EXAMINING AUTOBIOGRAPHICAL MEMORY CHARACTERISTICS THROUGH RELATIONSHIP STORIES: THE ROLE OF GENDER AND MEMORY TYPE

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ABSTRACT

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Autobiographical memories have often been investigated in self context whereas other-related memories are important components of self-in-relation to others. This study explored young adults' personally significant and relationship memories. Forty-six young adults from Turkey and 31 young adults from the USA, aged 18-25, participated in Study 1A and 1B, respectively. In these two studies, participants narrated about their sibling relationship quality and turning points in their relationships. The major purposes of these two studies were to validate sibling relationships as an autobiographical memory context and to develop a new coding scheme for use with relationship memories. Results revealed that siblings were able to produce recounts of turning points in their sibling relationships. These turning-point memories revealed similar characteristics with prior research. Following this, in Study 2, young adults from Turkey (N=100) wrote about memories of three different events which were self-significant, sibling-significant, and family-significant. The major purposes of this study were to explore these significant-event narratives as a function

of gender and memory type. We predicted a main effect of memory type, gender, and an interaction between self and sibling gender. Linear mixed model analyses revealed no systematic difference between females' and males' significant-event memories either for the main or interaction effects. Yet, memories varied on level of detail, transformativeness, emotional valence, and tone dimensions across memory types. Personally significant memories scored higher on most of these dimensions whereas sibling-significant and family-significant memories represented similar characteristics. These two memory types both characterize relationship narratives, and sibling narratives are particularly informative about developmental details of adolescence and emerging adulthood periods as well as sibling relationships.

Keywords: turning point narratives, significant memories, relationship stories, sibling relationships, gender

ÖZ

OTOBİYOGRAFİK BELLEK ÖZELLİKLERİNİN İLİŞKİ ANILARI ÜZERİNDEN İNCELENMESİ: CİNSİYET VE ANI TÜRLERİNİN ETKİSİ

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Bu çalışmanın ana amacı kişisel önemli anıları, önemli ilişki bağlamında (kardeş ve aile) gerçekleşen anılarla birden çok otobiyografik özellik boyutunda incelemektir. Bu bağlamda birbirini takip eden üç çalışma dizayn edilmiştir. Bu çalışmalarda öncelikli olarak kişilerin kardeş ilişkilerinin otobiyografik bellek çalışmaları kapsamında incelenip incelenmeyeceği değerlendirilmiştir. İkinci olarak ise, bu ilişki anılarının anlatım özellikleri incelenmiş ve bu özelliklerinin cinsiyet ve anı türüne göre ne derece değiştiği araştırılmıştır. Bu amaçlar kapsamda yapılan ilk iki çalışmada, Çalışma 1A ve Çalışma 1B, Türkiye ve Amerika toplumlarından gelen üniversite öğrencileriyle genç yetişkinlik dönemindeki kardeşlik ilişkileri ile ilgili derinlemesine mülakatlar düzenlenmiştir. Bu çalışmalarda özellikle katılımcıların kardeşlik ilişkilerinde dönüm noktası anılarını anlatması beklenmiştir. Bu iki çalışmayla kardeşlerin anı çalışmaları yürütmek için güvenilir bir bağlam olup olmadığı anlaşılmaya çalışılmıştır. İkinci olarak ise, ilişki anılarında kullanılmak üzere yeni bir kodlama şeması geliştirilmiştir. Çalışma 1A ve Çalışma 1B'den elde edilen anılar, bu yeni kodlama şemasının

altyapısını oluşturur niteliktedir. Bunu izleyerek geliştirilen Çalışma 2'de bir grup genç yetişkin, geçmişlerinde deneyimledikleri kendileri için önemli, kardeşlerini içeren ve/veya aile üyelerini içeren üç farklı anıyı kağıt-kalem yöntemini kullanarak anlatmıştır. Bu çalışmadaki ana amaçlarla beraber, kişilerin kendileriyle ilgili ve önemli ilişki bağlamındaki anılarını nasıl anlattıkları incelenmiştir. Burada, bu anılar, türlerine göre birbirleriyle karşılaştırılmıştır. Son olarak ise, anlatıcıların ve kardeşlerinin cinsiyetlerinin bu anı anlatım özelliklerini nasıl değiştirdiği incelenmiştir. Sonuçlar literatürde bulunan diğer çalışmalar göz önünde tutularak tartışılacaktır.

Anahtar Kelimeler: Dönüm noktası anıları, önemli anılar, ilişki hikayeleri, kardeş ilişkileri, cinsiyet

To my family

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TABLE OF CONTENTS

PLAGIARISM iii

ABSTRACT iv

ÖZ vi

ACKNOWLEDGMENTS ix

TABLE OF CONTENTS xi

LIST OF TABLES xv

LIST OF FIGURES xvi

CHAPTERS

1. INTRODUCTION 1

1.1 Overview 1

1.2 Background 2

1.2.1 Autobiographical Memory 2

1.2.3 The importance of autobiographical memories in the adult context 5

1.2.4 Examining self through different autobiographical memory context 7

1.2.5 Sibling relationships as significant relationships context 10

1.2.6 Gender in autobiographical memory context 16

1.3 The present study 18

1.3.1 Aims and hypothesis for Study 1A 20

1.3.2 Aims and hypothesis for Study 1B 20

1.3.3 Aims and hypothesis for Study 2 20

2. STUDY 1A 22

2.1 Introduction 22

2.2 Analytical Plan 23

2.3 Method 23
2.3.1 Participants 23
2.3.2 Procedure 24
2.3.3 Measures 26
2.3.4 Transcription, Development of Coding Scheme, and Coding 27
2.4 Results 31
2.4.1 Sibling relationships as a context 32
2.4.2 Thematic features of turning point narratives 34
2.4.3 Additional information about sibling relationships 35
2.4.5 Role of gender and age 36
2.4.6 Relations among dimensions of coding scheme 41
2.5 Discussion 43
3. STUDY 1B 46
3.1 Method 46
3.1.1 Participants 46
3.1.2 Procedure 48
3.1.3 Measures 48
3.2 Results 49
3.2.1 Sibling relationships as a context 49
3.2.3 Thematic features of turning point narratives 51
3.2.4 Additional information about sibling relationships 52
3.2.5 Role of gender and age 57
3.2.6 Relations among dimensions of coding scheme 58
3.3 Discussion 59
3.4 General Discussion 61
3.5 Conclusion 66
4. STUDY 2 68

4.1 Analytical Plan 68
4.2 Method 69
4.2.1 Participants 69
4.2.2 Procedure 71
4.2.3 Measures 71
4.2.4 Narrative coding 72
4.2.5 Reliability 74
4.3 Results 74
4.3.1 Preliminary results 75
4.3.2 Main analysis 87
4.3.3 Exploratory Analysis 93
4.4 Discussion 99
5. GENERAL DISCUSSION 101
5.1 Role of gender 102
5.2 Memory type 107
5.2.1 Similarities between memory types 107
5.2.2 Differences between self- and other-related significant memories 109
5.2.3 Benefits of relationship memories 110
5.3 Role of siblings 111
5.4 Limitations, contributions, and implications 113
5.5 Conclusion and future directions 114
REFERENCES 116
APPENDICES
A: FAMILY RELATIONSHIPS QUESTIONNAIRE 130
B. DEMOGRAPHIC INFORMATION FORM / DEMOGRAFİK BİLGİ FORMU 132
C. DEFINITIONS OF CODING SCHEMES AND EXAMPLES 135

D. AUTOBIOGRAPHICAL MEMORY QUESTIONNAIRE 143
E. DEMOGRAPHIC QUESTIONNAIRE – US FORM 148
F. APPROVAL OF THE METU HUMAN SUBJECTS ETHICS COMMITTEE . 154
G. CURRICULUM VITAE 155
H. TURKISH SUMMARY / TÜRKÇE ÖZET 158
J. THESIS PERMISSION FORM / TEZ İZİN FORMU 180

LIST OF TABLES

Table 1 Sample characteristics……...25
Table 2 Definitions of coding schemes……. 29
Table 3 Distribution of coding variables across gender constellations……. 37
Table 4 Descriptive statistics for coding dimensions…… 41
Table 5 Non-parametric correlations among descriptive features……. 43
Table 6 Non-parametric correlations among evaluative features……...43
Table 7 Bivariate correlations among structural narrative features……43
Table 8 Sample characteristics……...47
Table 9 Distribution of coding variables across gender constellations……. 53
Table 10 Descriptive statistics for coding dimensions…….. 58
Table 11 Non-parametric correlations among descriptive features……60
Table 12 Non-parametric correlations among evaluative features…….60
Table 13 Bivariate correlations among structural narrative features……..60
Table 14 Sample characteristics…….70
Table 15 Intra-class correlation, Cohen's Kappa and percentage agreement values for coding dimensions…….75
Table 16 Descriptive statistics for follow-up questions……..…76
Table 17 Distribution of coding variables across gender constellations……77
Table 18 Distribution of coding variables across memory types……...79
Table 19 Descriptive statistics for coding dimensions……...82
Table 20 Bivariate relations among self-rating questions……...……...84
Table 21 Bivariate relations among coding dimensions……..…85
Table 22 Parameter estimates for the fixed effects of memory type, gender, sibling gender and interaction term of Linear Mixed Model……88
Table 23 Estimated marginal means (SE) for levels of study variables…… 97
Table 24 Parameter estimates for the fixed effects of Linear Mixed Model for degree of transformativeness and thematic coherence……...98
Table 25 Estimated marginal means (SE) for levels of degree of transformativeness and thematic coherence…….……98

LIST OF FIGURES

Figure 1. Estimated marginal mean scores across self, sibling, and family memories 89
Figure 2. Estimated marginal mean scores of self, sibling, and family memories 90
Figure 3. Estimated marginal mean scores between females and males 91
Figure 4. Estimated marginal mean scores between females and males 92
Figure 5. Estimated marginal mean scores across gender constellations 93
Figure 6. Estimated marginal mean scores across gender constellations 93
Figure 7. Estimated marginal thematic coherence mean scores between process and event 96
Figure 8. Estimated marginal degree of transformativeness mean scores between process and event 96

CHAPTER 1

INTRODUCTION

1.1 Overview

Autobiographical memories are explicit recollections of past events that happened to a person at a specific time and place, and which were of high emotional or personal significance (Nelson & Fivush, 2004). Critically, they are memories that highlight the self as an active or passive agent in the story (Bauer, 2015; Fivush, 2019). Autobiographical memory develops across the preschool years, in line with the cognitive and social abilities required for its development (Nelson & Fivush, 2004). These memories are valuable sources for individuals in creating, maintaining, understanding, and directing not only the self but also social relationships. The present study focuses on the emergence of autobiographical memory in young adults for a significant personal relationship, namely, that of sibling pairs.

We consider siblings as especially important because, unlike other types of relationships, they have a lifelong bond. Siblings are also important to each other as they grow together and follow a similar developmental timeline in the same family context. Such dynamics between siblings might play a central role in identity formation during adolescence (Raffaelli, 1992) and emerging adulthood (Conger & Little, 2010). They may perceive each other as reference points to have a better idea about themselves. They compare their personalities, qualities, and abilities with each other (Whiteman, Bernard & Jensen, 2011), especially when they are close in age and status, and gender is congruent.

The current study adopts a developmental perspective by examining autobiographical memories in a significant and a lifelong relationship context, that of siblings. We examine the characteristics of sibling memories in various relationship contexts from

a gendered perspective. In other words, we aim to investigate this interplay between self and sibling gender during a critical developmental period for elaboration of self-understanding, that of emerging adulthood. In line with these goals, in Study 1, we performed face-to-face interviews with a group of young adults about their relationships with family members, with a focus on siblings. In Study 2, we asked another group of young adults to write about a personally significant memory, and two more memories that include their sibling and their family members. We predicted differences in certain autobiographical memory characteristics, which are coherence, richness, and elaborateness, across memory types. Specifically, we predicted that personally significant memories would be higher on these dimensions compared to memories in significant relationship context. We also predicted that the contents of young adults' autobiographical memories would be affected by their own gender and the gender of their siblings. In particular, we predicted that the autobiographical memories of females would be more coherent, rich, and high on elaboration. We expected this effect to be stronger when the adult is female, and when the person's sibling is female. These predictions are based on a number of findings from the autobiographical literature, reviewed next.

1.2 Background

1.2.1 Autobiographical Memory

1.2.1.1 What is autobiographical memory?

Autobiographical memories were initially described as episodic memories (Tulving, 1972; Nelson, 1992). Now they are positioned within a more complex hierarchical organization (see Conway, 2005, for a review). Autobiographical memories share some features with semantic knowledge and episodic memories, yet are distinguished from both, by two main components. First, autobiographical memories mostly provide detailed answers to the questions of what, where, and when (Bauer, 2015), features that make them resemble episodic memories while distancing them from semantic or world knowledge. Second, the self is the fundamental aspect of autobiographical memories, such that a sense of self should be evident at the time of the event and at the time of recall (Fivush, 2019). This feature differentiates autobiographical memories from episodic recollections and adds a unique aspect.

Autobiographical memories are also unique in terms of having a detailed account of past experiences and being consciously accessible in different formats (Fivush, 2019). People can retrieve their memories in the form of single experiences (e.g., my last birthday party), recurring events (e.g., my mother driving me to school every weekday), or longer episodes (e.g., my Exchange year in Italy). All these memory recollections are constructed not only by merely retelling the event in the exact way that it happened, but rather enriched by one's subjective evaluations, emotions, reflections, or interpretations. These past experiences gain a place in one's personal history and become an integral part of the self, since they have a personal meaning by being significant and emotionally positive or negative. These personally significant and emotional memories can take place in different contexts. It can be a self context such as getting an academic award or a relationship context such as sibling's transition to college. People can also go beyond and incorporate others' memories, such as their parents' marriage story, into their own personal history (Pillemer, Steiner, Kuwabara, Thomsen & Svob, 2015).

1.2.1.2 How does autobiographical memory develop?

Because in this research we adopt a developmental perspective, it is important to consider how autobiographical memory develops. Autobiographical memory emerges gradually along with the acquisition of certain other cognitive and social skills which are self-recognition, theory of mind, time perception, a form of language (spoken or sign), and memory socialization (Fivush & Nelson, 2004; Howe & Courage, 1997; Nelson & Fivush, 2004; Reese, 2002). Because autobiographical memory is self-centered, the initial step in its development is the development of a cognitive self or self-recognition (Howe & Courage, 1997). Fivush (2019) emphasizes the development of at least three aspects of self-understanding as necessary for the emergence of autobiographical memory; that are (*i)* sense of self in the present, (*ii)* sense of self in the past, and (*iii)* temporal self. That is, children should be consciously able to recognize themselves in the center of a current experience. They should also be able to understand that the present self has existed in the past. Last, they should be aware of the temporal link between two selves (past and present). The present self who is recalling an event is the same person with that past self who has experienced the event.

The development of these three aspects of self begins in the second year of life and continues until age five as new cognitive abilities emerge.

The second cognitive feature that develops around the same ages and contributes to the development of autobiographical memory is theory of mind. Theory of mind is the ability to understand the existence, changeability and incongruence of mental states, beliefs, emotions, desires, knowledge etc. across social groups and within a person (Wellman, 2002). Theory of mind ability requires constant need for updated information that is similar to the requirements of autobiographical remembering. For a strong autobiographical recollection, children need to learn to relate present to the past events and update their current mental states if and when reality changes (Nelson & Fivush, 2004). Considering these conceptual similarities along with further data showing some neural overlaps (Rabin et al., 2010), theory of mind and autobiographical memory are proposed to represent a hand in hand development (Nelson & Fivush, 2004).

Yet another cognitive ability for the development of autobiographical memory is temporal understanding. It is the general ability to place events in the chronologically correct order, accurate usage of temporal indicators such as *yesterday* or *tomorrow*, and knowledge of days of the week or seasons. The very basics of temporal understanding ability emerge as early as 16 months to 2 years (Bauer & Mandler, 1989). Whereas other components that are related to autobiographical memory develop later. In a previous study, Pathman and colleagues (2013) examined children's temporal understanding of unique events at the age of 4, 6, and 8 years. They found that 6- and 8 year-old children were able to locate the events that happened to them up to four month prior to the testing session in a correct temporal order. That means, children have already started constructing a memory of unique experiences by these ages. These glimpses become more apparent when children show that they are able to recollect past instances through the means of language. Along with other abilities, language might play the most important role. It is the mechanism that not only stores the life events to memory systems, but accesses them when recalled. Language is also a social tool for children to converse with their parents, which is another component for the development of autobiographical memory. Talking about past experiences helps individuals to organize their memories and improves temporal and spatial

understanding of self in time and locations (Nelson & Fivush, 2004). Through collaborative reminiscing children learn how to share memories (Larkina & Bauer, 2010). By attaining all of these abilities, children establish differences between events happening to 'me' than the others, store those of important memories as treasures, and recollect them cued or spontaneously. These are the years that the seeds of later interactions between autobiographical memory and self are planted.

1.2.3 The importance of autobiographical memories in the adult context

Autobiographical memory begins to develop in childhood, it continues to develop well beyond the early years. Autobiographical memories have adaptive functions such as creating a meaningful self over time through life story (McAdams et al., 2006), constructing or storing information about an ongoing activity to keep self updated with the ongoing reality, and to maintain a coherent sel*F* (Bluck & Alea, 2008; Conway, Singer & Tagini, 2004). They also help individuals to plan and direct future behaviours (Pillemer, 2003), evaluate and boost social relations (McLean, 2005), and regulate emotions (Fivush, 2007) and well-being (Waters & Fivush, 2015). Whereas some of these assets serve individuals over a lifelong period, some of these functions show variation across age. For example, Bluck and Alea (2009) compared young and older adults' frequency of thinking and talking about autobiographical memories as well as their functional usage across these age groups. They found that people refer to their memories for relationship reasons regardless of age whereas young adults are more likely to do so when they need to maintain a coherent self and direct future behaviours. These findings show that we need to deepen our understanding of autobiographical memories for young adults. This is especially necessary considering that young adulthood is now a period of continued narrative self or identity developmen*t* (Habermas & Bluck, 2000, McAdams et al., 2006).

Narrative identity is the process in which individuals use autobiographical memories to make sense or meaning of past experiences, understand the present and prospect the future (McAdams et al., 2006). People create their narrative identities or selves through coherent and detailed explanations of personally significant events. They introspect thoughts and emotions, and gain understanding about what those events mean for the sel*F* (Fivush, Bohanek, Zaman & Grapin, 2012). Moreover, they establish their selves

and identities by the memories they prefer to tell, the way they organize their narrations, and with the details they highlighted (McAdams et al., 2006; Pasupathi & Hoyt, 2009). Thus, for narrative identity or self, what matters is the memory narratives of the past events rather than the event itself.

Research to date has come up with a variety of themes that capture the features of memory narratives (see Mclean et al., 2019 for a review). These themes can be grouped as structure (e.g., facts and coherence), autobiographical reasoning (e.g., meaning-making, growth), and motivational and affective themes (e.g., agency, communion). All of these themes are relevant to different or overlapping aspects of the narrative self, mostly stable over time yet diverging across people. For example, McAdams and colleagues (2006) found that emerging adult females put more emphasis on relationships, intimacy or unity in their narratives, which are the features of communion theme, compared to males. What is also striking is some narrative aspects of these participants such as emotional tone, agency, and personal growth were consistent over three years. An essential object of the self-creation process is the continuity of a coherent self over time and context. People need to feel that they are the same person even when time changes and their environment is not constant. Indeed, people refer to their autobiographical memories more often when their self-concept clarity is low (Bluck & Alea, 2008). As well as creating a self and incorporating that self over time, the future self is also derived from past experiences; memories serve as a base and sometimes a starting point to direct future behaviours (Pillemer, 2003). People benefit from these previous instances for problem-solving, lesson learning, and decision-making purposes (Mclean & Thorne, 2003; Pillemer, 2003).

Autobiographical memories are also crucial to self-functioning in terms of social relationships, emotion regulation, and psychological well-being. For example, adolescents are found to tell memories for entertainment, intimacy, and validation functions as well as self-explanation and meaning seeking. The main reason for telling these memories was either to construct a relationship by providing details about self perspectives or boosting an existing one by sharing fun stories such as mishaps or rebellions (McLean, 2005). Thus, one way of nurturing relationships is retelling a memory to an audience. The other way can be reminiscing about past events together,

increasing positive affect by recounting positive memories. Reminiscing about shared events also helps individuals to reevaluate the events in a different mood. After some time passes over the original event, people are better able to consider others' perspectives and elaborate on how they felt about them then and now. They are able to gain perspective on stressful events, conflicts, or other negative situations, for example (Fivush, 2007). This eventually leads to a better understanding of emotions and also increased psychological well-being. Waters and Fivush (2015) found that well-established autobiographical stories are related to psychological well-being. Retelling troubling events may reduce their negative burden by providing a complete resolution and allowing those individuals to move forward.

1.2.4 Examining self through different autobiographical memory context

1.2.4.1 Self in '*self*' context

The self has always been the center of autobiographical memory research, be it in family, culture, peer, or gender contex*t* (Fivush et al., 2012; Fivush & Buckner, 2003; McLean, 2005; Wang, 2016). Indeed, the general approach to eliciting autobiographical memories is to ask people to write or talk about some personally significant nuclear episodes (e.g., Waters & Fivush, 2015) or describe a personally significant self-defining memory that makes their current sel*F* (Singer & Moffitt, 1992; McLean & Thorne, 2003). Participants can also be asked about a certain number of chapters or events that would possibly happen to someone from the same background and culture. This eventually leads to identifying chapters of life story or a cultural life scrip*t* (Altunnar & Habermas, 2018; Berntsen & Rubin, 2004; McAdams et al., 2006). It is also similar in the reminiscing literature. Parent-child dyads are asked to choose and talk about the target events that happened to person-of-interest, typically, the child her/himsel*F* (Fivush & Wang, 2005). Although this research reveals many aspects of the self, they are not the sole source of such insights. Other aspects of the autobiography may be revealed in relationship memories.

1.2.4.2 Self in '*significant others*' context

Despite the general trend of focusing on personally significant events to understand the self, people do not only recount their own experiences. They also share memories

told by others, consider those memories as examples and use them to direct their current or future behaviours. This is why the literature should be expanded to other kinds of memories that serve similar purposes. This aim is mostly achieved by examining the memories of others or memories including others. Previous research has focused on vicarious or intergenerational memories, memories in the context of close others (Lind & Thomsen, 2018), parents (Reese, Fivush, Merril, Wang & McAnally, 2017; Zaman & Fivush, 2013), and romantic couples (Panattoni & Thomsen, 2018). In the current study, we address a new form of relationship memories, namely, memories of sibling pairs and try to understand the self in-relation to others.

One form of relationship memories are people's recollections of others' stories, which is called vicarious memories (Pillemer et al., 2015). These stories are not experienced by the individuals but rather are reported to them by someone else. Still, individuals may know the details of the events and benefit from them to understand her/his own experiences through someone else's glasses (Pillemer et al., 2015). So far, we know that these memories are similar to personal memories and related to narrative identity development and attachment security (Lind & Thomsen, 2018; Merrill & Fivush, 2016; Zaman & Fivush, 2013). In a previous study, Panattoni and Thomsen (2018) compared couples' personal and vicarious life stories on agency and communion dimension, and redemption sequence. Results revealed some similarities as well as differences. That said, participants placed similar frequency of agency and communion, and redemption to those memories belonging to their partners and their personal stories. In addition, memories belonging to participants themselves and told by their partners were similar regarding agency and communion dimensions. Still, these memories differed in a way that people attributed higher levels of agency and redemption to personal life stories compared to vicarious memories.

The other form of memories that are very similar to vicarious memories are intergenerational stories. These are the memories that belong to previous generations, such as mothers, fathers, or grandparents, and being told to their daughters and sons. Reese and colleagues (2017) examined intergenerational memories on a sample of New Zealand, Chinese and Maori adolescents. They found that, using their parents' memories, all these adolescents were able to make identity connections to different

extent regarding their gender and backgrounds. As such, adolescents from Maori background told more coherent stories; they perceived their parents' purpose of telling those memories as didactic reasons, along with Chinese adolescents. European adolescents, on the other hand, attributed their parents' purpose of telling those memories to share family history. Yet in another study, vicarious stories of mothers and fathers were investigated in a cross-generational context. Results showed that younger generations attributed to entertainment reasons while middle generation attributed to emotional reasons (Bakir-Demir, Reese, Sahin-Acar, 2020). Taken together, these results imply that we are able to identify similar narrative characteristics such as agency, communion, redemption, and identity connection in memories belonging to others. Yet, these memories are not identical; we are still able to observe certain differences between personal and vicarious memories, or between different participant groups. Therefore, memories of others are good sources in revealing information about narrative identities and provide a flexibility to expand the autobiographical memory studies into others' lives.

As the motivation for the present research, we argue that not only memories belonging to others, but memories *including* significant others, such as siblings, are also informative. First, in these memories, the narrator has a chance to include details about both herself/himself and others within the same context. Second, the narrator is able to compare her/his own *self* with others by taking different perspectives using the same experience. This eventually leads the narrator to understand the self as reflected in or referenced through others. To date, we know of only a few studies that explicitly ask participants to report their memories with others (Pillemer et al, 2015; Thorne, Cutting & Skaw, 1998). In one of these, Thorne and colleagues (1998) interviewed young adults about their experiences with other people, earliest memories that either belonged to them or their parents, as well as some other high- or low-point events from their pasts. This was a longitudinal study in which participants were invited twice within a six-month interval. Analyses revealed a moderate consistency in twice-told memories. The motivations of participants to tell the memories and perceived emotional satisfaction at the time of the event were similar in Time 1 and Time 2 narratives. However, participants were less likely to tell the same story and more likely to change their story characters in their memories across these two time points. These results were discussed in terms of relationship memories serving as examples in the

long-lasting life stories. This was a good attempt in expanding autobiographical memory by including others, but we should be careful in attributing these observed memory characteristics to relationship stories. First, there were some methodological concerns; researchers instructed the participants that it does not matter whether they report the same memories in Time 2 phase. As a result, participant told different memories at Time 2. Second, and related to the first point, the researchers reported a high turnover rate in retelling of relationship memories. Third, researchers asked for memories about any significant other, a method we approach cautiously. These points might lower this research's power to fully capture the characteristics of relationship memories. In another study, Pillemer and colleagues (2015) examined the characteristics of memories including a parent or friend (personal memories) and memories told by a parent or friend (vicarious memories). They found that these personal and vicarious memories were comparable on all phenomenological qualities such as emotional intensity, physical reaction, vividness, and seeing the event. This study furthered our understanding by comparing two different yet similar types of relationship memories and including specific significant others.

We also believe that instead of asking participants to tell memories about any significant others, we should be more specific about whom to include into these stories. We at least know that memory narratives tend to show a few differences with regard to the audience (McLean, 2005). In addition, people may be contex*t* (person) dependent in presenting different aspects of their own selves (McLean & Jennings, 2012). In that sense, we consider siblings as good references to oneself as they are being close in age and going through similar experiences, sharing the same family context, and expected to be in a loving relationship while being compared to each other most of the time.

1.2.5 Sibling relationships as significant relationships context

Siblings are important agents in individuals' lives because they have an active role in each other's social, cognitive, and emotional developmen*t* (Dunn, 2002; Weisner, 1989). Siblings are the individuals with whom one has the "longest bond" in her/his life cycle (Cicirelli, 1994). They are lifelong peers who are biologically related and yet more egalitarian compared to other relationships within the family system (Spitze &

Trent, 2006). They act as company or playmates to each other especially during their early years. Children spend most of their time with their sisters and/or brothers, even more than they do with their parents (Lamb & Sutton-Smith, 2014). Still, sibling relationships have only become a subject of interest to a range of studies, relatively in a recent period, especially compared to parenting studies (Dunn, 2002). These studies identified the factors affecting the quality of sibling relationships (Milevsky, Smoot, Leh & Ruppe, 2005) and found considerable variations across cultures (Updegraff, McHale, Whiteman, Thayer, & Delgado, 2005). They revealed the fluctuating nature of sibling relationship dynamics throughout the years (Van Volkom, Machiz, & Reich, 2011) and evidenced the role of sibling relationships on psychological adjustment (Milevsky, 2005). In the current study we address some of these factors and components in understanding sibling relationships. We also reason why we should consider sibling relationships among the other significant relationship contexts in which to perform autobiographical memory studies.

1.2.5.1 Why are siblings important?

1.2.5.1.1 Effects on the development of self

We consider siblings as important because of their lifelong bond. This bond along with the fact of sharing an immediate environment during formative years makes them contribute to one another's cognitive, social, and emotional development. The earliest effect can be seen in language development. For example, 2 years-old second-born children in bilingual homes showed more advanced language skills than children without older siblings (Bridges & Hoff, 2014). The same advantage is also present in theory of mind development: as the number of siblings increases, 3 to 4 years-old children show better false-belief understanding skills (Perner, Ruffman & Leekam, 1994). Moreover, 7 years-old children improved their task learning skills better if they are taught by a sibling rather than a peer (Azmitia & Hesser, 1993). Having a sibling around may promote development through a constant stimulative learning environment. Siblings engage in countless activities together and especially older siblings scaffold youngsters' development (Vygotsky, 1980). They can also learn just by observing each other, as the social learning model suggests (Whiteman, Bernard & Jensen, 2011). This way of learning can be exemplified with children's gender

development and gender typical behaviours. Having same-sex siblings creates a more sex-typed environment for the youngsters (Rust et al., 2000), such that second-born children, around the age of 8 years, engaged in more sex-typed activities if they have a same-sex older sibling (Mchale, Crouter & Tucker, 1999).

The effect of having a sibling moves beyond childhood. In adolescence and emerging adulthood years, individuals can use this relationship to explore themselves as reflected in their siblings (Conger & Little, 2010; Raffaelli, 1992). They compare themselves with one other, particularly when they are close in age and status, and are gender congruent. They understand their personalities, qualities, and abilities referenced through each other. Siblings also recognize their relational standing in family or other social environments, and as a result identify themselves with their siblings or try to become more differen*t* (Whiteman et al., 2011). Therefore, siblings hold an important role in each others' development beyond early years, while this effect is still closely tied to other factors in sibling relationship context, which will be discussed next.

1.2.5.2 Important factors in sibling relationship context

1.2.5.2.1 Factors defining sibling relationships

The quality or structure of a sibling relationship generally depends on the number of siblings, birth order, age level, age gap, gender, and culture (Cicirelli, 1995). The interaction between these factors addresses why siblings are emotionally and hierarchically close or distant, why they have a lifelong relationship, and why these relationships become voluntary or involuntary. These factors determine the degree of warmth and closeness, relative status and power, conflict, and rivalry, which are the commonly identified sibling relationship dimensions across studies (Furman & Buhrmester, 1985; Derkman, Scholte, Van der Veld & Engels, 2010). These are also the factors that cause us to consider sibling relationships as a unique and a significant context to understand one's self and we propose to include them into autobiographical memory research. In these initial studies, we limit ourselves to studying only the effect of age and gender although we are aware of other factors shaping sibling relationships in a variety of ways.

1.2.5.2.2 Age related variables

1.2.5.2.2.1 Age level

The quality of sibling relationship or closeness between siblings fluctuates with age. We may observe different trajectories over time, such as U-shaped, linearly positive, linearly negative, constant etc., within or across sibling pairs within the same family system. Related to the time spent together, closeness might peak during childhood periods, whereas adolescence and emerging adulthood periods might separate siblings, at least physically. During childhood years, siblings mostly share the same house or the same room, play together, or attend similar kinds of recreational activities. During adolescence, they may get into a different kind of a pattern because of physical distance (e.g., leaving for college) and decrease in a shared environmen*t* (e.g., separate schools, rooms). Also, adolescents might prefer spending time with their friends and separate themselves from their families, which may result in an emotional or physical gap between siblings. With the beginning of emerging adulthood, siblings may feel closer again as they reach some form of maturity and start to appreciate each other's company (Conger & Little, 2010; Myers & Bryant, 2008a; White, 2001). However, there is not a single function that characterizes sibling relationships. As time spent together yields this U-shape closeness, there is a possibility that it can completely reverse this pattern by triggering competition or rivalry between siblings.

In a previous study, Van Volkom and colleagues (2011) found that rivalry represents its peak during childhood and adolescence, and declines in emerging adulthood. This can be explained by growth and maturity through the years, but also challenges the assumption of benefits from time spent together. Indeed, sibling relationships during emerging adulthood years might still be complicated as individuals keep struggling with other issues in their lives. Young adulthood years are still open to many changes and formations regarding the current developmental delays. Considering all, these findings lead to the expectation of a turning or a change in the quality of sibling relationships over its course of development. These changes can be either in a positive or negative direction, without disregarding the possibility of a stable relationship over the years. Findings also let us nominate adolescence or emerging adulthood years as candidates for these changes to occur.

1.2.5.2.2.2 Age difference

The age difference between siblings is another factor explaining how siblings perceive each other and create different kinds of bonds. For instance, siblings may develop intimate relationships as close as friends when the age difference is small. Those siblings who go through similar life experiences (e.g., school) and transitions (e.g., entering puberty) may feel better understood by one another (Conger & Little, 2010). However, an opposite pattern is still possible. As siblings get closer in age, they may perceive each other as competitors, a case that leads to an increased level of conflict and rivalry. For instance, Milekvsky et al. (2005) found that individuals who have the most intimate relationships with their siblings are the ones who are at least two years apart from each other. Moreover, the highest levels of rivalry are reported for the siblings who are closest in age, and these feelings are less likely for sibling pairs with a larger age gap (Van Volkom et al., 2011). Conflicts and rivalry may increase with small age gaps because of limited emotional (e.g., parental attention), or material (e.g., household stuff, family budget, personal belongings etc.) resources. On the contrary, a larger age gap may alter this intimacy vs. rivalry pattern by incorporating other roles, particularly to the older ones, such as taking care of the youngsters. Older siblings who accept these further responsibilities may have a differential status of power and become advantageous on hierarchy (Cicirelli, 1995). Taken all together, the current study concerns people with a small age difference not only to fully observe the sibling dynamics better but to increase the possibility of shared experiences.

1.2.5.2.3 Gender

The number of females and males in a sibling constellation seems to create differences in the quality of relationships, closeness of siblings, and/or the type of activities shared by siblings (Floyd, 1995; Spitze & Trent, 2006). For example, female sibling dyads feel more responsible for the unity of their family and provide higher levels of lifelong support to one another (Spitze & Trent, 2006). They are more present for each major event in their siblings' lives such as marriage, death, and birth. They act as the glue to bring family members together even in the later years of life (Cicirelli, 1995). That is, females work at nurturing social networks inside the family while males provide

limited or no effort which is in line with gendered expectations. More outcomes from gender studies identified sister-sister dyads as being emotionally the closest ones, and these are followed by sister-brother and brother-brother dyads (Riggio, 2000; Van Volkom et al., 2011).

In addition to constellation, gender concordance may also determine what siblings share with each other to what degree. For instance, the same sex siblings may feel more comfortable to share their secrets with each other, or they may enjoy the same kinds of hobbies and activities. A previous study revealed that although siblings' or friends' level of closeness did not change across the same-sex or cross-sex pairs, their definition of closeness changed. Whereas females define closeness more on verbal exchanges, males prefer to show their closeness by engaging in greater numbers of activities such as drinking together, shaking hands or talking about sexual issues (Floyd, 1995).

The differential effect of gender constellations and/or gender concordance among other family members is well-known for other areas of study, such as memory narrative literature. Mothers and fathers differ from each other in the way they converse (Endendijk et al., 2014) or reminisce with (Bohanek et al., 2009) their children. This difference may extend with the gender of children, too (Fivush, Brotman, Buckner & Goodman, 2000). In a previous study, Bohanek and colleagues (2009) found that both parents are involved in dinner table talk at comparable frequency, but mothers tend to elaborate more, and in turn contribute more to the co-construction of memories. When these conversations between parent-child dyads are particularly about emotions, parents engage in different narrative styles with their daughters and sons, as such focusing more on sadness with girls than with boys (Fivush et al., 2000). In the current study, we are also interested in revealing the role of gender, but we target self and sibling instead of self and parent. We will address whether gender dyads represent their effects on relational memories when we include the sibling as one of the main characters.

1.2.6 Gender in autobiographical memory context

1.2.6.1 Adult differences in autobiographical memory as a function of gender

Evidence from the memory research reveals that gender is related to the length, coherence, level of detail, emotional tone, emotional expression or elaborateness of autobiographical memories (Buckner & Fivush, 1998). Whereas gender differences are not always found, when there is indeed a difference, it is usually females who present higher levels on most of these domains compared to males (Bauer, Stennes, & Haight, 2003; Grysman & Hudson, 2013; Nelson &Fivush, 2004). These gender difference arguements are supported by a great amount of research reporting that girls provide more episodic memories than boys; women include more compassionate positions in their narratives while men narrate in a more tough, action-packed manner; females talk more about emotional aspects of the events by including more emotional words into their conversations, place more affect, connection and factual elaboration in their narratives than males do (Bemis, Leichtman & Pillemer, 2011; Fivush et al., 2000; Grysman, Fivush, Merrill & Graci, 2016; Thorne & McLean, 2002).

Gender is also associated with memory-retelling purposes, or reconstructing the narrative self in general. For example, males tend to tell entertainment memories more frequently compared to females (McLean, 2005); females tell stories that have a focus on people, relationships and emotions whereas males tell stories to highlight themselves and individual achievements (Bakir-Demir et al., 2020; Fivush & Buckner, 2003). Females describe their memory telling purposes for more relational reasons than do males (McLean & Breen, 2009), and they use more internal-state language with a tendency to include more insight compared to males (Bauer et al.,, 2003; Fivush et al., 2012). In a previous study, Grysman and colleagues (2016) tested the relationship between gender, gender typicality, and several dimensions of autobiographical memory on emerging and young adult groups. Results revealed that females were higher on affect, connection, and factual elaboration dimensions across all narratives than of males. Additionally, feminine gender typicality is related to increased connectedness while masculine gender typicality is related to higher levels of agentic attributions, lower levels of connectedness and affect.

1.2.6.2 How do individuals acquire these gender differences?

Even if there are assumed to be certain fundamental differences between females and males, children actually develop these differences through their early interactions within their families. At earlier stages of development, children cannot engage in adult-like conversations due to their lack of fully developed language abilities or scarcity of experiences about how to direct a conversation. It is parents' jobs to lead the conversations, elicit more information about the details of events that happened, tap into the emotional valence of those experiences and provide perspective. Parents transmit their styles of reminiscing, conversing, and narrating onto their children by those early conversations (e.g., Fivush, Habermas, Waters, & Zaman, 2011; Leichtman, Pillemer, Wang, Koreishi, & Han, 2000; Sahin-Acar, Bakir & Kus, 201). They become a role model to their children about what to attend in memory construction, which aspects of a memory of an event to put forward and which aspects to leave out.

Whether or not they are aware of that they instill their own styles into their children, mothers and fathers do not do it similarly. In general, mothers are systematically more elaborative than fathers while interacting with their children, though this difference is not always found. Mothers tend to be more engaged, provide more insight about conflictual situations, and they are more willing to talk about emotional events (Fivush, Haden & Reese, 2006; Zaman & Fivush, 2013). Irrespective of their gender, both parents tend to socialize their daughters and sons differently. As such, parents talk more with their daughters than with their sons, reminisce more in detail, engage in more emotional conversations (Fivush & Buckner, 2003). This difference eventually leads girls to remember their past more vividly, and provide richer information about past experiences (Fivush et al., 2000; Fivush, Marin, McWilliams & Bohanek, 2009; Zaman & Fivush, 2011). Still, we should be careful in considering these findings as robust, first because these claims have not been replicated consistently (Zaman & Fivush, 2013). Second, most of the studies performed on samples coming from the same area, which is representative of only a small portion of the larger population (Grysman & Hudson, 2013).

1.2.6.3 Issues related to gender and autobiographical memories

As noted above, when there is a gender difference, it is usually that females score higher than males on several of those listed dimensions (e.g., vividness, emotional details, elaboration etc.). However, there are still certain cases or studies where no or little gender difference is observed (Bloise & Johnson, 2007; Buckner & Fivush, 2000) or the findings are inconsisten*t* (Aznar & Tenenbaum, 2015; Reese, Haden & Fivush, 1996). For example, Fivush and colleagues (2012) found that males do not differ from females in their frequency of attributions to relationships, and females reported more reflective and agentic narratives than did males. Although most autobiographical memory research showed more relational patterns for females and more agentic patterns for males, when gender is backgrounded, fewer differences are observed (Fivush & Buckner, 2003). Grysman and Hudson (2013) relate these contradicting or inconsistent findings to several factors. First, the effect of gender can be dependent on the context. As such, gender differences might be more salient when individuals retell an emotional even*t* (Bauer et al., 2003), but it might be less so when issues about personal growth have been discussed (Fivush et al., 2012). Second, fewer gender differences may emerge with regard to the number and gender of people present during memory retelling. Third, the age of participants may change whether gender becomes more or less prominent. In other words, gender segregation is much more apparent during early childhood while it is overshadowed during adolescence. Relatedly, gender differences may increase or decrease across those ages. Last, methodology may create random fluctuations. Gender differences are less common in studies that use rating scales but are more common in studies in which narrative measures are used (Grysman & Hudson, 2013). The current study will further these gender arguments by taking the gender of self and the sibling into account on an emerging adult sample. Although we would expect to find the main and interaction effect of gender on memory narratives, the age group included in the study makes memory narratives less likely to show an effect of gender.

1.3 The present study

The main objectives of the current study are to examine personally significant memories and memories happening in a significant relationship context. These

personal and other-related memories are compared on multiple narrative dimensions as a function of memory type and gender. Accordingly, we first aim to validate sibling relationships as a reliable context to perform autobiographical memory studies. We know many studies investigating autobiographical memories directly focusing on self-stories; however, we know little about the effect of stories involving significant others. Second, we aim to develop a new coding scheme that is particularly applicable to relationship memories. Although autobiographical memory research is rich in the number of coding schemes, only recent studies started to address relationship memories. Therefore, existing coding dimensions may not be precise enough to capture the dynamics in these kinds of memories. We addressed these aims in the first study. College students from Turkey and the USA were interviewed deeply about the nature of their relationships with the members of their families, mostly about sisters and brothers. This enabled us to understand the themes, general and changing quality of relations between siblings, and emerging concepts during this period. We used these sibling relationship narratives to evaluate the richness of this context and create a new coding scheme.

After this initial work on sibling relationships, we included memories about siblings as a new context in autobiographical studies to the following study. Accordingly, our third aim is to investigate how individuals' personally significant life events and other-related (sibling and all family members) significant life events provide cues about themselves and represent similar memory characteristics. A new line of research has identified several similarities and yet differences between vicarious and personally significant life events. However, there is still further need to explore these memories, especially in sibling context. Last, we investigated whether narrative characteristics of emerging adults' memories about their selves, siblings and families were affected by their own gender, and/or the gender of other agents included in the memory. We again know how, for instance, memory conversations of mother-child or father-child dyads differ across gender. However, within the framework of reminiscing about family members, sibling effect has not been subjected to any studies that we know of. Thus, to examine third and fourth aims, we conducted Study 2. In Study 2, we asked Turkish college students to write about personally significant memories and memories including their siblings and families on a paper-pencil form. We compared individuals' self-significant, sibling-significant, and family-significant memories on multiple

narrative dimensions such as volume, level of detail, and coherence along with the new coding dimensions we developed in Study 1. We compared the characteristics of memories from both memory type and gender perspectives.

1.3.1 Aims and hypothesis for Study 1A

Our first aim is to test the possibility that sibling relationships can be a meaningful environment to conduct autobiographical memory research. We will identify the variability in sibling memories and its similarities to autobiographical memories to understand whether sibling relationships can be a context for autobiographical memory studies. Second, we aim to test the effect of gender as well as age on sibling-related memory narratives to see if there are any specific patterns, particularly for gender. Last, we aim to develop a new coding scheme, which is applicable to narratives that involve siblings and subsequent studies. Since this is an exploratory study, we do not propose any specific hypothesis.

1.3.2 Aims and hypothesis for Study 1B

The current study aims to test for replication of the findings in Study 1A, thus establishing the validity of the approach more broadly.

1.3.3 Aims and hypothesis for Study 2

To briefly restate the purposes, in the current study we aim to explore self-significant, sibling-significant, and family-significant memories on multiple narrative dimensions as a function of memory type and gender. In line with these, the hypotheses of the current study are as follows:

1. Self-significant memories would be more coherent in terms of themes compared to sibling-significant and family-significant memories. We will explore the differences between sibling-significant and family-significant memories.

2. Self-significant memories would be higher on volume and level of details compared to sibling-significant and family-significant memories. We explored the differences between sibling-significant and family-significant memories.

3. Memories of female participants would be more voluminous, rich in level of detail, and coherent in terms of themes compared to male participants.

4. Memories of same-sex female siblings would be more voluminous, rich in level of detail, and coherent in terms of themes compared to memories of same-sex male siblings and cross-sex siblings.

5. We are not going to propose any specific hypothesis for the dimensions in our new coding schemes since this is the first study that they are being tested. Still, we expect to find some differences particularly across memory types.

CHAPTER 2

STUDY 1A

2.1 Introduction

Autobiographical memory studies have been mostly carried out in family context such as mother-child/father-child dyads (e.g., Fivush & Wang, 2005; Habermas & Bluck, 2000), parent-child triads (e.g., Bohanek et al., 2009), cross-generational family member-dyads or triads (e.g., Sahin-Acar et al., 2017), married couples (e.g., Pasupathi, Lucas & Coombs, 2002), as well as peer context such as friends (e.g., McLean, 2005; Pasupathi & Hoyt, 2009). There is limited research in sibling context and the only study we know investigated the ownership of disputed memories across siblings and twins (e.g., Ikier, Tekcan, Gulgoz & Kuntay, 2003). Siblings are also reported as not being particularly addressed in memory recollections (Thorne et al., 1998). That said, siblings seem to be neglected both as a context to study and as agents to remember. We still think it is important to further the memory research to sibling context at least for two reasons: (i) siblings are lifelong partners in family context, and ye*t* (ii) they have a peer-like relationship with being close in age and hierarchy. The current study is the initial attempt to expand the structural and narrative characteristics of autobiographical memory research into a sibling-related memory context. We first aim to test whether sibling relationships are a good context to conduct autobiographical memory research. We will address the variability in sibling memories and to which degree it resembles autobiographical memories. With this, we aim to understand whether sibling memories are an appropriate context for autobiographical memory studies.

Sibling memories are also a seemingly good source for furthering our understanding of the role of gender on autobiographical memory characteristics. To the best of our

knowledge, no studies before have examined the effect of gender on autobiographical memory characteristics and narrative identities using sibling memories, again, although there is plenty of research in this regard for autobiographical memories (e.g., Fivush et al., 2012, Grysman et al., 2016). Thus, we aim to test the effect of gender as well as age on sibling-related memory narratives to see if there are any specific patterns, particularly for gender. Last, we aim to develop a new coding scheme, which is applicable to sibling narratives and subsequent studies. Since sibling memories are new to performing autobiographical memory studies, there might be certain aspects that cannot be captured with the existing coding dimensions. We do not propose any specific hypothesis since this is an exploratory study.

2.2 Analytical Plan

We will run several descriptive statistics that serve the first aim of the current study. That is, we will explore the general patterns emerging in sibling narratives and touch on some additional data about sibling relationships during young adulthood years. Also, we will compare sibling-related memory narratives' similarities and differences with the features of previous autobiographical memory narratives in the literature. Our arguments will be based on qualitative comparisons, not quantitative analysis. Next, we will run chi-square and analysis of variance (ANOVA) tests to examine the effect of gender and age-related variables. Last, we will perform bivariate correlations to see if the dimensions in our currently developed coding scheme are consistent among each other, and to evaluate its applicability in this study and usability for further studies.

2.3 Method

2.3.1 Participants

Participants were 67 young adults in initial sampling (M_{age} = 21.83 years, *SD* = 1.56, 29 females). We restricted our final sample to participants who met the following criteria: (*i*) participants should have been aged 18-25, (*ii*) participants should have had only one sister or brother, and (*iii*) the two siblings should have been within 4 year of

each other[1]. Sample characteristics can be seen in Table 1. Of the participants, one participant was eliminated because of not meeting age criterion (the participant was 26 years old), and 20 participants were eliminated due to age difference criterion (the age difference was more than 4 years). After exclusion of those participants, the remaining sample was composed of 46 participants (M_{age} = 21.782 years, *SD* = 1.412; 29 female). Of the final sample, female participants having a male sibling represented the highest level of frequency, followed by female-female, male-male, and male-female dyads. The mean age of siblings was slightly lower than the mean age of participants. We had more participants who were older than their siblings. One of the participants had a twin, a participant to whom we will pay special attention considering the differential patterns in twin relations. All of our participants were university students. Most of the siblings were high school or university graduates while 6 participants did not report. Participants mostly reported living with their families. The majority of our participants reported having intact families (both parents are alive, married, and living together, *N* = 38 [92.7%]), whereas two of our participants lost their fathers and one's parents got divorced. Most of the parents were high school or university graduates. Almost half of the participants' families were from the middle to upper income group comparing their monthly family income to the annual household income in the local country.

2.3.2 Procedure

Participants were predominantly recruited from Altınbaş University. This is a private university in Istanbul, which is the most populated city in Turkey. We invited university students to take part in the study through e-mail notifications, in-class announcements, and posters. Their participation was either voluntary or for extra credits for one of their courses. Students who fit the study criteria and agreed to participate in the study were scheduled for an appointment. The main researcher (the author) performed all of the individual semi-structured interviews in a quiet room (either in a classroom or at the laboratory). Participants were first given a consent form and briefly informed about the study without revealing any critical information that

[1] According to Turkey Demographic and Health Survey data, the median birth interval was 37 months in 1998, 35.8 months in 2003 and 44 months in 2018. Based on this trend in data and previous arguements about age difference, we set a maximum of 4 years of age difference between siblings.

Table 1

Sample characteristics

		Participant			Sibling	
		Frequency (%)	Mean Age	Difference	Mean Age	Difference
Gender	Female	29 (63%)	21.689 (1.560)	t (44) = -0.578, p = 0.566	21.000 (3.266)	t (44) = 0.036, p = 0.972
	Male	17 (37%)	21.941 (1.144)		20.960 (3.579)	
Gender Constellation*	Female - female	11 (23.9%)	21.363 (0.924)	F (3, 42) = 0.503, p = 0.682	20.363 (3.264)	F (3, 42) = 0.477, p = 0.70
	Female - male	18 (39.1%)	21.888 (1.843)		20.611 (3.534)	
	Male - female	8 (17.4%)	21.750 (1.281)		21.875 (3.271)	
	Male - male	9 (19.6%)	22.111 (1.054)		21.667 (3.775)	
Gender Concordance	Same sex	20 (43.5%)	21.700 (1.031)	t (44) = -0.344, p = 0.732	20.950 (3.471)	t (44) = -0.049, p = 0.961
	Opposite sex	26 (56.5%)	21.846 (1.665)		21.000 (3.441)	
Age Order**	Younger	17 (37%)	21.882 (1.409)	F (2, 43) = 0.196, p = 0.823	24.764 (1.921)	F (2, 43) = 63.259, p = 0.00
	Same age	1 (2.2%)	21.000 (0.000)		21.000 (0.000)	
	Older	28 (60.9%)	21.750 (1.456)		18.678 (1.657)	

Note. *Former represents the participants' and latter represents siblings' gender. **Age order is determined considering participants' age

might affect their responses (e.g., gender of the sibling, number of siblings, etc.). They were then introduced with the remaining procedures (e.g., audio recording, voluntary participation, withdrawal from the study at any point, etc.) and asked to sign the consent form if they agreed to participate. All interviews were audio recorded and took an average of 17.281 minutes (min = 8.560, max = 35.100, *SD* = 6.085). After the completion of interviews, we asked participants to fill out a demographic information form through an online document sent to their e-mail addresses. We have continued to collect data until we reach the expected number of participants from each gender-dyads. All questions and procedures were approved by the Middle East Technical University Human Subjects Ethic Committee.

2.3.3 Measures

2.3.3.1 Family Relationships Interview

This is an open-ended questionnaire consisting of 14 questions, developed by the researchers. Questions mostly outline adult relationship dynamics among family members with a particular focus on sibling-self relations. More specifically, this questionnaire covers participants' relationships with their siblings and parents in terms of intimacy and quality, asks for a time or period that makes siblings feel closer or changes their relationships. The present questionnaire also addresses the priority of the siblings in participants' lives, the activities, secrets, and/or problems siblings share, parental interference to sibling relationships, the effect of sibling's gender, and finally living conditions (see Appendix A). Participants were instructed to talk in as much detail as possible and in a way they feel comfortable. During the interview, the researcher provided further prompts to obtain more (i.e., Can you elaborate on that, please?) and precise (i.e., How old were you when your sibling moved out?) information.

2.3.3.2 Demographic Information Form

At the end of each interview, participants were notified that they will receive an e-mail from the researcher to fill an online demographic information form. This form includes general questions about sex, age, educational level, income, marital status, and living conditions (see Appendix B).

2.3.4 Transcription, Development of Coding Scheme, and Coding

We developed a new coding scheme either by adapting previous schemes into current context, or creating new dimensions with regard to research questions (see Table 2 for brief descriptions, Appendix C for detailed descriptions, examples, scaling, and discussions).

First, the main researcher and five other research assistants transcribed verbatim and double-checked all interviews. These transcriptions were then de-identified (no explicit information about the participant's, and sibling's sex or age) to eliminate any bias. The next step was to review a number of interviews to have an idea about the content of the interviews and to grasp the general emerging patterns. This review led researchers to identify and focus on two of the most relevant questions that serve best to the purposes of the current study. The first question (*Q1: Do you have a personal relationship with your sibling?*) asks for the presence of a personal relationship between siblings. Answers disclose information about the quality of relationship and can be used as a basis to understand the nature of the dynamics. Participants think about their past relationship quality, evaluate their current status and sometimes project onto future relationship closeness. The second question (*Q2: Can you remember the first time that you developed a personal relationship with your sibling, a personal relationship is beyond just being a sibling? When was it? How old were you then? And how old was your sibling?*), on the other hand, asks for a time, period, or a specific event that siblings have developed this personal relationship. These memory narratives can be interpreted as a turning point in sibling relationship history. We anticipate participants to look deep into their reservoirs and bring back some autobiographical memories as answers.

After narrowing down the number of questions, the researchers either created new coding dimensions or adapted some of the existing coding schemes into current context. Overall, the researchers grouped new coding dimensions under three categories. The first group of coding dimensions reflects the descriptive features of narratives. This category identifies whether there is a personal relationship between siblings. If there is a personal relationship, what was the course of time to develop this relationship; was it a single turning event or a process? How are these turning points

described in keywords, and when did these turning points happen? The second group of coding dimensions reveals evaluative features of turning narratives. These narratives usually include a change leading to a meaningful personal or relational growth. This category focuses on this change and evaluates it from different perspectives. For instance, coding dimensions address the change from the quality of relationship perspective (i.e., Is there a change? If there is, in which direction?). This category also identifies the force of the change (internal or external), who benefited from this change and to what degree, the emotional valence of the event being told, and whether there is any shift in the way that participants narrated their turning point memories. Last, it determines the increasing or decreasing dimensions in the sibling relationship contex*t* (e.g., warmth, conflict etc.). The last group of coding dimensions were mostly adapted from previous studies. These coding dimensions reflect the structural features of the turning point narratives on the number of chapters included, concrete or generic examples provided by the participants, and the list of specific periods referred (Singer & Blagov, 2000; Thomsen & Berntsen, 2008). With these coding schemes, we aim to address the similarities between sibling related narratives and autobiographical memory narratives; we also wish to extend autobiographical memory studies to sibling context, and examine these stories on new coding dimensions.

After the development of the coding scheme, the main researcher trained one Psychology undergraduate research assistant who was unaware of the purposes of the study. During and after the training and sample coding session, several modifications were done on the coding scheme and several restrictions were set. For instance, we encountered some occasions that these two questions were not sufficient for the most accurate coding (e.g., direction of the change). This was because we partialed out two questions from the whole set and might have disrupted the coherence of the interview. Under such circumstances, raters agreed on referring to previous parts of the interview for a better judgement.

The main researcher coded the whole data while the independent native Turkish speaking research assistant coded 20% (10 participants). Coders achieved 75% agreement across coding categories.

Table 2

Definitions of coding schemes

Dimensions	Brief Definition	Levels
Description of narrative (coded in Study 1A & 1B & Study 2)	This scheme summarizes the whole narrative and reflects the main theme in the story.	Keywords
Presence of personal relationship (coded in Study 1A & 1B)	This scale reflects whether participants define their relationship as only being siblings or they consider their siblings as a friend.	0 = No personal relationship 1 = Relationship in between 2 = Personal relationship
Style of narrative – process (coded in Study 1A & 1B & Study 2)	This scale reflects a time period -a process- in the memory narratives. These memories should spread over periods and last more than a specified time.	0 = No (turning) process 1 = Yes (turning) process
Style of narrative – event (coded in Study 1A & 1B & Study 2)	This scale reflects a specific event or time that participants identify as significant in their self or relationship history. Temporal and locational information is an important component of memory events.	0 = No event 1 = "Random" event 2 = Significant (turning) event
Timing of turning - self/sibling (coded in Study 1A & 1B)	This coding reflects the age of the narrator (or the sibling) or the developmental period that they started to develop a personal relationship.	0 = Not applicable 1 = Early childhood (2-6 years) 2 = Middle childhood (7-11 years) 3 = Adolescence (12-17 years) 4 = Emerging adulthood (18-25 years)
Direction (of the change in relationship quality) (coded in Study 1A & 1B & Study 2)	The narrated events or the periods would change the relationship quality in a positive manner, in a negative manner, or it can remain constant.	-1 = Negative direction 0 = No change 1 = Positive direction
Dimensions of sibling relationship: increased - decreased) (coded in Study 1A & 1B)	This scheme reflects the increased or decreased aspects in sibling relationship after turning point (i.e., warmth, conflict, rivalry, caring, respect etc.)	Increasing dimensions: Coders should look for the dimensions that emerge or improve after turning process or event. Decreasing dimensions: Coders should look for the dimensions that disappear or worsen.

Table 2 (cont'd)

Force of change (Internal/external) (coded in Study 1A & 1B & Study 2)	This coding reflects the reasons of change; it can be attributed to external events that are not related to the self or sibling. Reasons can be internal, meaning that the change is triggered the development of a personal relationship.	0 = External 1 = Internal 2 = Both
Transformativeness (coded in Study 1A & 1B & Study 2)	This scale reflects the changes, personal or relational growth that the agents experienced after turning/significant event or process. The narrators may talk about how much they changed and how they turned into a new person or their relation differentiated, and how much they raised awareness about themselves or surrounding events.	
Transformativeness - for whom	This scale addresses the person(s) or relationship who/which benefited from the turning/significant event or process.	0 = Not applicable 1 = The narrator 2 = The sibling 3 = The narrator and the sibling 4 = For the whole family 5 = For the relationship between siblings
Transformativeness - degree	This scale reflects how much the agent selected in the previous coding benefited from the turning point.	0 = No transformation 1 = Low transformation 2 = Moderate transformation 3 = High transformation
Emotional valence of events/processes (coded in Study 1A & 1B & Study 2)	This scale should focus on the emotional valence of the turning point/significant memories itself rather than how the participant narrated it.	1 = Extremely negative. 2 = Somewhat negative. 3 = Neither negative, nor positive but neutral. 4 = Somewhat positive. 5 = Extremely positive.
Emotional tone of memory (coded in Study 1A & 1B & Study 2)	This scale examines how the participants narrate their memories; whether enriched by emotional attributions or told in a flat tone.	1 = Extremely negative. 2 = Somewhat negative. 3 = Neither negative, nor positive but neutral. 4 = Somewhat positive. 5 = Extremely positive.
Direction of the change in emotional tone (coded in Study 1A & 1B & Study 2)	This scale reflects the shifts in emotional tone of narrative.	-1 = Positive/neutral to negative. 0 = No change. 1 = Negative/neutral to positive.

Table 2 (cont'd)

Chapters of life story (coded in Study 1A & 1B)	This scale reflects the number of life story episodes which are temporally short or long. To understand if there is a chapter being mentioned, raters may look for keywords such as, since then, before, after etc.	Number of chapters: 2, (e.g., our childhood relationship, my brother in high school)
Periods of life story (coded in Study 1A & 1B)	This scale reflects the periods in the turning point narratives. Each developmental period mentioned in the turning narratives should be addressed.	List of periods: e.g., childhood, adolescence
Concrete events (coded in Study 1A & 1B)	This coding dimension addresses the specific events which should happen rare and should be detailed with hidden or explicit time and place information.	List of concrete events: e.g., having an arguement with mom
Generic examples (coded in Study 1A & 1B)	This coding dimension examines turning narratives for repeated events that keep occurring in participants' daily life cycles.	List of generic examples: e.g., summer visits, going out, hanging out as friends

Regarding continuous dimensions, analysis revealed an intraclass correlation (ICC) of 0.75 (0.33 to 1.00). Of 10 ICC values, six of them were above the mean ICC score. Regarding categorical dimensions, results revealed a kappa of 0.75 (0.41 - 1.00). Again, seven out of 10 kappa values were equal to or above the mean kappa value yet the general distribution of scores were around the mean. The primary coder's judgements were used in all cases.

2.4 Results

We first discuss sibling relationships as a context for autobiographical memory research by describing the characteristics of participants' narratives in response to Question 1 and Question 2 (see examples below). We also represent the characteristics of sibling-related memory narratives and argue to what extent these narratives resemble the previous findings in the autobiographical memory literature. Next, we examine how gender and age represent their effect on these relationship quality and turning point narratives. Last, we discuss the applicability of our coding scheme in the current context and to future studies.

2.4.1 Sibling relationships as a context

This section will provide information about the general characteristics of sibling relationships and sibling turning point narratives based on our coding variables. Distributions and frequencies are presented in Table 3.

2.4.1.1 Sibling relationship quality (Answers to Question 1)

Question 1 leads participants to evaluate their sibling relationships and reach a decision on the closeness or type of their relationships. With some variability, answers mostly provide an outline about the semantic aspects of sibling relationships with attributions to past, present, and future. The following answer is a good example to show the general pattern:

> *Interviewer*: Do you have a personal relationship with your sibling? With this, I mean is your relationship with your sibling closer to friendship?
>
> *Participant*: It is like both being a sibling and a friend. There are times we are like each other's parents. We are really good at that. My brother is the first person who helps me whenever I need it. There is not much age difference already. You know Turkish traditions and norms… Older brothers are higher in hierarchy, youngsters are at a lower degree. Respect, love… We were never like that. We have always been like friends. We call each other by our names. I never paved the way for it. I never said my brother 'call me abi (a saying in Turkish used instead of or added after names, it refers to the older brother), because I am older than you'. Since we call each other by our names, we are more like friends than anything else.

In this example, the participant evaluated the relationship dynamics and reached a conclusion as to why he considers this relationship as both being siblings and as a friendship. For instance, helping each other and acting like a parent were evidence of being like siblings. Whereas calling each other by name and absence of a hierarchy between siblings were indicators of friendship. He compared their relationship with the normative sibling relationships in their cultural setting and explained how and why their relationship is different from the others. In general, more than half of the participants reported having a personal relationship with their siblings, a relationship that can be described as friendship. The rest of our participants stated that they have a relationship in-between, which depends on conditions and fluctuating between being just siblings and being friends. Another portion of the participants did not consider their siblings as friends, and stated that they are only siblings, close or distant.

2.4.1.2 Turning point narratives (Answers to Question 2)

Question 2 is built on participants' answers to Question 1 and asks participants to remember certain times or periods in their relationship histories. The following answer is a good example for Question 2:

> *Interviewer*: Can you remember the first time that you developed a personal relationship with your sibling, a personal relationship beyond just being a sibling? When was it? How old were you then? And how old was your sibling?
>
> *Participant*: Yeah, it is exactly this: Our father had a traffic accident and he lost one of his staff. He is prisoned one year for that because he was drunk. During those times, we -my mom, sister and me-, these three women tried to get ourselves together… My mom was already in charge of everything at work, there was no problem at that hand. My sister and I were preparing for the university exam. My sister was applying for graduate programs. So, my mom had to do all that by herself. Back then, my sister and I created such a strong bond! We wanted to stand both for our mom and dad. We stayed side by side, forgot all the problems between us, and moved on. This is exactly what happened to us! We share this trauma. This is a thing lasting for 10 years by the way. As a result of this, our sibling bond got so much stronger.

In this example, the participant narrated a very specific event that changed the sibling relationship for good. She elaborated on the timing of the event, people included, how they reacted, and how and why they got closer. Although not all answers reflected this level of specificity, this is a good example to show that most of the answers for Question 2 provided episodic information. Their answers were mostly detailed with temporal, chronological, and contextual information, and framed either as a process or as an event. In general, the majority of the participants experienced a turning process in their relationship while only a small portion was identified as experiencing a turning event. These distributions pointed out that people have a tendency to reflect on their autobiographical memories as processes rather than discrete events. Instead of singling out events, they see their lives in continuous storylines.

Overall, 89.1% of the participants reported experiencing a turning point of some kind (turning process or turning event, or both) while only 4 participants stated that they had no turning point in their relationships at all. We assume that these turning points might have an influence on participants themselves, or on others. In other words, these turning points might lead to a change, or a transformation. The majority of turning point narratives were transformative for participants' relationship with their siblings.

These memories could also be transformative for participants themselves, for their siblings, or both for themselves and their siblings. A closer look at the force of this change showed that more than half of our participants referred to external sources (e.g., loss of father) whereas almost a third of the changes were triggered by internal sources (e.g., sibling or self-growing up and feeling more mature), and a small number of the change were both internally and externally triggered. These findings demonstrated our participants' tendency to relate these changes to more external factors than internal factors. Still, these turning processes or events were strong enough to initiate a transformation. Average transformativeness of turning points was 1.386 (SD = 0.618) over a 3-point scale ranging from 0 to 2, and 43.47% of our participants were identified as scoring higher than the mean.

2.4.2 Thematic features of turning point narratives

We thematically grouped participants' turning point narratives under three categories after excluding 10 participants' data because of not indicating any turning process or event, or referring to random events only. In these narratives, siblings reported sharing the same environments (house, school, friends etc.) since the earliest times they can recall. These narratives also included participants' reported inability to come up with a certain time or event that they could address as a turning point because they have been in a similar kind of relationship for so long, almost forever.

The first category we labeled was "developmental events, transitions and growth", a theme that was featured by the maturation of one or both of the siblings. These transitions usually tapped to the end of adolescence, beginning of emerging adulthood, or start of university life. Many participants marked this period as a time of turning in their relations. Some participants reported deliberately making a decision to give an end to the conflicts with their siblings and get closer, a decision that shows growth and maturation. The second most prevalent theme was "challenges and negative life events". In this category, participants nominated a negative event from their lives (e.g., family problems, self or other family members having health issues, loss of a family member etc.) as a time or event that made them feel closer to their siblings. This category also included other life challenges such as starting a business together or having difficulties at school. The third and last most common theme was "change in

context". These changes were mostly about living arrangements, in other words moving out or moving in together. Such arrangements again tapped to the transition to university period but the focus was on sharing more or less time together. Siblings tended to know each other better when they started to live together or "hang out" with each other. They also reported missing each other when one of the siblings moved out for college and appreciated the time spent during visits.

2.4.3 Additional information about sibling relationships

One of the advantages of this study is that we covered not only memories about developing a personal relationship with one's sibling but other facts about sibling relationships, as well. For example, most of our participants experienced turning points or changes in their sibling relationships during emerging adulthood or adolescence years while some reported having a close relationship since childhood. Corresponding turning point periods for the siblings were more likely to be adolescence or emerging adulthood years. As such, sibling relationships were subject to many changes during these two transitional periods. One of these changes would be observed in their relationship qualities. Most of the participants reported a positive change in their sibling relationships and most of these positive changes were from negative to positive. Only 2 participants reported having a relationship getting worse in time. The remaining participants have had a relationship that was constant over time, always positive, negative or neutral.

We also examined whether these turning points added new dimensions to the participants' relationship with their siblings. The most frequently reported increase was the closeness between siblings, which was followed by sharing (e.g., time, environment, activities, secrets etc.), close feelings (e.g., intimacy, bond, warmth, and fondness), time spent together, protecting each other, mutual help and support, and so on. There were also some aspects in sibling relationships which seemed to be decreasing in time; these were conflict, perceived age gap, distance, snitching behaviours, and closeness and so on.

2.4.5 Role of gender and age

We performed a series of chi-square analysis to assess to what extent the distribution of coding variables (presence of personal relationship, turning process and event, direction of the change in the quality of sibling relationships and emotional tone of the event, force of change, and transformative for whom) differed as a function of self and sibling gender (female vs. male), gender constellation (FF, FM, MF, MM) and concordance (same vs. opposite sex), age difference (0 - 4)[2] and order (younger, same age, older). Gender and age-related variables did not explain the distributions in outcome variables, with a couple of exceptions. The distribution in the presence of personal relationships was explained by age difference, $\chi 2$ (8, 46) = 17.672, p = 0.024. That is, the number of participants who have a personal relationship differed as a function of the age difference. Overall, the majority of our participants had a personal relationship but when the age difference was large, it was more likely to happen. Direction of the change in relationship quality was also marginally dependent on age difference between siblings, $\chi 2$ (8, 46) = 14.014, p = 0.081, suggesting that the number of participants who report negative, positive or no change in their relationship might differ depending on, again, the age difference between siblings.

[2] Analyses were performed both with and without the participant who has a twin. There were no substantive differences between these two sets of analysis, so results with the twin are reported.

Table 3
Distribution of coding variables across gender constellations

Coding dimensions		F-F		F-M		M-F		M-M		Total	
		Number	Percent (%)	Number	Percent (%)	Number	Percent (%)	Number	Percent (%)	Number	Percent (%)
Presence of personal relationship (PR)	No PR	3	27.3	4	22.2	0	0.0	3	33.3	10	21.7
	Relationship in-between	2	18.2	3	16.7	3	37.5	4	44.4	12	26.1
	Yes PR	6	54.5	11	61.1	5	62.5	2	22.2	24	52.2
	Total	11	100.0	18	100.0	8	100.0	9	100.0	46	100.0
Turning process (TP)	No TP	3	27.3	5	27.8	1	12.5	3	33.3	12	26.1
	Yes TP	8	72.7	13	72.2	7	87.5	6	66.7	34	73.9
	Total	11	100.0	18	100.0	8	100.0	9	100.0	46	100.0
Turning event (TE)	No TE	8	72.7	10	55.6	7	87.5	7	77.8	32	69.6
	Random event	1	9.1	2	11.1	0	0.0	1	11.1	4	8.7
	Yes TE	2	18.2	6	33.3	1	12.5	1	11.1	10	21.7
	Total	11	100.0	18	100.0	8	100.0	9	100.0	46	100.0

Table 3 (cont'd)

Turning point	No event or process	0	0.0	2	11.1	1	12.5	2	22.2	5	10.9
	Only random event	1	9.1	1	5.6	0	0.0	1	11.1	3	6.5
	Only turning event	2	18.2	2	11.1	0	0.0	0	0.0	4	8.7
	Only turning process	8	72.7	8	44.4	6	75.0	5	55.6	27	58.7
	Random event + turning process	0	0.0	1	5.6	0	0.0	0	0.0	1	2.2
	Turning event + turning process	0	0.0	4	22.2	1	12.5	1	11.1	6	13.0
	Total	11	100.0	18	100.0	8	100.0	9	100.0	46	100.0
Transformative for whom	Not applicable	0	0.0	1	5.6	0	0.0	1	11.1	2	4.3
	The narrator	1	9.1	3	16.7	0	0.0	1	11.1	5	10.9
	The sibling	3	27.3	2	11.1	0	0.0	1	11.1	6	13.0
	The narrator and the sibling	2	18.2	2	11.1	0	0.0	2	22.2	6	13.0
	For the whole family	1	9.1	0	0.0	1	12.5	0	0.0	2	4.3
	For their relationship	4	36.4	10	55.6	7	87.5	4	44.4	25	54.3
	Total	11	100.0	18	100.0	8	100.0	9	100.0	46	100.0
Force of change	Not applicable	0	0.0	2	11.1	1	12.5	2	22.2	5	10.9
	External	5	45.5	11	61.1	4	70.0	3	33.3	23	50.0
	Internal	6	54.5	4	22.2	2	25.0	2	22.2	14	30.4
	Both	0	0.0	1	5.6	1	12.5	2	22.2	4	8.7
	Total	11	100.0	18	100.0	8	100.0	9	100.0	41	100.0

Table 3 (cont'd)

Thematic Categories	No turning - removed	2	18.2	3	16.7	2	25.0	3	33.3	10	21.7
	Change in context	1	9.1	3	16.7	3	37.5	1	11.1	8	17.4
	Developmental events & transitions & growth	6	54.5	5	27.8	1	12.5	3	33.3	15	32.6
	Challenges & negative life events	2	18.2	7	38.9	2	25.0	2	22.2	13	28.3
	Total	11	100.0	18	100.0	8	100.0	9	100.0	36	100.0
Timing of turning (self)	Not applicable	0	0.0	2	11.1	1	12.5	3	33.3	6	13.0
	Early childhood	1	9.1	1	5.6	1	12.5	0	0.0	3	6.5
	Middle childhood	0	0.0	3	16.7	1	12.5	0	0.0	4	8.7
	Adolescence	3	27.3	5	27.8	2	25.0	2	22.2	12	26.1
	Emerging adulthood	7	63.6	7	38.9	3	37.5	4	44.4	21	45.7
	Total	11	100.0	18	100.0	8	100.0	9	100.0	46	100.0
Timing of turning (sibling)	Not applicable	0	0.0	2	11.1	1	12.5	3	33.3	6	13.0
	Early childhood	1	9.1	2	11.1	1	12.5	0	0.0	4	8.7
	Middle childhood	0	0.0	2	11.1	2	25.0	0	0.0	4	8.7
	Adolescence	6	54.5	7	38.9	2	25.0	3	33.3	18	39.1
	Emerging adulthood	4	36.4	5	27.8	2	25.0	3	33.3	14	30.4
	Total	11	100.0	18	100.0	8	100.0	9	100.0	46	100.0

Table 3 (cont'd)

Direction of change in relationship quality	Negative change	1	9.1	1	5.6	0	0.0	0	0.0	2	4.3
	No change	1	9.1	5	27.8	3	37.5	3	33.3	12	26.1
	Positive change	9	81.8	12	66.7	5	62.5	6	66.7	32	69.6
	Total	11	100.0	18	100.0	8	100.0	9	100.0	46	100.0
Direction of change in emotional tone	Negative shift	1	9.1	0	0.0	0	0.0	0	0.0	1	2.2
	No shift	1	9.1	6	33.3	4	50.0	2	22.2	13	28.3
	Positive shift	9	81.8	12	66.7	4	50.0	7	77.8	32	69.6
	Total	11	100.0	18	100.0	8	100.0	9	100.0	46	100.0

Post-hoc analysis did not reveal particular differences across age differences either for presence of personal relationships or for direction of the change.

One-way ANOVAs with gender, gender dyads, gender concordance, age difference, and age order as independent, and chapters of life story, concrete events, periods, generic examples, degree of transformativeness, positive valence, and negative valence as dependent variables yielded again only a couple of significant results. The number of periods in Question 2 differed across sibling gender, F (1, 44) = 4.138, p = 0.048. Participants with female siblings included a greater number of periods to their narratives (*Mean* = 1.736, *SD* = 1.045). The number of generic examples in Question 2 differed across self gender, F (1, 44) = 6.564, p = 0.014. That is, males reported a higher number of generic examples (*Mean* = 1.764, *SD* = 1.678) than females (*Mean* = 0.793, *SD* = 0.901). These results, altogether, indicate that our coding scheme dimensions are equally valuable across gender and age.

Table 4

Descriptive statistics for coding dimensions

	Mean	*SD*	Range	*N*
Chapters of life story	2.152	1.192	0-6	46
Concrete events	1.739	1.612	0-6	46
Number of periods	1.391	1.000	0-4	46
Generic examples	1.152	1.316	0-7	46
Degree of transformativeness	1.386	0.618	0-2	44
Positive valence	1.411	0.507	1-2	17
Negative valence	2.051	0.759	1-3	39

2.4.6 Relations among dimensions of coding scheme

We performed parametric and nonparametric bivariate analysis to see if our coding scheme dimensions are related to each other. We grouped our coding variables depending on the categorizations mentioned earlier (i.e., descriptive, evaluative, structural) and checked the significance and direction of correlations within these broader categorizations. Results are presented in Table 5, 6, and 7.

Within descriptive features (presence of personal relationship, turning process, turning event, turning point, and timing of turning self-sibling), presence of personal

relationship was positively correlated with turning process and turning point, suggesting that as people had personal relationship with their siblings, they were more likely to include turning processes or both processes and events into their narratives. There was also a significant positive correlation between the turning process with timing of turning for the self and for the sibling. These findings suggest that turning processes were more likely to occur during later ages both for self and sibling.

With regard to evaluative features (direction of change in sibling relationship quality, force of change, degree of transformativeness, direction of the change in emotional tone, positive valence, and negative valence), the direction of the change in sibling relationship quality was positively related to the direction of the change in emotional tone of the memory. That is, as siblings experienced a positive change in their relationships, they were more likely to narrate their turning points in a negative to more positive manner. Direction of change in sibling relationship quality was also negatively related to positive valence, meaning as siblings' relationship quality increased, they were less likely to refer to memories with positive emotional valence. One interpretation of this is that experiencing negative events or processes and elaborating on them might lead siblings to have better relationships. An examination of the relations between force of change and other variables showed that force of change had a negative relation with negative valence. Such that, as narratives became internally or both internally and externally forced, negative intensity decreased. Another important finding was the positive relationship between degree of transformativeness and positive intensity of the memory. As the degree of transformativeness increased, people were more likely to report memories that were higher in positive valence.

Finally, we analyzed the relations within narrative features (number of life chapters, concrete events, generic examples, and periods). Analysis revealed significant positive correlations between the number of chapters and concrete events, generic examples, and the number of periods included in the answers to Question 2. These findings suggest that individuals who were more likely to talk about their lives in terms of chapters, were also more likely to attribute concrete or generic events and periods in their narratives.

Table 5

Non-parametric correlations among descriptive features

	1	2	3	4	5	6
1- Presence of personal relationship	1	0.393*	0.180	0.483**	0.168	0.159
2- Turning process		1	-0.323*	0.854**	0.504**	0.383*
3- Turning event			1	0.190	-0.160	0.053
4- Turning point				1	0.366*	0.354*
5- Timing of turning (self)					1	0.715**
6- Timing of turning (sibling)						1

*$p < 0.05$, **$p < 0.01$

Table 6

Non-parametric correlations among evaluative features

	1	2	3	4	5	6
1- Direction of change in sibling relationship quality	1	0.037	0.235	0.616**	-0.514*	-0.058
2- Force of change (internal/external)		1	0.078	-0.023	0.000	-0.393*
3- Degree of transformativeness			1	-0.072	0.577*	0.242
4- Direction of the change in emotional tone				1	-0.618**	0.289
5- Positive valence					1	0
6- Negative valence						1

*$p < 0.05$, **$p < 0.01$

Table 7

Bivariate correlations among structural narrative features

	1	2	3	4
1- Chapters of life story	1	0.484**	0.564**	0.481**
2- Concrete events		1	0.230	-0.201
3- Number of periods			1	0.393**
4- Generic examples				1

*$p < 0.05$, **$p < 0.01$

2.5 Discussion

The primary purposes of Study 1A were to see if sibling relationships are rich enough to perform autobiographical memory studies, to determine if the dimensions in the

coding scheme differ as a function of gender and age, and to create a theoretically and methodologically sound coding scheme to use in the following study.

In line with the first aim, descriptive findings represented promising outcomes. Slightly more than half of the participants reported having a personal relationship with their siblings. This was kind of a relationship that can be defined as close to friendship. The other half of the participants described their relationships as either being only siblings or falling in-between. Along with this finding, an important number of participants addressed a positive change in their sibling relationship quality. Taken together, developing this personal relationship can be explained by experiencing a positive change in relationship quality. We also know that more than 80% of the participants went through either a turning event or a turning process, or both. These turning points may trigger a transformation in the dynamics of relationships and positive or negative changes for the individuals themselves. The distributions showed that the participants mostly addressed a transformation for their relationships with their siblings and this was followed by the sibling and the narrator. These changes were more likely to be triggered by external resources rather than internal. These internal triggers mostly indicated developmental transitions and growth, which is the most frequent theme identified in participants' turning point responses. The participants were also likely to refer to negative life events and challenges, or change in living conditions as turning points. These changes in their relationships were further confirmed by the increasing and decreasing dimensions in the sibling relationships. That is, we found that siblings got closer as they grew up, started to enjoy the time they spent together, protected each other against parents or external threats, and developed mutual support or help. They also addressed having less conflict or being less distant. These changes happened over adolescence or emerging adulthood periods. Siblings reported a turning point for their relationships after seeing each other as more mature and developmentally less different from each other. These findings altogether are the initial indicators that sibling relationships can be a reliable setting to perform autobiographical memory research.

The second purpose of the current study was to measure whether our coding dimensions can be differentiated as a function of gender, gender constellation and concordance, age difference and order. We did not observe any systematic gender

effect on outcome variables. Only the absolute age difference between siblings predicted the distribution in several variables. Although there are studies showing gender differences in autobiographical memory characteristics (see Grysman & Hudson, 2013, for a detailed review), its role seemed to be backgrounded for the current study. This outcome validates the applicability of our coding schemes across gender and age groups, still we need further investigation.

With respect to the last purpose of the study, a number of significant correlations among the coding dimensions emerged. These significant correlations partially supported the expectations of creating a consistent and applicable coding scheme. For instance, we found that as the participants experienced a turning process, they were more likely to have a personal relationship. Participants and their siblings were also more likely to experience these turning points in their relationships relatively in recent years, either in adolescence or in emerging adulthood periods. Besides, as their relationship quality changed from negative to more positive, their turning point narratives also shifted from negative to a more positive tone. However, as their relationships moved to a more positive status, they were more likely to narrate about events or processes that have a negative valence. This shows that sibling relationships got better as a result of emotionally negative experiences. Another important finding was the negative relation between force of change and negative emotional valence of the memory. As people referred to internal forces for the changes, the negative emotional intensity of those turning point narratives decreased. Last, as the participants referred to higher numbers of chapters, they were also more likely to address higher numbers of concrete and generic examples as well as periods. This finding again shows that our coding scheme captures the relations among variables in the expected direction.

Although most of the findings in Study 1A were in the expected direction, we still want to ensure that these findings are above chance and replicable. Therefore, we decided to perform another study using the same procedure with a different sample.

CHAPTER 3

STUDY 1B

The current study aims to validate sibling relationships as a good context to perform autobiographical memory studies across samples from different cultures. In other words, we aim to show the ecological validity of sibling relationship context through replicating the results found in Turkish sample. To do that, we collected data from college students from the US and applied the same analytical plan. We will discuss the results based on qualitative but not quantitative comparisons.

3.1 Method

3.1.1 Participants

Participants were 31 undergraduate students enrolled in psychology courses (M_{age} = 18.67 years, *SD* = 1.04, 17 females). The same age, age difference, and number of siblings criteria were followed. Sample characteristics can be seen in Table 8. According to the self-reports, the sample was Asian (22.6%), Asian/White or Caucasian (3.2%), Black or African American (6.5%), and White or Caucasion (67.7%). Female participants having a male sibling represented the highest level of frequency, followed by female-female, male-female, and male-male dyads. Participants' siblings were middle school, high school or university graduates. One participant reported being step siblings; 4 participants were twins. The majority of our participants reported having intact families (both parents are alive, married, and living together, *N* = 26 [83.9%]), while one of our participants' parents married to someone else, 3 of them were single, and one participant did not report. All participants reported living in a dormitory with a roommate for the last couple of months. Both mothers and fathers were at least high school graduates. The majority of mothers were homemakers

Table 8

Sample characteristics

		Participant			Sibling	
		Frequency (%)	Mean Age	Difference	Mean Age	Difference
Gender	Female	17 (54.8%)	18.235 (0.437)	t (29) = -2.898, p =0.007	17.769 (2.743)	t (29) = -1.060, p =0.298
	Male	14 (45.2%)	19.214 (1.311)		18.989 (3.007)	
Gender Constellation*	Female - female	8 (25.8%)	18.125 (0.353)	F (3, 27) = 3.279, p = 0.036	17.500 (2.507)	F (3, 27) = 1.018, p = 0.400
	Female - male	10 (32.3%)	18.700 (1.251)		19.700 (2.983)	
	Male - female	7 (22.6%)	19.571 (1.133)		17.857 (3.023)	
	Male - male	6 (19.4%)	18.333 (0.516)		18.167 (3.125)	
Gender Concordance	Same sex	14 (45.2%)	18.214 (0.425)	t (20.34) = -2.611, p =0.017	17.786 (22.694)	t (29) = -1.105, p =0.278
	Opposite sex	17 (54.8%)	19.059 (1.248)		18.941 (3.051)	
Age Order**	Younger	12 (38.7%)	18.583 (1.164)	F (2, 28) = 0.075, p = 0.928	21.500 (1.507)	F (2, 28) = 71.569, p = 0.000
	Same age	4 (12.9%)	18.750 (1.500)		18.750 (1.500)	
	Older	15 (48.4%)	18.733 (0.883)		15.867 (0.833)	

Note. *Former represents the participants' and latter represents siblings' gender. **Age order is determined considering participants' age

(38.7%), followed by managerial work. The majority of fathers were in managerial work (58.1%). Participants were from mid to high socio-economic backgrounds considering their parents' educational level and occupation.

3.1.2 Procedure

We recruited our participants from Emory University. This is a private university in Atlanta, which is the capital city of Georgia in the SouthEast of America. We followed the same procedure in Study 1A. The main researcher (the author) performed all the individual semi-structured interviews. Before actual data collection, the main researcher practiced with another lab member (Bauer Memory at Emory Lab) who is a native speaker (English) and experienced in data collection. This practice was performed to make sure that the main researcher has the abilities to collect data in a foreign language and to adapt her interview skills to a new culture. The first interview of the actual data collection process was also monitored by the same lab member in order to make sure that all procedures have been followed and the main researcher was able to run the interviews by herself. All interviews were audio recorded and took an average of 14.41 minutes (min = 9.01, max = 24.25, *SD* = 3.41). Data collection has continued until reaching the expected number of participants from each sibling-dyads. All questions and procedures were approved by the Middle East Technical University Human Subjects Ethic Committee and Emory University IRB.

3.1.3 Measures

The same measures used in Study 1A were used in the present study. Family Relationships Questionnaire was first translated into English by the main researcher and back-translated by a native Turkish speaker, who has a Ph.D. degree in Psychology and is fluent in English. After two researchers reached a conclusion on the translation of the questions, the main researcher and the co-advisor went over all of the questions and corrected the wording. Demographic information was collected via an already existing form used in the Memory Lab. This form was culturally more appropriate and extensive on some dimensions (e.g., nationality, ethnicity, occupation etc.). Still, specific questions (e.g., sibling) were added to the form, which were missing in the English version. After these additions and adaptations, Turkish and English forms were considered as being compatible (Appendix C).

After the completion of data collection, all interviews were transcribed by a native English-speaker research assistant who is a senior Psychology student, and double-checked by the main researcher. The same student and the main researcher double coded the whole data and achieved 84% agreement across coding categories with an ICC of 0.92 and kappa of 0.76. The primary coder's judgements were used in all cases.

3.2 Results

The major purpose of the present study was to validate the findings in Study 1A with a US sample and show that sibling relationship is a good context to perform autobiographical memory studies across cultures. We approached the analyses in the same manner as in Study 1A.

3.2.1 Sibling relationships as a context

This section will provide information about the general characteristics of sibling relationships and sibling turning point narratives based on our coding variables. Distributions and frequencies are presented in Table 9.

3.2.1.1 Sibling relationship quality (Answers to Question 1)

We evaluated the presence of personal relationships between siblings by looking at the answers to Question 1. The following answer is a good example to show the general pattern:

> *Interviewer*: Do you have a personal relationship with your sibling? With this, I mean is your relationship with your sibling closer to friendship?
>
> *Participant*: Yeah, I'd say so… I guess recently I've started confiding in her a little bit more but before I feel like an older sibling, I didn't usually confide in her. She wasn't the person I'd go to cause she didn't know as much as, in context of what I was dealing with. But recently, because I just moved to college, I've been calling her and we've been talking. I've talked about my social life here with her… in the fact that I confide in her more than when we were always together and close physically just because she was just a person that was from home and from, you know, the place I was from, so yeah.

In this example, the participant stated having a personal relationship and explained how and why he has started to feel this way recently. Here, we can see age was an

issue for the participant such that being the older sibling or age difference was an obstacle to having a close and friendship-like relationship before. However, the participant started to perceive this age gap less as they grew older. The participant also referred to other aspects of their relationships, such as the effect of transitions, confiding, or physical distance. Overall, half of the participants reported having a personal relationship. Some participants reported having a relationship in between, or feeling like only as siblings even though these were less frequent. These findings replicated the findings in Study 1A and showed that siblings can act as bridges from family to social environment by fulfilling different roles.

3.2.1.2 Turning point narratives (Answers to Question 2)

Question 2 is built on participants' answers to Question 1 and asks participants to remember certain times or periods in their relationship histories. The following answer is a good example for Question 2:

> *Interviewer*: Can you remember the first time that you developed a personal relationship with your sibling, a personal relationship beyond just being a sibling? When was it? How old were you then? And how old was your sibling?
>
> *Participant*: ...I think I was about, I want to say this was probably... 6th through 8th grade, my middle school years, he's 3 years older than me. We went through not... We did not get along, we were always combating against each other. Our friendship was not a friendship, it was like, I love you because you're my brother, but I don't necessarily like you. And so that happened, I think cause we were both just growing up and it was middle school and middle school has its own drama... So we did not get along for most of that time... But then I would say once he graduated most definitely and I was in 9th, 10th grade, we just had a different respect for each other where it wasn't like. I guess also cause we weren't always next to each other all the time. So we kind of cherished the moments that we have more together, cause he lives at home and I was in high school but he was in college and lived at home. So even though we still lived in the same house, I didn't see him as much. So when I did see him, we tried to make it a point to enjoy each other's company and I think that's what kind of made our friendship and had a positive impact on our life than always seeing each other and always trying to get each other upset, so yeah.

In this example, the participant narrated a process that turned their sibling relationship into a friendship. She elaborated on the estimated timing of the development of this personal relationship, how their relationship used to be, how their current relationship

is, and how their perspectives about each other changed. This answer reflects a very well elaborated turning process. In general, the majority of the participants experienced a turning process in their relationship while only a small portion was identified as experiencing a turning or significant event. These distributions replicated the previous findings suggesting that participants in U.S. sample have a tendency to reflect on their autobiographical memories as processes rather than as discrete events, as well.

Overall, 83.9% of the participants reported experiencing a turning point of some kind (turning process or turning event, or both) while only 5 participants stated that they had no turning point in their relationships. These turning processes and events were sufficient enough to initiate a transformation for our participants. Average transformativeness of turning points was 1.48 (*SD* = 0.653) over a 3-point scale ranging from 0 to 2, and 45.2% of our participants were identified as scoring higher than the mean. We can see the effect of these transformations mostly on sibling relationships, and both the narrator and the sibling simultaneously. Compared to Turkish sample (54.3%), U.S. sample addressed a less frequent transformation for their relationships (35.5%). However, U.S. participants addressed a more frequent transformation for their siblings and selves (Turkish sample 13%, U.S. sample 29%). That is, while a majority of Turkish participants focused on the transformation in their relationships, U.S. sample almost equally focused on the transformation in their relationships as well as the individuals included in the story. These transformations were attributed to external triggers more than internal resources. This is a finding we obtained both in Turkish and U.S. sample.

3.2.3 Thematic features of turning point narratives

In the previous study, we identified 3 categories which were challenges and negative life events, developmental transitions and growth, and change in context. Categorization of turning events or processes in U.S. sample fitted these overarching themes. The most prevalent category was again “developmental events, transitions and growth”. This theme was featured by a change in the relationship after one of the siblings getting into college or one of the siblings getting maturer. In “challenges and negative life events”, participants nominated a negative event from their lives such as

family or school problems as a time or event that made them feel closer to their siblings. The participants seeked support from their siblings to deal with these difficulties. The third most prevalent theme was “change in context”. In Turkish sample, this category was mostly defined by an increase or decrease in the time spent together after a change in the physical proximity. In U.S. sample, in addition to this, the participants referred to activity-based context changes. As such, they got closer after committing to a shared hobby such as swimming together or playing soccer. These shared activities led them to spend more time together and feel closer as a result.

3.2.4 Additional information about sibling relationships

Along with the information above, we identified that most of our participants experienced turning points or changes in their sibling relationships during adolescence years both for themselves and their siblings. This finding was different from Turkish sample in which these turning point periods were more likely to be in emerging adulthood. There was a 3 years of age difference between two samples. The participants in U.S. sample (M_{age} = 18.677, *SD* = 1.045) were younger than the participants in Turkish sample (M_{age} = 21.782, *SD* = 1.412). This explains why U.S. participants addressed an earlier period for the change in their relationships. These changes were more likely to be in a positive direction. Most of the participants reported a positive change in their sibling relationship qualities while a quite amount of participants reported no change. These outcomes replicated previous findings.

We again examined whether these turning points added new dimensions to the participants’ relationships with their siblings. As in Turkish sample, the most frequently reported increase was in the closeness between siblings. It is followed by similar life experiences, sharing (secrets, activities, interests) and talking, mutual help and support, time spent together, and so on. There were also some aspects in sibling relationships which seemed to be decreasing in time; these were conflicts and arguments, dislike between siblings, perceived age gap, and closeness and so on. These dimensions mostly overlapped between samples.

Table 9

Distribution of coding variables across gender constellations

Coding dimensions		F-F		F-M		M-F		M-M		Total	
		Number	Percent (%)	Number	Percent (%)	Number	Percent (%)	Number	Percent (%)	Number	Percent (%)
Presence of personal relationship (PR)	No PR	0	0.0	5	50.0	3	42.9	1	16.7	9	29.0
	Relationship in-between	4	50.0	0	0.0	1	14.3	1	16.7	6	19.4
	Yes PR	4	50.0	5	50.0	3	42.9	4	66.7	16	51.6
	Total	8	100.0	10	100.0	7	100.0	6	100.0	31	100.0
Turning process (TP)	No TP	2	25.0	2	20.0	3	42.9	4	66.7	11	35.5
	Yes TP	6	75.0	8	80.0	4	57.1	2	33.3	20	64.5
	Total	8	100.0	10	100.0	7	100.0	6	100.0	31	100.0
Turning event (TE)	No TE	6	75.0	9	90.0	3	42.9	5	83.3	23	74.2
	Random event	1	12.5	0	0.0	2	28.6	1	16.7	4	12.9
	Yes TE	1	12.5	1	10.0	2	28.6	0	0.0	4	12.9
	Total	8	100.0	10	100.0	7	100.0	6	100.0	31	100.0

Table 9 (cont'd)

Turning point	No event or process	0	0.0	2	20.0	0	0.0	3	50.0	5	16.1
	Only random event	1	12.5	0	0.0	2	28.6	1	16.7	4	12.9
	Only turning event	1	12.5	0	0.0	1	14.3	0	0.0	2	6.5
	Only turning process	6	75.0	7	70.0	3	42.9	2	33.3	18	58.1
	Random event + turning process	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Turning event + turning process	0	0.0	1	10.0	1	14.3	0	0.0	2	6.5
	Total	8	100.0	10	100.0	7	100.0	6	100.0	31	100.0
Transformative for whom	Not applicable	0	0.0	2	20.0	1	14.3	3	50.0	6	19.4
	The narrator	1	12.5	1	10.0	1	14.3	1	16.7	4	12.9
	The sibling	1	12.5	0	0.0	0	0.0	0	0.0	1	3.2
	The narrator and the sibling	3	37.5	3	30.0	3	42.9	0	0.0	9	29.0
	For the whole family	0	0	0	0.0	0	0.0	0	0.0	0	0.0
	For their relationship	3	37.5	4	40.0	2	28.6	2	33.3	11	35.5
	Total	8	100.0	10	100.0	7	100.0	6	100.0	31	100.0
Force of change	Not applicable	0	0.0	2	20.0	1	14.3	3	50.0	6	19.4
	External	3	37.5	3	30.0	4	57.1	1	16.7	11	35.5
	Internal	4	50.0	3	30.0	2	28.6	0	0.0	9	29.0
	Both	1	12.5	2	20.0	0	0.0	2	33.3	5	16.1
	Total	8	100.0	10	100.0	7	100.0	6	100.0	31	100.0

Table 9 (cont'd)

Thematic Categories	No turnings - removed	1	12.5	2	20.0	2	28.6	4	66.7	9	29.0
	Change in context	1	12.5	3	30.0	2	28.6	2	33.3	8	25.8
	Developmental events, transitions and growth	5	62.5	3	30.0	1	14.3	0	0.0	9	29.0
	Challenges and negative life events	1	12.5	2	20.0	2	28.6	0	0.0	5	16.1
	Total	8	100.0	10	100.0	7	100.0	6	100.0	22	100.0
Timing of turning (self)	Not applicable	0	0.0	2	20.0	0	0.0	2	33.3	4	12.9
	Early childhood	1	12.5	0	0.0	0	0.0	1	16.7	2	6.5
	Middle childhood	0	0.0	2	20.0	2	28.6	1	16.7	5	16.1
	Adolescence	6	75.0	5	50.0	5	71.4	1	16.7	17	54.8
	Emerging adulthood	1	12.5	1	10.0	0	0.0	1	16.7	3	9.7
	Total	8	100.0	10	100.0	7	100.0	6	100.0	31	100.0
Timing of turning (sibling)	Not applicable	0	0.0	2	20.0	0	0.0	2	33.3	4	12.9
	Early childhood	1	12.5	0	0.0	0	0.0	2	33.3	3	9.7
	Middle childhood	0	0.0	1	10.0	2	28.6	0	0.0	3	9.7
	Adolescence	6	75.0	3	30.0	4	57.1	2	33.3	15	48.4
	Emerging adulthood	1	12.5	4	40.0	1	14.3	0	0.0	6	19.4
	Total	8	100.0	10	100.0	7	100.0	6	100.0	31	100.0

Table 9 (cont'd)

Direction of change in relationship quality	Negative change	0	0.0	1	10.0	0	0.0	0	0.0	1	3.2
	No change	3	37.5	2	20.0	3	42.9	2	33.3	10	32.3
	Positive change	5	62.5	7	70.0	4	57.1	4	66.7	20	64.5
	Total	8	100.0	10	100.0	7	100.0	6	100.0	31	100.0
Direction of change in emotional tone	Negative shift	0	0.0	1	10.0	0	0.0	0	0.0	1	3.2
	No shift	5	62.5	5	50.0	4	57.1	3	50.0	17	54.8
	Positive shift	3	37.5	4	40.0	3	42.9	3	50.0	13	41.9
	Total	8	100.0	10	100.0	7	100.0	6	100.0	31	100.0

3.2.5 Role of gender and age

We performed a series of chi-square analyses to assess to what extent the distribution of coding variables (presence of personal relationship, turning process and event, direction of the change in the quality of sibling relationships and emotional tone of the event, force of change, and transformative for whom) differed as a function of self and sibling gender (female vs. male), gender constellation (FF, FM, MF, MM) and concordance (same vs. opposite sex), age difference (0 - 4) and age order (younger, same age, older). Results revealed a general non-significant pattern for all of the variables except one. Only the distribution of the presence of personal relationship changed as a function of gender of sibling, $\chi 2$ (2, 31) = 6.054, p = 0.048, gender constellation, $\chi 2$ (6, 31) = 13.710, p = 0.033, and gender concordance, $\chi 2$ (2, 31) = 8.818, p = 0.012. That is, the participants with male siblings were more likely to have a personal relationship whereas the participants with female siblings had either a relationship in-between or personal relationship. Regarding gender constellations, female-female sibling dyads were higher on the frequency of relationship in-between while female-male dyads were higher on not having a personal relationship. Last, when siblings were gender concordant, they were more likely to not have a personal relationship. When they were from opposite sex, their relationship was more like a relationship in-between. Post-hoc analysis did not reveal any particular difference across any of these variables.

One-way ANOVAs with gender, gender dyads, gender concordance, age difference, and age order as independent, and chapters of life story, concrete events, periods, generic examples, degree of transformativeness, positive valence, and negative valence as dependent variables yielded again only a couple of significant results. Gender of the participant significantly differentiated the number of chapters, F (1, 29) = 4.287, p = 0.047, the number of periods, F (1, 29) = 6.358, p = 0.017, and the number of generic examples, F (1, 29) = 6.386, p = 0.017. Females were higher than males in all three dimensions. In addition, gender constellation significantly differentiated the number of generic examples, F (3, 27) = 3.552, p = 0.027, such that male-female sibling dyads were lower compared to others. Last, age difference, F (4, 26) = 3.001, p = 0.037, and age order, F (2, 28) = 3.504, p = 0.044 significantly predicted the difference in the number of periods. That is, when there was no age difference between

siblings, in other words when they were twins, they referred to the least number of periods. These results again replicated most of the findings in Turkish sample. We obtained only a few gender or age differences. However, if there is any difference, it favoured females and larger age differences.

Table 10

Descriptive statistics for coding dimensions

	Mean	*SD*	Range	N
Chapters of life story	1.548	0.675	1-3	31
Concrete events	0.387	0.495	0-1	31
Number of periods	1.323	0.702	0-3	31
Generic examples	1.323	1.166	0-4	31
Degree of transformativeness	1.480	0.653	0-2	25
Positive valence	1.750	0.532	1-3	24
Negative valence	1.642	0.745	1-2	14

3.2.6 Relations among dimensions of coding scheme

For the last set of analysis, we performed parametric and nonparametric bivariate analysis to see if our coding scheme dimensions are correlated. Groupings were the same as Study 1A (i.e., descriptive, evaluative, structural). We checked the significance and direction of correlations within these broader categorizations.

Within descriptive features, as can be seen in Table 11, timing of the turning for the self was positively correlated with turning event, suggesting that people were more likely to experience a turning event in later periods. This finding was slightly different from the findings in Study 1A. In Study 1A, the turning process was correlated with the timing of turning while in the present study the turning event was positively correlated with the timing of turning. In addition, we could not find any relations between the presence of personal relationships and other variables in the present study although we did in Study 1A.

With regard to evaluative features, as reflected in Table 12, the direction of the change in sibling relationship quality was positively related to the direction of the change in emotional tone of the memory. That is, as siblings experienced a positive change in their relationships, they were more likely to narrate their turning points in a negative

to more positive manner. An examination of the relations between force of change and other variables showed that force of change had a negative relation with negative valence. Such that, as narratives became internally or both internally and externally forced, negative intensity decreased. These two results replicated the findings in the previous study. Another important result was the positive relationship between degree of transformativeness and negative intensity of the memory. Unlike in the Turkish sample, memories with negative intensity were related to higher levels of transformation.

Last, structural feature variables in our coding scheme were mostly correlated in the expected directions. For instance, as the number of chapters in narratives increased, the number of periods and generic examples also increased (see Table 13). This finding again shows that our results replicated the findings in Turkish sample and coding scheme captures the relations among variables in the expected direction.

3.3 Discussion

The main purpose of Study 1B was to replicate the findings of Study 1A with a second sample having similar characteristics yet from a different cultural background. Most of the descriptive, comparative, and correlational analysis confirmed the findings in Study 1A. Still, there were a number of differences. Descriptive statistics yielded that half of the participants had a personal relationship with their siblings, and a major group of participants experienced a turning point, some kind of an event or process in their sibling relationships. Only difference between the two studies was in the timing of turning for the self and the sibling. This was due to 3 years of age difference between two samples; the mean age was lower in U.S. sample than Turkish sample. These turning points were highly transformative for participants' relationships with their siblings and the individuals included in the memory similar to the Turkish sample. However, unlike Turkish participants, U.S. participants narrated these turning points as equally transformative for the relationships and individuals, either sibling or self, or both. On the contrary, Turkish participants' narratives were more likely to address a transformation for their sibling relationships. We can attribute this finding to the differences in the relationship and autonomy orientations between these two cultures.

Table 11

Non-parametric correlations among descriptive features

	1	2	3	4	5	6
1- Presence of personal relationship	1	0.021	-0.168	-0.021	-0.317	-0.181
2- Turning process		1	-0.442*	0.928**	0.253	0.334
3- Turning event			1	-0.085	0.365*	0.322
4- Turning point				1	0.392*	0.475**
5- Timing of turning (self)					1	0.813**
6- Timing of turning (sibling)						1

*$p < 0.05$, **$p < 0.01$

Table 12

Non-parametric correlations among evaluative features

	1	2	3	4	5	6
1- Direction of change in sibling relationship quality	1	0.167	0.358	0.419*	-0.004	0.221
2- Force of change (internal/external)		1	0.288	-0.090	-0.332	-0.602*
3- Degree of transformativeness			1	0.547**	0.310	0.577*
4- Direction of the change in emotional tone				1	0.377	0.925**
5- Positive valence					1	0
6- Negative valence						1

*$p < 0.05$, **$p < 0.01$

Table 13

Bivariate correlations among structural narrative features

	1	2	3	4
1- Chapters of life story - Q2	1	0.042	0.740**	0.445*
2- Concrete events - Q2		1	-0.179	-0.339
3- Number of periods - Q2			1	0.561**
4- Generic examples - Q2				1

*$p < 0.05$, **$p < 0.01$

Another difference between two studies was the definition of change in context theme. For Turkish sibling dyads, this category was mostly defined by changes in physical proximity. The relationship quality, closeness and time spent together between Turkish siblings changed as a result of moving to another city. However, in U.S. sibling dyads, these were also triggered by shared activities. Sibling dyads expressed bonding over

these shared hobbies and getting into a new sibling relationship dynamic. In general, recreational activities are very common in U.S. culture. Parents encourage their children to participate in these extracurricular activities, which lead siblings to readily have something to relate over. Whereas it is becoming more popular in Turkish culture only recently. Thus, the participants from U.S. culture were more likely to engage in common extracurricular activities. Whereas the participants in Turkish sample engaged only in leisure time activities and that was voluntary.

Regarding the replicability of coding dimensions across Turkish and U.S. samples, results mostly overlapped. Although the correlations among the dimensions were in the expected direction, there were fewer numbers of significant relations in the present study. For example, the presence of personal relationships was positively correlated with the turning process in Turkish sample, however, we could not obtain the same relation for U.S. sample. It suggests that siblings in U.S. sample had a personal relationship irrelevant of experiencing a turning in their relationship history. In addition, in U.S. sample, the turning events but not processes were correlated to timing of turning for the self. The number of events identified was lower than the number of processes, however, these events were strong enough to build a positive relation with the timing of turning. Another difference was the positive correlation between degree of transformation and the emotional intensity of the turning point memories. In Turkish sample, the degree of transformativeness increased as the positive valence of the memory increased. However, in the present study, the degree of transformativeness was positively correlated with the negative valence of the memory. This shows that turning points with negative emotional valence was more beneficial for U.S. participants.

3.4 General Discussion

The primary purposes of Study 1A and Study 1B were to see if sibling-related memory is a valid context to carry out autobiographical memory studies, to determine if the dimensions in the coding scheme differ as a function of gender and age, and to create a theoretically and methodologically sound coding scheme to use in the following study. We carried out the same study with a Turkish sample and a US sample to see the ecological validity of the results. These steps were essential to ensure the

applicability of autobiographical memory to sibling relationship context before running Study 2. This study is one of the few studies that examine sibling relationship dynamics in an adult sample; and the first study, to the best of our knowledge, that explores turning points in sibling relationship context. In line with the premises of the study, we ran several descriptive, ANOVAs, bivariate, and non-parametric analysis to see if we have meaningful relations and differentiations among the predictors and coding variables we created.

We first aimed to address that sibling relationships are rich enough to recollect memories about each other. Although siblings are significant for one another, individuals may not report memories with siblings unless specifically asked. In a previous study, Thorne and colleagues (1998) found that sibling memories are the least frequently reported ones. The findings showed that most of the participants in the present study have a personal relationship, or at least a relationship that they feel close to their siblings. Individuals would be able to produce a greater number of stories if they have a close relationship with their sibling that can be considered almost as a friendship. Experiencing certain changes in sibling relationship history enables them to reach this level of closeness. A large number of participants reported going through a turning event or process with their siblings, mostly in a positive direction. Again, these positive and negative changes can be interpreted as indicators of emotional exchange between participants and set the ground for experiencing emotionally charged events with siblings.

A closer look at the broader categorization of these turning point narratives represented similar themes with the ones identified in previous research (e.g., Enz & Talarico, 2016; Tavernier & Willoughby, 2012). For instance, our participants mostly addressed "challenges and negative life events" as turning events or processes, which show similarities with mortality/life-threatening events identified in Tavernier and Willoughby (2012). Another frequently observed theme was "change in context", which shows similarities with moving events identified in Tavernier and Willoughby (2012) or relocations identified in Enz and Talarico (2016). These similarities show that the themes observed in the current study are in line with the literature.

Most of our participants reported a change in their relationship quality during adolescence or young adulthood years, relatively recent periods considering their current age. These results not only show similarities with the findings about timing of turning points in the previous literature (Tavernier & Willoughby, 2012; Thorne et al., 1998) but also show that participants experienced these turnings in a period that corresponds to the ages when identity development starts (McAdams et al., 2006). Additionally, narratives of almost all of the participants reflected a transformation either for their relationships or the members of their families, including themselves. These turning point narratives were highly transformative considering the fact that 45% of the participants in both studies were evaluated as scoring higher than the average value of transformation. Turning points in sibling relationships are the means for the positive or negative changes for individuals themselves or their relations. These arguments were further supported by the finding that participants, explicitly or implicitly, addressed some increasing or decreasing dimensions in their sibling relationships after experiencing a turning point. For instance, they talked about how they got closer as they grew up, started to spend more or quality time with their siblings, protected each other against parents or external threats, and developed mutual support or help. They also addressed having less conflict, distance and snitching acts after these turnings or reaching a certain level of maturity, and a decrease in perceived age gap. These findings altogether are the initial indicators that sibling relationships can be a reliable setting to perform autobiographical memory research.

The second purpose of the current studies was to measure whether our coding dimensions can be differentiated as an extent of self and/or sibling gender, age difference and order. We did not observe any systematic gender effect on outcome variables. Although gender is a strong predictor, especially in autobiographical memory literature (Grysman & Hudson, 2013), its role seemed to be backgrounded in the current studies. There are several previous examples where the effect of gender is attenuated under certain circumstances (see Fivush & Buckner, 2003), especially during adolescence or emerging adulthood years. One possible explanation for this attenuation might be related to the featured characteristics of this developmental period. Gender segregation may not be the most salient factor that characterizes these ages. Individuals may prioritize identity formation as an essential issue instead (Grysman & Hudson, 2013; Grysman et al., 2016). As these arguments need further

exploration, these findings endorse the applicability of our coding schemes across gender and age groups.

With respect to the last purpose of the study, the results partially supported the expectations of creating a consistent and applicable coding scheme to be used in subsequent studies. We checked the bivariate relations among our coding dimensions. Only for Turkish sample, there was a positive relation between the presence of a personal relationship and experiencing a turning point as a process but not as a single turning event. That is, Turkish participants reported an improvement in their relationship quality as they experience a change in the form of a process. We were unable to detect any relations between the presence of personal relationships and turning events neither in Study 1A nor in Study 1B, presumably because of the insufficient number of turning events reported in our data. In both studies, participants were more frequently referring to turning processes rather than turning events. In the current studies, we asked our participants to remember the first time that they developed a personal relationship or a time that they feel closer to their siblings. Even if they are not cued either for a specific event or a process, the majority chose to narrate these turning points in a process-like way.

People may have a tendency to organize their autobiographical memory narratives as processes embedded into the larger context of life stories rather than pointing out single or discrete events. Even under the conditions they are specifically asked to recall a single event from their past, they extend these narratives in the form of longer stories. They tend to include multiple episodes and refer to a greater number of experiences (Fivush, 2019, page 11 - 16). In a previous study, Enz and Talarico (2016) asked participants to generate three different life events in the form of single turning points-only, transition-linked turning points, and transitions; and analyzed the overlaps among these three. Findings showed that although the majority of participants were able to recall single turning point-only memories, they still recalled the transition-linked turning points and transition events more readily. Moreover, both single turning points-only and transition-linked turning point memories were rated as central to participants' lives compared to transitions-only. Even though individuals' lives are marked by single important events, these are generally products of longer periods or evaluated as such later, if they are not sudden or unexpected. When people reconstruct

those stories, they perceive a continuous story-line, harmonize events and processes, and then make a sense out of it.

A positive correlation between turning points and the timing of transitions reveals that participants experience these turning points or at least report the ones later years in their lives. We know that there are plenty of self-defining changes happening during adolescence and emerging adulthood periods (Conway & Holmes, 2004; Rathbone, Moulin & Conway, 2008; Thorne et al., 1998). Our participants similarly perceive their early relationships with their siblings as being 'childish', or 'immature' and report gaining a sense of maturity, meaning and adult-like relationship either through the midst or at the end of puberty. Other possible reasons for the recollection of turning point stories from these periods may come from reminiscence bump (Janssen, Chessa & Murre, 2005; Rubin & Schulkind, 1997), and recency effect literature (Schlagman, Kliegel, Schulz & Kvavilashvili, 2009). Memory recollection reports represent a peak between the ages of 15 and 30 as explained by the former, and individuals have an inclination to remember memories of events that are temporally close, based on the findings of the latter.

Analysis among the evaluative dimensions of the coding scheme revealed several outcomes that need to be pointed out. One of these important findings was the negative relation between force of change and negative emotional valence of the memory. As people refer to internal forces for the changes, those turning point narratives are less likely to be emotionally negative. In other words, an internal force of change is less likely to take its source from emotionally negative memories. One explanation of this correlation might be found in the distribution of turning point narratives across different thematic categorizations. We have plenty of participants whose turning point narratives fall under the category of challenges and negative life events (28.3 % for Turkish sample, 16.1 % for US sample). These memories are more likely to be narrated in a negative manner and people are more likely to distance their narrative selves from these negative events.

Last, structural narrative feature variables in our coding scheme were mostly correlated in the expected directions. For instance, as the number of chapters in narratives increases, the number of generic examples as well as periods also increase.

This finding again shows that our coding scheme captures the relations among variables in the expected direction.

3.5 Conclusion

The results of the present studies supported and replicated our expectations about sibling relationships and sibling stories as being a reliable context to perform autobiographical memory research as well as the applicability of newly created coding schemes. We did not identify any consistent differences between females and males. The effect of same and mixed gender sibling dyads, age difference or age order were limited. Still, we can come up with certain decisions or modifications for the subsequent study; review, improve, and interpret some points in the light of current findings.

The first implication of the present study is its ability to show that sibling relationships can be evaluated in the context of significant relationships considering their power of transformation, and capacity of adding/increasing and/or removing/decreasing certain aspects from individuals themselves. Second, sibling stories can be a new platform to carry out autobiographical memory studies. Analysis yielded similar outcomes with the literature, such as the similarities of the broader categorizations of description of turning point narratives, timing of turning points, benefits obtained after turnings for the relationships and the individuals. This is an important strength of the current study because it is the first attempt to generalize memory research to sibling context. Still, sibling memories provide a unique opportunity for memory researchers, especially in the context of significant relationships. We consider sibling relationships particularly significant because siblings can develop personal relationships since they are parts of the same family, close as parents yet mostly egalitarian as friends. Also, this is a life-long relationship that influences social, emotional, and cognitive development starting from very early on. Finally, we can observe the effect of gender socialization through examining the differences or similarities between mixed and same sex siblings. Third, we proposed a new coding scheme that is suitable for the current context and also applicable to further studies. Non-significant findings regarding the effect of gender and age-related variables highlight the applicability of our coding scheme across gender or age. Besides, an important number of correlations turned out to be significant

and meaningful, yet we still lack some other important relations among variables. This implies that there is still further work to be done to improve our coding scheme for it to fully represent any observed or deduced details in narratives. A modification in the scaling or an update in the description of the coding dimensions might be helpful to resolve these problems.

Despite the strengths listed above, there are still a number of limitations to be discussed. First, we lack a sufficient number of male participants in our study. Some of our insignificant results can be linked to this unbalanced distribution of gender dyads in our dataset. Second, although the way we asked the question implied a turning point in sibling relationships, we did not deliberately ask for a turning point event or any kind of a significant memory that participants experienced with their siblings. Our interview questions were intended to explore the general aspects of sibling relationships in an emerging adulthood sample. This may limit the specificity of participants' narratives, a feature that is usually expected to be observed in autobiographical memory stories. Third, we selected two questions from a long list. This partial selection might have limited our ability to fully capture underlying concepts even though we referred to other parts of the interviews in case of need.

Considering all its strengths and limitations, the current study contributed to our research and literature in general, in providing good evidence for the suitability of using sibling stories in memory research, applicability of our newly developed and adapted coding system to the subsequent study with minor revisions for some dimensions, and attracted our attention for further investigation of the role of gender.

CHAPTER 4

STUDY 2

The major purpose of the current study is to examine if females' and males' significant self-related and other-related memories vary across memory type and gender. We examined these differences and/or similarities across gender and memory type on a number autobiographical memory dimensions. There were a number of studies examining the role of gender in autobiographical memory characteristics (e.g., Bauer et al., 2003, Bemis et al., 2011, Buckner & Fivush, 1998), but no studies before have included gender of siblings as a study variable, to the best of our knowledge. The second aim is to extend self-oriented autobiographical memory studies to other-oriented stories. Memories about significant others might be as resourceful as personal memories to see the reflection of the self. To accomplish these aims, each participant reported memories of three different events. These memories of events were coded on 15 dimensions. These dimensions were chosen from similar previous studies and from our newly-developed coding scheme in Study 1A and 1B.

4.1 Analytical Plan

In the current section, we first provide some descriptive statistics to see if the coding dimensions in the current study represent similar outcomes with Study 1A and 1B. Second, we ran some bivariate analysis to see if the variables are correlated to each other in a similar or different way than the expected directions. Last, we use Linear Mixed Model analysis to test the main hypotheses considering the nested feature of the data (Wright, 1998). The focus is on the role of gender and memory type in all autobiographical dimensions.

4.2 Method

4.2.1 Participants

Participants were 100 Turkish young adults (M_{age} = 21.82 years, *SD* = 1.52, 50 females). They were predominantly recruited from Middle East Technical University in Ankara, and Altınbaş University in İstanbul. Both universities are located in metropolitan areas in Turkey. Similar to the previous studies, we restricted our sample to participants who met the following criteria: (*i*) participants should have been aged 18-25, (*ii*) participants should have had only one sister or brother, and (*iii*) the two siblings should have been within 4 year of each other[3]. Sample characteristics can be seen in Table 14. There were equal numbers of females and males, and equal numbers of female siblings and male siblings in the study. The mean age of siblings was slightly lower than the mean age of the participants, $t(98) = 3.172$, $p = 0.002$. Male participants were slightly older than the female participants in the study. The same age difference was not observed for male and female siblings. The age of participants significantly differed across gender constellations, but not the age of siblings. We had more participants who were older than their siblings. The overall mean age of younger siblings was significantly lower than the overall mean age of older siblings. All of our participants were at least high school graduates. Most of the siblings were high school or university graduates. Participants mostly reported living with their families. The majority of our participants reported having intact families (both parents are alive, married, and living together, *N* = 91 [91%]). Most of the parents were high school or university graduates. Almost half of the participants' families were from the middle to upper income group considering their monthly family income in regard to the annual household income in the local country.

[3] Two of the participants in male-female sibling dyad had 5 years of age difference. These participants were added to the sample to reach an equal number of participants in each sibling dyad. All analyses were performed with and without these participants. Only difference appeared for the effect of memory type on degree of transformativeness; *p* value dropped from 0.057 to 0.034. Considering this was the only difference, we reported outcomes without excluding any of the participants.

Table 14

Sample characteristics

			Participant		Sibling	
		Frequency (%)	Mean Age	Difference	Mean Age	Difference
Gender	Female	50 (50%)	21.340 (1.456)	t (98) = -3.297, p = 0.001	20.653 (2.769)	t (93.790) = -0.744, p = 0.459
	Male	50 (50%)	22.300 (1.437)		21.120 (3.409)	
Gender Constellation*	Female - Female	25 (25%)	21.520 (1.427)	F (3, 96) = 3.196, p = 0.011	19.680 (2.326)	F (3, 95) = 2.310, p = 0.080
	Female - Male	25 (25%)	21.160 (1.471)		20.640 (3.700)	
	Male - Female	25 (25%)	22.200 (1.585)		21.667 (2.843)	
	Male - Male	25 (25%)	22.400 (1.273)		21.600 (3.040)	
Gender Concordance	Same sex	50 (50%)	21.960 (1.418)	t (98) = -0.916, p = 0.362	20.640 (2.864)	t (97) = 0.800, p = 0.426
	Opposite sex	50 (50%)	21.680 (1.611)		21.142 (3.337)	
Age Order**	Younger	33 (33.3%)	21.610 (1.463)	t (97) = -972, p = 0.333	24.515 (1.567)	t (97) = 14.391, p = 0.00
	Older	66 (66.7%)	21.930 (1.546)		19.075 (1.849)	

Note. *Former represents the participants' and latter represents siblings' gender. **Age order is determined considering participants' age

4.2.2 Procedure

We invited university students to take part in the study through e-mail notifications, in-class announcements, and posters. Their participation was either voluntary or for extra credits for one of their courses. Students who fit the study criteria and agreed to participate in the study were scheduled for an appointment. We performed in-person data collections at Psychology Labs at Middle East Technical University Child and Adolescent Development Lab or Altınbaş University Center of Psychology Research. The main researcher (the author) and research assistants who were 3rd or 4th year Psychology undergraduate students, who were thoroughly trained about the data collection, led the data collection process. Data were collected via paper-pencil format. We first distributed participants with consent forms and informed them about the study without revealing any critical information that might affect their responses (e.g., gender of the sibling, quality of sibling relations, etc.). They were then advised to have a look at the research forms before starting to write about their memories, pay careful attention to instructions, and ask questions if they have any. After these instructions, researchers either left the room, or stayed but avoided distracting participants. Each participant was asked to write at least three lines to each memory question. In the case that the length of the memories was not sufficient, researchers asked participants to consider providing more information about the memories. This was a one-time prompt, and researchers did not insist on adherence to this if participants seemed unwilling to write more or felt uncomfortable. At the end of this procedure, participants were thanked for their participation and their research forms were enveloped in their presence. This procedure took approximately 30 minutes to 1 hour. All questions and procedures were approved by the Middle East Technical University Human Subjects Ethic Committee.

4.2.3 Measures

4.2.3.1 Autobiographical Memory Questions

We asked five different open-ended memory questions. These questions were about memories of events that were self-significant, sibling-significant, sibling-emotionally-positive, sibling-emotionally-negative, and family-significant. Before each question, participants were instructed to think about their life so far, and write about a memory

of an event that was addressed in the question. Participants were encouraged to provide as much detail as possible. In the self-significant memory question, we asked participants to write about a memory of an event that happened to the participant, and had a personal significance for them. In sibling-related memory questions, we asked participants to write about a memory of an event that includes their sibling. Participants were to consider these sibling-related memories as significant, emotionally-positive, and emotionally-negative. Each of these conditions were asked in three separate questions. Last, in the family-significant memory question, we asked participants to write about a memory of an event that includes participants' family members, and that participants would consider as significant. Each question was followed by six additional questions. In these self-rating questions, we asked participant to provide further details about time of event, importance, frequency[4], emotional positivity/negativity, ease of retrieval, and clarity. Except for the time of the event, other questions were rated on a 7-point Likert-type scale (Appendix C). We randomized the order of five memory questions and created five versions of the research form[5]. For the purposes of the present study, we only used self-significant, sibling-significant, and family-significant memory questions.

4.2.3.2 Demographic Information Form

We measured participants' demographic information with the same form used in Study 1A. Demographic information form was attached to the research form and always listed at the end.

4.2.4 Narrative coding

Participants' answers to the open-ended memory questions were fully transcribed, checked for accuracy before coding, and then coded on 15 dimensions. There were three schemes (description of the memory, process, and event) assessing the descriptive features of memory narratives. All three schemes were used in and

[4] Frequency question was added to the research form after the second thesis committee meeting, so the total number of answers is less than the other follow-up questions.
[5] The effect of order on outcome variables was tested. Of all coding variables, only positive tone was affected by memory order (family-significant, sibling-significant, self-significant). However, the questionnaire was in paper-pen format so we did not control from which question respondents began to narrate their memories.

developed for Study 1A and 1B. There were seven schemes assessing the evaluative features of memory narratives. These schemes were also developed for and used in Study 1A and 1B (change in relationship quality [with whom and in which direction], force of change, transformativeness [for whom and degree], emotional valence, change in emotional tone), except one. After Study 1A and 1B, the main coder and second-coders, one of whom was from Turkey, and the other from the US, evaluated the coding schemes. In addition, we applied some modifications to the definition and scaling of the dimensions. Within the scope of these modifications, we coded emotional valence, emotional tone and change in the emotional tone separately. Last, we used three more schemes: thematic coherence, level of detail, and volume. These schemes were previously used in other studies. All schemes are described in detail in Table 2 and Appendix C; overviews of new schemes are provided here.

Thematic coherence: Reese et al. (2011) developed a multidimensional model of Narrative Coherence of Coding Scheme. This model assesses three dimensions of coherence with context, chronology, and theme. Context and chronology dimensions reflect the degree of which the events of the narrative are situated in time and place, and told in a temporal order. Theme dimension assesses the level of elaboration within an event narrative, its richness with causal connections, resolutions, and links to other events in the larger picture. In the current study, we only focused on the theme dimension because it has been found to best differentiate the outcome variables (e.g., Zaman & Fivush, 2013).

Level of detail: This coding scheme is developed by Buckner and Fivush (1998). The scale reflects how elaborative the memory narrative is, and how much detail the participant provided. Level of detail is measured by two codings: the number of clauses within a narrative, and descriptive details. The former counts each utterance which includes a subject and predicate. Each clause should contain new information to be counted. The longer the sentences are, the more elaborated the narrative is. Descriptive detail counts the adjectives and adverbs for each narrative. The more number of descriptive details the richer the narrative is.

Volume: This dimension captures the length of the narrative, developed by Fivush, Haden and Adam (1995). This variable was calculated by counting the total numbers of words of the memories.

4.2.5 Reliability

Reliability was conducted on 20% of the sample for each scheme. Three research assistants were trained on all coding schemes. The main researcher coded all schemes; research assistants coded four schemes each. Reliability values can be seen in Table 15. ICC values for continuous variables ranged from 0.752 to 0.986, suggesting high reliability values. However, Cohen's Kappa values represented lower levels of reliability, ranging from 0.191 to 0.784; yet percentage agreements were satisfactory, ranging from 0.716 to 0.857. Cohen's Kappa value was particularly low for the description of significant memory dimension. This was a binary code measuring coders' agreement on the salient theme of the memory or not. The distribution of this dimension was skewed in a way favoring the agreements over disagreements. Cohen's Kappa calculations are sensitive to non-normality in distribution (Syed & Nelson, 2015; Warrens, 2010), explaining why this dimension is as low as 0.191, while percentage agreement for the same dimension is 0.833. Nevertheless, we decided to remove "relationship quality", "direction of change in emotional tone", and "force of change" dimensions from the rest of the analysis. The primary coder's judgements were used in all cases.

4.3 Results

The major purpose of the current study was to examine if females' and males' significant self-related and other-related memories vary across memory type and gender. Before addressing these major aims, we conducted a number of preliminary analyses to determine the characteristics of narratives, distribution of coding schemes, and bivariate relations among study variables. The main analyses were represented following preliminary analyses.

Table 15
Intra-class correlation, Cohen's Kappa and percentage agreement values for coding dimensions

Coding variable	*ICC*	
Degree of transformativeness	0.879	
Emotional valence of the event/process	0.959	
Emotional tone of memory narrative	0.828	
Number of clauses	0.986	
Descriptive details	0.892	
Coherence	0.752	
	Kappa	*Percentage Agreement*
Description of significant memory	0.191*	0.833
Process	0.690	0.850
Event	0.726	0.850
Relationship quality (direction of change)	0.565	0.716
Relationship quality (with whom)	0.784	0.850
Transformative for whom	0.674	0.750
Force of change	0.682	0.857
Direction of the change in emotional tone	0.541	0.733

*Skewed data

4.3.1 Preliminary results

4.3.1.1 General characteristics of the events and the narratives

A total of 300 narratives were obtained. Descriptives for self-rating questions can be seen in Table 16. Overall, the estimated mean age of events was 15.581 (*SD* = 4.998), which corresponded to an average of 6 years ago. This again tapped the adolescence period, similar to the timing of turning points in Study 1. The closest events were reported for self-significant memories. Participants answered several follow-up questions on a 7-point scale after each narrative. Accordingly, self-significant and family-significant memories were perceived as more significant than the sibling-significant memories were. Participants also evaluated the emotional positivity of their memories. These evaluations represented the highest level of positivity for self-significant memories, followed by sibling-significant and family-significant memories. Participants evaluated the easiness of memory telling with an average of 5.176 (*SD* = 2.006).

Table 16

Descriptive statistics for follow-up questions

Memory types	*Mean*	*SD*	Range	N
Self-significant				
Age of Memory	16.937	4.202	4-25	96
Temporal Distance	4.844	4.221	0-18	96
Significance of Memory	6.390	1.053	1-7	100
Frequency of Memory	5.625	1.621	2-7	32
Emotional Intensity of Memory	5.200	2.220	1-7	100
Ease of Memory	5.320	2.004	1-7	100
Clarity of Memory	6.480	1.141	1-7	100
Sibling-significant				
Age of Memory	15.288	5.560	5-25	97
Temporal Distance	6.495	5.530	0-17	97
Significance of Memory	5.830	1.386	1-7	100
Frequency of Memory	4.687	1.731	2-7	32
Emotional Intensity of Memory	4.630	2.038	1-7	100
Ease of Memory	5.380	1.836	1-7	100
Clarity of Memory	5.878	1.327	2-7	99
Family-significant				
Age of Memory	14.520	4.873	4-23	96
Temporal Distance	7.292	5.084	0-18	96
Significance of Memory	6.150	1.067	3-7	100
Frequency of Memory	4.781	1.773	1-7	32
Emotional Intensity of Memory	4.230	2.411	1-7	100
Ease of Memory	4.830	2.142	1-7	100
Clarity of Memory	5.750	1.533	2-7	100

Table 17

Distribution of coding variables across gender constellations

		F-F		F-M		M-F		M-M	
Coding dimensions		Number	Percent (%)	Number	Percent (%)	Number	Percent (%)	Number	Percent (%)
Process	No process	45	60.0	54	72.0	45	60.0	47	62.7
	Yes process	30	40.0	21	28.0	30	40.0	28	37.3
	Total	75	100.0	75	100.0	75	100.0	6	100.0
Event	No event	16	21.3	14	18.7	21	28.0	13	17.3
	Random event	14	18.7	5	6.7	13	17.3	15	20.0
	Significant event	45	60.0	56	74.7	41	54.7	47	62.7
	Total	75	100.0	75	100.0	75	100.0	75	100.0
Narrative type	No event or process	1	1.3	3	4.0	1	1.3	2	2.7
	Only random event	10	13.3	3	4.0	10	13.3	10	13.3
	Only significant event	34	45.3	48	64.0	34	45.3	35	46.7
	Only process	15	20.0	11	14.7	20	26.7	11	14.7
	Random event + process	4	5.3	2	2.7	3	4.0	5	6.7
	Significant event + process	11	14.7	8	10.7	7	9.3	12	16.0
	Total	75	100.0	75	100.0	75	100.0	75	100.0

Table 17 (cont'd)

Transformative for whom	Not applicable	5	6.7	2	2.7	8	10.7	9	12.0
	The narrator	24	32.0	28	37.3	26	34.7	24	32.0
	The sibling	2	2.7	1	1.3	2	2.7	1	1.3
	The narrator and the sibling	6	8.0	7	9.3	5	6.7	4	5.3
	For the whole family	20	26.7	23	30.7	16	21.3	20	26.7
	For their relationship	9	12.0	14	18.7	12	16.0	15	20.0
	For other relationships	9	12.0	0	0.0	6	8.0	2	2.7
	Total	75	100.0	75	100.0	75	100.0	75	100.0
Thematic Categories	Developmental events & transitions & growth	17	22.7	19	25.3	28	37.3	11	14.7
	Challenges & negative life events	35	46.7	29	28.7	24	32.0	32	42.7
	Positive processes & life events	18	24.0	23	30.7	17	22.7	25	33.3
	Not categorized	5	6.7	4	5.3	6	8.0	7	9.3
	Total	75	100.0	75	100.0	75	100.0	75	100.0

Table 18

Distribution of coding variables across memory types

		Self-significant		Sibling-significant		Family-significant		Total	
Coding dimensions		Number	Percent (%)	Number	Percent (%)	Number	Percent (%)	Number	Percent (%)
Process	No process	62	62.0	64	64.0	65	65.0	191	63.7
	Yes process	38	38.0	36	36.0	35	35.0	109	36.3
	Total	100	100.0	100	100.0	100	100.0	300	100.0
Event	No event	25	25.0	19	19.0	20	20.0	64	21.3
	Random event	9	9.0	22	22.0	16	16.0	47	15.7
	Significant event	66	66.0	59	59.0	64	64.0	189	63.0
	Total	100	100.0	100	100.0	100	100.0	300	100.0
Narrative type	No event or process	4	4.0	3	3.0	0	0.0	7	2.3
	Only random event	9	9.0	13	13.0	11	11.0	33	11.0
	Only significant event	49	49.0	48	48.0	54	54.0	151	50.3
	Only process	21	21.0	16	16.0	20	20.0	57	19.0
	Random event + process	0	0.0	9	9.0	5	5.0	14	4.7
	Significant event + process	17	17.0	11	11.0	10	10.0	38	12.7
	Total	100	100.0	100	100.0	100	100.0	300	100.0

Table 18 (cont'd)

Transformative for whom	Not applicable	6	6.0	13	13.0	5	5.0	24	8.0
	The narrator	76	76.0	12	12.0	14	14.0	102	34.0
	The sibling	0	0.0	5	5.0	1	1.0	6	2.0
	The narrator and the sibling	2	2.0	16	16.0	4	4.0	22	7.3
	For the whole family	6	6.0	6	6.0	67	67.0	79	26.3
	For their relationship	1	1.0	46	46.0	3	3.0	50	16.7
	For other relationships	9	9.0	2	2.0	6	6.0	17	5.7
	Total	100	100.0	100	100.0	100	100.0	300	100.0
Thematic Categories	Developmental events & transitions & growth	17	17.0	32	32.0	26	26.0	75	25.0
	Challenges & negative life events	46	46.0	37	37.0	37	37.0	120	40.0
	Positive processes & life events	29	29.0	25	25.0	29	29.0	83	27.7
	Random	8	8.0	6	6.0	8	8.0	22	7.3
	Total	100	100.0	100	100.0	100	100.0	300	100.0

The easiness score was similar across memory types. However, the clarity of memories showed variation; participants reported remembering self-significant memories more clearly than remembering sibling-significant and family-significant memories.

We thematically grouped participants' memories under 3 categories. Of all categories, two of them were the same as the ones in Study 1A and 1B. These same categories were "challenges and negative life events" and "developmental events, transitions and growth" (see Table 17). Almost two third of all memories fell into these categories. In the challenges and negative life events category, participants talked about accidents, health problems, family, or marital problems. In developmental events, transitions, and growth category, participants talked about their developmental achievements such as getting into a university or finishing high school. They also mentioned moving out, birth of the sibling, or sibling relationship dynamics. This category includes both negatively and positively valenced events. The last emerging category was "positive processes and life events", in which participants narrated memories of successes such as earning a prize, as well as graduation ceremonies or birthday parties. There were also a 7.3% of memories which cannot be grouped under any of these categories.

4.3.1.2 Distribution and descriptives of coding dimensions

To compare the distributions of coding dimensions with Study 1A and 1B, we conducted frequency analysis. All distributions across gender constellations and memory types can be seen in Table 17 and 18. We first checked how participants narrated their stories. In previous studies, we proposed the narratives could be structured as an event, as a process, or both. Unlike in Study 1A and 1B, the frequency of participants who narrated their stories as processes were lower than the ones who did not. This showed that participants in Study 2 narrated their memories less process-like. On the contrary, they were more likely to narrate their memories event-oriented (significant or random).

We expected to observe a transformative effect of narratives on individuals or on their relationships. Distribution analyses revealed that a significant proportion of the memories were transformative for the narrator. We observed the next frequent transformation for the whole family and for the relationship with the sibling. These results represented a different picture than the ones in Study 1A and 1B. In the previous

studies, transformation in the memories were higher for the relationship, and the narrator and the sibling. However, in the current study this was replaced by the narrator herself/himself.

Descriptive scores of coding dimensions can be seen in Table 19. There were a couple of participants with an extreme level of volume, number of clauses and descriptive details. This also caused a slight kurtosis issue. With this exception, other variables seemed normally distributed. Emotional valence and emotional tone variables were recorded into positive-negative valence and tone variables, representing the two poles of the same variable.

Table 19

Descriptive statistics for coding dimensions

	Mean	*SD*	Range	N
Degree of Transformativeness	1.566	1.145	0-3	300
Volume	56.890	28.896	10-233	300
Number of Clauses	15.250	8.322	3-65	300
Descriptive Details	16.110	8.718	2-73	300
Thematic Coherence	2.033	0.853	0-3	300
Positive Valence	2.092	0.617	1-3	163
Negative Valence	2.367	0.730	1-3	161
Positive Tone	1.819	0.708	1-3	194
Negative Tone	1.720	0.658	1-3	175

4.3.1.3 Relations among self-rating questions and dimensions of coding schemes

As a next step, we conducted parametric and non-parametric correlational analyses among self-rating questions and study variables. Our purpose was to describe the data further and compare the relations in the current study with Study 1A and 1B. We performed the first set of parametric analysis on self-rating questions. We conducted separate bivariate analysis for three memory types. All correlation values can be seen in Table 20. Age of the memory was positively correlated with clarity of memory in all three memory types. Clarity of memory was also positively correlated with significance of the memory. These relations suggest that when events experienced more recently and perceived as more significant, participants tended to remember

those memories more clearly. Results also revealed a positive correlation between emotional intensity and ease of the memory access across all memory types. As the participants considered their memories emotionally more positive, they remembered those memories more easily. Another important finding was the positive correlation between the significance of the memory and frequency of it getting remembered. As participants considered their memories more significant, they tended to remember those sibling and family memories more frequently.

To examine the correlations among coding scheme dimensions, we conducted three separate bivariate analyses across memory types. All correlations were displayed in Table 21. Here, we only focused on some of our important findings.

As can be seen in the table, there were very strong correlations between volume, number of clauses, and descriptive details variables. Not surprisingly, as volume increased, sub-dimensions of level of details increased, too. Therefore, we only interpreted the bivariate relations of volume dimension assuming that number of clauses and descriptive details dimensions are likely to represent the same relationships with other variables. Across all memories, the degree of transformation and thematic coherence variables represented several significant correlations with other dimensions. There was a positive correlation between degree of transformativeness and process, volume, and thematic coherence variables. Such that, as the narratives became more transformative, those memories were more likely to be narrated as processes. This also suggests that memories which were narrated longer and thematically more coherent, were also more transformative. As for the thematic coherence, we obtained a positive correlation with volume. Thematic coherence increased as volume increased. Another consistent finding was the negative relationship between process and event. This suggested further evidence for participants' preference of narrating with a process or event orientation. Overall, these results suggest that Study 2 better predicted the changes in several variables such as degree of transformativeness by building new correlations among variables.

Table 20

Bivariate relations among self-rating questions

Memory Type	Follow-up Questions	1	2	3	4	5	6	7
Self-significant	1. Age of Memory	1	-0.933**	0.151	0.285	0.099	-0.009	0.475**
	2. Temporal Distance		1	-0.164	-0.316	-0.039	0.052	-0.467**
	3. Significance of Memory			1	0.345	0.130	-0.103	0.305**
	4. Frequency of Memory				1	0.171	0.180	0.057
	5. Emotional Intensity of Memory					1	0.662**	0.109
	6. Ease of Memory						1	0.029
	7. Clarity of Memory							1
Sibling-significant	1. Age of Memory	1	-0.962**	0.205*	0.060	0.196	0.049	0.368**
	2. Temporal Distance		1	-0.196	-0.088	-0.208*	-0.068	-0.367**
	3. Significance of Memory			1	0.356*	0.228*	-0.097	0.402**
	4. Frequency of Memory				1	0.178	0.213	0.268
	5. Emotional Intensity of Memory					1	0.475**	0.169
	6. Ease of Memory						1	0.140
	7. Clarity of Memory							1
Family-significant	1. Age of Memory	1	-0.954**	0.136	0.215	0.146	-0.047	0.497**
	2. Temporal Distance		1	-0.130	-0.138	-0.132	0.035	-0.481**
	3. Significance of Memory			1	0.368*	-0.100	-0.422**	0.239*
	4. Frequency of Memory				1	0.153	0.029	0.374*
	5. Emotional Intensity of Memory					1	0.608**	0.032
	6. Ease of Memory						1	-0.087
	7. Clarity of Memory							1

*$p < 0.05$, **$p < 0.01$

Table 21

Bivariate relations among coding dimensions

Memory Type	Coding Dimensions	1	2	3	4	5	6	7	8	9	10	11
Self-significant	1. Process[1]	1	-0.426**	0.369**	0.083	0.050	0.113	0.176	-0.019	-0.124	0.016	0.196
	2. Event[1]		1	-0.105	0.066	0.086	0.076	0.064	0.400**	0.493**	0.168	0.069
	3. Degree of Transformativeness			1	0.262**	0.234*	0.264**	.478**	0.101	-0.011	0.087	0.178
	4. Volume				1	0.876**	0.941**	0.672**	-0.328**	-0.108	0.069	0.105
	5. Number of Clauses					1	0.854**	.605**	-0.182	0.039	0.122	0.253
	6. Descriptive Details						1	.646**	-0.350**	-0.079	0.121	0.138
	7. Thematic Coherence							1	-0.087	0.046	0.041	0.111
	8. Positive Valence								1	0	0.345**	-0.054
	9. Negative Valence									1	-0.371	0.497**
	10. Positive Tone										1	0
	11. Negative Tone											1
Sibling-significant	1. Process[1]	1	-0.493**	0.295**	-0.050	-0.143	0.045	-0.056	-0.294*	-0.486**	0.031	-0.054
	2. Event[1]		1	-0.019	0.218*	0.243*	0.127	0.316**	0.182	0.557**	0.184	0.224
	3. Degree of Transformativeness			1	0.305**	0.226*	0.299**	0.357**	0.046	-0.241	0.287*	0.061
	4. Volume				1	0.896**	0.894**	0.733**	-0.062	-0.032	0.114	0.398**
	5. Number of Clauses					1	0.781**	0.686**	-0.096	-0.088	0.038	0.335**
	6. Descriptive Details						1	0.691**	-0.098	-0.091	0.241	0.430**
	7. Thematic Coherence							1	0.010	-0.098	0.233	0.390**
	8. Positive Valence								1	0	0.537**	-0.280
	9. Negative Valence									1	-0.227	0.057
	10. Positive Tone										1	0
	11. Negative Tone											1

Table 21 (cont'd)

Family-significant	1. Process[1]	1	-0.622**	0.366**	0.031	0.056	-0.036	0.106	-0.219	-0.103	0.012	0.014
	2. Event[1]		1	-0.107	0.143	0.103	0.192	0.101	0.491**	0.400**	0.189	0.171
	3. Degree of Transformativeness			1	0.302**	0.232*	0.301**	0.546**	0.357*	0.166	0.378**	0.365**
	4. Volume				1	0.933**	0.881**	0.720**	0.113	0.037	0.238	0.230
	5. Number of Clauses					1	0.771**	0.638**	0.177	0.052	0.182	0.243
	6. Descriptive Details						1	0.677**	0.196	0.049	0.372**	0.329**
	7. Thematic Coherence							1	0.362*	0.127	0.301*	0.210
	8. Positive Valence								1	0	0.603**	0.043
	9. Negative Valence									1	0.121	0.433**
	10. Positive Tone										1	0
	11. Negative Tone											1

*$p < 0.05$, **$p < 0.01$

[1] variable represent categorical correlations

4.3.2 Main analysis

The main purposes of the current study were to examine personally significant and other related significant memories across gender and memory type. We looked for these effects on volume, level of detail, and thematic coherence dimensions as well as other coding schemes adapted from Study 1 (degree of transformativeness, emotional valence, and emotional tone). To test the main hypothesis, we performed a series of Linear Mixed Models with mixed command with random intercept or repeated sub-commands using SPSS. To decide which sub-command to use, we calculated design effects and compared the differences between standard errors of random intercept and repeated models. Design effect helps to understand if all the variables in the model are at the same level, or there is more than a single level (e.g., 2-levels, 3-levels). If a design effect is greater than 2, it means outcome variables are non-independent and the data needs a multi-level model analysis. However, if the design effect is lower than 2, it suggests that the measures in the outcome variables are independen*t* (Muthen & Satorra, 1995). In such a case, repeated measure sub-command should be preferred in order to make the model more parsimonious. In addition, when there is not much difference between the standard errors of these two models, clustering can be ignored (Muthen & Muthen, 2018). Regarding this, we used random sub-command for thematic coherence, volume and level of detail variables. The rest was tested with repeated sub-command.

We performed three consecutive models by adding more predictors each time[6]. For models with random sub-command, memory type (self, sibling, family), gender (female, male), sibling gender (female, male), and the interaction between self and sibling gender were fixed effect factors, and intercept was a random effect factor. The only change for models with repeated sub-command, memory type was the repeated effect factor, and there were no random effect factors identified.

[6] All models were controlled for the effect of age, sibling age, absolute age difference between siblings, and age order. Only two of the analyses (sibling age and absolute age difference on degree of transformativeness) were significant. We did not include these factors in the final models because there was no consistent effect on outcome variables.

Table 22

Parameter estimates for the fixed effects of memory type, gender, sibling gender and interaction term of Linear Mixed Model

	Memory type			Gender			Sibling Gender			Gender*Sibling Gender		
Dependent Variables	df1, df2	*F*	*p*	df1, df2	*F*	*p*	df1, df2	*F*	*p*	df1, df2	*F*	*p*
Thematic coherence	2, 198	1.018	0.363	1, 96	2.040	0.156	1, 96	0.082	0.776	1, 96	0.009	0.924
Volume	2. 198	0.859	0.425	1, 96	1.788	0.184	1, 96	0.049	0.826	1, 96	0.586	0.446
Number of clauses [a]	2, 197.518	1.439	0.239	1, 96.039	3.681	0.058	1, 95.182	1.518	0.221	1, 95.447	0.710	0.402
Descriptive details [a]	2, 198.214	3.509	0.032	1, 96.529	0.006	0.938	1, 95.684	0.185	0.668	1, 95.946	2.554	0.113
Degree of transformativeness	2, 294	2.895	0.057	1, 294	2.320	0.129	1, 294	0.660	0.417	1, 294	0.165	0.685
Positive valence	2, 157	6.092	0.003	1, 157	2.691	0.103	1, 157	0.001	0.972	1, 157	0.980	0.324
Negative valence	2, 155	4.539	0.012	1, 155	0.117	0.733	1, 155	0.257	0.613	1, 155	0.373	0.542
Positive tone	2, 188	5.113	0.007	1, 188	2.009	0.158	1, 188	0.049	0.825	1, 188	0.175	0.676
Negative tone	2, 169	2.322	0.101	1, 169	6.892	0.009	1, 169	0.022	0.882	1, 169	0.029	0.864

[a] variable controlled for volume

Note. These statistical values were taken from the final model including all of the predictors (memory type, gender, gender of sibling, and interaction term between gender variables). The values may or may not differ from the values reported within the text.

We reported Type III Tests of Fixed Effects with F, marginal R^2 (R^2_M), p values for the model significance, and Estimates of Fixed Effects with unstandardized *b, t, p*, and 95% CI for significant post-hoc outcomes. R2M was calculated with the formula suggested by Nakagawa and Schielzeth (2013). All statistical values can be seen in Table 22 and 24. Estimated marginal means are represented in Table 23 and 25, and also Figures 1 to 8 (Error bars represent 95% CI).

4.3.2.1 Hypothesis 1

Self-significant memories would be more coherent in terms of themes compared to sibling-significant and family-significant memories. We explored the differences between sibling-significant and family-significant memories.

We tested the effect of memory type (self, sibling, and family) on thematic coherence. Results revealed no significant difference across memory types in thematic coherence, F (2, 198) = 1.018, R^2_M = 0.003, p = 0.363. Unlike our expectations, participants' narratives represented similar levels of thematic coherence in all three memory types (see Figure 1).

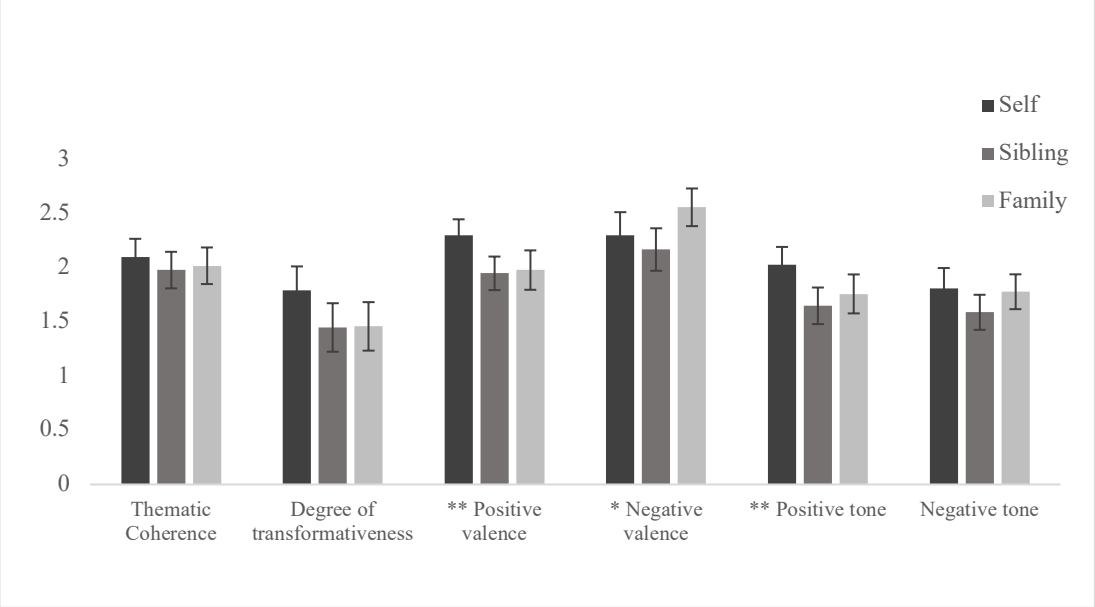

Figure 1. Estimated marginal mean scores across self, sibling, and family memories

4.3.2.2 Hypothesis 2

Self-significant memories would be higher on volume and level of details compared to sibling-significant and family-significant memories. We explored the differences between sibling-significant and family-significant memories.

We tested the effect of memory type (self, sibling, and family) on volume and level of details (two sub-dimensions of level of detail: number of clauses and descriptive details). There was no significant difference in volume, F (2, 198) = 0.859, R^2_M = 0.002, p = 0.425, and in the number of clauses, F (2, 198) = 1.528, R^2_M = 0.004, p = 0.220 across memory types. However, there was a significant effect of memory type on descriptive details, F (2, 198) = 3.083, R^2_M = 0.010, p = 0.048. We added volume as a control variable and conducted the last two analyses again considering volume would affect the number of clauses and descriptive details within a narrative. Both effects remained the same. As such, we found no significant effect of memory type on the number of clauses, F (2, 197.346) = 1.431, R^2_M = 0.796, p = 0.242, and a significant effect on descriptive details, F (2, 198.230) = 3.524, R^2_M = 0.831, p = 0.031. Self-significant memories were more descriptive than family-significant memories, b = 1.067, t (198.252) = 2.389, p = 0.018, 95% CI [0.186, 1.948], but level of descriptive details in sibling- and family-significant memories were the same. These results partially confirmed our expectations about differences in volume and level of detail across memory types (see Figure 2).

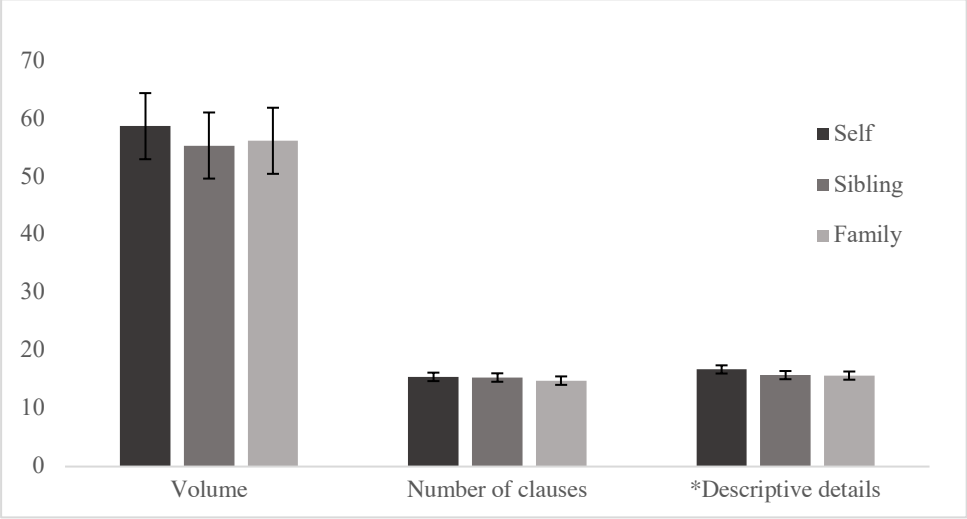

Figure 2. Estimated marginal mean scores of self, sibling, and family memories

4.3.2.3 Hypothesis 3

Memories of female participants would be more thematically coherent, voluminous, and rich in level of detail compared to male participants.

We tested the effect of gender on thematic coherence, volume and level of details by adding memory type (self, sibling, family) and gender of participan*t* (female, male) as independent variables. There was not a significant effect of gender on thematic coherence, F (1, 98) = 2.080, R^2_M =0.018, p = 0.152 (see Figure 3). We also did not observe any gender effect on volume, F (1, 98) = 1.813, R^2_M = 0.015, p = 0.181. For the level of detail dimension, we observed a marginally significant difference between females and males in number of clauses sub-dimension, F (1, 98) = 3.877, R^2_M = 0.031, p = 0.052. After adding volume as a covariate, we still observed the marginal effect of gender on the number of clauses, F (1, 98.085) = 3.681, R^2_M = 0.80, p = 0.058. As such, females included a slightly higher number of clauses in their memories than males, b = 1.085, t (98.085) = 1.919, p = 0.058, 95% CI [-0.037, 2.207]. However, we did not observe the same gender effect on the descriptive details sub-dimension before, F (1,98) = 1.522, R^2_M = 0.020, p = 0.220, or after, F (1,98.553) = 0.005, R^2_M = 0.830, p = 0.945 adding volume as a covariate. Overall, we observed an expected gender effect for females only on the number of clauses sub-dimension (see Figure 4).

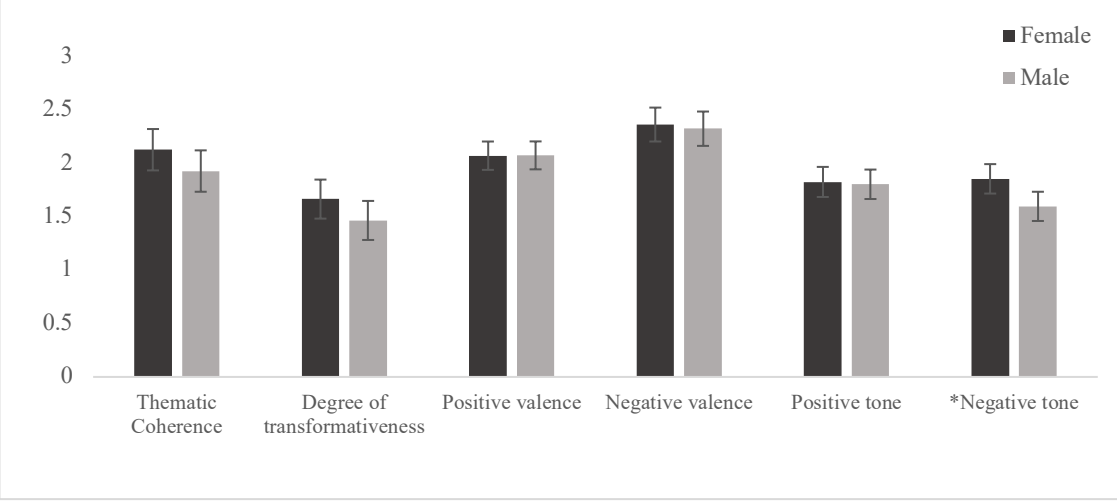

Figure 3. Estimated marginal mean scores between females and males

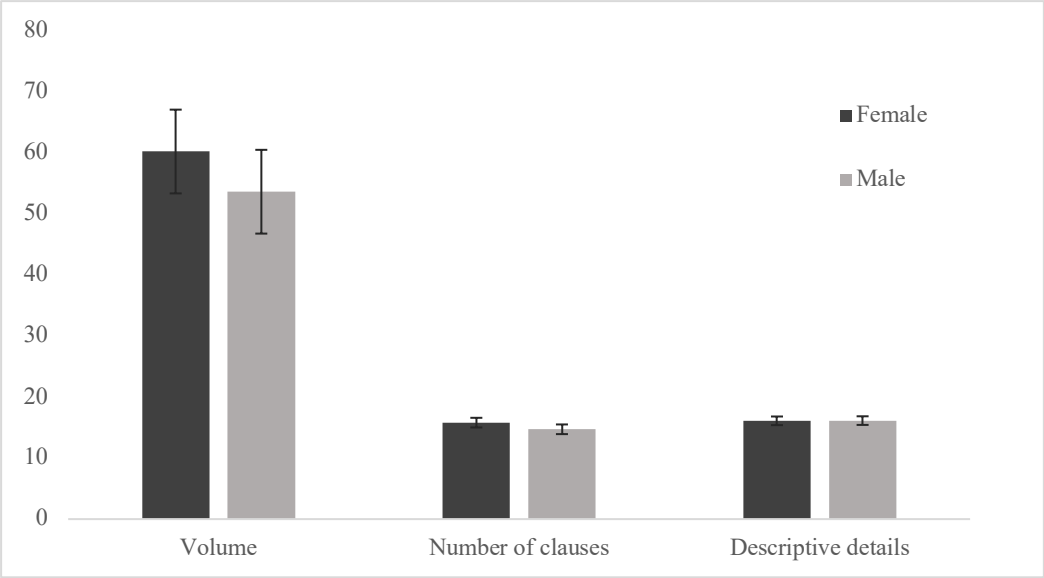

Figure 4. Estimated marginal mean scores between females and males

4.3.2.4 Hypothesis 4

Memories of same-sex female siblings would be thematically more coherent, voluminous, and rich in level of detail, compared to memories of same-sex male siblings and cross-sex siblings.

We tested the effect of gender of participant and siblings on thematic coherence, volume, and level of detail by adding memory type (self, sibling, family), gender of participant and sibling (female, male), and an interaction term between gender of participant and sibling as independent variables. Results revealed no significant gender interaction effect on thematic coherence, F (1, 96) = 0.009, R^2_M = 0.044, p = 0.924 or on volume, F (1, 96) = 0.586, R^2_M = 0.020, p = 0.446. Similarly, we did not observe any significant effect of self and sibling gender interaction on the number of clauses, F (1, 96) = 0.114, R^2_M = 0.035, p = 0.736, and descriptive details, F (1, 96) = 0.026, R^2_M = 0.021, p = 0.872. This did not change after controlling volume for number of clauses and descriptive details. These results suggest same sex siblings and cross-sex siblings did not differ from each other on thematic coherence, volume, or level of detail dimensions (see Figures 5 & 6).

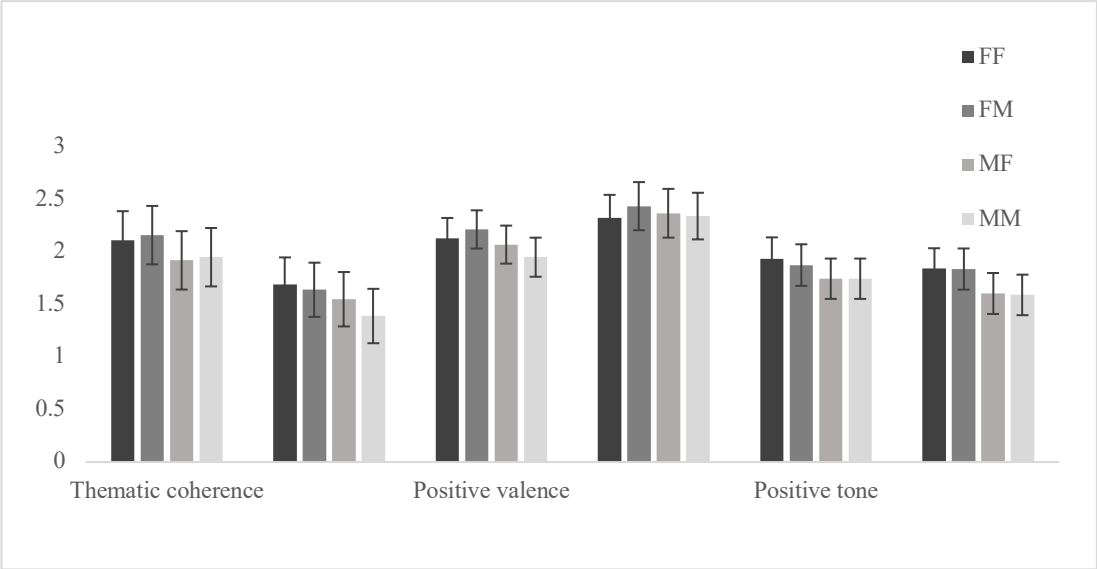

Figure 5. Estimated marginal mean scores across gender constellations

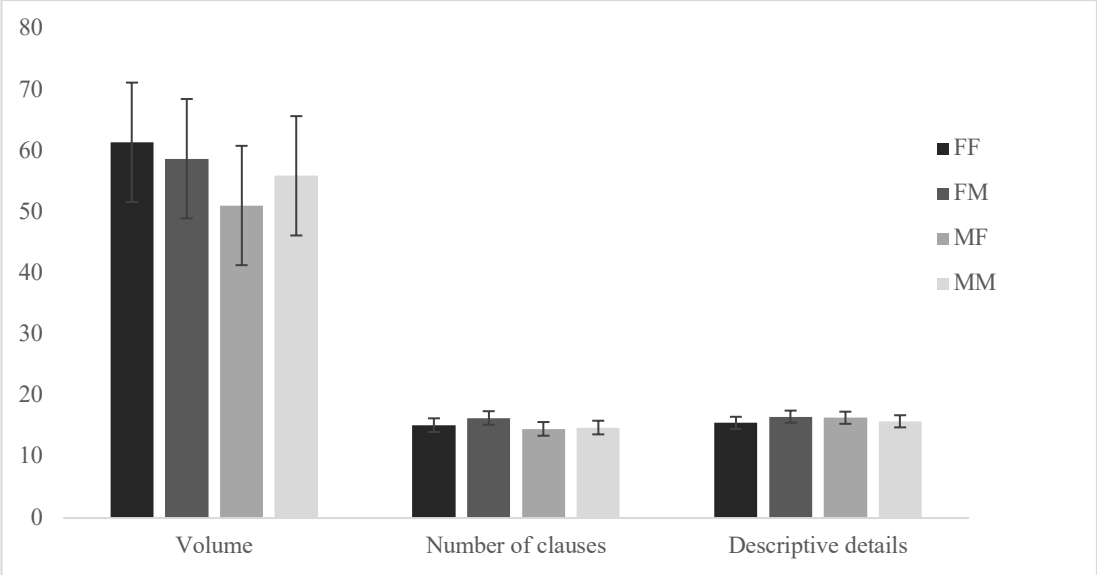

Figure 6. Estimated marginal mean scores across gender constellations

4.3.3 Exploratory Analysis

We performed a series of Linear Mixed Models to test the differences and similarities across memory types, gender, and sibling gender on the rest of our coding dimensions. This was an exploratory analysis since some of these dimensions were just developed in Study 1.

4.3.3.1 Effect of memory type

We tested the effect of memory type (self, sibling, family) on degree of transformativeness, positive and negative emotional valence, and positive and negative emotional tone variables (see Figure 1). We used repeated sub-command with scaled identity covariance structure for all of the variables. There was a marginal difference across memory types, F (2, 297) = 2.894, R^2_M = 0.019, p = 0.057 in degree of transformativeness. Following parameter analysis revealed that self-significant memories were significantly more transformative than family-significant memories, b = 0.330, t (297) = 2.052, p = 0.041, 95% CI [0.013, 0.646]. However, sibling-significant and family-significant memories were not different. There was a significant effect of memory type on positive valence, too, F (2, 160) = 6.346, R^2_M = 0.067, p = 0.002. Such that, events narrated in self-significant memories were significantly more positive than events in family-significant memories, b = 0.325, t (160) = 2.735, p = 0.007, 95% CI [0.090, 0.560]. However, sibling-significant and family-significant memories were similar. There was a significant difference in negative valence across memory types, F (2, 158) = 4.508, R^2_M = 0.048, p = 0.012. As such, events in family-significant memories were significantly more negative than events in sibling-significant memories, b = -0.387, t (158) = -2.923, p = 0.004, 95% CI [-0.649, -0.125], and marginally more negative than self-significant memories, b = -0.258, t (158) = -1.843, p = 0.067, 95% CI [-0.535, 0.018]. There was a significant difference across memory types for positive tone, F (2, 191) = 5.359, R^2_M = 0.050, p = 0.005. Such that, self-significant memories were narrated significantly more positively than family-significant memories, b = 0.269, t (191) = 2.196, p = 0.029, 95% CI [0.027, 0.512]. However, sibling-significant memories and family-significant memories were similar. Last, there was no difference in negative tone across memory types, F (2, 172) = 1.901, R^2_M = 0.021, p = 0.152. Overall, memory type was a significant predictor for emotional valence and emotional tone dimensions, and also identified marginal differences in degree of transformativeness.

4.3.3.2 Effect of gender (self, sibling, and interaction)

We tested the effect of gender of participants and siblings on degree of transformativeness, positive and negative emotional valence, and positive and

negative emotional tone variables using Linear Mixed Models. We used repeated sub-command with scaled identity covariance structure for all of the variables. We added memory type (self, sibling, family), gender of participant and sibling (female, male), and an interaction term between gender of participant and sibling as independent variables (see Figures 3 & 5). Overall, none of the gender variables predicted the coding scheme dimensions except negative tone (*ps* > 0.05). We obtained a significant difference for gender, F (1, 169) = 6.892, R^2_M = 0.062, p = 0.009. As such, females used a more negative tone than males. However, there were no significant differences in negative tone across sibling gender, F (1, 169) = 0.022, p = 0.882, or for the interaction term, F (1, 169) = 0.029, p = 0.864. These results suggested that the way females and males tended to narrate their memories is more similar than different.

4.3.3.3 Effect of other dimensions (process and event)

Last, we chose process and event variables and modeled their effects on thematic coherence and degree of transformativeness variables. We particularly targeted these variables because these dimensions are more descriptive for our dataset. Besides, there were several bidirectional relations among these variables in the preliminary analysis.

We first tested the effect of process (no process, yes process) and event (no event, random event, significant event), and their interaction on thematic coherence. We used Linear Mixed Models with random sub-command with variance components covariance structure. Results revealed a main effect of process, F (1, 242.012) = 4.572, p = 0.033, and event, F (2, 254.191) = 8.211, R^2_M = 0.044, p = 0.000 on thematic coherence. We did not observe a significant change for the interaction term, F (2, 248.205) = 1.714, p = 0.182. Memories without a process were lower in thematic coherence compared to memories with a process. However, this did not reach a significance level in post-hoc analysis, b = -0.205, t (256.965) = -1.557, p = 0.121, 95% CI [-0.464, 0.054]. Whereas, memories were narrated less coherent when there was no significant event, b = -0.375, t (268.606) = -2.395, p = 0.017, 95% CI [-0.468364, -0.066], or random event, b = -0.431, t (263.141) = -1.846, p = 0.066, 95% CI [-0.292, 0.763] included.

We repeated the same analysis with degree of transformativeness as an outcome variable. We used Linear Mixed Models with repeated sub-command with scaled

identity covariance structure. Results revealed a main effect of process, F (1, 292) = 8.479, p = 0.004, and event, F (2, 292) = 11.226, R^2_M = 0.198, p = 0.000. However, there was not a significant interaction between process and event on degree of transformativeness, F (2, 292) = 2.389, p = 0.094. As such, memories were more transformative when they were narrated process-like, b = -0.978, t (292) = -5.190, p = 0.000, 95% CI [-1.349, -0.607]. However, they were the least transformative when participants narrated random events, b = -0.988, t (2192) = -3.003, p = 0.003, 95% CI [-1.636, -0.340].

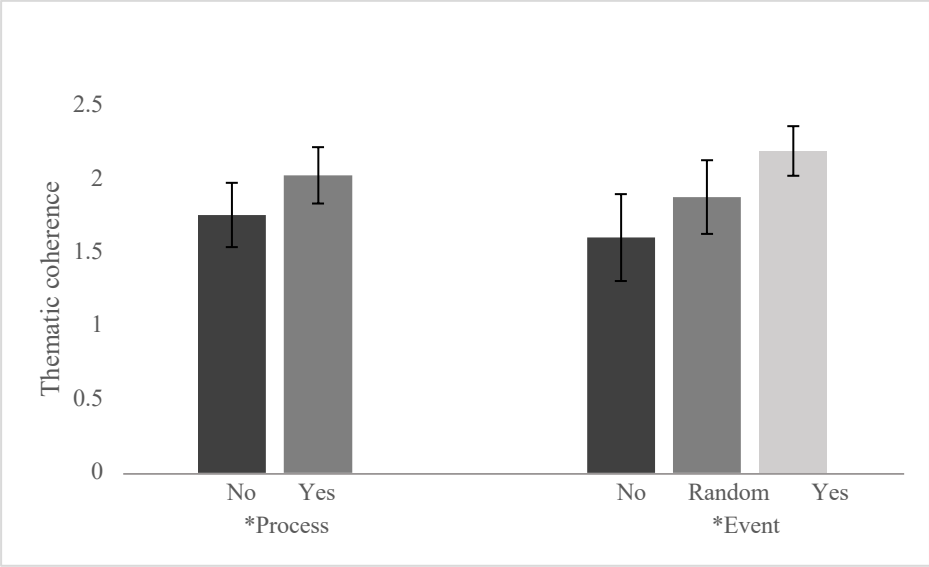

Figure 7. Estimated marginal thematic coherence mean scores between process and event

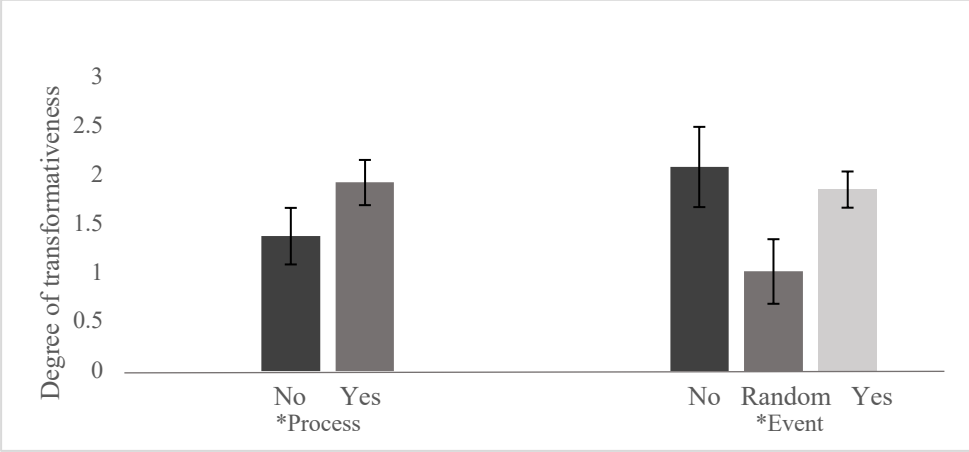

Figure 8. Estimated marginal degree of transformativeness mean scores between process and event

Table 23

Estimated marginal means (SE) for levels of study variables

	Thematic Coherence	Volume	Number of Clauses [a]	Descriptive Details [a]	Degree of Transformativeness	Positive Valence	Negative Valence	Positive Tone	Negative Tone
				Memory Type					
Self	2.100 (0.086)	58.850 (2.902)	15.507 (0.368)	16.792 (0.359)	1.790 (0.114)	2.297 (0.075)	2.307 (0.110)	2.030 (0.083)	1.818 (0.095)
Sibling	1.980 (0.086)	55.500 (2.902)	15.390 (0.368)	15.812 (0.359)	1.450 (0.114)	1.949 (0.078)	2.170 (0.100)	1.663 (0.086)	1.581 (0.081)
Family	2.020 (0.086)	56.320 (2.902)	14.853 (0.368)	15.726 (0.359)	1.460 (0.114)	1.980 (0.092)	2.563 (0.089)	1.758 (0.091)	1.786 (0.081)
				Gender					
Female	2.133 (0.099)	60.180 (3.479)	15.792 (0.399)	16.090 (0.355)	1.667 (0.093)	2.152 (0.067)	2.366 (0.080)	1.888 (0.073)	1.857 (0.070)
Male	1.933 (0.099)	53.600 (3.479)	14.708 (0.399)	16.130 (0.359)	1.467 (0.093)	1.999 (0.066)	2.327 (0.082)	1.746 (0.069)	1.599 (0.070)
				Sibling Gender					
Female	2.013 (0.099)	56.347 (3.479)	14.903 (0.398)	16.002 (0.354)	1.620 (0.093)	2.074 (0.067)	2.318 (0.081)	1.828 (0.071)	1.735 (0.069)
Male	2.053 (0.099)	57.433 (3.479)	15.597 (0.398)	16.218 (0.354)	1.513 (0.093)	2.077 (0.066)	2.376 (0.081)	1.806 (0.070)	1.721 (0.070)

Table 24
Parameter estimates for the fixed effects of Linear Mixed Model for degree of transformativeness and thematic coherence

Dependent variable: Degree of transformativeness	df1, df2	*F*	*p*
Intercept	1, 292	308.901	0.000
Memory Type	2, 292	1.325	0.267
Process	1, 292	8.479	0.004
Event	2, 292	11.226	0.000
Process * Event	2, 292	2.389	0.094
Dependent variable: Thematic coherence			
Intercept	1, 179.249	515.445	0.000
Memory Type	2, 193.02	0.726	0.485
Process	1, 242.012	4.572	0.033
Event	2, 254.191	8.211	0.000
Process * Event	2, 248.205	1.714	0.182

Table 25
Estimated marginal means (SE) for levels of degree of transformativeness and thematic coherence

		Degree of Transformativeness	Thematic Coherence
		Memory Type	
Self		1.793 (0.128)	1.952 (0.098)
Sibling		1.583 (0.122)	1.856 (0.094)
Family		1.582 (0.132)	1.868 (0.099)
		Process	
Yes process		1.379 (0.147)	1.757 (0.111)
No process		1.927 (0.118)	2.027 (0.097)
		Event	
No event		2.086 (0.208)	1.603 (0.150)
Random event		1.018 (0.167)	1.879 (0.128)
Significant Event		1.855 (0.094)	2.193 (0.086)
		*Process*Event*	
No process	No event	2.092 (0.394)	1.285 (0.266)
	Random event	0.679 (0.180)	1.894 (0.136)
	Significant Event	1.366 (0.084)	2.091 (0.079)
Yes process	No event	2.080 (0.137)	1.921 (0.111)
	Random event	1.356 (0.281)	1.864 (0.202)
	Significant Event	2.344 (0.168)	2.296 (0.131)

4.4 Discussion

The purposes of the current study were to describe the data obtained in Study 2, compare it with Study 1A and 1B, and determine any differences in coding dimensions as a function of memory type and gender. Preliminary analyses yielded several promising outcomes for the applicability of the coding scheme to the current study. In response to questions, more than half of the participants narrated single significant or random events rather than more process-oriented events. This was anticipated considering the way of asking study questions. These results portrayed a different pattern than the ones in Study 1A and 1B. Participants were more likely to narrate processes both in Study 1A and 1B unlike in Study 2. These narratives triggered transformation for the participants. These patterns of transformativeness dimensions, however, varied across studies. In Study 2, a transformation for the narrator was the most prevalent category whereas the relationship between self and sibling was more prominent in Study 1A and 1B. Last, two of the three thematic categorizations overlapped across studies yet a new thematic category-positive processes and life events- emerged in Study 2. Of all narratives, a major percentage of narratives fell under challenges and negative life events. Narratives in Study 1A and 1B were more likely to fall under developmental events, transitions and growth category; yet this was the least frequent category among three for Study 2.

As for the bivariate relations among self-rating questions and coded dimensions, there were a few consistent correlations across memory types. For instance, more recent and significant memories were remembered more clearly. Similarly, more positive memories were easier to remember. There was also a consistent positive relationship between thematic coherence and degree of transformativeness, such that more transformative events were narrated in more thematically coherent stories. Participants also tended to narrate thematically more coherent stories in a more voluminous way or with rich detail. We did not observe consistent relationships in emotional valence and tone variables across memory types. This might be a result of changing the number of observations in these dimensions.

The main purpose of the second study was to examine the differences and similarities in young adults' autobiographical narratives as a function of memory type and gender.

Overall, analysis yielded only a few differences across gender. Memories of female participants included a greater number of clauses. Female participants also used a more negative tone while narrating their memories compared to male participants. These significant gender differences contradict with a number of earlier studies that found gender effect on similar memory dimensions (Buckner & Fivush, 1998; Fivush et al., 2012; Fivush & Buckner, 2003; Reese et al., 2011) although there is a debate about gender (Grysman & Hudson, 2013).

Rather than by gender, memories were more likely to be distinguished as a function of memory type. The findings represented that memories varied on descriptive details, degree of transformativeness, emotional valence (positive & negative), and emotional tone (positive) dimensions according to memory type. Self-significant memories were more likely to outscore sibling- and family-significant memories. In addition, there were other features of memories leading to differences such as narrative style (event vs. process). Participants narrated more or less transformative and thematically more or less coherent stories across the levels of event and process. These findings suggest that gender was not the prominent factor revealing variations in young adults' memories. Autobiographical narratives can be identified through other factors.

CHAPTER 5

GENERAL DISCUSSION

The main purposes of the present study were to investigate personally significant memories and memories happening in a significant relationship contex*t* (sibling and family) on multiple autobiographical memory dimensions. We designed three consecutive studies. We first investigated sibling relationships as a context to perform autobiographical memories with Study 1A and 1B. Then, we used this relationship memory platform in Study 2 to understand memory narrative characteristics and to what extent these characteristics change as a function of memory type and gender.

In the first two studies, Study 1A and 1B, we conducted extensive interviews with college students from Turkey and the USA to understand the nature of sibling relationships during the young adulthood period. We specifically asked our participants to recount turning point narratives regarding their sibling relationships. These two studies aimed to validate sibling relationships as a reliable context to perform autobiographical memory studies across different samples. Our second aim was to develop a set of new coding schemes that is particularly applicable to relationship memories. The results obtained in Study 1A and 1B laid the groundwork to create and validate this new coding scheme. In Study 2, a group of young adults narrated memories of three different events that were self-significant, sibling-significant, and family-significant. Accordingly, our third aim was to investigate how individuals disclose autobiographical information across significant life events which are centered around their own selves and/or significant others. We compared self- and other-related significant memories on multiple coding dimensions. Last, we examined how gender influences autobiographical memory characteristics regardless of memory types.

The current study adopted a mixed method technique by including different data collection mediums (interview and paper-pen), and a mixed culture examination by targeting samples from different populations (Turkey and the USA). This study involved descriptive, bidirectional, and mixed modelling techniques to test the hypotheses. At the end, we did a number of qualitative and quantitative comparisons. The results are discussed in detail in the following sections.

5.1 Role of gender

As opposed to our expectations, we did not find a consistent effect of gender on characteristics of autobiographical memories, neither in turning point narratives in Study 1A and 1B, nor in significant memory narratives in Study 2. There were only a few differences between gender groups in all three studies in terms of autobiographical dimensions. Females and males differed in the number of chapters, generic examples, and periods that they provided in turning point narratives. There was also a difference with regard to negative emotional tone and the number of clauses in significant memories, such that females represented higher levels compared to males. Similarly, sibling gender, gender concordance, or gender constellations did not yield any consistent effects. There was only a difference in the number of periods and generic examples in turning point narratives. Participants with a female sibling attributed a greater number of periods to their stories. Also, males with a female sibling represented the lowest number of generic examples. An overall examination of findings suggests that turning point and significant event narratives of females and males represented similar characteristics.

Even though we expected to find a difference between genders, these results are not surprising. A general assumption in autobiographical research is to observe differences in females' and males' narratives. A substantial number of studies indeed have addressed similar gender differences (Bauer et al., 2003; Buckner & Fivush, 1998; Nelson & Fivush, 2004). However, on the other side of the coin, numerous research has evidenced the otherwise, inconsistent gender effect in narrative characteristics. That is, autobiographical reminiscences (Aznar & Tenenbaum, 2020) or memory narratives (see Grysman & Hudson, 2013 for discussion) are not always gendered. When there is a difference, females normatively represent greater performance on

many narrative dimensions than males do (Fivush & Buckner, 2003); yet there are a number of studies obtaining limited gender differences or not revealing any difference at all (Reese, Macfarlane, McAnally, Robertson & Taumoepeau, 2020; Thomsen & Vedel, 2019). We can address several possible factors explaining these inconsistencies.

First, gender-based outcomes may vary as a function of medium of data collection. As such, gender differences are more salient when participants engage in verbal conversations with their parents or another person, such as the experimenter. Memories, on the other hand, can be narrated less gendered when participants are asked to write or type. In other words, some gender differences in autobiographical memories might be due to methodological differences as data collection techniques. The current study indicated that US females attributed a greater number of chapters, periods, and generic examples whereas Turkish males attributed a higher number of generic examples to their turning point conversations with the female interviewer. Besides, Turkish females included slightly higher numbers of clauses to their written significant event narratives. Nonetheless, we did not observe the effect of gender on volume, descriptive details, or thematic coherence in written memory sharing condition. These outcomes are inconsistent, yet partially overlap a previous research. Grysman and Denney (2017) asked young adults to narrate stressful events from their past, and manipulated both the medium of report and gender of the experimenter. Results represented several gender differences that were either not hypothesized, or in contrast with their hypotheses. For instance, male participants verbally reporting their memories to a female experimenter was the highest in narrative elaboration. On the other hand, talking to a male experimenter resulted in lower frequency of internal state propositions for females. What is more important, gender differences were more likely to be observed in verbal conditions rather than typed conditions. A similar data collection effect might be present in the current study, as well. The difference between females' and males' autobiographical memory narratives might have been reduced since they were engaged in a paper-pencil study in which they were asked to write down their memories.

Since the current study adopted both mediums (face-to-face interview in Study 1A and 1B, paper-pen format in Study 2), we cannot relate the insignificant findings between

genders only to the medium of data collection. Another interpretation of these findings might be the elements foregrounded in the memory questions. The current study asked participants to report turning points, personally significant, and other-related significant events. The questions highlighted the significance element rather than emotional context of memories. We still coded for emotional tone and valence; however, we did not observe any difference between genders. It is likely that when memories of emotional events are reminisced, girls discuss negative emotional aspects in more detail, and boys demonstrate more elaborative discussions with their mothers about anger related events (Bird & Reese, 2006). Similarly, mothers structure more elaborative and evaluative conversations with their daughters compared to their sons (Fivush, Berlin, McDermott Sales, Mennuti-Washburn & Cassidy, 2003). Actually, we observed few gender differences in significant memories for negative emotional tone. That is, females narrated their stories in a more negative fashion than males, a finding in line with previous research (Bauer et al., 2003). Although these outcomes support the general gender effect in emotional narrations, our results are limited only to this finding. Therefore, we should dwell on the specific characteristics of the current narratives.

The most featured characteristics of turning point and significant event narratives is that they convey critical information about a person's identity as well as relationship history or quality. As for the turning point narratives, our participants mostly provided events or processes which address the construction of a personal relationship with the sibling. Participants disclosed turning point events which were high on emotional valence, such as loss of a parent, having surgery, or family problems. There were also other turning point processes, such as moving to another city, self or sibling getting into high school/college, end of adolescence period for the self or the sibling, confiding in each other, or sharing a room together. These turning point recollections were meaningful to build closer relationships, or somehow put a distance to one another, on a similar degree both for young females and males. Previous research has also yielded non-gendered outcomes for turning point narratives. For instance, McLean and Breen (2009) examined narrative identity in adolescence by asking participants to write about a turning point memory. The study specifically focused on meaning making and relational content of the narratives as an extent of gender. Results revealed no gender differences for these two memory narrative characteristics. Our study also

demonstrated similar findings. We did not observe any difference for the degree of transformation in narratives of females and males in all these three studies.

Similar to turning point narratives, gender differences were not apparent in significant event narratives, either. Significant event memories are considered as a context to understand self and identity. That said, significant memory characteristics are related to psychological wellbeing (Waters & Fivush, 2015); they serve to self, social, and directive functions (Waters, Bauer & Fivush, 2014). In a similar vein, the current study found self- and other-related significant memories were in relation with a transformation for the narrator as well as for their whole family functioning. When personal growth or relational growth are the main concern of autobiographical narratives, gender effect might be overshadowed by these issues to some exten*t* (Fivush et al., 2012). Apparently, being a female or male was not reflected in participants narratives, but they rather focused on creating a self in personally significant memories, and a self-in-relation to others.

Individuals might have adopted a less gendered narrative in this study given the characteristics of the current participant group. We targeted a group of young adults who were all college students. Thus, females and males might display similar memory recollection characteristics, first, as a function of age. Gender differentiation may fade away after childhood years, at least during the young adulthood period, as other aspects of identity become more salien*t* (Grysman & Hudson, 2013; McLean & Breen, 2009). Young adulthood is a very specific period in which different aspects of self and identity are discovered, particularly triggered by a challenging transition to adult life and college experiences (Fivush & Buckner, 2003). College life, which addresses the second reason, might make these groups more harmonized or gender neutral. Throughout college years, students hold less traditional gender role attitudes (Bryant, 2003). Perhaps, this change occurs as students engage in a variety of activities, socialize in more sex-mixed groups, and build more settled narrative selves or identities through making sense of all of these college life experiences. Interestingly, we are aware of the studies revealing a number of gender differences in narrative styles of older women and men; women adopted a narrative style that is enriched more with specific and episodic details (Pillemer, Wink, DiDonato & Sanborn, 2003). Therefore, this might be a temporary period on gender neutralization, which might disappear

further in life. Still, this is a claim that should be made with caution, and further and longitudinal research are needed in this field in order to explore this question.

Not only the gender of the participant, but also the gender of siblings was not evident in the results. We assumed that growing up with a female sibling may consolidate the event memories, such that people can remember these memories later in a more detailed and coherent way. We proposed this interaction between self and sibling gender since parent-child reminiscing was sensitive to a similar gender socialization effec*t* (Bohanek et al., 2009; Fivush et al., 2000; Merrill, Gallo & Fivush, 2015). However, our results were far from addressing the effect of sibling's gender. Since literature lacks information about the effect of sibling gender in memory socialization, explanations for these non-significant results come from parent-child socialization research. Two recent meta-analyses indicated that maternal elaborative style, or mother-child emotional talk, did not differ as a function of child gender (Aznar & Tenenbaum, 2020; Waters, Camia, Facompre & Fivush, 2019). This suggests a vulnerability for the assumptions of gender socialization. Again, it was not an effect that can be generalized without considering other variables, such as methodology, or age range of children. We also speculate that sibling gender or interaction effects might be absent as most of the participants do not share their immediate physical or social environment with their siblings any longer. Siblings are still important for each other as significant others, however by young adulthood, most of them do not live in the same household any more. This might also be a factor explaining the lessened role of sibling gender, and should be investigated in future research.

Lack of gender differences in turning point memory elaboration that was elicited by semi-structured interview, and self- and other-significant memory sharing that were provided in paper-pen format, warn us about the generalizability of gendered findings across multiple autobiographical memory dimensions. Gender differences are generally more prevalent in conversational studies or when events of memories are emotionally more salient. Gender effect might also be more or less evident as a function of the developmental tasks of the targeted age group. However, these possible gender differences are not limited to those conditions. These findings inform us about the possibility of alternative circumstances where females' and males' autobiographical memory characteristics resemble each other. Therefore, instead of

adopting a gendered perspective to memory narratives, we need to further recognize the context of the studies that may or may not reveal this effect.

5.2 Memory type

With respect to our hypotheses about memory types, the results shed light on several significant differences as well as similarities on a number of autobiographical memory dimensions. Across all memory types, we observed similar intercorrelations between self-rated and coded memory dimensions. As such, memories were easy to access if they were high on positive emotions. Recent and more significant events were remembered more clearly. Memories high on volume or level of detail were more transformative and coherent. These findings indicate that different memories form similar patterns of relationships among narrative dimensions. With regard to our main hypotheses, self-significant and other-related significant memories were similar on thematic coherence, volume and number of clauses dimensions. At the same time, there were identifiable differences in descriptive details, degree of transformativeness, emotional valence, and emotional tone variables. Self is highlighted in all of these dimensions. That means, self-significant memories included more descriptive details and were more transformative, particularly for the narrators themselves. These memories were also more about positive events or processes and narrated in a positive manner. However, for negative tone and negative valence dimensions, memories either did not differ or family-significant memories scored the highest. That is, self-in-relation to others demonstrated the only negative representation in family-significant memories. These results overall are in line with previous vicarious studies which address both similarities and differences across memory types (Pillemer et al., 2015; Thomsen & Vedel, 2019). Still, it begs the question, on which aspect these memory types differ from or resemble each other.

5.2.1 Similarities between memory types

We mainly compare our findings with vicarious and intergenerational memories because of their commonalities to some extent. Yet we acknowledge the differences between these two lines of research in the sense that who experienced the events. In vicarious memories, people elaborate on others' stories that they heard but not witnessed. Whereas, in personally significant memories and other-related significant

memories which necessarily include significant others, the narrator experiences these events or processes firsthand. Participants are as knowledgeable as their own personal stories in other-related memories even if they center these memories around significant others. This is why personally significant and other-related significant memories share structural similarities with each other in terms of volume, level of detail, and thematic coherence. The way that individuals construct their personal narratives is highly reflected in the way that they construct their relationship stories. Similarly, Zaman and Fivush (2011) found that intergenerational and personal memories were similar in length and elaboration dimensions. Adolescents who told longer and more elaborative stories which were high on affect and cognitive states about themselves also provided similarly long and elaborated stories about their mothers (Zaman & Fivush, 2011). Still, there were other dimensions (e.g., affiliation, achievement) that were not correlated at all.

Along with the earlier work, the findings in the current study are broadly consistent with a socio-cultural perspective (Nelson & Fivush, 2004) in which autobiographical memories are relational in the sense of being co-constructed. These different significant memories could be co-constructed with the same significant others, that contributes to the emergence of similarities. People might organize their memories in the same form as a result of these social interactions. Still, we can only speculate about this since we did not ask to whom they usually tell these memories. Also note that these personally significant memories do not address a socially isolated memory content. Given that "self" memories typically involve others, we should expect similarities. Yet these memories are parallel to each other only to a certain degree.

Interestingly, even when there are differences across memories in other dimensions, sibling-significant and family-significant memories were not differentiated from one another. One aspect of personally significant memories is that the narratives were more transformative for the self, a finding that implies that self is really highlighted in those stories. Whereas sibling-significant memories addressed a transformation for self-sibling relationships, and family-significant memories were about the family system. This finding points out that when we ask memories including others, it is not about the individuals any more, it is about the entities, in other words, relationships within the family system. The narrator may treat personally significant memories as a platform

to flourish personal growth, while in fact other-related memories function for relationship explorations. This correspondence between sibling-significant and family-significant memories may pave the way for their autobiographical resemblance.

5.2.2 Differences between self- and other-related significant memories

There were a number of differences in self-significant, and sibling- and family-significant memories. Individuals attributed a greater number of adjectives and adverbs to their personally significant memories. More importantly, self-significant memories were more transformative, and addressed more positive events, and narrated in a more positive manner compared to both sibling-significant and family-significant memories. This may reflect individuals' effort for continuity of positive self in their narratives (McAdams, 2001; Thomsen & Vedel, 2019). In their process of identity making, these young adults might purposefully have recollected positively valenced events from their lives. This, in fact, might show their attempts to construct a positive narrative identity. These young adults are also in an effort to convey these positive self images to others. We understand this from the way that they recount these personally significant events. These events are enriched with positive emotional details unlike other-related significant memories.

On the other hand, other-related memories, particularly family-significant stories, were higher only on negative emotional valence dimension. Individuals devalued their family-significant memories by referring to less positive events. This result should be viewed with caution because the difference between self and family memories were marginal and small. Nevertheless, this is consistent with other studies' findings that the memories about others are constructed less positively. For instance, vicarious memories of close friends were narrated less positively than personal life stories (Thomsen & Pillemer, 2017). This effect also extends to memories of romantic partners and parents. Vicarious stories of romantic partners were lower on volume, agency, communion, and redemption dimensions (Panattoni & Thomsen, 2018); and vicarious life stories of parents were lower on positive person change compared to personal life stories (Thomsen & Vedel, 2019). Through vicarious or other-related

significant memories, individuals might distance themselves from negative views on their own selves, but still use these context to exercise these views.

5.2.3 Benefits of relationship memories

These relationship memories not only contribute gender debate and memory type comparisons, but also set the stage for novel arguments about narrative style. Results showed that across all of these three studies, participants included processes (73.9%, 64.5%, 36.3%, respectively), and/or events (30%, 25.8%, 78.7%, respectively) in their autobiographical memories. These percentages speak very clearly for the way people construct their narratives. In turning point memories, for instance, process-oriented narrative style is more prominent because a change or transformation in the evolving relationships require a certain amount of time. On the other hand, people construct an event-oriented narrative for their significant event memories, regardless of whether it is a personal story or relationship memory. Still, slightly over one third of participants addressed a process in significant memory telling condition, too. This shows that single significant events are embedded within the larger narrative of our life stories. People rather prefer to narrate their autobiographical memories as a series of connected incidents (Fivush, 2019).

Whether it be a process-oriented (extended or recurring events, chapters), or event-oriented (single-significant episodes or events) narrative, they all serve as memory functions at varying degrees (Waters, Bauer & Fivush, 2014). The results of the current study yielded significant variation in thematic coherence and degree of transformativeness with regard to narrative style. Regardless of memory type, narratives that simultaneously include a process and an event were the most thematically coherent and transformative ones among all. We can make several speculative arguments from this relationship. That is, these narratives might be rich recounts of one's past which include details of single significant events that are embedded to a coherent timeline. This might enable individuals to articulate how events unfold and how they are connected to each other in a causal way. This might be also a way to profile individuals' themselves or their relationships' current becomings. These detailed recollections in terms of full history of events enriched by causal links may yield a form of autobiographical reasoning (Habermas, 2010) since

they satisfy two of the criteria Habermas (2010) listed. First, these narratives represent a high level of thematic coherence, and second, they are highly transformative. Future studies should look further at relational memories from an autobiographical reasoning angle.

5.3 Role of siblings

The present study focused on relationship memories for several reasons. First, these memories would carry information about one's own selves since the narrators are always included into the questions. Second and in addition to self, these memories would also carry information about others. These narratives might capture siblings' or other family members' personality traits, qualities, strengths or weaknesses. For example, Thomsen and Pillemer (2017) proposed that vicarious memories are shaped by the individuals' mental models of close others. That is, individuals refer to their knowledge about these people when they construct their stories. Third, these memories can be used to see the reflections of self in comparison to others' qualities and behaviours. In other words, we might have provided a comparative context to individuals by asking memories that partially belong to others, as well. This suggests a similarity between relationship stories and intergenerational memories (Reese et al., 2017). Last, these memories might provide information beyond individuals by focusing on relationship dynamics, qualities, and formations. Taken together, individuals assess themselves, others, and their relationships through narrating a shared history.

We introduced siblings into an autobiographical memory study keeping these reasons in mind. In general, sibling-significant memories showed a pattern of results that was very similar to family-significant memories. This may suggest that sibling-significant memories are as good as family-significant memories. Previous studies devoted a substantial amount of time to understanding parent-child interaction in autobiographical memory literature, since parents are the primary figures in memory socialization for a very long time in child development (Fivush, Haden & Reese, 2006). Participants co-construct some of their experiences addressing conflicts, emotional or significant issues together with their parents (Bohanek, Fivush, & Walker, 2005). Participants also reconstruct the stories of their parents (Merril &

Fivush, 2016). Yet, memories about siblings were not examined in depth before. The current study shows that stories including siblings display comparable narrative characteristics thereby should be taken into consideration in autobiographical memory context.

Another reason why we should extend relationship stories to the sibling context is because siblings play a role as developmental partners. This role should not be undervalued since earlier work showed that sibling relationships continue to carry unique importance during emerging adulthood years (Stocker et al., 1997). For instance, young adults' attachment styles with their siblings predict conflict and cooperation between siblings beyond attachment with parents and peers (Tibbets & Scharfe, 2015). Adolescents' intergenerational memories of their parents are proposed to be informative about their internal working models (Thomsen & Vedel, 2019; Zaman & Fivush, 2013). Also note that attachment styles with the parents shape individuals' narratives as such adolescents' attachment security is positively correlated to their coherent and emotionally expressive intergenerational narratives about their mothers (Zaman & Fivush, 2013).

Similarly, sibling memories might be high on developmental details for the self, sibling, and relationship between them. Results of Study 1A and 1B showed that most of the turning point memories correspond to the beginning or end of adolescence periods. That means, our participants elicit quite an amount of information about their adolescence and early adulthood periods which are two major transitions in human development. Besides, an important percentage of narratives themed around developmental transitions, events, and growth in all three studies (32.6%, 29%, 25%). These sibling relationship stories may allow young adults to talk about their experiences in the past few years. These narratives may address a variety of developmental issues (e.g., puberty problems, one of the dyads leaving the nest, moving in together as two or more siblings, getting into a college/university, marriage etc.), and show how siblings deal with these situations. Thus, sibling memories are resourceful for the literature in producing developmental arguments.

5.4 Limitations, contributions, and implications

Even though our findings are intriguing, we should note a few limitations. First, we did not strictly control the study environment in terms of the number of participants at the time during written data collection sessions. Although the main researcher had always been a female, some participants were alone while some participants took the paper-pencil research forms in groups. Some of our non-significant findings about gender might be related to that since Cvasa (2007), and Grysman and Denney (2017) pointed out the role of presence of the experimenter, individual vs. social group conditions, and gender of the researcher in narrative outcomes in their research. Second, we included only one pair from each sibling dyad. This might also limit our understanding of gender-related issues. Both sibling dyads should be included in the further studies for a more comprehensive research design. Third, we found low inter-rater reliability scores for some of our coding scheme dimensions that we developed in Study 1. Although we eliminated those variables in Study 2, we should consider extending our definitions for each dimension with clearer instructions, including more representative examples, and proposing a better method of scaling. Fourth, the effect sizes in some of our significant findings were small, thus we should be careful in interpreting our results. Future studies should consider increasing the number of participants for each sibling dyad condition. Relevant to this, gender constellations of the siblings were not perfectly counterbalanced between Study 1A and Study 1B. We had difficulties in recruiting, especially, of male participants. More counterbalanced and greater samples should be sought in further studies. This difficulty may have created some self-selection that limited the possible gender effects. Last, we included young adults with only one female or male sibling into this study and having a maximum of 4 years of age difference. This selection was on purpose in order to control the gender socialization effect. Still, this makes it harder to generalize our findings to other people with multiple siblings and greater age differences.

Despite these limitations, the current study has clear strengths. First, we used different data collection techniques and validated some of the results across samples coming from different cultural contexts. Second, in total we reached a good number of participants. This enabled us to observe sufficient variability. Third, although some of our findings were different from the general pattern in the literature (e.g., gender

effect), we replicated those findings across our studies. Last, we believe that our attempt to extend autobiographical studies into sibling stories from the perspective of relationship memories should start some thought-provoking discussions.

To the best of our knowledge, our study provides the first empirical examination of the particular role of memories about siblings in autobiographical memory literature. The current study provides a unique perspective into autobiographical memory development, in relation to memories about siblings, as significant others. We found that autobiographical memories about siblings through individuals' stories have comparable characteristics with family stories. Memories about siblings also provide further information on developmental course on family relationships, particularly for the adolescence and adulthood period considering the age group we targeted. Thus, this study provides the first evidence to the sibling relationships' availability in autobiographical memory literature. In addition, the findings reported here clearly emphasized the value of using multiple memory types. We demonstrated that individuals do not adopt a static narrative style, but rather it varies across social context or memory type (Grysman & Denney, 2017). Even though one may argue a variation across memory types, the same effect was not that valid for gender. Our findings provided another piece of evidence showing that gender differences are not normative in autobiographical memory research.

This study is an answer to the questions about college-aged individuals' memory narrative characteristics. In autobiographical memory studies, the general tendency is to work with children or adolescents and with their parents as the counterparts. However, current study calls attention to young adults with a focus on their siblings and the whole family system.

5.5 Conclusion and future directions

Research on memories about significant others or memories particularly including significant others can provide a different perspective to autobiographical memories. Although recent studies have begun to investigate the role of memories belonging to others and compare those memory characteristics with personal stories, further research is still needed. The current study is yet another important attempt in extending autobiographical studies into significant others' context, that of relationship memories.

The findings of the present study suggest that relationship memories display similar narrative characteristics between genders for an emerging adult group. These young adults narrate their turning point and significant memories incorporating both single events and processes. Regarding memory types, current evidence demonstrates that these memories are informative on different aspects of self-functioning. Personally significant stories are told to construct and convey a positive narrative identity. In addition, sibling-significant stories documented comparable outcomes with family-significant memories. Still, sibling memories provide a richer understanding of the developmental course of individuals by addressing either normative or non-normative incidents from one's life.

Future research should more closely examine relationship memories by adopting different methodological techniques. There is still much to learn about how siblings unfold their stories when they engage in verbal conversations in dyads. This may first reveal gender socialization effects, and second, makes these studies comparable with parent-child reminiscing research. Future work should also continue to examine other memory types such as positive or negative memories. Sibling relationships are rich in conflicts, competition, or rivalry. Therefore, it might provide a good context for these emotionally-charged memories. Last, we know that narrative characteristics are highly sensitive to cultural and developmental experiences. Thus, other variables that can predict the richness in relationship memory narratives, such as relationship quality, and other age groups and cultural context are needed for a more comprehensive picture.

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APPENDICES

A. FAMILY RELATIONSHIPS QUESTIONNAIRE

1. What is your name? How old are you? Can you indicate your gender, please?
2. How old is your sibling? Can you indicate your sibling's gender, please?
3. How can you describe your relationship with your sibling? (*If the answer is short: Can you elaborate on that a little more please? Further hint: Do you get along with your sibling? If yes, what are the positive aspects of your relationship? If no, what are the negative aspects of your relationship?*)
4. Do you have a personal relationship with your sibling? (*That means, is your relationship with your sibling beyond just being a sibling and closer to a friendship?*)
5. Can you remember the first time that you develop a personal relationship with your sibling, a personal relationship beyond just being a sibling? When was it? How old were you then? And how old was your sibling? (*if there is no personal relationship between the siblings, can you remember anytime or period that you feel closer to your sibling?*)
6. Do you share activities with your sibling? (*If yes, what would you like to do with your sibling? If no, can you think of any indoor or outdoor activities?*)
7. Have your parents, your mother and father, advised you to get along with your sibling? (*Either you or your sibling? If yes, do they still give you advice?*)
8. If you would be asked to order your mother, father, and sibling; who would you say you get along the best? Your mother, father, sibling?
9. How can you describe your parents' (mother and father) relationship with you?
10. How can you describe your parents' (mother and father) relationship with your sibling?

11. Do you share your secrets, secrets that you wouldn't tell any of your family members, with your sibling? (*I don't want to know your specific secrets of course, but what are these secrets generally about?*)
12. When you have a problem, who would you consider talking to first? Your mother, father, sibling or anybody else (*family or not*).
13. Does the fact that your sibling is a female/male affect your relationship with your sibling? If yes, how does it affect?
14. (*If the siblings don't live together*) How frequently do you meet your sibling? (*Are there any other ways that you and your sibling get in touch?*)

B. DEMOGRAPHIC INFORMATION FORM / DEMOGRAFİK BİLGİ FORMU

1. Adınız-soyadınız: _____
2. E-posta adresiniz_____
3. Yaşınız:_____
4. Cinsiyetiniz:

( ) Kadın ( ) Erkek ( ) Diğer

5. Medeni durumunuz:

( ) Evli ( ) Bekar

   i. Evliyseniz, ne zamandır evlisiniz (ay veya yıl)?: ____

6. Eğitim Durumunuz (Lütfen **son bitirdiğiniz** ve **diplomasını** aldığınız eğitim kurumunu seçiniz.)
   a. İlkokul mezunu
   b. Ortaokul mezunu
   c. Lise mezunu
   d. Üniversite mezunu
   e. Yüksek lisans mezunu
   f. Doktora mezunu
7. Aylık geliriniz:
   a. 0 - 1500 TL
   b. 1501 - 2000 TL
   c. 2001 - 3000 TL
   d. 3001 - 5000 TL
   e. 5001 - 7500 TL
   f. 7501 - 10.000 TL
   g. 10.000 TL ve üzeri
8. Ailenizle aynı şehirde mi yaşıyorsunuz?

( ) Evet ( ) Hayır

9. Kardeşinizle aynı şehirde mi yaşıyorsunuz?

( ) Evet ( ) Hayır

10. Lütfen şu anki yaşam şeklinizi işaretleyiniz.
    a. Ailemle birlikte yaşıyorum.
    b. Kardeşimle birlikte yaşıyorum.
    c. Sadece annem veya sadece babamla birlikte yaşıyorum.
    d. Bir ebeveynim ve kardeşimle birlikte yaşıyorum.
    e. Arkadaşlarımla birlikte yaşıyorum.
    f. Yurtta yaşıyorum.
    g. Tek başıma yaşıyorum.
    h. Diğer
11. Yukarıda belirttiğiniz seçeneği düşünerek ne süredir bu şekilde yaşadığınızı yazınız .

_____

13. Kardeşinizin yaşı:_____
14. Kardeşinizin cinsiyeti

( ) Kadın ( ) Erkek ( ) Diğer

15. Kardeşinizin medeni durumu

( ) Evli ( ) Bekar

    i. Evliyse, ne kadar zamandır evli (ay veya yıl)? : _____

15. Kardeşinizin eğitim durumu (Lütfen **son bitirdiği** ve **diplomasını** aldığı eğitim kurumunu işaretleyin)
    a. İlkokul mezunu
    b. Ortaokul mezunu
    c. Lise mezunu
    d. Üniversite mezunu
    e. Yüksek lisans
    f. Doktora mezunu
16. Anneniz yaşıyor mu?

( ) Evet ( ) Hayır

17. Evet ise, annenizin yaşı kaç? _____
18. Annenizin eğitim durumu (Lütfen **son bitirdiği** ve **diplomasını** aldığı eğitim kurumunu işaretleyin)
    a. İlkokul mezunu
    b. Ortaokul mezunu

c. Lise mezunu
d. Üniversite mezunu
e. Yüksek lisans
f. Doktora mezunu

19. Babanız yaşıyor mu?

( ) Evet ( ) Hayır

20. Evet ise, babanızın yaşı kaç? _____

21. Babanızın Eğitim Durumu (Lütfen **son bitirdiği** ve **diplomasını** aldığı eğitim kurumunu işaretleyin)

a. İlkokul mezunu
b. Ortaokul mezunu
c. Lise mezunu
d. Üniversite mezunu
e. Yüksek lisans
f. Doktora mezunu

22. Anne-babanızın medeni durumu?

( ) Evli ( ) Bekar ( ) Annem veya babam başka birisiyle evli

23. Ailenizin aylık geliri:

a. 0 - 1500 TL
b. 1501 - 2000 TL
c. 2001 - 3000 TL
d. 3001 - 5000 TL
e. 5001 - 7500 TL
f. 7501 - 10.000 TL
g. 10.001 TL ve üzeri

C. DEFINITIONS OF CODING SCHEMES AND EXAMPLES

Table C

Dimensions	Brief Definition	Levels
Description of narrative (coded in Study 1A & 1B & Study 2)	This scheme summarizes the whole narrative and reflects the main theme in the story.	Keywords
Example	[e.g., mother having surgery] My mom had a surgery recently... While we were waiting outside of that surgery room, we felt like... That moment brings people together... *(Turkish sample, female, Study 1A)*	
Presence of personal relationship (coded in Study 1A & 1B)	This scale reflects whether participants define their relationship as only being siblings or they consider their siblings as a friend.	0 = The narrator does not report any personal relationship with his/her sibling and express only feeling like siblings or not feeling close even as siblings. 1 = The narrator describes their sibling relationship as falling in-between. 2 = Narrator addresses a very overt personal relationship. There might be references to signs of friendship between siblings.
Example	2-Yes: I'd say so. I guess recently I've started confiding in her a little bit more but before I feel like, like an older sibling…But recently, because I just moved to college... she was just like a person that was from home... *(US sample, female, Study 1B)*	
Style of narrative – process (coded in Study 1A & 1B & Study 2)	This scale reflects a time period -a process- in the memory narratives. These memories should spread over periods and last more than a specified time.	0 = Participant attributes to a specific event or does not include a process 1 = Participant narrates the memory in a process-like manner, attribute to more than one time point.
Example	1-Process: ...I think I was about…6th through 8th grade... We did not get along; we were always combating against each other. Our friendship was not a friendship... So, we did not get along for most of that time... But then I would say once he graduated most definitely and I was in 9th, 10th grade, we just had a different respect for each other where it wasn't like… *(US sample, female, Study 1B)*	

Table C (cont'd)

Style of narrative – event (coded in Study 1A & 1B & Study 2)	This scale reflects a specific event or time that participants identify as significant in their self or relationship history. Temporal and locational information is an important component of memory events.	0 = Participant does not mention a specific event, reports a process instead. 1 = Participant narrates a "random" event but not a "significant" or "turning point" event. 2 = Participant reports a single event that has a crucial effect in the course personal past or relationship history with specific time and place information.
Example	2- Event: Actually, it happened after we lost our dad, it started there…after we lost our father, I replaced them, especially my brother, with my father. We got a lot closer after that… *(Turkish sample, female, Study 1B)*	
Timing of turning - self/sibling (coded in Study 1A & 1B)	This coding reflects the age of the narrator (or the sibling) or the developmental period that they started to develop a personal relationship.	0 = Not applicable 1 = Early childhood (2-6 years) 2 = Middle childhood (7-11 years) 3 = Adolescence (12-17 years) 4 = Emerging adulthood (18-25 years)
Example	3- Adolescence: I think as we grew older, after becoming 16-17, we became friends. We started to do things together, shared our friendship environment... *(Turkish sample, female, Study 1A)*	
Direction (of the change in relationship quality) (coded in Study 1A & 1B & Study 2)	The narrated events or the periods would change the relationship quality in a positive manner, in a negative manner, or it can remain constant.	-1 = Negative direction 0 = No change 1 = Positive direction
Example	1- Positive direction: … before that it was more so like... we're just siblings and we didn't associate that much in school because, I was kind of embarrassed because we always go to the same school. But coming to high school... that's when I started to talk about more very personal, real problems now that we both grew older... (*US sample, female, Study 1B*)	

Table C (cont'd)

Dimensions of sibling relationship: increased - decreased) (coded in Study 1A & 1B)	This scheme reflects the increased or decreased aspects in sibling relationship after turning point (i.e., warmth, conflict, rivalry, caring, respect etc.)	Increasing dimensions: Coders should look for the dimensions that emerge or improve after turning process or event. Decreasing dimensions: Coders should look for the dimensions that disappear or worsen.
Example	[Increasing dimensions: closeness, sharing, mutual trust] My brother...he is not someone who shares his problems. But he does that with me. It is difficult for him, but he shares with me. He knows I understand him... *(Turkish sample, female, Study 1A)* [Decreasing dimensions: conflict] …After we got through those times, we started to get along better...I don't remember we had any arguements in the last 5 or 6 years... (*Turkish sample, male, Study 1A*).	
Force of change (Internal/external) (coded in Study 1A & 1B & Study 2)	This coding reflects the reasons of change; it can be attributed to external events that are not related to the self or sibling. Reasons can be internal, meaning that the change is triggered the development of a personal relationship.	0 = External: Surrounding factors or specific events triggered the personal relationship. 1 = Internal: Narrator builds a connection between the self/ personal growth and the development of a personal relationship with the sibling. 2 = Both: Narrator includes both external and internal triggers for the turning event/process or change of the quality of the relationship.
Example	1- Internal: ...About 4 or 5 years ago, we didn't use to get along. We had been complaining about each other all the time...One day, I said to him "this shouldn't be like this. We are always complaining about each other. We should support each other instead."...After this, we started to spend more time, go out, talk more... *(Turkish sample, male, Study 1A)* 0- External: In the past, there was a time that my dad had a surgery. It was a very critical surgery. I mean it was vital. That time, I felt like a family. I felt the full support. It was really good for me. (*Turkish sample, male, Study 1A*)	

Table C (cont'd)

Transformativeness (coded in Study 1A & 1B & Study 2)	This scale reflects the changes, personal or relational growth that the agents experienced after turning event or process. The narrator may talk about how much they changed and how they turned into a new person or their relation differentiated, and how much they raised awareness about themselves or surrounding events.	
Transformativeness - for whom	This scale addresses the person(s) or relationship who/which benefited from the turning/significant event or process.	0 = Not applicable 1 = The narrator 2 = The sibling 3 = The narrator and the sibling 4 = For the whole family 5 = For the relationship between siblings
Example	4- For the whole family: We have been through different problems as a family. We, my family is only my sister, mom, and dad… These four people needed to stand side by side. And so we got so much closer… (*Turkish sample, male, Study 1A)*	
Transformativeness - degree	This scale reflects how much the agent selected in the previous coding benefited from the turning point.	0 = Neither agents or the relationship benefited from the significant/turning event or process. 1 = Low. The narrator talks about changes in the relationship dynamics and personal growth but provides very little elaboration/insights. 2 = Moderate. The narrator attributes to the and elaborate on those. However, it is not clear if those changes are temporary or effective in the long run. 3 = High. These narratives include insights about the agents or the relationships. The key point is that these effects should last long.
Example	3- High: …We didn't have chance to talk for a while... But that day, I told my sibling I broke up with my girlfriend and the reason was our mom and dad... After I told her/him this…that night she/he told my mom and dad: "You have to respect my brother, you have to support his decisions, you really upset him!" I realized we don't get everything we want but I also realized how much she/he loves me. *(Turkish sample, male, Study 2)*	

Table C (cont'd)

Emotional valence of events/processes (coded in Study 1A & 1B & Study 2) (McLean et al., 2019)	This scale should focus on the emotional valence of the turning point/significant memories itself rather than how the participant narrated it.	1 = Extremely negative. 2 = Somewhat negative. 3 = Neither negative, nor positive but neutral. 4 = Somewhat positive. 5 = Extremely positive.
Example	1- Extremely negative: It was a really critical period of my life... That day, I had some problems at school… I got a very low grade at math exam and degraded at English class. After I came home, I played computer games, a lot. Then, I went to watch tv, I was drinking tea, but I don't remember the rest. I got diagnosed with epilepsy. I remember my mom crying and telling me "don't leave me!' and also my sister crying. After, I woke up at hospital. Our lives have completely changed. *(Turkish sample, female, Study 2)*	
Emotional tone of memory (coded in Study 1A & 1B & Study 2)	This scale focuses on how overall the participants talk about the memory.	1 = Extremely negative. 2 = Somewhat negative. 3 = Neither negative, nor positive but neutral. 4 = Somewhat positive. 5 = Extremely positive.
Example	5- Extremely positive: I always wanted to be a musician... But then, I made the best decision of my life and started to prepare for conservatory exams. After two years of preparation, I can never forget the moment that I got accepted to the school that I always wished for. I still feel the excitement! *(Turkish sample, male, Study 2)*	

Table C (cont'd)

Direction of the change in emotional tone (coded in Study 1A & 1B & Study 2)	This scale reflects the shifts in emotional tone of narrative.	-1 = The significant/turning point process or event narratives have had a positive tone at the beginning however it turns into a negative tone as the story comes to an end. 0 = No emotional change or shift is observed in the emotional tone of the memories. 1 = The significant/turning point process or event narratives have had a negative tone at the beginning however it turns into a positive tone as the story comes to an end.
Example	-1- Negative direction: When I was in middle school, I was called for an audition from one of the important basketball teams. That was huge considering where we live was a small city, so I was really excited... I was devastated when my parents refused the offers. I knew I missed a grand opportunity... *(Turkish sample, male, Study 2)*	
Chapters of life story (coded in Study 1A & 1B) (Thomsen & Berntsen, 2008)	This scale reflects the number of life story episodes which are temporally short or long. To understand if there is a chapter being mentioned, raters may look for keywords such as, since then, before, after etc.	Number of chapters: 2, our childhood relationship, my brother in high school
Periods of life story (coded in Study 1A & 1B)	This scale reflects the periods in the turning narratives. Each developmental period mentioned in the turning narratives should be addressed.	List of periods: Childhood, adolescence
Example	When I was around 4 or 5, my brother was kind of an introvert. He used to stay at home, study... On the contrary, I used to go out all the time... During the times that my brother was in high school, we've almost never seen each other because now my brother was these new friends and in a new environment… *(Turkish sample, male, Study 1A)*	

Table C (cont'd)

Concrete events (coded in Study 1A & 1B)	This coding dimension addresses the specific events which should happen rare and should be detailed with hidden or explicit time and place information.	List of concrete events: having an arguement with mom
Example	I think it happened like a year ago, during either winter break or summer break like when we're at home...And then so I was arguing with my mom about something…And this one time when we were like eating lunch I think, in our kitchen table and we started the argument again and then I started crying a little bit... *(US sample, female, Study 1B)*	
Generic examples (coded in Study 1A & 1B) (Singer & Blagov, 2000)	This coding dimension examines turning narratives for repeated events that keep occurring in participants' daily life cycles.	List of generic examples: Summer visits, going out, hanging out as friends
Example	Lately, we only get together during summers. Whenever we get together, we spend time like friends. We go out, go to cafes, talk, stuff like that...*(Turkish sample, male, Study 1A)*	
Level of detail (coded in Study 2) (Buckner & Fivush, 1998)	The scale reflects how elaborative the memory narrative is, and how much detail the participant provided. Level of detail is measured by two coding schemes: the number of clauses within a narrative, and descriptive details.	
	Number of clauses counts each utterance which includes a subject and predicate. Each clause should contain new information to be counted. The longer the sentences are, the more elaborated the narrative is.	Number of clauses: 7
	Descriptive detail counts the adjectives and adverbs for each narrative. The more number of descriptive details the richer the narrative is.	Number of adjectives/adverbs: 7
Volume (coded in Study 2) (Fivush et al., 1995)	This variable will be calculated by counting the total numbers of words of the memories.	Number of words: 49
Example	*When* I **was** *a* freshman in high school, my mother **diagnosed** with cancer. I guess the cancer had **progressed** already. It **was** *an important* and life *changing* event for my family. My mom and dad **tried** to **keep** this as a secret for *a long* time but they **couldn't**. *(Turkish sample, female, Study 2)*	

Table C (cont'd)

Thematic coherence (coded in Study 2) (Reese et al., 2011)	Theme dimension assesses the level of elaboration within an event narrative, its richness with causal connections, resolutions, and links to other events in the larger picture.	**Level 0** = The narrative is substantially off topic and/or characterized by multiple digressions that make the topic difficult to identify. No attempt to repair digressions. **Level 1** = A topic is identifiable and most of the statements relate to it. The narrative may include minimal development of the topic through causal linkages, or personal evaluations and reactions, or elaborations of actions. **Level 3** = The narrative substantially develops the topic. Several instances of causal linkages, and/or interpretations, and/or elaborations of previously reported actions are included. **Level 4** = Narrative includes all the above and a resolution to the story, or links to other autobiographical experiences including future occurrences, or self-concept or identity. Resolution brings closure and provides new information.
Example	Level 4: Last summer, I went to US for an internship. I had a chance to work at a neuroscience and psychopharmacology lab. While I was there, I learnt a lot of new things about science and scientific thinking and this made me so happy. At the same time, I got to know American culture closer. I got in touch with the locals, socialized and got closer with them. It felt different that they were not affected by the things that we care in Turkish culture or the other way around. Therefore, this is one of the memories that is really significant to me. *(Turkish sample, male, Study 2)*	

D. AUTOBIOGRAPHICAL MEMORY QUESTIONNAIRE

In Part 1, we will ask you to write about a couple of memories you experienced in the past. Please answer the questions following the instructions carefully.

1.Now, we ask you to think of your life so far. Please write about a memory of an event that is significant to you. Describe it in as much detail as possible.

_____

_____

_____

How old were you when this event happened? _____

How significant is this event/memory for you?

Not significant Very significant

1 2 3 4 5 6 7

How frequently do you remember this event/memory?

Never Very frequently

1 2 3 4 5 6 7

How emotionally negative or positive is this event/memory for you?

Very negative Very positive

1 2 3 4 5 6 7

How easy is it for you to describe this event/memory?

Not easy Very easy

1 2 3 4 5 6 7

How clear is this event/memory for you?

Not clear Very clear

1 2 3 4 5 6 7

2. Now, we ask you to think about your memories with your sibling so far. Please write about a memory of an event that you have experienced with your sibling, and that is significant to you. Describe it in as much detail as possible.

_____

_____

_____

How old were you when this event happened? _____

How significant is this event for you?

Not significant Very significant

1 2 3 4 5 6 7

How frequently do you remember this event/memory?

Never Very frequently

1 2 3 4 5 6 7

How emotionally negative or positive is this event/memory for you?

Very negative Very positive

1 2 3 4 5 6 7

How easy is it for you to describe this event/memory?

Not easy Very easy

1 2 3 4 5 6 7

How clear is this event/memory for you?

Not clear Very clear

1 2 3 4 5 6 7

3. Now, please write about a memory of an event that you have experienced with your sibling, and that is emotionally positive for you. Describe it in as much detail as possible.

_____

_____

_____

How old were you when this event happened? _____

How significant is this event/memory for you?

Not significant						Very significant
1	2	3	4	5	6	7

How frequently do you remember this event/memory?

Never						Very frequently
1	2	3	4	5	6	7

How emotionally positive is this event/memory for you?

Less positive						Very positive
1	2	3	4	5	6	7

How easy is it for you to describe this event/memory?

Not easy						Very easy
1	2	3	4	5	6	7

How clear is this event/memory for you?

Not clear						Very clear
1	2	3	4	5	6	7

4. Now, please write about a memory of an event that you have experienced with your sibling, and that is emotionally negative for you. Describe it in as much detail as possible.

_____

_____

_____

How old were you when this event happened? _____

How significant is this event/memory for you?

Not significant Very significant

1 2 3 4 5 6 7

How frequently do you remember this event/memory?

Never Very frequently

1 2 3 4 5 6 7

How emotionally negative is this event/memory for you?

Less negative Very negative

1 2 3 4 5 6 7

How easy is it for you to describe this event/memory?

Not easy Very easy

1 2 3 4 5 6 7

How clear is this event for you?

Not clear Very clear

1 2 3 4 5 6 7

5. Last, we ask you to think about your memories with your family members so far. Please write about a memory of an event that you have experienced with your family members (mother, father, and sibling), and that is significant to you. Describe it in as much detail as possible.

_____

_____

_____

How old were you when this event happened? _____

How significant is this event/memory for you?

Not significant						Very significant
1	2	3	4	5	6	7

How frequently do you remember this event/memory?

Never						Very frequently
1	2	3	4	5	6	7

How emotionally negative or positive is this event/memory for you?

Very negative						Very positive
1	2	3	4	5	6	7

How easy is it for you to describe this event/memory?

Not easy						Very easy
1	2	3	4	5	6	7

How clear is this event/memory for you?

Not clear						Very clear
1	2	3	4	5	6	7

E. DEMOGRAPHIC QUESTIONNAIRE – US FORM

PARTICIPANT

1. Name:_____
2. E-mail:_____
3. Date of birth:_____
4. Gender:

____ Female ____ Male ____ Other

5. Marital status:

____ Married ____ Single

If you are married, how long has it been? _____

6. Level of education (Please indicate the last school that you have completed)

a. Primary school
b. Middle school
c. High school
d. University
e. Master's degree
f. Ph.D.

7. Your ethnicity: (Select one)

____ Hispanic or Latino
____ Not Hispanic or Latino
____ Do not wish to disclose

8. Your race: (Please select as many boxes as applicable)

____ American Indian or Alaskan Native
____ Native Hawaiian or Pacific Islander
____ Black or African American
____ Asian

____ White or Caucasian

____ Do not wish to disclose

9. Do you live in the same city with your family?

____ Yes ____ No

10. Do you live in the same city with your sibling?

____ Yes ____ No

11. Please indicate your living status below:

a. I live with my family

b. I live with my sibling

c. I live with one of my parents

d. I live with one of my parents and sibling

e. I live in a dormitory (Please indicate)

____ with a roommate ____ without a roommate

f. I live in a flat (Please indicate)

____ with a roommate ____ without a roommate

g. Other

12. Considering your current living status, how long have you been living in that situation?

_____

SIBLING

13. How old is your sibling? _____

14. How can you describe your relationship with your sibling?

____ Blood related

____ Half siblings

____ Step siblings

____ Other

If other, please explain: _____

15. Gender of your sibling

____ Female ____ Male ____ Other

16. Marital status of your sibling

____ Married ____ Single

If married, how long has it been? _____

17. Level of education of your sibling (Please indicate the last school that your sibling has completed)

a. Primary school
b. Middle school
c. High school
d. University
e. Master's degree
f. Ph.D.

18. Sibling's ethnicity: (Select one)

____ Hispanic or Latino
____ Not Hispanic or Latino
____ Do not wish to disclose

19. Sibling's race: (Please select as many boxes as applicable)

____ American Indian or Alaskan Native
____ Native Hawaiian or Pacific Islander
____ Black or African American
____ Asian
____ White or Caucasian
____ Do not wish to disclose

20. Which of the following categories best describes your sibling's present area of occupation?

____ Student
____ Homemaker
____ Office, food service or retail staff
____ Skilled Trade/Technical
____ Professional/Managerial
____ Self Employed

____ Nursing/Health Services

____ Other

MOTHER

21. How old is your mother? ____ No longer living ____

22. Level of education of your mother (Please indicate the last school that your mother has completed)

a. Primary school

b. Middle school

c. High school

d. University

e. Master's degree

f. Ph.D.

23. Mother's ethnicity: (Select one)

____ Hispanic or Latino

____ Not Hispanic or Latino

____ Do not wish to disclose

24. Mother's race: (Please select as many boxes as applicable)

____ American Indian or Alaskan Native

____ Native Hawaiian or Pacific Islander

____ Black or African American

____ Asian

____ White or Caucasian

____ Do not wish to disclose

25. Which of the following categories best describes your mother's present area of occupation?

____ Student

____ Homemaker

____ Office, food service or retail staff
____ Skilled Trade/Technical
____ Professional/Managerial
____ Self Employed
____ Nursing/Health Services
____ Other

FATHER

26. How old is your father? ____ No longer living ____

27. Level of education of your father (Please indicate the last school that your father has completed)

a. Primary school
b. Middle school
c. High school
d. University
e. Master's degree
f. Ph.D.

28. Father's ethnicity: (Select one)

____ Hispanic or Latino
____ Not Hispanic or Latino
____ Do not wish to disclose

29. Father's race: (Please select as many boxes as applicable)

____ American Indian or Alaskan Native
____ Native Hawaiian or Pacific Islander
____ Black or African American
____ Asian
____ White or Caucasian
____ Do not wish to disclose

30. Which of the following categories best describes your father's present area of occupation?

____ Student

____ Homemaker

____ Office, food service or retail staff

____ Skilled Trade/Technical

____ Professional/Managerial

____ Self Employed

____ Nursing/Health Services

____ Other

31. Marital status of your parents

____ Married ____ Single ____ One (or both) of my parents is married to someone else

F. APPROVAL OF THE METU HUMAN SUBJECTS ETHICS COMMITTEE

UYGULAMALI ETİK ARAŞTIRMA MERKEZİ
APPLIED ETHICS RESEARCH CENTER

ORTA DOĞU TEKNİK ÜNİVERSİTESİ
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25 Haziran 2018

Konu: Değerlendirme Sonucu

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAEK)

İlgi: İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın Dr.Öğretim Üyesi Başak Şahin ACAR

Danışmanlığını yaptığınız doktora öğrencisi Demet KARA'nın **"Otobiyografik Belleğin Kardeşlere Dair Anılar Üzerinden İncelenmesi: Cinsiyet Otobiyografik Bellek Özelliklerini ve Öyküsel Benliği Nasıl Etkiler? "** başlıklı araştırması İnsan Araştırmaları Etik Kurulu tarafından uygun görülerek gerekli onay **2018-SOS-125** protokol numarası ile **26.06.2018 - 30.12.2019** tarihleri arasında geçerli olmak üzere verilmiştir.

Bilgilerinize saygılarımla sunarım.

Prof. Dr. Ş. Halil TURAN
Başkan V

Prof. Dr. Ayhan SOL
Üye

Prof. Dr. Ayhan Gürbüz DEMİR
Üye

Doç. Dr. Yaşar KONDAKÇI
Üye

Doç. Dr. Zana ÇITAK
Üye

Doç. Dr. Emre SELÇUK
Üye

Dr. Öğr. Üyesi Pınar KAYGAN
Üye

G. CURRICULUM VITAE

Education

2015 – 2021	PhD., Middle East Technical University, Ankara, TURKEY
2019 – 2020	Visiting Student Researcher, Emory University, Atlanta/Georgia, USA
2011 – 2014	M.A., Koç University, İstanbul, TURKEY
2006 – 2011	B.A., İhsan Doğramacı Bilkent University, Ankara, TURKEY

Work Experience

2020 – current	Lecturer at Işık University and 29 Mayıs University
2018 – 2020	Teaching Assistant, Altınbaş University – Department of Psychology
2014 – 2018	Research Assistant, Altınbaş University – Psychology & Children's University Departments
2016 – 2019	Research Assistant, Tubitak Project. Psikodinamik Oyun Terapisi Sürecinin Etkililiğinin İncelenmesi: Oyun Türleri, Terapötik Müdahaleler ve Terapötik İttifak, Bilgi University. Asst. Prof. Sibel Halfon
2012 – 2014	Research Assistant, Tubitak Project. Erken Ergenlikte Pozitif Gelişme Farklı Ortamlardaki Ergen Gelişimini Anlamak ve Desteklemek, Koç University, Prof. Çiğdem Kağıtçıbası
2011 – 2012	Research Assistant, Koç University Assoc. Prof. Bilge Yağmurlu
2011 – 2014	Teaching Assistant, Koç University

Courses Thought

Academic year	Semester	Course
2018 – 2019	Fall	Research Methods in Psychology
2018 – 2019	Fall	Field Studies in Child Development
2018 – 2019	Spring	Developmental Psychology - II
2018 – 2019	Spring	Applied Issues in Child Development
2018 – 2019	Spring	Popular Psychology
2018 – 2019	Spring	Gelişim Psikolojisi
2018 – 2019	Spring	Özel Eğitimli Çocuklara ve Ailelerine Yaklaşım

Publications

National Peer-Reviewed Journals

Halfon, S., Özsoy, D., **Kara, D**., Çavdar, A. (in press). Gözleme Dayalı Terapötik İttifak Ölçeği Türkçe Formu'nun Psikometrik Özellikleri. *Türk Psikoloji Yazıları.*

Halfon, S., Cavdar, A. & **Kara, D.** (2019). Çocuk ve Ergen Ruh Sağlığı ve Hastalıkları Alanında Bir Klinik Gidiş Değerlendirme Ölçeği Türkçe Formunun (HoNOSCA-TR) Psikometrik Özellikleri. *Klinik Psikoloji Dergisi*. Doi: 10.5455/kpd.26024438m000016

Book Chapters

İlden-Koçkar, A., **Kara, D.** (2017). Türkiye ve Avrupa'da Çocuk Üniversitesi Uygulamaları. In: İlden-Koçkar, A. (ed). *Türkiye ve Dünyada Çocuk Üniversitesi Uygulamaları*. Nobel Yayın. (pp: 15-31).

Proceedings

Kara, D. (2017). Predictors of Academic Success and Educational Expectations: Role of Teacher Involvement, Academic Self-Efficacy, Age and Gender. *InPACT 2017 Book of Proceedings.* 364-366.

Presentations

Elibol-Pekaslan, N., **Kara, D.** (2018). How Do Different Life Events Change the Relationship between Self-Concept Clarity and Self-Continuity Function? Poster Presentation. Autobiographical Memory and the Self Congress, Aaurhus, Denmark.

Kara, D., Sümer, N. (2017). Discrepancy in Parenting Behaviours: Predicts Children's Academic Self-Efficacy and Anxiety. Oral Presentation. 15th European Congress of Psychology, Amsterdam, Netherlands.

Kara, D. (2017). Predictors of Academic Success and Educational Expectations: Role of Teacher Involvement, Academic Self-Efficacy, Age and Gender. Poster Presentation. International Psychological Applications Conference and Trends (InPACT 2017), Budapest, Hungary.

Koçkar İlden, A., **Kara, D.** (2015). Children's University. Oral Presentation. Conference on Children Universities around Europe and in Turkey at Istanbul Aydın University, Turkey

Kara, D., Kağıtçıbaşı, Ç. (2014). Role of Parenting and Self-Types on Self and Emotion Regulation. Oral Presentation. 36th Annual Conference of International School Psychology Association at Vytautas Magnus University, Lithuania

Kara, D., Yalın, C. (2013). Parenting and Social Development in Early Adolescence: How Parental Autonomy Granting Influences Early Adolescents' Self-Regulation, Internal Causal Attributions for Success/Failure and Future Expectations. Poster presentation. International Association for Adolescents Health 10th World Congress in Istanbul, Turkey

Research Interests

Autobiographical Memory, Narrative Identity, Sibling Relationships, Parenting Behaviours, Gender and Parenting, Cross-Cultural Comparisons, Positive Youth Development, Intervention Programs

Scholarships & Awards

2019 - 2020	Fulbright - Ph.D. Dissertation Research Grant
2016 - 2019	Bilgi University TUBITAK Project Scholarship – PhD Student Scholarship
2013 - 2014	Koç University TUBITAK Project Scholarship – M.A. Student Scholarship
2011 – 2013	The Scientific and Technological Research Council of Turkey (TUBİTAK) - 2210 Graduate Scholarship
2006 – 2011	The Scientific and Technological Research Council of Turkey (TUBİTAK) - 2205 Undergraduate Scholarship

H. TURKISH SUMMARY / TÜRKÇE ÖZET

Giriş

Genel bakış

Otobiyografik anılar, bir kişinin başına belirli bir zamanda ve yerde gelen, duygusal veya kişisel önemi yüksek olan geçmiş olayların açık hatıralarıdır (Nelson ve Fivush, 2004). Kişiler, bu hikayelerde aktif veya pasif bir biçimde yer alır (Bauer, 2015; Fivush, 2019). Otobiyografik bellek, ortaya çıkması için gerekli olan diğer bilişsel ve sosyal yeteneklerle beraber okul öncesi yıllarda gelişir (Nelson ve Fivush, 2004). Bu anılar, bireyler için sosyal ilişkiler kurma, sürdürme, anlama ve yönetmede değerli kaynaklardır. Bu çalışma, genç yetişkinlerde otobiyografik belleği önemli bir kişisel ilişki bağlamında, yani kardeş çiftleri arasındaki ilişki üzerinden incelemeyi hedeflemektedir.

Kardeşler insan gelişimi açısından önemli bireylerdir çünkü diğer ilişki türlerinin aksine kardeşlerin ömür boyu sürecek bir bağları vardır. Kardeşler, birlikte büyüdükleri ve aynı aile bağlamında benzer bir gelişimsel zaman çizelgesini takip ettikleri için de birbirleri için önemlidir. Kardeşler arasındaki dinamikler, ergenlik döneminde (Raffaelli, 1992) ve erken yetişkinlikte (Conger ve Little, 2010) kimlik oluşumu bakımından merkezi bir rol oynar. Kardeşler, kendileri hakkında daha iyi fikir sahibi olmak için birbirlerini referans noktaları olarak algılayabilir. Kardeş grupları özellikle de yaş, statü ve cinsiyet açısından uyumlu olduklarında kişiliklerini, özelliklerini ve yeteneklerini birbirleriyle karşılaştırırlar (Whiteman, Bernard ve Jensen, 2011).

Bu çalışma, ömür boyu sürecek bu kardeşlik ilişkisini otobiyografik bellek bağlamında inceleyerek gelişimsel bir bakış açısı benimsemektedir. Çalışmada kardeşlere dair anıların özellikleri cinsiyet etkisi göz önünde bulundurularak incelenmektedir. Bu hedefler doğrultusunda Çalışma 1'de bir grup genç yetişkinle aile üyeleriyle ilişkileri hakkında, özellikle de kardeşlere odaklanarak, yüz yüze görüşmeler yapıldı. Çalışma 2'de, başka bir genç yetişkin grubundan önemli gördükleri bir anılarının yanı sıra

kardeşlerini ve aile üyelerini içeren iki önemli anı daha yazmaları istendi. Bu anılar tutarlılık, zenginlik ve ayrıntı gibi belirli otobiyografik bellek boyutlarında farklılıkları ve benzerlikleri bakımından incelendi. Bu bağlamda, kişisel olarak önemli anıların, önemli ilişki bağlamındaki anılara (kardeş ve aile üyelerine dair) kıyasla bu boyutlarda daha yüksek olacağını ön görülmektedir. Genç yetişkinlerin otobiyografik anılarının içeriklerinin kendi cinsiyetlerinden ve kardeşlerinin cinsiyetinden etkileneceği de düşünülmektedir. Özellikle, kadınların otobiyografik anılarının daha tutarlı, zengin ve daha ayrıntılı olacağı tahmin edilmektedir. Bu etkinin, kadın-kadın kardeş ilişkilerinde daha güçlü olması; erkek-erkek kardeşlerinde de en düşük çıkması ön görülmektedir.

Arka plan

Otobiyografik bellek nedir?

Otobiyografik anılar başlangıçta epizodik anılar olarak tanımlanmış olsa da (Tulving, 1972; Nelson, 1992) günümüzde daha karmaşık bir hiyerarşik organizasyon içinde konumlandırılmıştır (bkz. Conway, 2005). Otobiyografik anılar, geçmiş deneyimlerin ayrıntılı bir açıklamasını içermesi ve farklı biçimlerde bilinçli olarak erişilebilir olması açısından benzersizdir (Fivush, 2019). İnsanlar anılarını biricik deneyimler (ör. Son doğum günü partim), yinelenen olaylar (ör. Annemin beni hafta içi her gün okula götürmesi) veya daha uzun bölümler (ör. İtalya'daki Değişim yılım) şeklinde anlatabilir. Tüm bu hatırlamalar, yalnızca olayı olduğu gibi yeniden anlatarak değil, aynı zamanda kişinin öznel değerlendirmeleri, duyguları, düşünceleri veya yorumlarıyla zenginleştirilerek oluşturulur. Bu geçmiş deneyimler birey için önemli ve duygusal olarak olumlu ya da olumsuz bir değere sahip olduğu için bireyin kişisel tarihinde önemli bir yer kazanır. Kişisel olarak önemli olan bu duygusal anılar farklı bağlamlarda gerçekleşebilir. Akademik bir ödül almak öznel bir bağlam iken kardeşin üniversiteye geçişi gibi ilişkisel bir bağlamda olarak düşünülebilir.

Yetişkin bağlamında otobiyografik anıların önemi

Otobiyografik bellek çocuklukta gelişmeye başlar ve çocukluk yıllarının ötesinde de gelişmeye devam eder. Otobiyografik anılar, bireyin yaşam öyküsü boyunca zaman içinde anlamlı bir benlik yaratmak (McAdams ve diğerleri, 2006), kendini devam eden gerçeklikle güncel tutmak ya da devam eden bir durum hakkında bilgi oluşturmak veya

depolamak ve tutarlı bir benliği sürdürmek gibi işlevlere sahiptir (Bluck & Alea, 2008; Conway, Singer & Tagini, 2004). Ayrıca bireylerin gelecekteki davranışlarını planlamalarına ve yönlendirmelerine (Pillemer, 2003), sosyal ilişkileri değerlendirmelerine ve geliştirmelerine (McLean, 2005) ve duyguları (Fivush, 2007) ve genel iyi oluş halini düzenlemelerine (Waters ve Fivush, 2015) yardımcı olur. Bu işlevlerin bir kısmı ömür boyu devam ederken, bazıları yaşa göre farklılık gösterir. Örneğin, Bluck ve Alea (2009) bir çalışmalarında, genç ve yaşlı yetişkinlerin otobiyografik anıları hakkında düşünme ve konuşma sıklığını ve bu yaş gruplarındaki işlevsel kullanımlarını karşılaştırmıştır. İnsanların ilişkisel nedenlerle anılarına yaşlarına bakılmaksızın başvurduklarını, ancak özellikle genç yetişkinlerin tutarlı bir benlik sürdürmeleri ve gelecekteki davranışlarını yönlendirmeleri gerektiğinde bunu yapma olasılıklarının daha yüksek olduğunu bulmuşlardır. Bu bulgular, genç yetişkinler için otobiyografik anılar hakkındaki anlayışımızı derinleştirmemiz gerektiğini göstermektedir. Özellikle de genç yetişkinliğin anlatı benliği veya kimlik gelişimi dönemi olduğu düşünüldüğünde bu ihtiyaç daha da önem kazanmaktadır (Habermas ve Bluck, 2000, McAdams ve diğerleri, 2006).

"Önemli diğerleri" bağlamında benlik

Otobiyografik bellek araştırmaların kişiyi anlamak için kişisel olarak önemli olaylara odaklanma eğilimine rağmen, insanlar sadece kendi deneyimlerini anlatmaz ya da sadece kendi anılarını hatırlamazlar; başkaları tarafından anlatılan anıları da paylaşırlar, bu anıları örnek olarak görür, mevcut veya gelecekteki davranışlarını yönlendirmek için kullanırlar. Bu nedenle alanyazın, benzer amaçlara hizmet eden başka tür anılarla genişletilmelidir. Bu amaç da çoğunlukla başkalarının anılarını veya başkalarını içeren anıları inceleyerek başarılır. Önceki araştırmalar kişilerin yakınlarına (Lind ve Thomsen, 2018), ebeveynlerine (Reese, Fivush, Merril, Wang ve McAnally, 2017; Zaman ve Fivush, 2013) ve romantik çiftlere (Panattoni ve Thomsen, 2018) dair anıları incelemiştir. Bu çalışmada ise, yeni bir ilişki anı türüne, yani kardeşlere dair anılara değinilmekte ve başkalarıyla ilişki içindeki benliği anlamaya çalışılmaktadır.

İlişki anılarının bir türü, insanların başkalarının hikayelerini anımsamalarıdır. Buna alanyazında ‘dolaylı anılar’ denmektedir (Pillemer vd., 2015). Bu hikayeler bireyler

tarafından deneyimlenmez, aksine bir başkası tarafından onlara bildirilir. Yine de bireyler olayların ayrıntılarını bilir ve kendi deneyimlerini başkasının gözünden anlamak için bu tür anılardan faydalanabilir (Pillemer vd., 2015). Şimdiye kadar yapılan çalışmalar ışığında, bu anıların kişisel anılara benzediğini ve öyküsel kimlik gelişimi ve bağlanma güvenliği ile ilgili oldukları öğrenilmiştir (Lind ve Thomsen, 2018; Merrill ve Fivush, 2016; Zaman ve Fivush, 2013). Önceki bir çalışmada, Panattoni ve Thomsen (2018) çiftlerin kişisel ve dolaylı yaşam öykülerini farklı otobiyografik bellek özellikleri üzerinden incelemiştir. Sonuçlar, bazı benzerliklerin yanı sıra farklılıkları olduğunu ortaya çıkarmıştır.

Mevcut araştırmanın motivasyonu, sadece başkalarına ait olan anıların değil, kardeşler gibi önemli yakınları içeren anıların da bilgilendirici olduğunu sınamaktır. Birincisi, bu anılarda anlatıcı hem kendisi hem de başkaları ile ilgili ayrıntıları aynı bağlamda anlatma şansına sahiptir. İkincisi, anlatıcı aynı deneyimi kullanarak farklı bakış açılarını kullanarak kendi benliğini başkalarıyla karşılaştırabilir. Bu özellik, anlatıcının kendini başkalarına yansıtarak veya başkaları aracılığıyla anlamasını sağlamaktadır. Bugüne kadar, katılımcılardan başkalarını da içeren anılarını anlatmalarının istendiği yalnızca birkaç çalışma bulunmaktadır (Pillemer ve diğerleri, 2015; Thorne, Cutting ve Skaw, 1998).

Ancak bu çalışmalar alanyazında çok yer almamakla birlikte birkaç özellik bakımından geliştirilmelidir. İlk olarak, katılımcılardan herhangi bir yakınları hakkında anılar anlatmalarını istemek yerine, onlara bu hikayelere kimi dahil edecekleri konusunda daha net bilgi vermek gerekmektedir. Diğer bir konu da bu kişilerin kimler olduğunun önemli olmasıdır. Örneğin kardeşler, yakın yaşta olmaları ve benzer deneyimler yaşamaları, aynı aile bağlamını paylaşmaları ve çoğu zaman birbirleriyle kıyaslanmaları bakımından birbirleri için iyi birer referans noktası olabilir.

Önemli ilişkiler bağlamı olarak kardeş ilişkileri

Kardeşler, birbirlerinin sosyal, bilişsel ve duygusal gelişiminde aktif rol oynadıkları için bireylerin yaşamlarında önemli yer tutmaktadır (Dunn, 2002; Weisner, 1989). Kardeşler, insanların yaşam döngüsünde "en uzun bağı" kurdukları kişilerdir (Cicirelli, 1994). Aile sistemi içindeki diğer ilişkilerle karşılaştırıldığında, kardeşler

birbirleriyle biyolojik olarak ilişkili ve yine de eşit statüye sahip olan ömür boyu akranlardır (Spitze ve Trent, 2006). Çocuklar, özellikle de gelişimin ilk yıllarında, kız kardeşleri ve / veya erkek kardeşleriyle ebeveynleriyle geçirdikleri zamandan daha fazla zaman geçirir (Lamb ve Sutton-Smith, 2014). Yine de kardeş ilişkileri, özellikle ebeveynlik çalışmalarıyla karşılaştırıldığında, nispeten yakın bir dönemde, yalnızca bir dizi çalışmanın odağı olabilmiştir (Dunn, 2002). Bu çalışmalar, kardeş ilişkilerinin kalitesini etkileyen faktörleri tanımlamış (Milevsky, Smoot, Leh ve Ruppe, 2005) ve kültürler arasında önemli farklılıklar bulmuştur (Updegraff, McHale, Whiteman, Thayer ve Delgado, 2005). Ayrıca kardeş ilişkisinin yıllar içinde değişken dinamiklerinin olduğunu (Van Volkom, Machiz ve Reich, 2011) ve kardeş ilişkilerinin psikolojik iyi oluş haline olan etkisini ortaya koymuştur (Milevsky, 2005). Bu çalışmada, kardeş ilişkilerini anlamada bu faktörlerden ve bileşenlerden bazılarına değinilmektedir.

Otobiyografik bellek bağlamında cinsiyet

Bellek alanında elde edilen veriler, cinsiyetin otobiyografik anıların uzunluğu, tutarlılığı, zenginliği, duygusal tonu, duygusal ifadesi veya ayrıntı düzeyiyle ilişkili olduğunu ortaya koymaktadır (Buckner ve Fivush, 1998). Cinsiyet farklılıkları her zaman bulunmazken, gerçekten bir farklılık olduğunda, genellikle erkeklerden çok kadınların otobiyografik bellek boyutlarında yüksek performans gösterdiği ortaya konmuştur (Bauer, Stennes ve Haight, 2003; Grysman ve Hudson, 2013; Nelson ve Fivush, 2004). Bu araştırmalar, kadınların erkeklerden daha fazla epizodik detaylara yer verdiğini; anlatılarına daha çok duygusal kelimeler eklediklerini, erkeklerin ise daha sert, aksiyon yönelimli bir anlatı tarzına sahip olduklarını göstermektedir (Bemis, Leichtman ve Pillemer, 2011; Fivush ve diğerleri, 2000; Grysman, Fivush, Merrill ve Graci, 2016; Thorne ve McLean, 2002).

Cinsiyet aynı zamanda kişilerin deneyimlerini anlatma amaçlarıyla da ilgili bulunmuştur. Örneğin, yapılan çalışmalara göre erkekler eğlence içerikli anılarını kadınlara göre daha sık anlatır (McLean, 2005); kadınlar insanlara, ilişkilere ve duygulara odaklanan hikayeler tercih eder, erkekler ise kendilerini ve bireysel başarılarını vurgulayan deneyimlerini paylaşır (Bakır-Demir vd., 2020; Fivush ve Buckner, 2003). Kadınlar anı anlatma amaçlarını ilişkisel nedenlere erkeklere göre

daha sıklıkla bağlar (McLean ve Breen, 2009) ve erkeklere göre daha fazla içgörü içeren bir dil kullanır (Bauer ve ark., 2003; Fivush ve diğerleri) al., 2012). Daha önce yapılan bir çalışmada, Grysman ve arkadaşları (2016), genç yetişkinlerin cinsiyet, cinsiyet tipikliği ve otobiyografik belleğin çeşitli boyutları arasındaki ilişkiyi test etmiş, kadınların tüm anlatılarda duygu, ilişkisel ve olgusal detaylandırma boyutlarında erkeklere göre daha yüksek olduğunu ortaya koymuştur.

Mevcut çalışma

Bu çalışmanın temel amacı, kişisel olarak önemli anıları ve önemli bir ilişki bağlamında meydana gelen anıları, anı türü ve cinsiyetin bir işlevi olarak farklı bellek boyutlarında incelemektir. Buna göre, öncelikli amaç kardeş ilişkilerini otobiyografik bellek çalışmaları yapmak için güvenilir bir bağlam olarak doğrulamaktır. Otobiyografik bellek alanyazınında doğrudan kişisel hikayelere odaklanan birçok çalışma bulunmaktadır; ancak yakınların dahil edildiği ilişkisel anıları inceleyen çok az çalışma vardır. İkinci olarak, özellikle ilişki anılarına uygulanabilen yeni bir kodlama şeması geliştirilmesi hedeflenmektedir. Otobiyografik bellek araştırmaları, kodlama şemalarının sayısı bakımından zengin olmasına rağmen, yalnızca son çalışmalar ilişki anılarını ele almaya başlamıştır. Bu nedenle, mevcut kodlama boyutları bu tür anılardaki dinamikleri yakalayacak kadar keskin olmayabilir. Yapılan ilk iki çalışmada bu amaçlara değinilmiştir. Türkiye ve ABD'den üniversite öğrencileriyle, aile üyeleri arası ilişkilerin incelendiği derinlemesine yüz yüze görüşmeler yapılmıştır. Bu görüşmelerde özellikle kardeşlik ilişkilerine odaklanılmıştır. Bu çalışmalarda elde edilen bulguların ardından, yeni hedefler belirlenmiştir. Buna göre üçüncü amaç, bireylerin kendileri, kardeşleri ve aileleri ile ilgili önemli yaşam olaylarının, kendileri ve kardeşlerine-göre-kendileri hakkında nasıl ipuçları verdiğini araştırmaktır. Yeni çalışmalar anılara ilişkisel bağlamda değinmeye başlasa da bu anıları özellikle kardeş ilişkileri bağlamında keşfetmeye hala ihtiyaç vardır. Son amaç ise, kişisel ve ilişkisel anıların otobiyografik özelliklerinin kendi cinsiyetlerinden ve / veya kardeşlerinin cinsiyetlerinden nasıl etkilendiği incelemektir. Örneğin anne-çocuk veya baba-çocuk ikililerinin anı sohbetlerinin cinsiyete göre nasıl farklılık gösterdiğini bilinmektedir. Ancak kardeş etkisi daha önce bilinen hiçbir çalışmaya konu edilmemiştir. Bu nedenle, bu iki amacı incelemek için 2. bir çalışma düzenlenmiştir. Çalışma 2'de, Türk üniversite öğrencilerinden,

kardeşleri ve ailelerine dair kişisel olarak önemli anıları anlatılması beklenmiştir. Çalışma 1'de geliştirilen yeni kodlama boyutlarının yanı sıra zenginlik, ayrıntı düzeyi ve tutarlılık gibi birden çok anlatı boyutunda bireylerden elde edilen bu kişisel ve ilişkisel anılar incelenmiştir. Bu inceleme anı türü ve cinsiyet perspektifinden gerçekleştirilmiştir. Bu çalışmanın ana hipotezleri aşağıdaki gibidir.

1. Kişisel-önemli anılar, kardeşe dair-önemli ve aileye dair-önemli anılara göre tema boyutunda daha tutarlı olacaktır. Kardeşe dair-önemli ve aileye dair-önemli anılar arasındaki farkların nasıl olduğu gözlemlenecektir.

2. Kişisel-önemli anılar, kardeşe dair-önemli ve aileye dair-önemli anılara kıyasla daha zengin ve ayrıntı düzeyinde daha yüksek olacaktır. Kardeşe dair-önemli ve aileye dair-önemli anılar arasındaki farkların nasıl olduğu gözlemlenecektir.

3. Kadın katılımcıların anıları, erkek katılımcılara göre daha zengin, ayrıntı düzeyi yüksek ve tematik olarak daha tutarlı olacaktır.

4. Aynı cinsiyetten kız kardeşlerin anıları, aynı cinsiyetten erkek kardeşlerin ve çapraz cinsiyetten kardeşlerin anılarına göre daha zengin, ayrıntı düzeyi yüksek ve tematik olarak daha tutarlı olacaktır.

5. Yeni geliştirilen kodlama boyutları için herhangi spesifik bir hipotez önerilmemektedir. Yine de özellikle anı türleri arasında bazı farklılıklar bulunacağı düşünülmektedir.

Çalışma 1A

Yöntem

Katılımcılar

Araştırmaya, 46 üniversite öğrencisi katılmıştır (Ortalama yaş = 21.782 years, *SS* = 1.412; 29 kadın). Araştırmaya katılan kişilerin aşağıdaki kriterleri karşılaması beklenmektedir: (i) katılımcılar 18-25 yaşın aralığında olmalı, (ii) katılımcıların yalnızca bir kız kardeşi veya erkek kardeşi olmalı ve (iii) iki kardeş 4 yaş aralığında olmalıdır.

Prosedür

Çalışma kriterlerine uyan ve çalışmaya katılmayı kabul eden öğrencilere randevu verilmiştir. Ana araştırmacı (yazar) tüm yarı yapılandırılmış görüşmeleri sessiz bir odada gerçekleştirmiştir. Katılımcılara önce bir onay formu verilmiş ve cevaplarını etkileyebilecek herhangi bir bilgi (örneğin, kardeşin cinsiyeti, kardeş sayısı vb.) açıklanmadan çalışma hakkında kısaca bilgilendirme yapılmıştır. Katılmayı kabul eden kişilerle görüşmeler gerçekleştirilmiş ve tüm görüşmeler sesli olarak kaydedilmiştir. Tüm sorular ve prosedürler Orta Doğu Teknik Üniversitesi İnsan Araştırmaları Etik Kurulu tarafından onaylanmıştır.

Ölçümler

Aile ilişkileri görüşmesi

Araştırmacılar tarafından geliştirilmiş 14 sorudan oluşan açık uçlu bir ankettir. Sorular çoğunlukla, kardeş ilişkilerine odaklanmıştır. Diğer bir deyişle, bu anket katılımcıların kardeşleri ve ebeveynleri ile ilişki yakınlıklarını ve kalitesini incelemekte, kardeşleri birbirlerine yakınlaştıran veya ilişkilerini değiştiren bir zaman veya dönem hakkındaki anılarını paylaşmasını istemektedir. Katılımcılardan sorulara rahat hissedecekleri oranda olabildiğince ayrıntılı anlatmaları istenmiştir.

Demografik bilgi formu

Her görüşmenin sonunda, katılımcılara araştırmacıdan çevrimiçi bir demografik bilgi formu doldurmaları için bir e-posta iletilmiştir. Bu form, cinsiyet, yaş, eğitim seviyesi, gelir, medeni durum ve yaşam koşulları ile ilgili genel soruları içerir.

Transkripsiyon, kodlama şemasının geliştirilmesi ve kodlama

Önceki şemaları mevcut bağlama uyarlayarak veya araştırma sorularıyla ilgili yeni boyutlar oluşturarak yeni bir kodlama şeması geliştirilmiştir. Ana araştırmacı tüm verileri kodlarken, anadili Türkçe olan bağımsız bir araştırma görevlisi anıların %20'sini kodlamıştır. Kodlayıcılar, kodlama kategorileri arasında %75 anlaşma sağlamıştır. Tüm boyutlarda ana kodlayıcının yargıları kullanılmıştır.

Sonuçlar

İlk önce, katılımcıların Soru 1 ve Soru 2'ye verdikleri yanıtlar bellek perspektifinden incelenmiştir. Daha sonra, cinsiyet ve yaşın bu anlatılara (ilişki kalitesi ve dönüm noktası) olan etkisi ele alınmıştır. Son olarak, geliştirilen kodlama şemasının mevcut bağlamda ve gelecekteki çalışmalara uygulanabilirliği tartışılmıştır. Bu bölümde sadece ilk hedef sonuçlarına yer verilmiştir.

Genel olarak, katılımcıların yarısından fazlası kardeşleriyle kişisel bir ilişki içinde olduklarını, yani arkadaşlık olarak tanımlanabilecek bir ilişkilerinin olduğunu belirtmiştir. Geri kalanı, aralarındaki ilişkiyi ya sadece kardeş ilişkisi olarak tanımlamış ya da kardeş olmakla arkadaş olmak arasında dalgalanan bir ilişki içinde olduklarını belirtmişlerdir.

Ayrıca, katılımcıların %89,1'i kardeşlik ilişkilerinde bir tür dönüm noktası yaşadıklarını (dönüm süreci veya dönüm olayı veya her ikisi), yalnızca 4 katılımcı ise ilişkilerinde hiç dönüm noktası olmadığını belirtmiştir. Bu dönüm noktalarının katılımcıların kendileri veya başkaları üzerinde bir etkisi olabileceği varsayılmaktadır. Başka bir deyişle, bu dönüm noktaları bir değişikliğe veya dönüşüme yol açabilir. Dönüm noktası anlatılarının çoğu, katılımcıların özellikle kardeşleriyle ilişkileri açısından dönüştürücü olmuştur. Bu anılar ayrıca katılımcıların kendileri, kardeşleri veya hem kendileri hem de kardeşleri için dönüştürücü olabilir. Bu değişikliğin gücüne daha yakından bakıldığında, katılımcılardan yarısından fazlasının dış kaynaklara (örneğin, baba kaybı) atıfta bulunmasına karşın, değişikliklerin neredeyse üçte birinin iç kaynaklar (örneğin, kardeş veya kendisinin büyümesi ve daha olgun hissetmesi) ve değişimin küçük bir kısmının hem dışsal hem de içsel kaynaklar aracılığıyla tetiklendiği görülmüştür.

Dönüm noktası anlatılarının tematik özellikleri

Katılımcıların dönüm noktası anlatıları tematik olarak üç kategori altında gruplanmıştır. İlk kategori, "gelişimsel olaylar, geçişler ve büyüme", kardeşlerden birinin veya her ikisinin olgunlaşmasını temsil eden bir temadır. Bu geçişler genellikle ergenlik döneminin sonuna, erken yetişkinliğin başlangıcına veya üniversite hayatının ilk yıllarına denk gelmektedir. Birçok katılımcı bu dönemi ilişkilerinde dönüm süreci

olarak işaret etmektedir. Bazı katılımcılar ise, kardeşleriyle olan çatışmalara son vermek için bilinçli olarak karar verdiklerini ve yakınlaştıklarını söylemişlerdir. Bu gibi kararlar büyümeyi ve olgunlaşmayı temsil etmektedir. Diğer bir yaygın tema ise "zorluklar ve olumsuz yaşam olayları"dır. Bu kategoride katılımcılar, kendilerini kardeşlerine daha yakın hissettiren bir zaman veya olay olarak hayatlarından olumsuz bir olayı (örneğin, ailevi sorunları, kendi veya diğer aile üyelerinin sağlık sorunları geçirmesi, bir aile üyesinin kaybı vb.) aday göstermişlerdir. Bu kategori aynı zamanda birlikte bir iş kurma veya okulda yaşanan zorluklar gibi diğer yaşam olaylarını da içerebilir. Üçüncü ve son yaygın tema "bağlamda değişiklik" tir. Bu değişiklikler çoğunlukla yaşam düzenlemeleri ile ilgilidir (ör. Evden ayrılmak veya birlikte başka bir yere taşınmak). Bu tür düzenlemeler yine üniversite dönemindeki geçişle bağlantılı olarak yaşansa da odak noktası daha az ya da çok zaman paylaşabilmektedir. Kardeşler birlikte yaşamaya veya birbirleriyle “takılmaya” başladıklarında birbirlerini daha iyi tanımayabilirler. Ayrıca, kardeşlerden biri üniversite için evden ayrıldığında birbirlerini ziyaretleri sırasında harcanan zamanı daha değerli ve kaliteli kıldığını bildirmişlerdir.

Çalışma 1B

Bu çalışma, kardeş ilişkilerini farklı kültürlerden gelen örneklemler ekseninde otobiyografik bellek çalışmaları açısından incelemeyi amaçlamaktadır. Bunu yapmak için ABD'deki üniversite öğrencilerinden veri toplanmış ve aynı analiz plan uygulanmıştır. Sonuçları nitel karşılaştırmalara dayanarak tartışılmış, nicel analizler yürütülmemiştir.

Yöntem

Araştırmaya, psikoloji derslerine kayıtlı 31 ABD’li lisans öğrencisi katılmıştır (Ortalama yaş = 18.67 yıl, *SS* = 1.04, 17 kadın). Katılımcılar Emory Üniversitesi'nde eğitimlerine devam etmektedir. Bu çalışmada da aynı yaş, yaş farkı ve kardeş sayısı kriterleri kullanılmış, aynı anketlerle veri toplanmış ve aynı prosedür takip edilmiştir.

Sonuçlar

Bu çalışmanın ana amacı, Çalışma 1A'daki bulguları ABD örneklemi ile doğrulamak ve kardeş ilişkisinin kültürler arasında otobiyografik bellek çalışmaları yapmak için iyi bir bağlam olduğunu göstermektir.

Genel olarak, katılımcıların yarısı kardeşleriyle kişisel bir ilişkilerinin olduğunu bildirmiştir. Bu bulgular Çalışma 1A'daki bulguları tekrarlamıştır. Kardeşler, aile içinde yer alan, farklı rolleri üstlenen ve aileyle sosyal çevre arasında köprü görevi görebilen kişilerdir.

Ayrıca, katılımcıların %83,9'u kardeşlik ilişkilerinde bir tür dönüm noktası yaşadıklarını (dönüm süreci veya dönüm olayı veya her ikisi), yalnızca 5 katılımcı ilişkilerinde dönüm noktası olmadığını belirtmiştir. Bu dönüm süreçleri ve olayları, katılımcılar için dönüştürücü bir etki barındırmaktadır. Bu dönüşümlerin çoğunlukla hem kardeş ilişkileri üzerindeki etkisi hem de anlatıcı ve kardeş üzerindeki etkisi eş zamanlı olarak gözlemlenmiştir. Türkiye örneklemiyle karşılaştırıldığında (%54,3), dönüşümün odak noktası ABD örnekleminde (%35,5) daha az sıklıkta kardeşlik ilişkileri olarak gösterilmiştir. Bununla birlikte, ABD'li katılımcılar kardeşleri ve kendileri için dönüşümü daha sık vurgulamıştır (Türk örneklem %13, ABD örneklem %29). Yani, Türk katılımcıların çoğu ilişkilerindeki dönüşüme odaklanırken, ABD örneklemi neredeyse eşit derecede ilişkilerindeki dönüşüme ve anıya dahil olan bireylerdeki dönüşüme odaklanmıştır. Bu dönüşümler, iç kaynaklardan çok dış tetikleyicilere atfedilmektedir. Bu hem Türkiye hem de ABD örnekleminde ortak elde edilen bir bulgudur.

Dönüm noktası anlatılarının tematik özellikleri

Önceki çalışmada, zorluklar ve olumsuz yaşam olayları, gelişimsel geçişler ve büyüme ve bağlamdaki değişim olmak üzere 3 kategori belirlenmiştir. ABD örneğindeki dönüm olayları veya süreçlerinin sınıflandırılması da bu temalara uygun bir resim çizmektedir. En yaygın kategori yine “gelişimsel olaylar, geçişler ve büyüme”dir. Bu tema, kardeşlerden birinin üniversiteye girmesinden veya kardeşlerden birinin olgunlaşmasından sonra ilişkideki bir değişikliğe değinmektedir. “Zorluklar ve olumsuz yaşam olayları”nda katılımcılar, kendilerini kardeşlerine daha yakın

hissettiren bir zaman ya da olay olarak yaşamlarından aile ya da okul sorunları gibi olumsuz olayları işaret etmişlerdir. Bu zorluklarla başa çıkabilmenin yolu kardeşler arası destekten geçmektedir. Üçüncü en yaygın tema "bağlamda değişiklik" olarak belirlenmiştir. Türkiye örnekleminde, bu kategori çoğunlukla fiziksel yakınlıktaki bir değişiklikten sonra birlikte geçirilen zamandaki artış veya azalma ile tanımlanmıştır. ABD örneğinde, buna ek olarak, katılımcılar etkinlik bazlı bağlam değişikliklerine atıfta bulunmuşlardır. Örneğin birlikte yüzmek veya futbol oynamak gibi ortak bir hobi ya da aktivite içine girdikten sonra yakınlaşmaları gerçekleşmiştir. Paylaşılan bu etkinlikler, birlikte daha fazla zaman geçirmelerine ve sonuç olarak kendilerini daha yakın hissetmelerine yol açmıştır.

Genel tartışma

Mevcut çalışmaların sonuçları, kardeş ilişkileri ve kardeş hikayeleri hakkındaki beklentilerimizi otobiyografik bellek araştırması yapmak için güvenilir bir bağlam olarak desteklemiştir. Ayrıca, bu çalışmalarda yeni oluşturulan kodlama şemalarının uygulanabilirliği de elde edilen sonuçlar arasındadır. Bu özette incelenmemiş olsa da kadınlar ve erkekler arasında tutarlı bir fark tespit edilmemiştir. Aynı ve karşıt cinsiyetten kardeş çiftlerin, yaş farkının veya yaş sırası değişkenleri bellek boyutlarını sınırlı düzeyde etkilemiştir. Yine de bu çalışmanın sonuçlarına dayanarak sonraki çalışma için belirli kararlar veya değişiklikler yapılabilir; bazı noktalar gözden geçirilebilir ve iyileştirilebilir.

Bu çalışmanın ilk amacı doğrultusunda, kardeş ilişkilerinin, dönüştürücü bir gücünün olduğu gözlemlenmiştir. Kardeşlere dair hikayelerin, otobiyografik bellek çalışmaları yürütmek için yeni bir platform olabileceği gözlemlenmiştir. Özellikle de dönüm noktası anlatılarının temalarının daha önceki yapılan çalışmalarla uyumlu olması bu yorumu güçlendirmiştir. Kardeşlere dair anılar, özellikle önemli veya yakın ilişkiler bağlamında bellek araştırmacıları için eşsiz bir fırsat sunmaktadır. Kardeşler aynı ailenin bir parçası olmalarına rağmen, ebeveynler kadar yakın, ancak çoğunlukla arkadaş gibi eşitlikçi olduklarından gelişimde önemli bir yer kaplamaktadır. Bu çalışmanın diğer amacı kapsamında, mevcut bağlama uygun ve daha sonraki çalışmalar için de geçerli olan yeni bir kodlama şeması geliştirilmiştir. Bu anlatılarda gözlemlenen veya çıkarılan herhangi bir ayrıntıyı tam olarak temsil etmesi için

kodlama şemasını iyileştirmek için sonraki çalışmalarda iyileştirmeler yapılması gerekmektedir.

Çalışma 2

Mevcut çalışmanın temel amacı, kadın ve erkeklerin kendileriyle ve yakınlarıyla ilgili önemli anılarının anı türü ve cinsiyete göre değişip değişmediğini incelemektir. Cinsiyet ve anı türü arasındaki bu farklılıklar ve / veya benzerlikler bir dizi otobiyografik bellek boyutunda araştırılacaktır.

Analitik plan

Mevcut bölümde, verilerin iç içe geçmiş özelliğini göz önünde bulundurarak ana hipotezleri test etmek için Karışık Doğrusal Model (Linear Mixed Model) analizi kullanılmıştır (Wright, 1998). Çalışmanın odak noktası, tüm otobiyografik boyutlarında cinsiyet ve anı türünün rolünü incelemek üzerinedir.

Yöntem

Katılımcılar

Araştırmaya 100 genç yetişkin katılmıştır (Ortalama yaş = 21.82 yıl, *SS* = 1.52, 50 kadın). Önceki çalışmalardaki katılımcı seçme kriterleri kullanılmıştır. Araştırmada eşit sayıda kadın ve erkek ve eşit sayıda kız ve erkek kardeş bulunmaktadır.

Prosedür

Katılımcılar ağırlıklı olarak Ankara'da Orta Doğu Teknik Üniversitesi ve İstanbul'da Altınbaş Üniversitesi'nden öğrencilerdir. Veriler kağıt-kalem formatında toplanmıştır. İlk olarak katılımcılara onay formları dağıtılmış ve yanıtlarını etkileyebilecek kritik bilgiler (örneğin, kardeşin cinsiyeti, kardeş ilişkilerinin kalitesi vb.) açıklanmadan araştırma hakkında bilgilendirme yapılmıştır. Araştırmaya gönüllü olarak katılmayı kabul etmiş katılımcılara araştırma formları dağıtılmıştır. Katılımcıların anılarını anlatması yaklaşık 30 dakika ile 1 saat arasında sürmüştür. Tüm sorular ve prosedürler Orta Doğu Teknik Üniversitesi İnsan Araştırmaları Etik Kurulu tarafından onaylanmıştır.

Ölçümler

Otobiyografik anı soruları

Katılımcılar bu çalışma için üç farklı olayın anısını anlatmıştır. Bu anılar, kişisel-önemli, kardeşe dair-önemli ve aileye dair-önemli olaylar hakkında sorulmuştur. Her sorudan önce, katılımcılara o ana kadarki yaşamları hakkında düşünmeleri ve soruda ele alınan bir olayın anısını yazmaları talimatı verilmiştir. Katılımcılar olabildiğince fazla ayrıntı vermeleri için teşvik edilmiştir. Her anı anlatımının ardından altı takip sorusu sorulmuştur. Bu sorularda, katılımcılardan olayın zamanı, önemi, sıklığı, duygusal olumluluk / olumsuzluk, hatırlama kolaylığı ve netlik boyutlarında anılarını değerlendirmeleri istenmiştir.

Anı kodlama

Katılımcıların açık uçlu bellek sorularına verdikleri yanıtlar 15 boyutta kodlanmıştır. Bu kodlamalardan bir kısmı Çalışma 1'de geliştirilmiştir. Bunun yanı sıra aşağıda detaylı açıklanan üç boyut daha eklenmiştir.

Tematik tutarlılık: Reese ve ark. (2011) tarafından geliştirilen bu boyut, bir olay anlatısındaki detaylandırma düzeyini, bunun nedensel bağlantılarla nasıl zenginleştirildiğini, bu anıların daha büyük resimdeki diğer olaylarla bağlantılarını değerlendirir.

Ayrıntı düzeyi: Bu kodlama şeması Buckner ve Fivush (1998) tarafından geliştirilmiştir. Ölçek, bellek anlatımının ne kadar ayrıntılı olduğunu ve katılımcının ne kadar ayrıntı sağladığını yansıtır. Ayrıntı düzeyi iki kodlama ile ölçülür: (1) anlatı içindeki cümle sayısı (2) betimleyici ayrıntı; her anlatı içindeki sıfatları ve zarfları sayımıyla hesaplanır.

Zenginlik: Bu boyut, Fivush, Haden ve Adam (1995) tarafından geliştirilmiştir. Burada anlatının uzunluğu anılarda yer alan toplam kelime sayılarının sayılmasıyla hesaplanmıştır.

Güvenilirlik

Güvenilirlik, her bir şema için toplam anıların %20'si üzerinde gerçekleştirilmiştir. Güvenirlik için ICC değerleri 0,752 ile 0,986 arasında değişmekte olup, bu yüksek seviye güvenilirliğe işaret etmektedir. Ancak, Cohen Kappa değerleri 0,191 ile 0,784 arasında değişmiştir. Güvenirlik değerleri düşük olan kodlama boyutları analizlerden çıkarılmıştır.

Sonuçlar

Araştırmada elde edilen veriler çeşitli analizlerle incelenmiş olsa da bu özet bölümünde sadece ana hipotez testlerine yer verilmiştir.

H1: Kişisel-önemli anılar, kardeşe dair-önemli ve aileye dair-önemli anılara göre tema boyutunda daha tutarlı olacaktır. Kardeşe dair-önemli ve aileye dair-önemli anılar arasındaki farkların nasıl olduğu gözlemlenecektir.

Anı türünün (kişisel, kardeşe dair ve aileye dair) tematik tutarlılık üzerindeki etkisini test edilmiştir. Sonuçlara göre, tematik tutarlılık anı türlerine göre anlamlı bir farklılık göstermemiştir, F (2, 198) = 1.018, R^2M = 0.003, p = 0.363. Beklentilerin aksine, katılımcıların anlatıları her üç anı türünde de benzer tematik tutarlılık düzeyi sergilemiştir.

H2: Kişisel-önemli anılar, kardeşe dair-önemli ve aileye dair-önemli anılara kıyasla daha zengin ve ayrıntı düzeyinde daha yüksek olacaktır. Kardeşe dair-önemli ve aileye dair-önemli anılar arasındaki farkların nasıl olduğu gözlemlenecektir.

Anı türünün (kişisel, kardeşe dair ve aileye dair) zenginlik ve ayrıntı düzeyi üzerindeki etkisi test edilmiştir (ayrıntı düzeyinin iki alt boyutu: cümle sayısı ve betimleyici ayrıntı). Zenginlik, F (2, 198) = 0.859, R^2M = 0.002, p = 0.425 ve cümle sayısı F (2, 198) = 1.528, R^2M = 0.004, p = 0.220 boyutlarında anı türlerine göre anlamlı bir fark görülmemiştir. Ancak, anı türü betimleyici ayrıntı üzerinde anlamlı bir etki göstermiştir, F (2, 198) = 3.083, R^2M = 0.010, p = 0.048. Kişisel-önemli anılar, aile-önemli anılara göre daha fazla sıfat/zarf sayısı içermektedir, b = 1.067, t (198.252) =

2.389, $p = 0.018$, %95 CI [0.186, 1.948], ancak kardeşe ve aileye dair anılar sıfat/zarf sayısı bakımından birbirinden farklılaşmamıştır.

H3: Kadın katılımcıların anıları, erkek katılımcılara göre daha zengin, ayrıntı düzeyi yüksek ve tematik olarak daha tutarlı olacaktır.

Cinsiyetin (kadın, erkek) tematik tutarlılık, zenginlik ve ayrıntı düzeyi üzerindeki etkisi incelenmiştir. Sonuçlara bakıldığında cinsiyetin tematik tutarlılık üzerinde anlamlı bir etkisi görülmemiştir, F (1, 98) = 2.080, $R^2M = 0.018$, $p = 0.152$. Cinsiyetin zenginlik üzerinde de herhangi bir etkisi de bulunmamıştır, F (1, 98) = 1.813, R^2M = 0.015, $p = 0.181$. Ayrıntı düzeyi boyutu için, cümle sayısı alt boyutunda F (1, 98) = 3.877, $R^2M = 0.031$, $p = 0.052$ kadın ve erkekler arasında marjinal olarak anlamlı bir farklılık gözlemlenmiştir. Bu sonuçlara göre, kadınlar anılarında erkeklere göre daha fazla cümle sayısına yer vermiştir, $b = 1.085$, t (98.085) = 1.919, $p = 0.058$, %95 CI [-0.037, 2.207]. Ancak betimleyici ayrıntı alt boyutunda aynı cinsiyet etkisi gözlemlenmemiştir F (1,98) = 1,522, $R^2M = 0{,}020$, $p = 0{,}220$. Genel olarak, sadece cümle sayısı alt boyutunda kadınlarda beklenen bir cinsiyet etkisi gözlemlenmiştir.

H4: Aynı cinsiyetten kız kardeşlerin anıları, aynı cinsiyetten erkek kardeşlerin ve çapraz cinsiyetten kardeşlerin anılarına göre daha zengin, ayrıntı düzeyi yüksek ve tematik olarak daha tutarlı olacaktır.

Anı türünün (kişisel, kardeşe dair ve aileye dair), katılımcının ve kardeşin cinsiyeti (kadın, erkek) ve cinsiyet arasındaki etkileşim terimini ekleyerek katılımcı ve kardeşlerin cinsiyetinin tematik tutarlılık, zenginlik ve ayrıntı düzeyi üzerindeki etkisi test edildi. Sonuçlara göre tematik tutarlılık, F (1, 96) = 0.009, $R^2M = 0.044$, $p = 0.924$ veya zenginlik, F (1, 96) = 0.586, $R^2M = 0.020$, $p = 0.446$ üzerinde anlamlı bir cinsiyet etkileşimi etkisi görülmemiştir. Benzer şekilde, katılımcının ve kardeşinin cinsiyet etkileşiminin cümle sayısı F (1, 96) = 0.114, $R^2M = 0.035$, $p = 0.736$ ve betimleyici ayrıntılar, F (1, 96) = 0.026, $R^2M = 0{,}021$, $p = 0{,}872$ üzerinde anlamlı bir etkisi göstermemiştir. Bu sonuçlarla, aynı veya karşı cinsten olmanın otobiyografik bellek özellikleri üzerinde bir etkisi olmadığı gözlemlenmiştir.

H5: Yeni geliştirilen kodlama boyutları için herhangi spesifik bir hipotez önerilmemektedir. Yine de özellikle anı türleri arasında bazı farklılıklar bulunacağı düşünülmektedir.

Anı türünün etkisi

Anı türünün (kişisel, kardeşe dair ve aileye dair) dönüşüm derecesi, olumlu ve olumsuz duygusal değer ve olumlu ve olumsuz duygusal ton değişkenleri üzerindeki etkisini test edildi. Anının dönüşüm derecesi anı türlerine göre marjinal olarak değişiklik göstermiştir, F (2, 297) = 2.894, R^2M = 0.019, p = 0.057. Takip analizlerinde, kişisel-önemli anıların aile-önemli anılardan anlamlı derecede daha dönüştürücü olduğunu ortaya çıkmıştır, b = 0.330, t (297) = 2.052, p = 0.041, %95 CI [0.013, 0.646]. Ancak, kardeş-önemli ve aile-önemli anılar arasında fark bulunmadı. Anı türlerinin pozitif duygusal değer üzerinde anlamlı bir etkisi gözlemlenmiştir, F (2, 160) = 6.346, R^2M = 0.067, p = 0.002. Buna göre, kişisel-önemli anılarda anlatılan olaylar, aile-önemli anılardaki olaylardan anlamlı derecede daha olumlu bulunmuştur, b = 0.325, t (160) = 2.735, p = 0.007, %95 CI [0.090, 0.560]. Bununla birlikte, kardeş-önemli ve aile-önemli anılar benzer özellik göstermiştir. Anı türlerinin olumsuz duygusal değeri anlamlı bir şekilde yordadığı görülmüştür, F (2, 158) = 4.508, R^2M = 0.048, p = 0.012. Buna göre, aile-önemli anılardaki olaylar, kardeş-önemli anılardaki olaylardan anlamlı derecede daha olumsuzdur, b = -0.387, t (158) = -2.923, p = 0.004,% 95 CI [-0.649, -0.125] ve kişisel-önemli anılardan marjinal olarak daha olumsuz bulunmuştur, b = -0.258, t (158) = -1.843, p = 0.067,% 95 CI [-0.535, 0.018]. Olumlu duygusal tonda da, F (2, 191) = 5.359, R^2M = 0.050, p = 0.005 anı türlerine göre anlamlı bir fark bulunmuştur. Öyle ki, kişisel-önemli anılar, aile-önemli anılardan anlamlı derecede daha olumlu anlatılmıştır, b = 0.269, t (191) = 2.196, p = 0.029, %95 CI [0.027, 0.512]. Ancak kardeş-önemli anılar ve aile-önemli anılar benzer özellikler göstermiştir. Son olarak, bellek türleri arasında negatif duygusal tonda bir fark bulunmadı, F (2, 172) = 1.901, R^2M = 0.021, p = 0.152. Genel olarak, anı türü duygusal değer ve duygusal ton boyutları için anlamlı, dönüşüm derecesi için marjinal etkiler gösterdi.

Cinsiyetin etkisi (katılımcı, kardeş cinsiyeti ve etkileşim değişkenleri)

Katılımcıların ve kardeşlerin cinsiyetinin dönüşüm derecesi, olumlu ve olumsuz duygusal değer ve olumlu ve olumsuz duygusal ton değişkenleri üzerindeki etkisi test

edildi. Genel olarak, cinsiyet değişkenlerinden hiçbiri cinsiyet değişkenlerine göre bir değişim göstermemiştir (*p*s> 0.05). Sadece olumsuz duygusal ton katılımcının cinsiyetine göre bir farklılık sergilemiştir, F (1, 169) = 6.892, R^2M = 0.062, p = 0.009. Buna göre, kadınlar anı anlatılarında erkeklerden daha olumsuz bir ton kullanmışlardır. Bununla birlikte, kardeş cinsiyeti, F (1, 169) = 0.022, p = 0.882 veya etkileşim terimi için, F (1, 169) = 0.029, p = 0.864, negatif tonda anlamlı bir fark bulunmamıştır. Bu sonuçlar, kadınların ve erkeklerin anı anlatılarının farklı olmaktan çok benzer olduğunu göstermiştir.

Genel Tartışma

Bu çalışmanın temel amacı, kişisel olarak önemli anıları ve önemli bir ilişki bağlamında (kardeş ve aile) meydana gelen anıları birden çok otobiyografik bellek boyutlarında incelemekti. Bu amaçlar doğrultusunda üç ardışık çalışma tasarlandı. İlk olarak, Çalışma 1A ve 1B ile kardeş ilişkilerinin otobiyografik anı çalışması yürütebilmek için uygun bir bağlam olup olmadığını araştırıldı. Daha sonra, bu ilişki anıları platformunu Çalışma 2'de anı anlatı özelliklerini ve bu özelliklerin anı türü ve cinsiyetin bir işlevi olarak ne ölçüde değiştiğini anlamak için kullanıldı.

Bu çalışma, farklı veri toplama araçlarını (mülakat ve kağıt-kalem) dahil ederek karma yöntem tekniğini kullanmıştır. Ayrıca farklı popülasyonlardan (Türkiye ve ABD) örneklem dahil edilmiştir. Hipotezler ise değişik analiz yöntemleri kullanılarak niteliksel ve niceliksel olarak karşılaştırılmıştır. Sonuçlar aşağıdaki bölümlerde ayrıntılı olarak tartışılmaktadır.

Cinsiyetin rolü

Beklentilerin aksine, her üç çalışmada da cinsiyetin otobiyografik anıların özellikleri üzerinde tutarlı bir etkisi bulunmadı. Cinsiyet grupları arasında sadece birkaç farklılık gözlemlendi. Kadınlar ve erkeklerin anıları dönüm noktası anlatılarında verdikleri bölüm sayısı, genel örnekler ve dönemler açısından farklılık gösterdi. Çalışma 2'de ise olumsuz duygusal ton ve cümle sayısı bakımından bir farklılık bulundu. Kadınlar erkeklere göre bu iki boyutta da daha yüksek anılar anlattı. Benzer şekilde, kardeş cinsiyeti veya cinsiyet uyumu da anlatı boyutları üzerinde tutarlı bir etki yaratmadı. Bulgulara genel olarak bakıldığında, kadın ve erkeklerin dönüm noktası ve önemli olay anlatılarının benzer özelliklerde anlattığını görülmektedir.

Cinsiyetler arasında bir fark olması beklenmesine rağmen, bu sonuçlar şaşırtıcı olarak yorumlanmamalıdır çünkü benzerlikleri temellendiren bazı açıklamalarda bulunabiliriz. İlk olarak, cinsiyet farklılıkları veri toplama aracının bir fonksiyonu olarak değişebilir. Buna göre, katılımcılar ebeveynleriyle veya araştırmacı gibi başka bir kişiyle sözlü konuşmalar yaptıklarında cinsiyet farklılıkları daha belirgindir. Ancak anılarını yazılı olarak anlattıklarında bu farklılıklar kaybolabilir. Bu bulguların başka bir yorumu, anı sorularında ön plana çıkan unsurlar olabilir. Mevcut çalışmada, katılımcılardan kişisel olarak önemli olan dönüm noktalarını ve yakınlarıyla ilgili önemli olayları bildirmelerini istendi. Bu şekilde, sorularda anıların duygusal bağlamından ziyade önem unsuru vurgulandı. Bu soru şekillerine bakıldığında, dönüm noktası ve önemli olay anlatılarının en öne çıkan özelliği, bir kişinin kimliği ve ilişki geçmişi veya kalitesi hakkında kritik bilgileri aktarmaları olduğu görülmektedir. Kişisel gelişim veya ilişkisel büyüme otobiyografik anlatıların ana endişesi olduğunda, cinsiyet etkisi bu konular tarafından bir dereceye kadar gölgede bırakılabilir (Fivush ve diğerleri, 2012). Görünüşe göre, mevcut çalışmadaki kadın veya erkek katılımcılar da aynı şekilde kişisel olarak önemli veya yakınlarıyla ilgili anılarda kendilerine bir benlik ve ilişkisel benlik yaratmaya odaklandılar ve anı tarzlarındaki cinsiyet farklılıkları böylece kayboldu.

Mevcut katılımcı grubun özellikleri göz önüne alındığında da bireylerin anlatıları cinsiyet farklıklarını daha az vurgulamış olabilir. Bu çalışmaya tamamı üniversite öğrencisi olan bir grup genç yetişkin katılmıştır. Bu nedenle, kadınlar ve erkekler, öncelikle yaşın bir fonksiyonu olarak benzer anı hatırlama özelliklerini sergileyebilir. İkinci olarak, üniversite hayatı, bu grupları daha uyumlu veya cinsiyet açısından tarafsız hale getirmiş olabilir. Üniversite yılları boyunca, öğrenciler daha az geleneksel cinsiyet rol tutumlarına sahiptir (Bryant, 2003). Bu değişim, öğrenciler karşıt ve aynı cinsten kişilerin beraberce katıldıkları çeşitli aktivitelerle meşgul olduklarında, karma cinsiyet gruplarda sosyalleştiklerinde ve tüm bu üniversite hayatı deneyimlerini anlamlandırarak daha kalıcı öyküsel benlik veya kimlik inşa ettikçe gerçekleşiyor olabilir.

Bellek türü

Bellek türleri hakkındaki hipotezlerle ilgili olarak, sonuçlar birkaç anlamlı farklılığa ve benzerliğe ışık tutmuştur. Kişisel-önemli ve yakınlara dair-önemli anılar, tematik tutarlılık, zenginlik ve cümle sayısı boyutlarında benzer özellikler göstermiştir. Ancak, betimleyici ayrıntılarda, dönüşüm derecesinde, duygusal değerde ve duygusal ton değişkenlerinde anlamlı farklılıklar bulunmuştur. Tüm bu anı türlerinde kişilerin kendi benliklerine bir vurgu yaptığı söylenebilir. Öyle ki, kişisel önemli anıların, betimleyici ayrıntılar ve dönüşüm derecesi boyutlarında diğer anı türlerine kıyasla daha yüksek olduğu görülmüştür. Kişisel-önemli anılar aynı zamanda daha çok olumlu olaylar veya süreçlerle ilgili olup ve daha olumlu bir dilde anlatılmıştır. Bununla birlikte, olumsuz duygusal ton ve olumsuz duygusal değer boyutları için, anılar ya farklı bulunmamış ya da aileye dair-önemli anılar en yüksek değerleri sergilemiştir. Yani, başkalarıyla ilişki içindeki benlik, aileye dair-önemli anılarda olumsuz duygusal değer bakımından daha yüksektir. Bu sonuçlar genel olarak, anı türleri arasında hem benzerlikleri hem de farklılıkları ele alan önceki çalışmalarla uyumlu niteliktedir (Pillemer ve diğerleri, 2015; Thomsen ve Vedel, 2019). Yine de bu anı türlerinin hangi yönden farklı olduğu veya birbirine benzediği sorusu irdelenmesi gereken bir konudur.

Kişisel-önemli anılar ve yakınları içeren önemli anılarda, anlatıcı bu olayları veya süreçleri ilk elden yaşamıştır. Katılımcılar, bu anıları önemli yakınlarının etrafında hikayelendirseler bile, bu anılarda da kişisel anıları kadar bilgi sahibidir. Kişisel-önemli ve yakınları içeren önemli anıların zenginlik, ayrıntı düzeyi ve tematik tutarlılık açısından birbirleriyle yapısal benzerlikler paylaşmasının nedeni bu olarak düşünülebilir. Bireylerin kişisel anlatılarını inşa etme biçimleri, ilişki öykülerini inşa etme biçimlerine büyük ölçüde yansımaktadır.

İlginç bir şekilde, diğer boyutlarda anılar arasında farklılıklar olsa bile, kardeşe dair-önemli ve aileye dair-önemli anılar birbirinden farklı bulunmamıştır. Kişisel-önemli anıların bir yönü, anlatıların kişi için daha dönüştürücü olmasıdır; bu, bu hikayelerde kişinin gerçekten vurgulandığını gösteren bir bulgudur. Kardeşe dair-önemli anılar, kardeş ilişkileri için bir dönüşümü gösterirken ve aileye dair-önemli anılar tüm aile için dönüşüm ifade etmektedir. Bu bulgu, başkalarının dahil edildiği anılar sorulduğunda, bu anıların artık bireylerle ilgili olmadığını, aile sistemi içindeki

ilişkilerle ilgili olduğuna işaret etmektedir. Anlatıcı, kişisel-önemli anıları kişisel gelişimi geliştirmek için bir platform olarak ele alabilirken, aslında yakınlarıyla ilgili anılar ilişkisel boyutta işlev görmektedir. Kardeşe dair-önemli ve aileye dair-önemli anıların da ilişkisel boyutları ön plana çıkarması, otobiyografik bellek özelliklerinin benzerliklerinin bir açıklaması olabilir.

Kardeşlerin rolü

Başkalarını içeren anılar kişilerin kendilerini ilişkisel olarak tanımlayabileceği bir bağlam olarak düşünülebilir. Kardeşlerin aile içerisindeki rollerini göz önüne aldığımızda, bu kişilerin bireylerin ilişkisel benliklerini anlamakta önemli bir referans noktası olabileceği düşünülmektedir. Genel olarak, kardeşe dair-önemli anılar, aileye dair- önemli anılara çok benzeyen sonuçlar sergilemiştir. Bu, kardeşe dair-önemli anıların aileye-dair önemli anılar kadar bilgi içerdiğine dair bir gösterge olabilir. Otobiyografik bellek alanyazınında ebeveyn-çocuk etkileşimini anlamak için önemli miktarda çalışma yürütülmüştür (Fivush, Haden & Reese, 2006). Ancak kardeşlerle ilgili anılar daha önce derinlemesine incelenmemiştir. Mevcut çalışma, kardeşleri içeren hikayelerin aileye dair anılarla karşılaştırılabilir anlatım özellikleri sergilediğini ve dolayısıyla otobiyografik bellek bağlamında dikkate alınması gerektiğini göstermektedir.

İlişki öykülerini kardeş bağlamına genişletmemizin bir başka nedeni de kardeşlerin gelişimsel olarak benzer bir yoldan geçmiş veya geçiyor olmasıdır. Her ne kadar kardeşlerin birbirileri için önemleri gelişimin ilk yıllarında daha etkin gibi görünse de yapılan bazı çalışmalar bu önemin yetişkinlik yıllarında da devam ettiğini göstermektedir (Stocker ve diğerleri, 1997). Örneğin, genç yetişkinlerin kardeşleriyle bağlanma stilleri, ebeveynler ve akranlarla bağlanmanın ötesinde kardeşler arasındaki çatışma ve iş birliğini öngörür niteliktedir (Tibbets ve Scharfe, 2015). Ergenlerin ebeveynlerine ilişkin kuşaklar arası anılarının, bağlanma alanyazınındaki içsel çalışma modellerini yordayıcı özellik taşıdığı bulunmuştur (Thomsen ve Vedel, 2019; Zaman ve Fivush, 2013). Ayrıca ebeveynlerle bağlanma stillerinin bireylerin anlatılarını şekillendirdiği de dikkat çeken başka bir bulgudur. Başka bir deyişle ergenlerin güvenli bağlanması, anneleri hakkında tutarlı ve duygusal olarak ifade edici kuşaklararası anlatılarıyla pozitif yönde ilişkilidir (Zaman ve Fivush, 2013).

Sonuç ve gelecek çalışmalar

Mevcut çalışma, otobiyografik bellek alanyazınında kardeşlerle ilgili anıların rolünü özel olarak inceleyen bilinen ilk ampirik çalışmadır. Burada, kişisel anılar ilişkisel anılarla karşılaştırılmış ve tüm bu anı türlerinde cinsiyetin etkisi incelenmiştir. Otobiyografik bellek alanyazınına kardeşler gibi önemli yakınların ilave edilmesi otobiyografik bellek gelişimine benzersiz bir bakış açısı sağlar. Kardeşlerle ilgili anılar, hedeflediğimiz yaş grubu göz önüne alındığında, özellikle ergenlik ve yetişkinlik dönemi için çok değerli bilgiler sağlamaktadır. Bu bilgiler bellek perspektifinden incelendiğinde gelişimsel anılar olarak da değerlendirilebilir. Bu daha önce otobiyografik bellek alanyazınında değinilmemiş bir özelliktir. Ek olarak, bu çalışmada elde edilen bulgular, birden çok anı türü kullanmanın değerini göz önüne sermektedir. Bireylerin statik bir anlatım tarzını benimsemediğini, bunun yerine anı anlatım tarzının sosyal bağlam veya anı türüne göre değişiklik gösterdiği gözlemlenmiştir (Grysman ve Denney, 2017). Anı türleri arasında bir değişiklik olduğu bulunsa da aynı etki cinsiyet için geçerli değildir. Bulgularımız, cinsiyet farklılıklarının otobiyografik bellek araştırmalarında normatif olmadığına işaret etmektedir.

Bu çalışma, üniversite çağındaki bireylerin anı anlatma özellikleri ile ilgili sorulara bir cevap olarak tasarlanmıştır. Otobiyografik bellek araştırmalarında genel eğilim, çocuklarla veya ergenlerle ve ebeveynlerin onlarla olan ilişkisini çalışmaktır. Ancak, mevcut çalışma, uzun bir süredir göz ardı edilen kardeşleri de aile sistemine dahil ederek otobiyografik bellek çalışmalarına yeni bir alan açmıştır.

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