studies with a preliminary work for the measurement of attachment styles should be conducted. Another problem is that when conducting this study about attachment, confounding problems like irrelevant variables or individual differences could not be eliminated. Sample size was also not enough to have enough high and low avoidants or anxious people

In further studies, to see the continuity of attachment styles, and to observe the dyads between parents and children, longitudinal studies can be used. As Allen and Land (1999) stated, the continuity is much more prominent for older adolescent than younger one that was used in the current study.

There are also methodological problems about the questionnaire. When coding the answers, discrimination might not be done clearly. For example, avoidant people might recall memories more positively than they were, because these people have an incline to idealize their parents. Although they rated their memories as positive, we can not be sure that the memory was really positive. Similarly, attachment memories might involve high levels of emotion, as well as, emotional memories might contain attachment-related issues. Clearness of the data was difficult to obtain.

Another problem about the questionnaire was that it was exhaustive for participants to recall memories with the given emotions. Recalling the earliest memory about “feeling not loved” does not have the same level of difficulty with



recalling “the first time you ride a bicycle”. So cognitive instructions can be given like “please, try to remember your first house...”, or better, a cognitive interview can be realized to obtain the earliest memories.

## APPENDICES

## APPENDIX A

### MULTI-ITEM MEASURE OF ADULT ROMANTIC ATTACHMENT

#### Experiences in Close Relationships

Instructions: The following statements concern how you feel in romantic relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by indicating how much you agree or disagree with it. Write the number in the space provided, using the following rating scale:

Disagree strongly                      Neutral / Mixed                      Agree strongly  
1                      2                      3                      4                      5                      6                      7

- \_\_\_ 1. I prefer not to show a partner how I feel deep down.
- \_\_\_ 2. I worry about being abandoned.
- \_\_\_ 3. I am very comfortable being close to romantic partners.
- \_\_\_ 4. I worry a lot about my relationships.
- \_\_\_ 5. Just when my partner starts to get close to me I find myself pulling away.
- \_\_\_ 6. I worry that romantic partners won't care about me as much as I care about them.
- \_\_\_ 7. I get uncomfortable when a romantic partner wants to be very close.
- \_\_\_ 8. I worry a fair amount about losing my partner.
- \_\_\_ 9. I don't feel comfortable opening up to romantic partners.
- \_\_\_ 10. I often wish that my partner's feelings for me were as strong as my feelings for him / her.
- \_\_\_ 11. I want to get close to my partner, but I keep pulling back.
- \_\_\_ 12. I often want to merge completely with romantic partners, and this sometimes scares them away.
- \_\_\_ 13. I am nervous when partners get too close to me.
- \_\_\_ 14. I worry about being alone.
- \_\_\_ 15. I feel comfortable sharing my private thoughts and feelings with my partner.
- \_\_\_ 16. My desire to be very close sometimes scares people away.
- \_\_\_ 17. I try to avoid getting too close to my partner.
- \_\_\_ 18. I need a lot of reassurance that I am loved by my partner.
- \_\_\_ 19. I find it relatively easy to get close to my partner.
- \_\_\_ 20. Sometimes I feel that I force my partners to show more feeling, more commitment.
- \_\_\_ 21. I find it difficult to allow myself to depend on romantic partners.
- \_\_\_ 22. I do not often worry about being abandoned.
- \_\_\_ 23. I prefer not to be too close to romantic partners.
- \_\_\_ 24. If I can't get my partner to show interest in me, I get upset or angry.
- \_\_\_ 25. I tell my partner just about everything.
- \_\_\_ 26. I find that my partner(s) don't want to get as close as I would like.
- \_\_\_ 27. I usually discuss my problems and concerns with my partner.
- \_\_\_ 28. When I'm not involved in a relationship, I feel somewhat anxious and insecure.
- \_\_\_ 29. I feel comfortable depending on romantic partners.
- \_\_\_ 30. I get frustrated when my partner is not around as much as I would like.
- \_\_\_ 31. I don't mind asking romantic partners for comfort, advice, or help.
- \_\_\_ 32. I get frustrated if romantic partners are not available when I need them.
- \_\_\_ 33. It helps to turn to my romantic partner in times of need.
- \_\_\_ 34. When romantic partners disapprove of me, I feel really bad about myself.
- \_\_\_ 35. I turn to my partner for many things, including comfort and reassurance.
- \_\_\_ 36. I resent it when my partner spends time away from me.

## APPENDIX B

RUMUZ:  
YAŞ:  
CİNSİYET:

### ÇOK MADDELİ YETİŞKİN ROMANTİK BAĞLANMA ÖLÇEĞİ

#### Yakın İlişkilerdeki Deneyimler

Aşağıdaki maddeler romantik ilişkilerinizde hissettiğiniz duygularla ilintilidir. Bu araştırma şu andaki ilişkinizle değil, genel olarak neler olduğuyla ya da neler yaşadığınızla ilgilenmektedir. Maddelerde sözü geçen “birlikte olduğum kişi” ifadesi ile romantik ilişkide bulunduğunuz kişiler kastedilmektedir. Her bir madde için ne kadar katılıp katılmadığınızı, yanındaki çizgili bölüme size en uygun olan rakamı koyarak belirleyin.

Hiç katılmıyorum 1 2 3 Ne katılıyorum Ne de katılmıyorum 4 5 6 Tamamen Katılıyorum 7

\_\_1- Gerçekte ne hissettiğimi birlikte olduğum kişiye göstermemeyi tercih ederim

\_\_2- Terk edilmekten korkarım.

\_\_3- Romantik ilişkide olduğum kişilere yakın olmak konusunda çok rahatımdır.

\_\_4- İlişkilerim hakkında çok kaygılıyım.

\_\_5- Birlikte olduğum kişi bana yaklaşmaya başlar başlamaz kendimi geri çekiyorum.

\_\_6- Romantik ilişkide olduğum kişilerin beni, benim onları umursadığım kadar umursamayacaklarından endişe ederim.

|                  |   |   |   |                                      |   |   |                        |
|------------------|---|---|---|--------------------------------------|---|---|------------------------|
| Hiç katılmıyorum |   |   |   | Ne katılıyorum Ne<br>de katılmıyorum |   |   | Tamamen<br>Katılıyorum |
| 1                | 2 | 3 | 4 | 5                                    | 6 | 7 |                        |

\_\_7- Romantik ilişkide olduğum kişi çok yakın olmak istediğinde rahatsızlık duyarım.

\_\_8- Birlikte olduğum kişiyi kaybedeceğim diye oldukça kaygılanırım.

\_\_9- Birlikte olduğum kişilere açılmakta kendimi rahat hissetmem.

\_\_10- Çoğunlukla, birlikte olduğum kişinin benim için hissettiklerinin, benim onun için hissettiklerim kadar güçlü olmasını arzularım.

\_\_11- Birlikte olduğum kişiye yakın olmak isterim, ama sürekli kendimi geri çekerim.

\_\_12- Genellikle birlikte olduğum kişiyle tamamen bütünleşmek isterim ve bu bazen onları korkutup benden uzaklaştırır.

\_\_13- Birlikte olduğum kişilerin benimle çok yakınlaşması beni gerginleştirir.

\_\_14- Yalnız kalmaktan endişelenirim.

\_\_15- Özel duygu ve düşüncelerimi birlikte olduğum kişiyle paylaşmak konusunda oldukça rahatımdır.

\_\_16- Çok yakın olma arzumu bazen insanları korkutup uzaklaştırır.

\_\_17- Birlikte olduğum kişiyle çok yakınlaşmaktan kaçınırım.

\_\_18- Birlikte olduğum kişi tarafından sevildiğimin sürekli ifade edilmesine gereksinim duyarım.

\_\_19- Birlikte olduğum kişiyle kolaylıkla yakınlaşabilirim.

\_\_20- Bazen, birlikte olduğum kişileri daha fazla duygu ve bağlılık göstermeleri için zorladığımı hissederim.

Hiç katılmıyorum 1 2 3 Ne katılıyorum Ne de katılmıyorum 4 5 6 Tamamen Katılıyorum 7

\_\_21- Birlikte olduğum kişilere güvenip dayanma konusunda kendimi rahat bırakmakta zorlanırım.

\_\_22- Terk edilmekten pek korkmam.

\_\_23- Birlikte olduğum kişilere fazla yakın olmamayı tercih ederim.

\_\_24- Birlikte olduğum kişinin bana ilgi göstermesini sağlayamazsam, üzülür ya da kızarım.

\_\_25- Birlikte olduğum kişiye hemen hemen her şeyi anlatırım.

\_\_26- Birlikte olduğum kişinin bana istediğim kadar yakın olmadığını düşünürüm.

\_\_27- Sorunlarımı ve kaygılarımı genellikle birlikte olduğum kişiyle tartışırım.

\_\_28- Bir ilişkide olmadım zaman kendimi biraz kaygılı ve güvensiz hissedirim

\_\_29- Birlikte olduğum kişilere güvenip dayanmakta rahatımdır.

\_\_30- Birlikte olduğum kişi istediğim kadar yakınımda olmadığında engellenmiş hisseder sıkıntı duyarım.

\_\_31- Birlikte olduğum kişilerden teselli, öğüt ya da yardım istemekten rahatsız olmam.

\_\_32- İhtiyacım olduğunda birlikte olduğum kişiye ulaşamazsam engellenmiş hisseder sıkıntı duyarım.

\_\_33- İhtiyacım olduğunda beraber olduğum kişiden yardım istemek işe yarar.

\_\_34- Birlikte olduğum kişiler beni onaylamadıkları zaman kendimi gerçekten kötü hissedirim.

Hiç katılmıyorum 1 2 3 Ne katılıyorum Ne de katılmıyorum 4 5 6 Tamamen Katılıyorum 7

\_\_35- Rahatlama ve güvencenin yanısıra birçok şey için birlikte olduğum kişiyi ararım.

\_\_36- Birlikte olduğum kişi benden ayrı zaman geçirdiğinde içerlerim.

## APPENDIX C

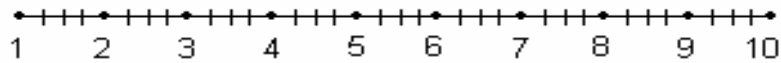
### A Question Example from the Booklet

I. Aşağıda belirtilmiş her bir duygu için, bu duyguyu anne babanızdan birine ya da her ikisine karşı hissetmiş olduğunuz en erken anınızı yazınız.

1.Kendinizi “YALNIZ” hissettiğiniz bir olay

a) Anınız

b) Aşağıda 0’dan 10’a kadar giden yaş cetveli çizilmiştir. Yaşlar arasındaki her bir çizgi 3’er aylık dönemleri temsil etmektedir. Bu kronolojik çizgi üzerinde yukarıya yazdığımız anıyı hangi yaşta yaşadığınızı işaretleyiniz





c) Lütfen yazdığımız anı ile ilgili olarak aşağıda bulunan soruları size en uygun rakamı işaretleyerek cevaplayın.

1. Bu olayla ilgili anım net.

|           |   |                |   |     |   |                |
|-----------|---|----------------|---|-----|---|----------------|
| 1         | 2 | 3              | 4 | 5   | 6 | 7              |
| Hiç değil |   | Belli belirsiz |   | Net |   | Son derece net |

2. Bu anıyı parçalar halinde değil, tutarlı ve mantıklı bir hikaye olarak hatırlıyorum.

|                  |   |   |   |   |   |                                |
|------------------|---|---|---|---|---|--------------------------------|
| 1                | 2 | 3 | 4 | 5 | 6 | 7                              |
| Parçalar Halinde |   |   |   |   |   | Son derece tutarlı ve mantıklı |

3. Bu anı benim için hatırlaması kolay bir anıydı.

|           |   |       |   |         |   |           |
|-----------|---|-------|---|---------|---|-----------|
| 1         | 2 | 3     | 4 | 5       | 6 | 7         |
| Hiç değil |   | Biraz |   | Oldukça |   | Çok Kolay |

4. Olayı hatırladığımda, olayı yeniden yaşıyormuş gibi hissediyorum

|           |   |                |   |                 |   |                             |
|-----------|---|----------------|---|-----------------|---|-----------------------------|
| 1         | 2 | 3              | 4 | 5               | 6 | 7                           |
| Hiç değil |   | Belli belirsiz |   | Net bir biçimde |   | Olay şu anda oluyormuş gibi |

5. Bu anıyı hatırladığımda, anıdaki olayı kendi gözlerimle değil, dışarıdan bakan bir gözlemciymişim gibi görüyorum

|                            |   |   |                |   |   |                                   |
|----------------------------|---|---|----------------|---|---|-----------------------------------|
| 1                          | 2 | 3 | 4              | 5 | 6 | 7                                 |
| Kendi gözlerimle görüyorum |   |   | Belli belirsiz |   |   | Başka bir gözlemci gibi görüyorum |

6. Anımın işaretlediğim yaşta gerçekleştiğinden eminim.

|                  |   |   |              |   |   |            |
|------------------|---|---|--------------|---|---|------------|
| 1                | 2 | 3 | 4            | 5 | 6 | 7          |
| Hiç emin değilim |   |   | Biraz eminim |   |   | Çok eminim |

7. Sık sık bu anı hakkında düşünür ya da anıyla ilgili olarak ailem, arkadaşlarım ve başkalarıyla konuşurum.

|           |   |       |   |         |   |  |
|-----------|---|-------|---|---------|---|--|
| 1         | 2 | 3     | 4 | 5       | 6 | 7  |
| Hiç değil |   | Bazen |   | Sık sık |   | Hayatımda en çok düşündüğüm ya da konuştuğum olaylardan biri |

8. Bu anının genel havası olumlu.

|           |   |       |   |         |   |            |
|-----------|---|-------|---|---------|---|------------|
| 1         | 2 | 3     | 4 | 5       | 6 | 7          |
| Hiç değil |   | Biraz |   | Oldukça |   | Çok olumlu |

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

|           |   |                |   |                 |   |                            |
|-----------|---|----------------|---|-----------------|---|----------------------------|
| 1         | 2 | 3              | 4 | 5               | 6 | 7                          |
| Hiç değil |   | Belli belirsiz |   | Net bir biçimde |   | Son derece net bir biçimde |

## APPENDIX D

### List of Childhood Memory Questions in the Booklet

**I.** Aşağıda belirtilmiş her bir duygu için, bu duyguyu anne babanızdan birine ya da her ikisine karşı hissetmiş olduğunuz en erken anınızı yazınız.

1. Kendinizi “YALNIZ” hissettiğiniz bir olay
2. SEVİLDİĞİNİZİ hissettiğiniz bir olay
3. SEVİLMEDİĞİNİZİ hissettiğiniz bir anı
4. DEĞER VERİLDİĞİNİZİ / ÖNEMSENDİĞİNİZİ hissettiğiniz bir olay
5. İHMAL EDİLDİĞİNİZİ / ÖNEMSENMEDİĞİNİZİ hissettiğiniz bir olay

**II.** Aşağıda belirtilmiş her bir duygu için, bu duyguyu herhangi bir kimse ya da olay karşısında hissetmiş olduğunuz en erken anınızı yazınız.

1. Kendinizi “KIZGIN” hissetmiş olduğunuz bir olay
2. SEVİNDİĞİNİZİ hissettiğiniz bir olay
3. Kendinizi “ÜZÜLMÜŞ” hissettiğiniz bir olay
4. Kendinizi “MUTLU” hissettiğiniz bir olay
5. Kendinizi “KORKMUŞ” hissettiğiniz bir anı

**III.** Herhangi bir duygu / duygusal tepki yaşamadığınız, sizin için nötr sayılabilecek, hatırladığınız en erken 2 anınızı yazınız.

## APPENDIX E

### Informed Consent Form



**BOĞAZIÇI  
ÜNİVERSİTESİ  
Psikoloji Bölümü**



### **DENEY 11**

### **Bilgilendirme ve Onay Formu**

Bu çalışma yaklaşık 1-2 saat sürecektir. Size kalem ve kağıt kullanarak cevaplayacağınız bir kitapçık ve bir anket verilecektir.

Bu deneye katılmak, sizi herhangi bir şekilde risk altına sokmayacaktır. Ancak sorular ve sunumla ilgili rahatsızlık duyduğunuz anda deneyi bırakma hakkınız vardır.

Bu deneyi tamamlayarak PSY101 dersi için **2 kredi** almakla birlikte bir bilimsel araştırmanın ilerlemesine de katkıda bulunacaksınız. Dilerseniz deney sonunda bu araştırmayla ilgili bilgi edinebilirsiniz.

Deney süresince elde edilen tüm kişisel bilgiler gizli tutulacaktır. Her katılımcı için bir rumuz belirlenecek ve toplanan bilgiler bu rumuzla kaydedilecektir. Hiçbir şekilde ad ve data birbiriyle eşleştirilmeyecektir. Deney süresince herhangi ses ya da görüntü kaydı yapılmayacaktır.

Çalışma ile ilgili sorunuz olduğunda yardım isteyebilirsiniz. Deneye katılımınızla ilgili herhangi bir sorun yaşarsanız ya da deneyden sonra çalışmayla ilgili bilgi almak isterseniz, Boğaziçi Üniversitesi Psikoloji Bölümü'nden Sinem Özen Canbolat (sinem.ozen@boun.edu.tr) ile iletişime geçebilirsiniz.

Bu bilgilendirme ve izin formunu okudum ve Boğaziçi Üniversitesi Psikoloji Bölümü tarafından yürütülen bu çalışmaya katılmayı kabul ediyorum.

Ad - soyad

Tarih

İmza

## APPENDIX F

### Written Instructions

#### YÖNERGE:

Bu çalışma insanların kendi yaşamlarına ait anılar ile ilgilidir. Bu çalışmada sizden belirli özelliklere sahip anılarınızı hatırlamaya çalışmanızı isteyeceğiz. Size belirtilen özellikteki olaylarla ilgili hatırlayabildiğiniz ilk (en erken yaşınıza ait) anılarınızı yazmanızı istiyoruz. Aklınıza farklı yaşlarda yaşadığınız birden fazla anı geliyorsa, daha küçük yaşta yaşamış olduğunuz anıyı yazın. Hatırlarken acele etmeyin ve olayla ilgili en erken anınızı hatırlayabilmek için kendinize zaman ayırın.

Burada yazmanızı istediğiniz anılarla ilgili bir noktayı hatırlatmak isteriz. Geçmişinizden bir olayı ya da bir anıyı hatırladığınızda bu hatırlama iki biçimde olabilir. Birincisi, bu olayı yaşamış olduğunuzu hatırlamakla kalmayıp, o yaşadığınız ana ya da olaya dair bazı ayrıntıları da hatırlayabilirsiniz. Bu, olay anındaki bir görüntünün zihninizde yeniden canlanması, bir sesin yeniden işitilmesi...vb gibi duysal bir deneyim olabilir. Ya da o olay anında yanınızda olan kişileri ya da nesnelere yeniden hatırlamak biçiminde olabilir. Özet olarak bu tür hatırlamalarda, yaşadığınız olay anına ilişkin ayrıntıları hatırlayabilir ya da yeniden yaşıyor gibi hissedebilirsiniz.

İkinci tür hatırlamada ise bu olayı yaşamış olduğunuzu kesinlikle bilmenize rağmen o olay anı ile ilgili somut herhangi bir ayrıntı, görüntü, v.b. zihninizde canlanmaz.

Her iki tür hatırlama çeşidinde de olayı yaşamış olduğunuzdan eşit derecede emin olabilirsiniz; aralarındaki fark anımsama anında olaya ilişkin ayrıntıların hatırlanıp hatırlanmadığıdır.

Bu çalışmada sizden hatırlamanızı istediğimiz anılar birinci tür anılardır. Yani gerçekten yaşamış olduğunuzu hatırladığınız anıları yazmanızı istiyoruz; lütfen sizin dışınızda başka kaynaklara dayanarak (aile, fotoğraf, arkadaşlar, anı defterleri...v.b.) yaşamış olduğunuzu bildiğiniz, öğrendiğiniz olayları yazmayın.

Yazmanızı istediğimiz anılarla ilgili bir noktayı daha hatırlatmak isteriz. Burada yazılmasını istediğimiz anılar belirli bir süre içerisinde gerçekleşen, bir başı

ve bir sonu olan, belirli bir yerde gerekleşmiş olan “tek” olaylardır. Uzun süreli tekrarlanan genel olaylar değildir.

Lütfen hiçbir soruyu boş bırakmamaya özen gösterin. Sorulan sorular için doğru ya da yanlış cevap yoktur. Herhangi bir zaman sınırlamanız bulunmamaktadır.

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