ABSTRACT

GROVENSTEIN, TIFFANY NICOLE. Predictors of Adults’ Childhood Memories: Perceived Parental Involvement and Family Expressiveness. (Under the direction of Lynne Baker-Ward).

I conducted the present study to extend Peterson, Smorti and Tani’s (2008) research on the contribution of parental involvement to the characteristics of autobiographical memory (i.e., age at encoding, number of memories, density). Additionally, I examined the possible role of family positive and negative emotional expressiveness as unique predictors of characteristics of autobiographical memory, over and above parental involvement. Fifty-eight participants completed a memory fluency task (Wang, Conway, & Hou, 2004), recalling as many memories as possible for events that transpired before they were in first grade. From their responses, I calculated the total number of memories, age at encoding of each memory, and the density of the distribution of memories. Following the fluency task, participants completed the Alabama Parenting Questionnaire (APQ; Frick, 1991) and the Family Expressiveness Questionnaire (FEQ; Halberstadt, 1986), presented in counterbalanced order. Correlational analyses supported the hypothesis that higher levels of parental involvement and positive family expressiveness would predict an earlier age at encoding. Including parental involvement and positive family expressiveness in the same hierarchical regression model did not explain any more of the variance in average age at encoding than did a model including only positive family expressiveness. Additionally, negative dominant family expressiveness predicted an average later age at encoding. Contrary to expectations, however, positive family expressiveness was inversely related to the number of recalled childhood memories. No significant relationships were found for the density of the
distribution of the adults’ early memories. Limitations of this research and suggestions for future investigations are discussed.
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DEDICATION

I dedicate this to my family and friends. Without your constant love and support, I would have not been able to accomplish this endeavor. Thank you for always being here and supporting me in trying to fulfill my dreams.
BIOGRAPHY

Tiffany N. Grovenstein was born and raised in Durham, North Carolina. After graduating from C. E. Jordan High School in May 2006, Tiffany attended North Carolina State University in Raleigh, North Carolina, where she graduated summa cum laude with a B.A. in psychology in May 2010. The following fall, she entered the doctoral program in Lifespan Developmental Psychology at North Carolina State University under the direction of Dr. Lynne Baker-Ward. Tiffany’s master’s research focused on characteristics of the home environment influencing adults’ recall of childhood autobiographical memories.
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INTRODUCTION

The scarcity of autobiographical memories about early life events, otherwise known as childhood amnesia (Peterson, 2012), has been the subject of many recent investigations. Researchers working cross-culturally (e.g., Peterson, Wang, & Hou, 2009) as well as within cultures (e.g., Peterson, 2012; Reese, 2009), have discovered large variations in adults’ reported number of early memories and the presumed age of the participant at the time the childhood event occurred (described as the age at encoding; Reese, 2009). However, the explanation as to why these differences occur is inconclusive. Developmental changes (e.g., neurological, maturational, language acquisition), often proposed as the basis of the offset of childhood amnesia, are now deemed necessary, but not sufficient, to explain the variations in childhood autobiographical memories (see reviews by Nelson & Fivush, 2004; Peterson 2002; Reese, 2009). Instead, as suggested by several psychologists (e.g., Nelson & Fivush, 2004; Reese, 2002, 2009), researchers should employ a dynamic systems approach (Lerner, 2002) by examining the multiple social and cognitive factors that may predict our memory for early autobiographical events. The present study attempts to move the literature one step forward in this direction.

Examining the emotional climate of the home, in addition to other aspects of parent-child interactions, may help to explain differences between individuals in the apparent onset of autobiographical memory. For example, parent-child interactions in the home, including aspects of parental involvement in the child’s life (Peterson & Nguyen, 2010; Peterson, Smorti, & Tani, 2008), maternal reminiscing style (Fivush, Haden, & Reese, 2006; Jack, MacDonald, Reese, & Hayne, 2009) and the security of the child’s attachment to the parent
predict individual differences in retrospective reports of the number and the presumed age at encoding of childhood autobiographical memories. Additionally, researchers have long noted the importance of emotion for autobiographical memory (e.g., Christianson & Safer, 1996). A recent investigation found that children’s memories with emotion terms included in the narrative were 2.5 more times likely to be remembered two years later (Peterson, Morris, Baker-Ward, & Flynn, under review), suggesting that emotion plays a key role in maintaining personal experiences in memory over extended periods of time. Because the emotional climate of the home predicts the child’s own emotional expressiveness (Halberstadt, Crisp, & 1999), it seems reasonable to assume that variations in the family emotional climate would increase the likelihood that events that transpire in children’s early lives will be encoded in their memory. Therefore, combining these two areas of research on earliest memories, I predict that the overall expression of emotion in the home, incorporating both parent-child interactions and various characteristics of emotions, will have an impact on the earliest memories.

The goals of the present study were twofold. First, in order to clarify previous mixed results, I examined perceived parental involvement, an aspect of the parent-child relationship, in relation to childhood autobiographical memories. Second, I assessed the linkage between the emotional style of the home, measured through adults’ perceived family expressiveness, and several characteristics of early childhood memories: the presumed age at encoding (Reese, 2009); the number of reported memories; and the density of the corpus of reported memories (i.e., how closely together the memories are with regard to age at encoding).
Parental Involvement and Autobiographical Memories

Previous research suggests that parental involvement predicts children’s autobiographical memories because more involved parents have more positive family communications (Jackson, Bijstra, Oostra, & Bosman, 1998), allowing for more conversations about the event (Peterson, Smorti, & Tani, 2008). One study provides preliminary support for this association in that a measure of parental involvement and a measure of open communication in the home with parents were positively correlated (Caprara, Pastorelli, Regalia, Scabini, & Bandura, 2005). Effective scaffolding of young children’s conversations is a likely component of extensive communication (e.g., Peterson & Nguyen, 2010; Peterson, Smorti, & Tani, 2008). Such scaffolding may direct children’s attention and foster their understanding of events as they unfold, increasing the likelihood of encoding those experiences. In addition, as discussed in detail below, this scaffolding may help children learn how to reminisce about particular events, which in turn increases the likelihood that early memories will be elaborated and reinstated and hence maintained over time (Baker-Ward & Ornstein, in press). Thus, parents who provide more scaffolding for communication can be expected to have children with earlier autobiographical memories.

Previous authors have suggested that adults’ perceptions of their parent-child relationships, in addition to the actual involvement measured as a child, should predict the memories that adults retain from childhood (e.g., Peterson & Nguyen, 2010). The existing literature, however, has been inconclusive. Peterson, Smorti, and Tani (2008) examined university students’ early memories about their parents. They found that the students who reported greater parental involvement and more positive parent-child relationships recalled
earlier and more childhood memories than did students who perceived their parents as less involved and their parent-child relationships as less positive, although the results varied across male and female participants. On the other hand, in a follow-up study, Peterson and Nguyen (2010) found that when college students reported childhood memories without constraints on the content, a measure of parental involvement (which is discussed in more detail below) was not a significant predictor of the age and number of different early memories for either males or females. Instead, other factors such as the positive tone of the memory, companionship, and social support correlated with the number of early memories and age at encoding for the first memory (Peterson & Nguyen, 2010). From these results, Peterson and Nguyen (2010) conclude that parental involvement alone is not enough to predict the frequency or the age at encoding of our earliest memories.

In my assessment, however, several aspects of the methodology used in these investigations could explain the absence of consistent evidence for parental involvement predicting characteristics of young adults’ childhood memories. First, both studies only examined the participants’ earliest memory when predicting the age at encoding. Examining multiple memories provides a more stable and comprehensive picture of the memories that continue to exist past childhood (e.g., Peterson, Noel, Kipenhuck, Harmundal, & Vincent, 2009). Second, the previous studies measured parental involvement without differentiating between mothers and fathers, not taking into account which parent might have been the most influential in the respondent’s upbringing. Therefore, this study asked participants to report the involvement of the parent (or parental surrogate) who had the most influential effect on their upbringing. Third, the measure of involvement used in previous investigations, the
Adolescents’ Report of Parental Monitoring (Capaldi & Patterson, 1989), focused on specific examples of parental monitoring, and hence may not have assessed the full range of behaviors that indicate parental involvement. For instance, the survey including items such as: “Did you inform your parents about activities you were doing or intended to do?” “Did your parents ask you about what you were doing during the day?” and “Did you know how to get in touch with your parents when they were out of the home?” (Peterson & Nguyen, 2010; Peterson, Smorti, & Tani, 2008). Note that all of these items involve parental monitoring and not overall involvement (e.g., playing games with the child). Therefore, the first goal of the present study was to further investigate the relationship between parental involvement and early autobiographical memories by including a subscale of parental monitoring, in addition to a more general subscale of parental involvement.

**Family Expressiveness (FE)**

*Family expressiveness* (FE), defined as the pattern of emotional nonverbal and verbal expression found in the family (Halberstadt, 1991), is the predominant style of expressing emotions in the home (Halberstadt, Cassidy, Stifter, Parke, & Fox, 1995). FE is related to various child and adult outcomes including social skills, self-esteem, adjustment to society, attachment, emotion, and children’s emotional expressiveness (for a review, see Halberstadt, Crisp, & Eaton, 1999; Halberstadt & Eaton, 2002). As discussed below, previous researchers have linked some of these characteristics with autobiographical memories. In addition, FE is comprised of positive and negative expressiveness, as seen in some investigations (e.g., Halberstadt, 1986; Halberstadt, Dennis, & Hess, 2011; Ramsden & Hubbard, 2002). These two types can then be broken into two components of dominant (e.g., praising someone vs.
expressing anger) and nondominant (e.g., telling someone how happy you are vs. expressing sadness; Halberstadt, 1986). The assessment of emotional expressiveness used in this investigation, the Family Expressive Questionnaire (FEQ; Halberstadt, 1986) enabled the examination of all four of these dimensions of emotional style.

**FE and Childhood Memories**

**Indirect effects.** To the extent that parental involvement is associated with aspects of adults’ childhood memories, FE should also be associated with the retention of early personal experiences, because of the strong evidence for a relation between parental involvement and FE. For example, positive FE is directly related to perceived social and emotional support from the family (Bell, 1998). Additionally, Halberstadt and colleagues (1999) suggest that positive FE should be positively associated with authoritative parenting, due to the higher amount of supportiveness and warmth it conveys, and negatively associated with authoritarian parenting. Satsky and Bell (1996) provide preliminary support for this association. Although it is reasonable to expect interrelationships among FE, parental involvement, and aspects of childhood memory reports, the unique contribution of FE, after taking into account parental involvement, has not been previously examined. The present study will examine the contributions of FE in accounting for variability in early memory, after controlling for parental involvement.

**Parental scaffolding of memory.** FE may directly strengthen children’s encoding and retention of experiences. FE is a critical aspect of social communication (Bell, 1998), especially in young children (Dunsmore & Halberstadt, 1997), contributing to both the amount and type of verbal and nonverbal communication between the caregiver and child.
These emotional expressions from parents then bring attention and evaluation to particular aspects of the environment or event (Dunsmore & Halberstadt, 1997; Laible, 2006), potentially aiding the child in the encoding of events. In contrast, high in intensity, negative FE styles may evoke distress in the child, thereby reducing their attention to unfolding events (Dunsmore, Halberstadt, Eaton, & Robinson, 2005) and potentially inhibiting the child’s ability to process the social and emotional information (Laible, 2006). Experiences that enter the memory system in a poorly elaborated form are less likely than more richly elaborated representations to be available in memory after delays (Morris, Baker-Ward & Bauer, 2010).

In addition to directing the child’s attention to an event as it transpires and thereby increasing the child’s encoding of the event, aspects of FE may contribute to the likelihood that an encoded event is reinstated in memory. Within the context of mother-child conversations about past events, mothers’ use of an elaborative style, which includes the incorporation of emotional expression (Fivush, Haden, & Reese, 2006), increases the maintenance of their children’s early childhood memories over time. Specifically, Jack and colleagues (Jack, MacDonald, Reese, & Hayne, 2009), in a longitudinal investigation, discovered that 12- to 13-year-old participants who in early childhood had mothers with an elaborative reminiscing style, compared to young adolescents whose mothers had a repetitive reminiscing style, had earlier memories (Jack et al., 2009). Although the link between FE and maternal elaboration remains to be determined, it seems reasonable to assume that parents with a more emotionally expressive style are likely to use emotional elaboration in discussing past events with their children (Laible, 2011), thereby fostering the retention of these experiences. Laible (2011) provides preliminary support for this suggestion in that the
family emotional climate (measured by the Self-Report Family Inventory; Beavers, Hampson, & Hulgus, 1990), was associated with high levels of maternal elaborations during parent-child reminiscing about positive and negative events. Laible concludes that a highly emotional family climate may allow higher-quality reminiscing conversations between mother and child. Therefore, FE may also increase the encoding and reinstatement of childhood memories.

**Attachment security.** In addition to the potential benefits of FE event encoding and reinstatement, FE may-predict attachment relationships (e.g., Halberstadt, Crisp, & Eaton, 1999), which in turn foster autobiographical recall. Secure attachment, compared to insecure attachment, is linked to more open communication in mother-child conversations (Etzion-Carasso & Oppenheim, 2000; Laible, 2004), more emotional elaboration during reminiscing (e.g., Fivush, Haden, & Reese, 2006; Newcombe & Reese, 2004; Reese, 2009), a higher number of references to emotions during mother-child narratives (Bost et al., 2006), and more detailed recent autobiographical memories in children (Fivush & Vasudeva, 2002; Reese, 2009). Although Newcombe and Reese (2004) reported an association between secure attachment status and extent of emotional elaboration, they did not find a linkage between attachment status and children’s inclusion of nonemotional information in parent-child reminiscing. An explanation for the relationship between secure attachments and memory is that children may feel more comfortable discussing events with people they trust (Laible, 2006). In turn, these conversations may develop their memory skills (Reese & Farrant, 2003) and reinstate early memories, thereby increasing the likelihood of retention of memories past childhood (Reese, 2009). In addition, adults with secure attachments,
compared to adults with either avoidant, dismissing, or preoccupied attachment styles, have better memory for emotional events (Fraley, Garner, & Shaver, 2000) and recall a larger number of childhood memories (Wang & Conway, 2006). These results suggest that adults will report more and/or earlier memories if they have secure attachments.

Although the link between positive FE and attachment security has been established (Halberstadt, Crisp, & Eaton, 1999), the literature on negative FE is inconclusive. For instance, Laible (2006) found that securely attached children had mothers with high positive FE and low negative dominant FE. Similar results with college students exist in that negative dominant FE, compared to negative nondominant FE, has been associated with attachment insecurity (Bell, 1998). In contrast, two studies found associations between higher negative FE and secure attachment compared to families who did not express their negative feelings (see Halberstadt, Crisp, & Eaton, 1999). Perhaps, secure attachments also help create the environment in which the child feels less threatened by the expressions of negative emotions (Laible, 2006). Hence, although there is support for the link between positive FE and attachment security, more empirical research is needed to understand the relationship between negative FE and attachment.

Thus, to the extent that autobiographical memory is linked to a combination of these parent-child interaction variables (i.e., bringing attention to aspects of events, elaborations, secure attachment), it seems reasonable to hypothesize that positive FE will predict the recall of early autobiographical memories. To my knowledge, only one study has attempted to examine this relationship. Specifically, Fivush and Vasudeva (2002) examined the relationships between FE, attachment, and elaboration during a joint parent-child task, yet
failed to find significant relationships (Fivush & Vasudeva, 2002). These results, however, do not contradict my argument given that the present study examines the overall emotional style of the home rather than the climate during a specific event.

**Emotion development.** As stated by Halberstadt and Eaton (2002, p. 37): “Parents’ reactions to children’s emotions, parents’ discussions of emotion with their children, [and] parents’ own styles of expressing emotion … all have implications for children’s emotional experiences.” Hence, the greater expression of emotion in the family (FE) can be expected to increase the emotionality associated with early experiences. The results of several investigations have indicated that the emotion represented in an autobiographical memory is linked with the likelihood of its later retrieval (Levine & Pizarro, 2004; Levine & Safer, 2002; Peterson, Morris, Baker-Ward, & Flynn, under review), and that adults’ recollections of their earliest memories tend to be characterized by distinct emotion (e.g., Bauer, Stennes, & Haight, 2003; Howes, Siegel, & Brown, 1993).

A recent study provides strong evidence that emotion aids in memory retention in the short term. Specifically, inclusion of emotion terms in children’s reports of early memories predicted the persistence of the memories over two years (Peterson et al., under review). Emotion was measured on the basis of the inclusion or omission of explicit references to an emotion or an affective state in the participants’ narratives. Multilevel modeling revealed that the memory reports that included emotional terms—positive, negative, or mixed—were two and a half times more likely to be remembered over the 2 years than were events without emotional terms. These results provide a strong indication that emotion may predict the retention of early memories. Combining this emotion literature with the expressiveness
literature, the assumption can be made that higher levels of FE makes it more likely that early experiences will be accompanied by emotion, and hence will be more likely to be encoded and retained. If that is the case, families who are higher on FE should have children who, as young adults, recall earlier childhood memories. The present study will also extend the literature by adding the distinction between positive and negative emotional expressiveness, which Peterson and colleagues (under review) did not examine.

In addition to specific emotions infused in memory narratives, preliminary evidence indicates that other aspects of emotions, including knowledge of emotions, predict autobiographical recall. For instance, preschool children with higher levels of emotional knowledge, regardless of culture or language skills at both time points, had more event-specific details in their memory after a one-year delay (Wang, 2008), perhaps due to their ability to retain the emotional aspects of the event (Reese, 2009), or because emotion knowledge helps the child ascribe personal significance to the event (Leichtman, Wang, & Pillemer, 2003). Further, emotion knowledge has mediated the contribution of age, language skills, gender (Wang, Hutt, Kulkosfky, McDermott, & Wei, 2006) and culture on autobiographical memory recall (Wang, 2008; Wang et al., 2006). Several studies have noted that FE (i.e., specifically positive FE) positively relates to children’s skills in understanding emotion and greater emotion knowledge (for a review see, Halberstadt, Crisp, & Eaton, 1999). Therefore, assuming that the overall family emotional style helps to develop emotion knowledge, FE may also predict memory recall. Alternatively, higher levels of negative FE have been linked to poorer emotional scaffolding in mother-child interactions (Baker & Crnic, 2005), suggesting negative FE may not impact early memories. Taken
together, these results led me to predict that positive FE, a factor associated with the overall experience of emotion in the home, would be a significant predictor of characteristics of childhood autobiographical memories.

**The Role of Valence in FE**

The literature discussed so far has focused primarily on positive family emotional expressiveness, although the present study will also examine negative FE. In contrast to positive FE, however, little directly-relevant research is available on which to base hypotheses regarding the relation between negative FE and characteristics of adults’ early childhood memories. One possibility, based on the well-established finding that memory performance is better at moderate levels of arousal (Eysenck, 1976), is that the relationship, between negative FE and early memory characteristics, is curvilinear rather than linear.

Research on children’s memory is consistent with this possibility. A review of studies examining memory for hospital visits concluded that children tended to remember the moderately stressful events, whereas children who had a very stressful hospital visit have slightly less recall for the event (Peterson & Warren, 2009). Further, several studies have suggested that participants who associated an event (e.g., hurricane) with little stress did not remember the event as well as did participants who viewed the event as moderately stressful (Peterson & Warren, 2009), suggesting a potential curvilinear relationship between levels of stress and autobiographical memory performance. This relationship might hold true for families who report high negative FE (Dunsmore, Halberstadt, Eaton, & Robinson, 2005), in that a low intense climate of negative FE may enhance our childhood memories whereas a highly intense climate of negative FE may hinder our earliest memories (as indicated by later
ages of encoding, fewer memories, and lower density of memories). Thus, the present study will examine negative FE in addition to positive FE.

**Research on FE and Autobiographical Memories**

Currently, few studies link FE and autobiographical memory. In an example of within-participant variation, Dunsmore, Halberstadt, Eaton, and Robinson (2005) discovered that manipulating the mothers’ expression of emotion during a mother-child task altered the children’s memory for the task. Specifically, children tended to remember more about the event when their mother expressed her typical type of FE (i.e., positive or negative), compared to non-typical FE. This study provides strong evidence that FE during a particular task predicts children’s recall of that task three weeks later. The present study seeks to examine if the overall emotional climate predicts the recall of childhood memories as well.

**Present Study**

The current literature provides some support for the hypothesis that parental involvement predicts adults’ memories of early childhood experiences, but given the limited research and presence of inconsistent results, more research is needed to clarify this expected relationship. Thus, the first aim of the present study was to clarify the relationship between perceived parental involvement and aspects of young adults’ childhood memories. In order to extend the methods of the extant research (Peterson, Smorti, & Tani, 2008; Peterson & Nguyen, 2010), the outcomes of the present study included a range of autobiographical memories, compared to the single earliest, and a new measure of density.

Further, there is at present no direct information on the linkage between family emotional expressiveness and characteristics of early autobiographical memories. To the
extent that FE is associated with parental involvement, communication styles (i.e., elaboration), attachment, and emotions, it seems reasonable to expect that FE will also predict early autobiographical memories. Therefore, the second aim of the present research was to examine directly the relationship between FE and characteristics of adults’ early childhood memories.

In the present study, I analyzed three characteristics of autobiographical memory. Specifically, examining the average AaE provides a general estimate of the point in childhood from which autobiographical memory can be accessed in adulthood (i.e., How early do our memories of childhood begin?). Second, the number of memories provides a rough estimate of the extent to which early childhood events are represented in memory (e.g., Peterson, Noel, Kippenhuck, Harmundal, & Vincent, 2009) (i.e., How many memories of early childhood can be easily retrieved?). Third, theorists have recently examined memory density to explore whether early childhood events are represented more sporadically or more continuously (Reese, 2009) (i.e., How close together are our memories of early childhood?).

The hypotheses in the present study were: (1) Adults with perceived higher parental involvement, compared to adults with lower parental involvement, would report an average earlier AaE, retrieve a greater number of memories, and report early memories that were closer together (i.e., higher density). (2) Adults with higher perceived positive FE, compared to adults with lower positive FE, would report an average earlier AaE, retrieve a greater number of memories, and would have higher memory density. (3a) Positive FE would continue to be a significant predictor of average AaE, number of memories reported, and density, after parental involvement had been controlled; (3b) High positive FE would have a
larger effect (i.e., larger beta) than high parental involvement. (See Appendix A for the conceptual model illustrating these hypotheses.) The association between negative FE and memory characteristics was explored, but no hypothesis was proposed.

**METHOD**

**Participants**

The final sample included 58 participants, recruited from a public university in the southeastern United States. An additional 3 participants completed the procedures but were not included in the present analyses because they reported that their mothers or fathers were not their primary caregivers. Another participant did not complete the FEQ, failing to respond to 13 out of 40 items, and was excluded from the analysis. I recruited the sample as the control group for a larger study. Although the other groups in the larger study experienced a manipulation prior to the memory interview, the control participants were involved only in the memory interview described below. All participants received credit toward the completion of a course requirement in introductory psychology on the basis of their involvement in the original research.

Due to a slight gender difference in the sample for the original investigation (91 males vs. 99 females) and failure of random assignment to groups, more females ($n = 35$) than males ($n = 23$) were represented in the present sample. Six undergraduate students (4 females) with advanced training in psychology worked with me in conducting all of the interviews. The undergraduate interviewers participated in training sessions prior to conducting interviews, and had a more experienced researcher observe them on two occasions to ensure standard interview procedures.
Measures

**Memory fluency task** (Wang, Conway, & Hou, 2004). Participants were instructed to select memories for specific events (cf. repeated experiences) and provide a very brief description of the memory (see Appendix B for interview guidelines). If the participant was unable to report additional memories before the four minutes ended, the researcher waited until the time period had transpired before moving on to the next part of the procedure. Afterwards, participants identified the age at encoding for each memory in years and months. If needed, researchers provided prompts (e.g., “Was it around a holiday?” or “How much younger is your sister than you are?”) in order to assist the interviewees in reporting AaEs that were as accurate as possible. This procedure has been used in previous research (e.g., Peterson, Smorti, & Tani, 2008; Peterson & Nguyen, 2010). (See Appendix C for sample transcripts.) Participants completed this procedure for each of the memories recalled in the memory fluency task.

**Alabama Parenting Questionnaire** (APQ; Frick, 1991). The APQ (global report version) is a 42-item questionnaire designed to assess the relationship between parenting practices and disruptive behavior disorders in children (Shelton, Frick, & Wooton, 1996). Sample statements include “you had a friendly talk with your parent” or “your parent did not know who you were friends with.” Participants rated on a 5-point scale (1 = never, 5 = always) how often each statement applied to their interactions with their primary caregivers before they reached age 10, to ensure the participants were answering the questions according to their childhood experiences. The APQ yields 6 different factors: involvement, positive parenting, poor monitoring/supervision, inconsistent discipline, corporal
punishment, and other discipline practices. I only examined, however, parental involvement, positive parenting, and poor monitoring/supervision in testing the hypotheses. Previous research shows moderate internal consistencies for these subscales, ranging from .46 for corporal punishment to .80 for involvement (Shelton, Frick, & Wooton, 1996). In the present study, the subscales of interest yielded adequate reliability, with Cronbach’s alpha = .83 for parental involvement, .88 for positive parenting, and .81 for poor monitoring/supervision. Internal consistencies for the other subscales were not as high (Cronbach’s alpha = .62 for inconsistent discipline, .56 for corporal punishment, and .23 for other discipline practices).

In addition, the APQ has high construct validity with scales measuring adolescent behavior (Essau, Sawagawa, & Frick, 2006). (See Appendix D for full questionnaire.)

**Family Expressiveness Questionnaire** (FEQ; Halberstadt, 1986). The FEQ is a 40-item questionnaire designed to measure family emotional expressiveness (FE) in the home. Sample statements include “exclaiming over a beautiful day” or “crying after an unpleasant disagreement.” Participants responded to each question by rating the frequency of occurrence in their family, by making a rating on a 9-point Likert scale (1 = not at all frequently in my family, 9 = very frequently in my family). The FEQ originally yielded four composite scores: positive-dominant, positive nondominant, negative dominant, and negative nondominant. Internal consistencies for these original subscales are adequate, ranging from .75 to .88 (Halberstadt, 1986), which were consistent with the present study (Cronbach’s alpha = .90 for positive, .83 for negative, .81 for positive dominant, .83 for positive nondominant, .87 for negative dominant, and .61 for negative nondominant FE). Researchers have used the FEQ with college students and have reported strong internal reliability,
reliability over time, and construct validity (e.g., Bell, 1998; Eisenberg et al., 1991; Halberstadt, 1986). (See Appendix E for full questionnaire.)

Procedure

The North Carolina State University Institutional Review Board approved all procedures. The participant interviews took place in private rooms. These interviews were audio-recorded and subsequently transcribed for analysis. After providing informed consent, participants completed the 4-minute fluency task described above (Wang, Conway, & Hou, 2004), in which they attempted to recall as many memories as they could from before they entered first grade. After the four minutes, participants dated the age of memory recalled, rated their confidence in the assignment of the age, and provided the emotion(s) attached to each memory. Participants then completed both the Alabama Parenting Questionnaire (APQ) and the Family Expressiveness Questionnaire (FEQ), presented in counterbalanced order across participants. Following that, participants provided basic demographic information and received a debriefing. The duration of the entire procedure ranged from approximately 20-40 minutes, depending on the number of memories reported by the participants.

Coding and Scoring

Memory Fluency Task. The interviewer recorded the number of memories each participant reported. Audio recordings were also made during the interview, and were used as a verification of the number of memories, if the notes from the interviewer were not clear. Following procedures used in other investigations (C. Peterson, personal communication, September 14, 2012), I consider memories for events that transpired before the participant was 18 months old implausible, based on findings from neuroscience regarding the
emergence of the declarative memory system (Bauer, 2004, 2008), and did not include them in the data analysis. In addition, I excluded memories that were reported from ages 7 years or older because these memories were reported outside the instruction guidelines. Previous researchers have utilized similar guidelines (e.g., Bauer, Stennes, & Haight, 2003).

I calculated the age of the participant when the event described in the memory occurred (i.e., the age at encoding) as the number of years plus the number of months in decimal format (i.e., number of months divided by 12). Calculations for the outcome measures were as follows: For the average age at encoding variable, I averaged all of the ages for the memories reported in the fluency task. For the total number of memories, I totaled the number of unique (i.e., reported as occurring only one time) memories each participant recalled in four minutes.

In comparison to previous authors calculating density with two early memories (e.g., Reese, Jack, & White, 2010; Weigle & Bauer, 2000), I calculated density on the basis of all memories recalled. I first ordered (earliest to latest) all of the reported memories according to the age at encoding. Second, I computed the difference between each of these memories (e.g., memory 2 – memory 1). Last, I averaged of all the computed differences between memories.

**Alabama Parenting Questionnaire.** Following standard procedures as described by Shelton, Frick, and Wooton (1996), I calculated scores for the 6 subscales of the measure by averaging the responses to the corresponding questions. Although all 6 subscales were calculated, only 3 subscales were of interest to the present study (i.e., parental involvement, positive parenting, and poor monitoring/supervision). Specifically, I assessed parental
involvement by averaging the responses to 10 questions; positive parenting by averaging ratings on 6 items; and poor monitoring/supervision, by taking the mean of responses to 10 questions.

**Family Expressiveness Questionnaire.** Following standard procedures as described by Halberstadt (1986), I calculated scores for each subscale by averaging the responses to the corresponding questions. Specifically, I created 4 different subscales by averaging the 10 corresponding questions to each scale: positive dominant FE; positive nondominant FE; negative dominant FE; negative nondominant FE. I also computed two composite scores, positive and negative FE, by averaging the corresponding 20 questions.

**RESULTS**

**Descriptive Analysis**

The 58 participants reported a total of 468 memories. Fifteen memories, reported across 10 of the total participants, were excluded because they described events that occurred at an age at encoding (AaE) prior to 18 months ($n = 1$) or after 7 years ($n = 14$), leaving a total of 453 memories across participants. See Table 1 for descriptive information regarding the overall characteristics of the memories and the additional variables of interest.

To determine if the outcome measures significantly differed between the female and male participants, I conducted three multivariate analyses of variances (MANOVAs). As I expected, there was no significant effect of gender on the three memory variables (average AaE, number of memories, and density), omnibus $F(1, 55) = .32, p = .81, \eta^2 = .02$. (Note that one participant only recalled one memory, preventing the ability to calculate a density score and was thus omitted from this analysis). Similarly, males and females did not differ
significantly on any of the FEQ subscales (positive, negative, positive dominant, positive nondominant, negative dominant, and negative nondominant), $F(1, 56) = 1.01, p = .41, \eta^2 = .07$, or on the APQ subscales (i.e., parental involvement and poor monitoring/supervision), $F(1, 56) = .07, p = .94, \eta^2 = .002$. Consequently, I did not analyze gender any further.

**Correlational Analyses.** (See Table 2 for correlations between all variables.) The present study included various constructs (i.e., AaE, number of memories, density) believed to represent critical information about our autobiographical memory. I conducted correlational analyses between these various constructs to ensure they were not highly related. AaE was not significantly correlated with the total number ($r = -.06, p = .64$) or density ($r = -.14, p = .31$) of distribution of the memories recalled, indicating these memory variables represent different aspects of autobiographical recall.

In addition, although the scale used in previous studies was labeled as parental involvement (Peterson & Nguyen, 2010; Peterson, Smorti, & Tani, 2008), I was concerned that the measure actually reflected parental monitoring and not parental involvement. The difference between these two variables could then also have different relationships with characteristics of autobiographical memory. The use of the APQ in this study allowed for comparison between a parental involvement scale and a poor/monitoring supervision scale. Parental involvement was not significantly correlated with poor monitoring/supervision ($r = -.08, p = .56$). Further, parental involvement was significantly correlated with average AaE ($r = -.47, p < .001$), indicating that higher parental involvement scores were associated with an earlier average AaE. However, poor monitoring/supervision was not correlated with average AaE ($r = .01, p = .93$), as I predicted in the first hypothesis.
I also examined the relationships between the different subscales of the Family Expressiveness Questionnaire to ensure they were independent. Positive and negative FE scores were not significantly correlated ($r = -.17, p = .21$), revealing they were two unique constructs. When dividing positive and negative FE into dominant and nondominate subscales, positive dominant and positive nondominate scores were highly correlated ($r = .84, p < .001$; Cohen 1988, 1992). Therefore, I examined positive FE (i.e., dominant and nondominate combined) as one construct. Additionally, in partial support of my second hypothesis, positive FE scores were negatively correlated with AaE ($r = -.47, p < .001$).

However, positive FE scores were also negatively correlated with total number of memories ($r = -.28, p = .04$), contrary to expectations.

According to effects sizes by Cohen (1988, 1992), negative dominant and negative nondominate scores were only moderately correlated ($r = .44, p = .001$). Hence, following analytic procedures used by previous researchers (e.g., Baker & Crnic, 2005; Bell, 1998; Garner & Power, 1996;), negative nondominate and dominant FE scores were included as two separate constructs in the regression models used to test the hypotheses. Additionally, higher negative dominant FE scores were correlated with a later average AaE ($r = .31, p = .02$), although negative nondominate FE scores were not ($r = -.07, p = .62$), further justifying the decision to examine both measures as predictors of characteristics of autobiographical memories. In the absence of hypotheses regarding these measures, analyses involving negative dominant and negative nondominate scores were considered exploratory. Also note that density did not significantly correlate with any of the FE and parent-child relationship subscales, $p$-values $\geq .194$. Therefore, I did not analyze density any further.
Predicting Characteristics of Childhood Memories

My primary analyses examined the unique contribution of aspects of the home environment (e.g., parental involvement, FE), in addition to their potential interaction, predicting the average AaE of childhood memories. As predicted and revealed in the correlation analyses above, both positive FE scores and parental involvement scores significantly correlated with average AaE. Positive FE scores and parental involvement scores were also correlated ($r = .65, p < .001$). However, tests for multicollinearity (i.e., tolerance $= .58$, VIF $= 1.71$) were in their expected ranges, indicating that the assumptions underlying regression were met and both measures could be included in the models (Menard, 1995; Myers, 1990).

I employed a hierarchical linear regression to examine whether positive FE scores (block 1) would continue to be a significant predictor, after parental involvement scores (block 2) had been controlled, as postulated in hypothesis 3. The potential interaction between positive FE scores and parental involvement scores (block 3) was also examined. To reduce potential multicollinearity, I centered both positive FE scores and parental involvement scores. In this analysis, the first block accounted for 22% of the variance in average AaE, $F(1, 56) = 15.79, p < .001$. With the addition of parental involvement scores in block 2, the amount of variance increased to 26.9%; however, this change did not reach significance, $F(1, 55) = 3.72, p = .06$. Further, with this addition in block 2, positive FE, $\beta = -.28, t = -1.87, p = .07$, and parental involvement, $\beta = -.29, t = -1.93, p = .06$, were not significant predictors of average AaE. Hence, adding parental involvement to the model did not explain any more variance in average AaE than positive FE alone. Given that the p-
values are approaching significance and the betas are large, however, these insignificant results in block 2 may be due to a lack of power. Also note that the interaction was not significant, $\beta = .07, t = .62, p = .54$, and block 3 did not significantly improve the explained variance, $F(1, 54) = .39, p = .54$. See Table 3 for more information.

Switching the order of parental involvement scores (block 1) and positive FE scores (block 2) did not meaningfully change the variance explained by the model in average AaE in the first block (22.3% for this model versus 22% before), $F(1, 56) = 16.09, p < .001$. With the addition of positive FE scores in block 2, the amount of variance increased to 26.9%, same as in the previous analysis when both positive FE and involvement were included in the model, and the change was not significant, $F(1, 55) = 3.47, p = .07$. In other words, there was no difference in the amount of variance explained by either analysis with positive FE controlling for involvement, or vice versa of involvement controlling for positive FE. Given that the order of entering positive FE and involvement explain relatively the same amount of variance in average AaE, I cannot make the claim as to which model is better. These results fail to support my third hypothesis.

It can be assumed that positive FE is one important contributor to the overall positive climate of the home. To ensure a third variable, the positive environment itself, is not responsible for the relationship between positive FE and average AaE, a hierarchical regression was conducted with another contributor to the overall positive climate as a control. Specifically, I ran a hierarchical regression with positive FE (block 1), positive parenting (block 2), and the interaction (block 3) predicting the average age at encoding. I centered all predictor variables for analysis. After controlling for positive parenting in block 2, positive
FE remained a significant predictor of average AaE, $\beta = -0.25$, $t = -3.06$, $p = .003$, although the interaction was not significant. See Table 4 for more information.

I used a similar hierarchical regression model to examine the unique contribution of positive FE (block 2), after controlling for parental involvement (block 2), in predicting the total number of memories. Positive FE, in the opposite direction than predicted, explained 8% of the variance; however, the addition of parental involvement did not increase the amount of variance explained. Additionally, positive FE was no longer significant in block 2, $\beta = -0.31$, $t = -1.83$, $p = .07$. Note that the interaction term was included in the model as well. However, the distribution of scores made it difficult to interpret the interaction (e.g., no participants with low parental involvement, high positive FE), and is not discussed further.

Given that negative dominant FE scores significantly correlated with average AaE, I examined whether negative dominant FE scores (block 1) would uniquely predict average AaE after controlling for parental involvement (block 2). I also examined the potential interaction (block 3) between negative dominant FE and parental involvement. I again centered all predictor variables. Negative dominant FE scores were a significant predictor, $\beta = .31$, $t = 2.40$, $p = .02$, in block 1, explaining 9.3% of the variance. The addition of parental involvement scores in step 2, significantly improved the model, $F(1, 55) = 9.83$, $p = .003$, explaining 23% of the variance. In this block, negative dominant FE scores were no longer a unique predictor, $\beta = .10$, $t = .72$, $p = .47$, although parental involvement scores were a significant predictor, $\beta = -0.43$, $t = -3.14$, $p = .003$. Adding the interaction term in block did not improve the model, although parental involvement remained a significant unique predictor. These results indicate that negative FE scores alone predict a later average AaE;
however, parental involvement scores are a stronger predictor of average AaE. See Table 5 for more information.

Other Analyses

Given that both positive dominant FE scores and negative dominant FE scores correlated with average AaE, a hierarchical regression analysis was conducted to examine the unique contribution of positive FE scores (block 1) on average AaE, while controlling for negative dominant FE scores (block 2). As an exploratory question, I also included the interaction term (block 3) in the model. I centered all predictor variables. Positive FE scores were a significant predictor of average AaE in block 1, $\beta = -0.47$, $t = -3.97$, $p < .001$, explaining 22% of the variance, block 2, $\beta = -0.41$, $t = -3.28$, $p = .002$, and block 3, $\beta = -0.41$, $t = -3.28$, $p = .002$, indicating that positive FE scores remained significant after controlling for negative dominant FE scores and the interaction. Note that there was not a significant change in amount of variance explained with the addition of block 2 or block 3. See Table 6.

Switching the order of negative dominant FE (block 1) and positive FE (block 2), explained less variance than the previous model in the first step (i.e., 9% compared to 22%). However, with the addition of positive FE into the model, the amount of variance explained significantly improved to 24%, $F(1, 55) = 10.76$, $p = .002$. Consistent with the results reported above, positive FE was the only significant predictor in blocks 2 and 3. I also explored the curvilinear relationship of negative FE and early memory by artificially dividing the participants into either three groups (i.e., low, medium, and high), or two groups (i.e., low and high). ANOVAs revealed no significant difference between groups in any of the major memory characteristics.
DISCUSSION

The goal of the present study was to extend the existing literature on parental involvement, as perceived by young adults, and characteristics of early autobiographical memories (Peterson & Nguyen, 2010; Peterson, Smorti & Tani, 2008). Specifically, measures of parental involvement, positive parenting, and poor monitoring/supervision were included to determine which factors were better predictors of characteristics of autobiographical memories. Additionally, because research on emotion and autobiographical memories (e.g., Peterson et al., under review) suggests that emotion may play a key role in autobiographical memory retrieval, I explored the contributions of the family expressiveness style, both positive and negative, in predicting childhood memories. To my knowledge, the present study was the first investigation to link the potential relationship between family expressiveness and autobiographical memories. As expected, I found that parental involvement and positive parenting, although not poor monitoring/supervision, predicted an earlier average age at encoding (AaE). Positive FE also predicted an earlier average AaE, whereas negative dominant FE predicted a later AaE. However positive FE, contrary to expectations, predicted a fewer total number of memories. I discuss the findings in more detail below.

Summary of Findings

In the present study, I did not find gender differences between the predictor variables of parental involvement and family expressiveness, or the dependent variables of characteristics of autobiographical memory. These results contradicted previous findings in which differences in parental involvement and autobiographical memories existed (Peterson
& Nguyen, 2010; Peterson, Smorti, & Tani, 2008). However, gender differences in early memories are not consistently found (e.g., Bauer, Stennes, & Haight, 2003; Peterson, Bonechi, Smorti, & Tani, 2001; but see also Davis, 1999), and hence these results are not surprising. Additionally, no gender differences in FE were expected given that relatively few investigations have compared FE as experienced by male and female children, and no clear gender differences have been established (e.g., Ramsden & Hubbard, 2002).

**Parental involvement and autobiographical memory.** I first hypothesized that perceived higher parental involvement would predict an earlier average AaE, a larger number of reported memories, and a denser distribution of early memories. My results partially supported this hypothesis. Perceived higher parental involvement significantly correlated with an average earlier AaE. Contrary to expectations, however, no significant relationship occurred between the total number of memories or density and parental involvement.

The significant relationship I observed between parental involvement and average AaE of encoding differs from the results reported by Peterson and Nguyen (2010), who did not find a relationship between their assessment of parental involvement and total number of memories or the single earliest memory. Several reasons, however, may explain the different results. First, Peterson and Nguyen (2010) examined the single earliest memory, rather than the average AaE across all reported memories. In the present study, the single earliest memory only correlated with parental involvement and negative dominant FE, whereas the average AaE additionally correlated with positive FE and positive parenting. This pattern is consistent with the expectation that AaE would be a more sensitive indicator of
characteristics of early memories, as suggested by other researchers (e.g., Peterson, Noel, Kippenhuck, Harmundal, & Vincent, 2009).

Second, the previously used measure of parental involvement (i.e., Adolescents’ Report of Parental Monitoring, ARPM; Capaldi & Patterson, 1989), focused more on parental monitoring than the full range of behaviors important for parental involvement. My findings support this suggestion in that poor monitoring/supervision did not correlate with any of the memory variables, although parental involvement correlated with AaE. Therefore, Peterson and Nguyen (2010) may have failed to find a significant relationship between parental involvement and a full range of childhood autobiographical memories because the survey was a limited measure of parental involvement. In contrast, Peterson et al. (2008), which did find a relationship between parental involvement and characteristics of autobiographical memories, limited their examination to memories that involved the parent. It is possible that the ARPM captures the presence of the parent in the child’s life, but not the quality of the parent-child relationship.

**Family expressiveness and autobiographical memory.** My second hypothesis suggested that participants with higher perceived positive FE would report an earlier average AaE, more memories, and a higher density. The results partially supported hypothesis 2, with positive FE negatively correlating with average AaE. Further, negative dominant FE predicted a later average AaE, indicating that a negative dominant FE style may hinder the encoding or retention of memories. Interestingly, when both positive and negative dominant FE was included in the regression model, high levels of positive FE remained a significant predictor of average AaE. These results suggest that positive FE is a stronger predictor of
average AaE than negative dominant FE is, consistent with the present emphasis on positive FE as presented in the rationale for this investigation.

Additionally, positive FE continued to predict the average AaE after controlling for positive parenting. Therefore, positive parenting, as a presumed contributor to the positive family climate as a whole, does not explain the association between positive FE and the presence of earlier memories. Instead, these results provide a preliminary indication that family emotional style makes a unique contribution to memories. In order to support this conclusion, future research is needed to account for other potential contributors to the positive environment in examining the relation between FE and AaE.

Several possible underlying mechanisms may explain why family expressive predicted an earlier average AaE. Family expressiveness may bring attention to the event through expression of emotion as it occurs, and may also infuse the unfolding event with greater emotion from the child’s perspective (Dunsmore & Halberstadt, 1997), thereby enhancing the encoding of the memory. Once the event is encoded, families with higher levels of family expressiveness may also use more emotional elaboration when discussing past events with their children, allowing more opportunities for reminiscing conversations (Laible, 2011). Given that elaboration increases the reinstatement and maintenance of memories (e.g., Jack et al., 2009), greater family expressiveness would then predict an earlier average AaE. However, due to the retrospective report in the present study, these underlying mechanisms cannot be directly studied, and need to be analyzed further in future studies.

Contrary to expectations, however, participants with higher positive FE also reported fewer memories. One reason for the recall of fewer memories may be the importance of
event distinctiveness in memory encoding (e.g., Howe, 2011). As previously discussed, emotional expressions bring attention to events (Dunsmore & Halberstadt, 1997), potentially aiding in the encoding and retention of these memories. However, if positive expressiveness consistently characterizes children’s interactions with their parents, emotional expression as an event transpires or is discussed does not contribute to its distinctiveness. If this argument is accurate, high levels of negative FE would similarly be ineffective in facilitating event recall. This premise would suggest that high levels of negative FE would predict memories from a later AaE and fewer memories that are more scattered. Consistent with this possibility, my results reveal this relationship in that a higher level of negative dominant FE predicted a later AaE.

In contrast to the role of high positive or high negative emotional expression decreasing the distinctiveness of the event, high levels of negative dominant FE may also disrupt the attention the child gives to the event (Dunsmore, Halberstadt, Eaton, & Robinson, 2005). This disruption would thereby inhibit the processing of the social and emotional information (Laible, 2006), reducing the likelihood that the memory would be available later (but see also Peterson & Warren, 2009). For example, the child could be upset by the highly negative expression, and might focus on the threat to self rather or withdraw from the situation, thereby affecting the encoding of the memory (Baker-Ward, Ornstein, & Starnes, 2009). If so, these participants with high levels of negative dominant FE would probably report fewer childhood memories. Note that these arguments are fairly speculative, and more research is needed to further explore these ideas.
Although the two discussed rationales explain why participants may have recalled fewer memories, more explanation is needed as to why positive FE predicted fewer and earlier memories. For example, it may be the case that earlier memories were difficult to retrieve, thereby limiting the number of memories participants could recall. Additionally, individuals who had earlier memories may have had more details in their memories consistently compared to those with later memories. If this is the case, the early memories may have taken longer to process and retrieve because of the more consistent details. In order to test this argument, future studies should examine characteristics of fully reported early memories in conjunction with family expressiveness. A positive relationship between levels of positive FE and longer or more detailed memory reports would support this conjecture. Again, note that these arguments are highly speculative.

**Positive family expressiveness, parental involvement, and autobiographical memory.** My third hypothesis suggested that positive FE would remain a significant predictor after controlling for parental involvement. My results, however, did not reach statistical significance. One potential explanation for the lack of significant findings may be the relatively small number of participants. Currently, the sample size was large enough to predict a moderate-large effect size \( (F^2 = .30) \) with 2 predictors in the model, or a large effect \( (F^2 = .35) \) with 3 predictors in the model. The relatively large betas in the regression models suggest that an effect is present, although the prediction may be undetected because of low power.
Limitations

The results of the present study contribute to the field of autobiographical memory by clarifying the role of parental involvement and identifying the predictors of family expressiveness on aspects of young adults’ childhood memories. The investigation, however, is characterized by several limitations. As discussed above, the sample size limited the power to detect difference in characteristics of autobiographical memory. Additionally, no participant reported low parental involvement and high positive FE, preventing the ability to statistically test for a meaningful interaction. For example, it may be that positive FE only significantly predicts early autobiographical memory, when parental involvement levels are low. However, given the sample, the current findings for this potential interaction are not interpretable.

An additional limitation, consistent with other work in the area (Peterson & Nguyen, 2010; Peterson, Smorti, & Tani, 2008) is the use of retrospective self-report data. Therefore, the results from this study must be generalized with caution. Specifically, because only surviving memories were examined, the results cannot inform the understanding of the factors associated with the persistence of autobiographical memory. Nonetheless, the results provide strong evidence that parental involvement and positive FE both predict characteristics of childhood autobiographical memories, recalled in early adulthood.

Last, the measure of density developed for this investigation failed to correlate with any other variables included in the analyses. Although this measure took into account the entire range of recalled autobiographical memories compared to a select few (cf. Reese, Jack, & White, 2010; Weigle & Bauer, 2000), the density measure might not have been the best
way to examine the continuity of autobiographical memories in childhood. Given that no relationships exist involving this measure, there is no evidence that it is capturing interpretable information. Therefore, more research is needed before conclusions can be drawn as to whether or not parental involvement and positive FE predict how closely together childhood autobiographical memories occur.

**Conclusions and Future Directions**

In conclusion, the results of the present study indicate that the retrospective report of both parental involvement and positive FE predict the retrieval of childhood autobiographical memories. Given the significant findings and trends of this research, I suggest that future investigations examine parental involvement and family expressiveness as the child experiences them. The information obtained in such research would allow investigators to develop a better understanding as to how parental involvement and positive FE predict memories at their encoding, or aid in their reinstatement over time. Additionally, future researchers should investigate the potential underlying mechanisms behind these relationships, such as elaborative reminiscing styles and attachment, to test if positive FE remains a significant predictor after taking these additional variables in account. Examining these variables in relation to each other will further our understanding of the predictors of childhood autobiographical memories, and what memories continue to exist through childhood amnesia.
REFERENCES


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self-report scale. Dallas, TX: Southwest Family Institute.


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*Note:* The FEQ and APQ subscale scores represent averages across items. The range for each subscale included in the FEQ is 1 to 9, whereas the range for each subscale of the APQ is 1 to 5.
### Table 2.

#### Correlations Among Variables

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<td>-.24</td>
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<td>.12</td>
<td>.96**</td>
<td>.84**</td>
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<tr>
<td>8 Negative</td>
<td>.17</td>
<td>.21</td>
<td>.03</td>
<td>.02</td>
<td>-.17</td>
<td>-.17</td>
<td>-.15</td>
<td>-</td>
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<tr>
<td>9 Dominant</td>
<td>.31*</td>
<td>.33*</td>
<td>.08</td>
<td>-.10</td>
<td>-.36**</td>
<td>-.36**</td>
<td>-.33*</td>
<td>.89**</td>
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<tr>
<td>10 Nondominant</td>
<td>-.07</td>
<td>-.03</td>
<td>-.04</td>
<td>.17</td>
<td>.15</td>
<td>.14</td>
<td>.15</td>
<td>.80**</td>
<td>.44**</td>
<td>-</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>11 Involvement</td>
<td>-.47**</td>
<td>-.32*</td>
<td>-.15</td>
<td>.05</td>
<td>.65**</td>
<td>.63**</td>
<td>.61**</td>
<td>-.40**</td>
<td>-.49**</td>
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<td>-</td>
</tr>
<tr>
<td>12 Positive Parenting</td>
<td>-.30*</td>
<td>-.20</td>
<td>-.03</td>
<td>-.04</td>
<td>.53**</td>
<td>.56**</td>
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<td>13 Poor Monitoring</td>
<td>.01</td>
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<td>.42**</td>
<td>.46**</td>
<td>.21</td>
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</tr>
</tbody>
</table>

**Note:** * p < .05, ** p < .01. AaE represents age at encoding. Age of Earliest represents the reported age at the time of the first remembered event. FEQ is the Family Expressiveness Questionnaire. APQ is the Alabama Parenting Questionnaire.
Table 3.

*Hierarchical Regression with Positive FE Scores, Parental Involvement, and the Interaction Predicting AaE*

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Block 1</th>
<th>Block 2</th>
<th>Block 3</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>b</td>
<td>SE</td>
<td>β</td>
</tr>
<tr>
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<td>.07</td>
<td>-.47**</td>
</tr>
<tr>
<td>Involvement</td>
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<tr>
<td>Interaction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(R^2)</td>
<td></td>
<td>.22</td>
<td></td>
</tr>
<tr>
<td>(\Delta R^2)</td>
<td></td>
<td>.05</td>
<td></td>
</tr>
</tbody>
</table>

Note: *p < .05, **p < .01. Interaction term is positive FE* involvement.
Table 4.

*Hierarchical Regression with Positive FE Scores, Positive Parenting, and the Interaction Predicting AaE*

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Block 1</th>
<th></th>
<th>Block 2</th>
<th></th>
<th>Block 3</th>
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</thead>
<tbody>
<tr>
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<td>b</td>
<td>SE</td>
<td>β</td>
<td>b</td>
<td>SE</td>
<td>β</td>
</tr>
<tr>
<td>Positive FE</td>
<td>-.27</td>
<td>.07</td>
<td>-.47**</td>
<td>-.25</td>
<td>.09</td>
<td>-.43**</td>
</tr>
<tr>
<td>Positive Parenting</td>
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<td></td>
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<td>-.07</td>
<td>.12</td>
<td>-.08</td>
</tr>
<tr>
<td>Interaction</td>
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<td></td>
<td>.07</td>
</tr>
<tr>
<td>R²</td>
<td></td>
<td>.22</td>
<td></td>
<td>.27</td>
<td></td>
<td>.28</td>
</tr>
<tr>
<td>ΔR²</td>
<td></td>
<td></td>
<td></td>
<td>.05</td>
<td></td>
<td>.01</td>
</tr>
</tbody>
</table>

Note: * p < .05, **p < .01. Interaction term is positive FE* positive parenting.
Table 5.

*Hierarchical Regression with Negative Dominant FE Scores, Parental Involvement, and the Interaction Predicting AaE*

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Block 1</th>
<th></th>
<th>Block 2</th>
<th></th>
<th>Block 3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>b</td>
<td>SE</td>
<td>ß</td>
<td></td>
<td>b</td>
</tr>
<tr>
<td>Negative Dominant FE</td>
<td>.13</td>
<td>.06</td>
<td>.31*</td>
<td>.04</td>
<td>.06</td>
<td>.10</td>
</tr>
<tr>
<td>Involvement</td>
<td></td>
<td>.14</td>
<td>-.43**</td>
<td>-.43</td>
<td>-.43</td>
<td>.14</td>
</tr>
<tr>
<td>Interaction</td>
<td></td>
<td>-</td>
<td>.04</td>
<td>.09</td>
<td>-.06</td>
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</tr>
<tr>
<td>$R^2$</td>
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<td>.09</td>
<td></td>
<td>.23</td>
<td></td>
<td>.23</td>
</tr>
<tr>
<td>$\Delta R^2$</td>
<td></td>
<td></td>
<td></td>
<td>.14**</td>
<td></td>
<td>.00</td>
</tr>
</tbody>
</table>

Note: * $p < .05$, ** $p < .01$. Interaction term is negative dominant FE* involvement.
Table 6.

*Hierarchical Regression with Positive FE, Negative Dominant FE, and the Interaction Predicting AaE*

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Block 1</th>
<th>Block 2</th>
<th>Block 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$b$</td>
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<td>$\beta$</td>
</tr>
<tr>
<td>Positive FE</td>
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<td>Negative Dominant FE</td>
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<td></td>
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<tr>
<td>Interaction</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>R$^2$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\Delta$R$^2$</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: * $p < .05$, ** $p < .01$. Interaction term is positive FE* negative dominant FE.
# LIST OF APPENDICES

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<thead>
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</tr>
</thead>
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<td>Appendix C. Sample Participant Transcripts</td>
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<tr>
<td>Appendix E. Family Expressiveness Questionnaire</td>
<td>.................................................................................. 62</td>
</tr>
</tbody>
</table>
Appendix A
Theoretical Model and Hypotheses

Note: The solid black lines are relationships that already exist and are not included in the hypotheses.

Hypotheses:

1. Adults with perceived higher parental involvement, compared to adults with lower parental involvement, would report an average earlier AaE, retrieve a greater number of memories, and report earlier memories there were closer (i.e., higher density). (Blue lines)

2. Adults with higher perceived positive FE, compared to adults with lower positive FE, would report an average earlier AaE, retrieve a greater number of memories, and have higher memory density. (Red lines)

3a. Positive FE would continue to be a significant predictor of average AaE, number of memories reported, and density, after parental involvement had been controlled. (As indicated by the thickness of the red lines)

3b. High positive FE would have a larger effect (i.e., larger beta) than high parental involvement. (As indicated by the thickness of the red lines)
Appendix B
Interview Protocol: Memory Fluency Task

Researcher: ______________________________

Birth date: _______/__________/______
year/month/day

Instructions: Try to briefly recall as many memories as you can from before you started 1\textsuperscript{st} grade. You only need to give a very brief description of the memory, just a sentence or so. You have 4 minutes to complete the task. I will tell you when to begin and when to stop. I will also write a note of each memory to help remind you of that memory later.

Memory 1: _____________________________________________________________

Memory 2: _____________________________________________________________

Memory 3: _____________________________________________________________

Memory 4: _____________________________________________________________

Memory 5: _____________________________________________________________

Memory 6: _____________________________________________________________

Memory 7: _____________________________________________________________

Memory 8: _____________________________________________________________

Memory 9: _____________________________________________________________

Memory 10: _____________________________________________________________

Memory 11: _____________________________________________________________

Memory 12: _____________________________________________________________

*Continue on back if needed.
Appendix B Continued

Ratings for memories from before you started school
For each of the memories you recalled, please try to recall your age in years and months as accurately as possible. Here are a few things that can help you figure out how old you were.

* Where did you live? Did you move at some point? Can a particular location or house help you locate your memory in time?

* Was it around a holiday or season? Is your memory linked to a holiday like Christmas, Halloween, a birthday? Was there snow? Was it summertime?

* What siblings, other people or pets were in your life at that time? Are they a part of your memory?

Also, for each memory, was there any emotion attached to it at that time? If so, what was it?

<table>
<thead>
<tr>
<th>AGE</th>
<th>Emotion attached to memory</th>
<th>How do you know the age?</th>
<th>Sure? (1-7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>_________________________</td>
<td>_________________________</td>
<td>_______</td>
</tr>
<tr>
<td>2</td>
<td>_________________________</td>
<td>_________________________</td>
<td>_______</td>
</tr>
<tr>
<td>3</td>
<td>_________________________</td>
<td>_________________________</td>
<td>_______</td>
</tr>
<tr>
<td>4</td>
<td>_________________________</td>
<td>_________________________</td>
<td>_______</td>
</tr>
<tr>
<td>5</td>
<td>_________________________</td>
<td>_________________________</td>
<td>_______</td>
</tr>
<tr>
<td>6</td>
<td>_________________________</td>
<td>_________________________</td>
<td>_______</td>
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<td>7</td>
<td>_________________________</td>
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<tr>
<td>11</td>
<td>_________________________</td>
<td>_________________________</td>
<td>_______</td>
</tr>
<tr>
<td>12</td>
<td>_________________________</td>
<td>_________________________</td>
<td>_______</td>
</tr>
</tbody>
</table>
Appendix C
Sample Participant Transcripts

Sample Participant 1:
I: okay so your next one was thanksgiving and your Grandpa went to the store
P: oh, I know I was five
I: okay
P: cause I was in kindergarten. And so thanksgiving would have been
I: November
P: Yeah, November, so uh, May June July August September October November, seven
months.

Sample Participant 2:
I: Ok so your next one was a broken window.
P: Oh yeah, that was fun. That was during the summer. So that would have been like that
summer.
I: the summer before you moved or after?
P: Before.
I: So it was still in Texas?
P: yeah. Ok um, so it was probably June.
I: Ok
P: Cause there was no reason… way my… cause dad was in charge which means that mom
was getting close to giving birth and she was not around.
I: Ok. April, may June… four months?
I: And how sure of the age are you?
P: Probably 6.
Appendix C Continued

Sample Participant 3:

I: alright so your last one was when your parents took your sheets away

P: Oh yeah that was in Texas. We got in the habit of playing dress up in our sheets and my mom was like: “no.”

I: Nope not happening!

P: If you want to do that. You can’t. It was annoying because we didn’t take the plastic off one of the mattresses.

I: So how old were you?

P: Well I had to have been four. But I had to be…But it was summer um cause my parents weren’t concerned with us being cold. [Inaudible] Um

I: Yeah.

P: Was there a baby in the house, or was there not a baby in the house? I don’t think there was a baby in the house.

I: Ok

P: So that would put it before June. So May

I: So four years there months.

I: And how did you know how old you were?

P: Mostly because I knew it was before my little sister was born.

I: And how sure of the age are you?

P: Probably five.
Appendix D
Alabama Parenting Questionnaire

You are going to complete a questionnaire about your relationship with your parent or guardian during childhood.

How would you answer the question, “Who raised you during your childhood (i.e., including the years up to age 10)?” ________________

If more than one adult was actively involved in rearing you, please select the one person who you feel played the most important role in your upbringing.

When completing this questionnaire, please answer the questions by thinking of your relationship with the person you identified as being the person who raised you and who was the most instrumental in your upbringing. This person is referred to as your “parent” throughout the questionnaire.

Instructions: Please rate the following items as to how often it TYPICALLY occurred in your home during your childhood years, up to about age 10.

<table>
<thead>
<tr>
<th>Never</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. You had a friendly talk with your parent.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. Your parent told you that you were doing a good job.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. Your parent threatened to punish you and then did not do it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. Your parent helped with some of your special activities (such as sports, boy/girl scouts, church youth groups).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. Your parent rewarded or gave you something extra for behaving well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. You failed to leave a note or let your parent know where you were going.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. You played games or other fun things with your parent.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. You talked your parent out of punishing you after you had done something wrong.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. Your parent asked you about your day in school.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>10. You stayed out in the evening past the time you were supposed to be home.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. Your parent helped you with your homework.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. Your parent gave up trying to get you to obey him or her because it was too much trouble.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13. Your parent complimented you when you had done something well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14. You parent asked you what your plans were for the coming day.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15. Your parent drove you to a special activity.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16. Your parent praised you for behaving well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17. Your parent did not know the friends you were with.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18. Your parent hugged or kissed you when you did something well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19. You went out without a set time to be home.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20. Your parent talked to you about your friends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21. You went out after dark without an adult with you.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22. Your parent let you out of punishment early (like lift restrictions earlier than they originally said).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23. You helped plan family activities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24. Your parent got so busy that they forgot where you were and what you were doing.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25. Your parent did not punish</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
you when you did something wrong.

<table>
<thead>
<tr>
<th>Question</th>
<th>Never</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>26. Your parent went to meetings at school, like a PTA meeting or parent/teacher conference.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>27. Your parent told you that they liked it when you helped out around the house.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>28. You stayed our later than you were supposed to and your parent did not know it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>29. Your parent left the house and did not tell you where they were going.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>30. You came home from school more than an hour past the time your parent expected you to be home.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>31. The punishment your parent gave depended on their mood.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>32. You were at home without an adult being with you.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>33. Your parent spanked you with their hand when you did something wrong.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>34. Your parent ignored you when you were misbehaving.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>35. Your parent slapped you when you did something wrong.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>36. Your parent took away a privilege or money from you as a punishment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>37. Your parent sent you to your room as a punishment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>38. Your parent hit you with a belt, switch, or other object when you did something wrong.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>39. Your parent yelled or screamed at you when you had</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
done something wrong.

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>40. Your parent calmly explained to you why your behavior was wrong when you misbehaved.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>41. Your parent used time out (made you sit or stand in a corner as a punishment).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>42. Your parent gave you extra chores as a punishment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Appendix E
Family Expressiveness Questionnaire

This is a questionnaire about family expressiveness. We’d like to know more about the degree of expressiveness shown in different families. Therefore, we’d like you to tell us about the frequency of expression in your family while you were growing up. By frequency we mean, “How often does this situation occur in your family, relative to other families?”

Try to think of the following scenarios in terms of how frequently they occurred in your family, compared to other families, while you were growing up. Use the rating scale below to indicate how frequently that activity occurred. Thus, if a situation rarely occurred, or occurred not at all frequently, circle a 1, 2, or 3. If it occurred with some or moderate frequency, circle a 4, 5, or 6. And if it occurred very frequently, circle a 7, 8, or 9.

Please do this example:
Expressing affection in public

Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

1. Showing forgiveness to someone who broke a favorite possession.
Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

2. Thanking family members for something they have done.
Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

3. Exclaiming over a beautiful day.
Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

4. Showing contempt for another’s actions.
Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently
5. Expressing dissatisfaction with someone else’s behavior
   *Not at all frequently* 1 2 3 4 5 6 7 8 9 *Very Frequently*

6. Praising someone for good work.
   *Not at all frequently* 1 2 3 4 5 6 7 8 9 *Very Frequently*

7. Expressing anger at someone else’s carelessness.
   *Not at all frequently* 1 2 3 4 5 6 7 8 9 *Very Frequently*

8. Sulking over unfair treatment by a family member.
   *Not at all frequently* 1 2 3 4 5 6 7 8 9 *Very Frequently*

9. Blaming one another for family troubles.
   *Not at all frequently* 1 2 3 4 5 6 7 8 9 *Very Frequently*

10. Crying after an unpleasant disagreement.
   *Not at all frequently* 1 2 3 4 5 6 7 8 9 *Very Frequently*

11. Putting down other people’s interests.
    *Not at all frequently* 1 2 3 4 5 6 7 8 9 *Very Frequently*

12. Showing dislike for someone.
    *Not at all frequently* 1 2 3 4 5 6 7 8 9 *Very Frequently*

13. Seeking approval for an action.
    *Not at all frequently* 1 2 3 4 5 6 7 8 9 *Very Frequently*

    *Not at all frequently* 1 2 3 4 5 6 7 8 9 *Very Frequently*

15. Going to pieces when tension builds up.
    *Not at all frequently* 1 2 3 4 5 6 7 8 9 *Very Frequently*
16. Expressing exhilaration after an unexpected triumph.
   Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

17. Expressing excitement over one’s future plans.
   Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

18. Demonstrating admiration.
   Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

19. Expressing sorrow when a pet dies.
   Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

20. Expressing disappointment over something that didn’t work out.
   Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

21. Telling someone how nice they look.
   Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

22. Expressing sympathy for someone’s troubles.
   Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

23. Expressing deep affection or love for someone.
   Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

24. Quarreling with a family member.
   Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

25. Crying when someone leaves.
   Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

26. Spontaneously hugging a family member.
   Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently
27. Expressing momentary anger over a trivial irritation.
   Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

28. Expressing concern for the success of other family members.
   Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

29. Apologizing for being late.
   Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

30. Offering to do somebody a favor.
   Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

31. Snuggling up to a family member.
   Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

32. Crying for being punished.
   Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

33. Trying to cheer up someone who is sad.
   Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

34. Telling family members how hurt you are.
   Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

35. Telling family members how happy you are.
   Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

36. Threatening someone.
   Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently

37. Criticizing someone for being late.
   Not at all frequently 1 2 3 4 5 6 7 8 9 Very Frequently
38. Expressing gratitude for a favor.

   Not at all frequently  1  2  3  4  5  6  7  8  9  Very Frequently

39. Surprising someone with a little gift or favor.

   Not at all frequently  1  2  3  4  5  6  7  8  9  Very Frequently

40. Saying “I’m sorry” when one realizes one was wrong.

   Not at all frequently  1  2  3  4  5  6  7  8  9  Very Frequently