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Affective change greater for unpleasant than pleasant events in autobiographical memory of children and adults: A retrospective study

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ABSTRACT

Research on autobiographical memory in adults shows affect associated with unpleasant events fades faster than affect associated with pleasant events, a phenomenon referred to as the fading affect bias (FAB; Walker et al., 2003). To investigate developmental differences in the intensity of emotion associated with autobiographical memories, 8–12-year-old children and adults retrospectively recalled and provided initial and current affect ratings for pleasant and unpleasant events experienced over the past year. Children and adults demonstrated the FAB, and the magnitude of the FAB was similar between age groups. Additionally, pleasant events that were frequently discussed with other individuals demonstrated low affective fading. Further, participants with low dispositional affect reported low affective fading of unpleasant events. Because the FAB is argued to support coping and positive perceptions of the self and the future, it is advantageous that this effect is observed by middle childhood.

1. Introduction

Autobiographical memory influences present and future behavior, conceptualizations of the self, and psychological well-being (e.g., Fivush & Sales, 2006; Sales & Fivush, 2005). Research on autobiographical memory in adults has shown affect associated with unpleasant events to fade faster than affect associated with pleasant events, a phenomenon referred to as the fading affect bias (FAB; Walker, Skowronski, Gibbons, Vogl, & Thompson, 2003). Little is currently known about how the emotional intensity of children's autobiographical memories changes over time. Thus, the primary goal of the current study was to assess whether children would also demonstrate the FAB. This area of research is important because a) it expands current knowledge about autobiographical memory processes in children and b) it examines whether the FAB, which is argued to support psychological coping as well as positive perceptions of the self and the future in adults, can be extended to children (Walker & Skowronski, 2009).

Autobiographical memory changes substantially during childhood (for review see Bauer, 2007). Children's autobiographical memory narratives increase in length, completeness, coherence, and elaborateness with age (Ackil, Van Abbema, & Bauer, 2003; Bauer et al., 2005; Fivush & Haden, 1997; Peterson, 2011; Reese et al., 2011; Van Abbema & Bauer, 2005). Further, age-related improvements are also present in children's ability to recollect contextual details associated with events, such as where and when events occurred (e.g., Bauer et al., 2012; Pathman, Doydum, & Bauer, 2013; Pathman, Larkina, Burch, & Bauer, 2013; Peterson, 2011). Bauer and Larkina (2014a) recently argued that improved memory for contextual details enhances the autobiographical quality of children's memories and may partially explain the cessation of childhood amnesia (i.e., the relative lack of memories for

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events that occur during early childhood). Of particular relevance to the current work are studies suggesting that with age children a) include more references to emotions and b) refer to a wider variety of emotions (Adams, Kuebli, Boyle, & Fivush, 1995).

Emotion is an integral component of experience that impacts memory encoding, consolidation, and retrieval (LaBar & Cabeza, 2006). Children demonstrate enhanced memory for emotional content from stories (Davidson, Luo, & Burden, 2001) as well as arousing and aversive pictures (Cordon, Melinder, Goodman, & Edelstein, 2013). Further, research suggests that cognitive reappraisal and emotional reminiscing can impact children's memory for emotional information (Leventon & Bauer, 2016; Van Bergen & Salmon, 2010). Cognitive reappraisal of negative stimuli reduced recognition memory and memory-related electrophysiological responses in 8-year-old girls (Leventon & Bauer, 2016), whereas emotional reminiscing, relative to non-emotional reminiscing, improved 3- to 6-year-olds' memory for both emotional and non-emotional aspects of a visit to the zoo (Van Bergen & Salmon, 2010).

Event valence impacts autobiographical memory narratives of children and their parents. Parents provide more causal explanations and ask children more open-ended questions about unpleasant events (i.e., a trip to an emergency room) than pleasant events (Sales, Fivush, & Peterson, 2003). Further, parent-child conversations about a traumatic event (i.e., a tornado) are longer, more complete, more coherent, and include more references to internal states than recollections of a non-traumatic event (Ackil et al., 2003; Bauer et al., 2005). Similarly, children's own recollections of unpleasant events include more references to thoughts and emotions but fewer contextual details relative to their narratives for pleasant events (Fivush, Hazzard, Sales, Sarfati, & Brown, 2003). This research collectively suggests that children's autobiographical memories differ for pleasant and unpleasant events and that socialization within the parent-child dyad may influence these accounts. However, research with children has yet to examine how emotion associated with personally experienced events changes over time.

Research with adults has shown that affect associated with events typically fades over time and that the magnitude of affective fading is larger for unpleasant events than for pleasant events, an effect that has been deemed the FAB (Walker et al., 2003; Walker, Vogl, & Thompson, 1997). The FAB is argued to serve an adaptive function by supporting coping, a positive perception of the self, and optimism about the future (for review see Walker & Skowronski, 2009). The FAB occurs quickly, as early as 12 h following the event (Gibbons, Lee, & Walker, 2011), and it is influenced by factors directly related to memory for the event. For example, the magnitude of the FAB increases along with the retention interval (Gibbons et al., 2011; Ritchie et al., 2006; Ritchie, Skowronski, Hartnett, Wells, & Walker, 2009; Walker et al., 1997). The FAB is also larger when memories are frequently rehearsed socially (Skowronski, Gibbons, Vogl, & Walker, 2004). Lastly, the FAB is related to individual differences in affective states, such as dysphoria and dispositional affect (Ritchie et al., 2009; Walker et al., 2003). Adults who exhibit strong dysphoria and negative dispositional affect demonstrate small FABs (Ritchie et al., 2009; Walker et al., 2003).

Despite the breadth of research on autobiographical memory in children and the FAB in adults, research has yet to determine whether children demonstrate the FAB. This gap in the current literature on autobiographical memory processes in children is important due to the relevance of the FAB for psychological coping as well as positive perceptions of the self and the future (Walker & Skowronski, 2009). We elected to assess the FAB in 8- to 12-year-old children and young adults due to research suggesting 7 years of age is an "inflection point" in autobiographical memory development (Bauer & Larkina, 2014a; Wetzler and Sweeney, 1986). Forgetting rates as well as the complexity and completeness of autobiographical memory narratives become adult-like after 7 years of age (Larkina, 2014a, 2014b;). We hypothesized that adults would demonstrate the FAB, but the novelty of the study made it unclear whether children would also demonstrate the FAB and, if present, whether the magnitude of the FAB would differ between children and adults. We also assessed whether event age, social rehearsal, personal rehearsal, dispositional mood, and depressive symptomology predicted or moderated change in affect. Based on the literature, we expected event age, social rehearsal, and personal rehearsal to positively predict the FAB, whereas we expected dispositional mood and depressive symptomology to negatively predict the FAB.

2. Method

2.1. Participants

A total of 35 children (M = 10.39 years, range = 8.00–12.78; 21 females and 14 males) and 31 young adults (M = 21.1 years, range = 18.35–27.27, 24 females and 7 males) participated in the study. The majority of the participants were Caucasian and non-Hispanic. The University's Institutional Review Board approved all procedures prior to data collection. Child participants were recruited through community advertisements and adult participants were recruited from the University's student participant pool. For child participants, parental consent and child assent were collected prior to participation; adult participants provided consent. In compensation for their participation, child participants received a toy or a gift card to a local merchant and adult participants received course credit.

2.2. Materials and procedure

2.2.1. Autobiographical memory task

Consistent with previous research on the FAB in adults (e.g., Gibbons et al., 2013; Walker et al., 2003), participants retrospectively recalled pleasant and unpleasant autobiographical events that occurred over the past year. Although studies in adults typically require the participants to transcribe events, the present study utilized an interview procedure to make the task more child-appropriate. Participants briefly described three pleasant and three unpleasant events orally while being audio-recorded. Pleasant events were described as events that made the participant feel "happy, glad, cheerful, pleased, good, or hopeful" at the time of the

event, whereas unpleasant events were described as events that made the participant feel "unhappy, scared, angry or bad" at the time of the event. The order of event administration was counterbalanced across participants.

Following the description of each event, participants were asked to indicate the month in which the event occurred. Recent research suggests that children in the age range examined can accurately judge the month of personally experienced events (Pathman, Larkina et al., 2013). If participants described an event that occurred the day of the study or an event that occurred longer than a year ago, they were prompted to provide another event. After identification of the month in which the event occurred, participants provided two ratings of event pleasantness on a 7-point facial expression scale ranging from −3 to +3. The faces associated with negative values of the scale were frowning, the face in the middle of the scale associated with a value of 0 was neither smiling nor frowning, and the faces associated with positive values of the scale were smiling. Faces on the ends of the scale demonstrated more intense emotionality and were described as "very unhappy" and "very happy." For the initial affect rating, participants were instructed to indicate how pleasant the event was when it was first experienced. If the participant pointed to a neutral face, or a face that did not match the emotionality of the event prompted (e.g., the participant pointed to a smiling face when asked for an unpleasant event), the participant was asked to describe another event. For the current affect rating, participants were asked to indicate the current pleasantness of the event. Participants were able to select any face from the scale for this judgment. Following the provision of the current affect pleasantness rating, participants were asked to describe how frequently they talked about the event with other people and how often they thought about the event on a 7-point scale ranging from "never" to "always."

2.2.2. Questionnaires

After describing all six events, participants completed the Positive and Negative Affect Schedule for Children (PANAS-C; Laurent et al., 1999) and the Children's Depression Inventory 2 (CDI-2) Short Version (Kovacs, 2011). Consistent with methodological approaches used in longitudinal research (e.g., Holsen, Kraft, & Vittersø, 2000), child and adult participants completed the same assessments of dispositional affect and depression to allow for direct comparisons between age groups. The PANAS-C required participants to rate how often they experienced 12 positive emotions (e.g., excited) and 15 negative emotions (e.g., nervous) during the past few weeks on a 5-point scale (1 = not much or not at all, 5 = a lot). The CDI-2 Short Version assessed depressive symptomology. Participants identified which of three statements (rated on a 0–2 scale) best described their emotional state over the previous 2 weeks for each of the 12 items.

2.3. Data processing and dependent measures

2.3.1. Autobiographical memory task

The dependent measures of interest from the autobiographical memory task included scores for initial affect and change in affect. The absolute value of initial affect was utilized to compare the intensity of initial affect for pleasant and unpleasant events. To allow for direct comparison of change in affect for pleasant and unpleasant events, the change in affect score was calculated by subtracting the current affect score from the initial affect score for pleasant events and subtracting the initial affect score from the current affect score for unpleasant events. A positive change in affect score reflects fading or flexible affect (i.e., rating an initially unpleasant event as currently pleasant or vice versa), a negative change in affect score reflects flourishing affect (i.e., rating an event higher in current intensity than initial intensity), and a score of zero reflects no change in affect.

Events were only excluded from analysis if the initial affect of the event reported did not match the experimenter prompt (n = 10), or the participant did not provide the month in which the event occurred (n = 2). These requirements resulted in the inclusion of a total of 384 events for analysis. On average, participants' reported events were 3.62 months old (SD = 3.766). Event age did not differ as a function of age group, pleasantness, or the interaction between age group and pleasantness ($ps \geq .678$). To examine the effect of age group and pleasantness on initial and current affect, average initial and current affect scores for pleasant and unpleasant events were calculated for each participant. These average scores were then examined using a 2 Age Group x 2 Pleasantness mixed-model ANOVA. This approach was preferable over including event as a factor, which would have resulted in the loss of 5 children and 5 adults from the analysis due to the exclusion of the 12 events described above.

2.3.2. Questionnaires

Consistent with Ritchie et al. (2009), a single measure of dispositional affect was created from the PANAS-C by summing positive-affect items and reverse-scored negative affect items. Higher scores reflect stronger positive dispositional affect. The dependent measure from the CDI-2 Short Version was calculated by summing responses across all 12 items (Kovacs, 2011). Higher scores reflect greater severity of depressive symptomology.

3. Results

3.1. Event frequency

Table 1 reports the number of events reported by participants as a function of affect category, pleasantness, and age group. The frequency data shows the majority of pleasant events exhibited fixed affect, whereas the majority of unpleasant events exhibited fading affect. Further, unpleasant events were more likely to exhibit flexible affect than pleasant events, and children were more likely to report events that exhibited flourishing affect than adults.

Table 1
Frequency of Events as a Function of Affect Category, Pleasantness, and Age Group.

	Fixed Affect	Fading Affect	Flourishing Affect	Flexible Affect	Total
Pleasant Events					
Children	53	32	17	0	102
Adults	56	33	3	1	93
Unpleasant Events					
Children	9	56	9	27	101
Adults	14	53	3	18	88

3.2. Change in affect

Repeated measures *t*-tests comparing initial and current affect scores showed affect associated with pleasant and unpleasant events significantly faded over time in both children and adults (see Table 2).

To examine the FAB, a 2 Age Group (children, adults) x 2 Pleasantness (pleasant, unpleasant) mixed-model ANOVA was conducted on the average change in affect scores. Participants demonstrated the FAB; unpleasant events ($M = 1.878$, $SE = 0.161$) faded more than pleasant events ($M = 0.359$, $SE = 0.081$), $F(1, 64) = 63.697$, $p < .001$, $\eta_p^2 = 0.499$ (Fig. 1). No difference was found in the overall magnitude of the change in affect scores between children and adults, $F(1, 64) = 1.438$, $p = .235$, $\eta_p^2 = 0.022$. Further, pleasantness did not interact with age group to influence change in affect, $F(1, 64) = 0.485$, $p = .489$, $\eta_p^2 = 0.008$, which suggests that the magnitude of the FAB did not differ between children and adults.

3.3. Initial affect

Initial affect was also examined using a 2 Age Group (children, adults) x 2 Pleasantness (pleasant, unpleasant) mixed-model ANOVA, because it is plausible that the FAB was present due to differences in initial affect between unpleasant and pleasant events. Specifically, if unpleasant events were initially higher in intensity than pleasant events, the FAB could have been a product of regression to the mean. The current findings do not support this explanation. Initial affect ratings were higher for pleasant events ($M = 2.693$, $SE = 0.051$) than for unpleasant events ($M = 2.217$, $SE = 0.061$), $F(1, 64) = 50.455$, $p < .001$, $\eta_p^2 = 0.441$. Unexpectedly, initial affect also differed between age groups, $F(1, 64) = 8.465$, $p = .005$, $\eta_p^2 = 0.117$; adults ($M = 2.586$, $SE = 0.066$) rated events higher in initial affect than children ($M = 2.324$, $SE = 0.062$). Pleasantness and age group did not interact to influence initial affect ratings, $F(1, 64) = 0.722$, $p = .399$, $\eta_p^2 = 0.011$.

3.4. Regression analyses

Hierarchical regression analyses were conducted to examine whether change in affect was influenced by event-related factors or individual differences in emotionality. Events were treated as the unit of analysis, and separate analyses were conducted to examine the effect of event age, social rehearsal, personal rehearsal, dispositional affect, and depressive symptomology on change in affect. For each model, Step 1 included pleasantness and age group, Step 2 included the main effect of the variable of interest (e.g., Event Age), Step 3 included the interaction with pleasantness (e.g., Event Age x Pleasantness), and Step 4 included the interaction with pleasantness and age group (e.g., Event Age x Pleasantness x Age Group). The models for event age, personal rehearsal, and depressive symptomology did not account for variability in change in affect beyond pleasantness and age group, $\Delta Fs = 0.043$-3.218, $ps = .074$–$.836$, $\Delta R^2s = < 0.001$–0.006.

3.4.1. Social rehearsal

The steps of the model that included the main effect of Social Rehearsal and the Social Rehearsal x Pleasantness x Age Group interaction did not significantly improve the model, $\Delta Fs = 0.358$–1.068, $ps = .302$–$.55$, $\Delta R^2s = 0.001$–0.002. However, Step 3 of the model that included the Social Rehearsal x Affect interaction accounted for a significant proportion of variability in change in affect

Table 2
Repeated-Measures *t*-tests Comparing Original and Current Affect for Pleasant and Unpleasant Events in Children and Adults.

	Initial Affect		Current Affect		*t*	*Df*	*p*
	M	*SE*	*M*	*SE*			
Pleasant Events							
Children	2.58	0.061	2.38	0.079	2.252	101	.026
Adults	2.8	0.045	2.27	0.104	5.161	92	< .001
Unpleasant Events							
Children	−2.08	0.08	−0.3	0.172	−10.186	100	< .001
Adults	−2.39	0.082	−0.52	0.166	−11.137	87	< .001

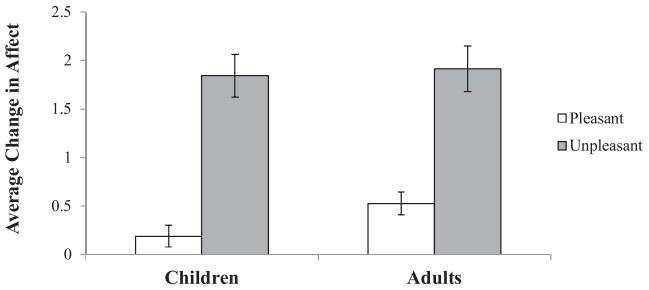

Fig. 1. Average change in affect scores for pleasant and unpleasant events for children and adults. Error bars reflect standard errors.

controlling for pleasantness, age group, and social rehearsal, $\Delta F(1, 379) = 6.298$, $p = .013$. This interaction was decomposed by regressing social rehearsal on change in affect separately for pleasant and unpleasant events. Social rehearsal was related to change in affect for pleasant, $F(1, 193) = 7.952$, $p = .005$, but not for unpleasant events, $F(1, 187) = 2.769$, $p = .138$. When participants discussed pleasant events frequently with other individuals, they demonstrated low change in affect ($\beta = -0.199$).

3.4.2. Dispositional affect

The steps of the model that included the main effect of Dispositional Affect and the Dispositional Affect x Pleasantness x Age Group interaction did not significantly improve the model, $\Delta Fs = 1.528\text{-}3.608$, $ps = .058\text{–}.217$, $\Delta R^2s = 0.003\text{-}0.007$. However, Step 3 of the model that included the Dispositional Affect x Affect interaction accounted for a significant proportion of variability in change in affect controlling for pleasantness, age group, and social rehearsal, $\Delta F(1, 379) = 4.01$, $p = .046$. This interaction was decomposed by regressing dispositional affect on change in affect separately for pleasant and unpleasant events. Dispositional affect was related to change in affect for unpleasant, $F(1, 187) = 5.224$, $p = .023$, but not for pleasant events, $F(1, 193) < 0.01$ $p = .988$. Low dispositional affect was associated with low change in affect for unpleasant events ($\beta = 0.165$).

4. Discussion

The present study extends understanding of the fading affect bias (FAB) and contributes novel insights into autobiographical memory processes in children. Young adults and 8- to 12-year-old children each demonstrated the FAB, and the magnitude of the FAB was similar between age groups. Additionally, social rehearsal and dispositional affect were associated with affective change associated with pleasant and unpleasant events, respectively.

Importantly, the current study provides novel insights into autobiographical memory processes in children. Previous research has shown that children include more references to emotion and they use a wider variety of emotional terms when recounting previously experienced events with age (Adams et al., 1995). Further, characteristics of autobiographical memory narratives differ as a function of the emotion associated with the event. Children's autobiographical memory narratives for emotional or traumatic events are longer, more complete, and more coherent than non-emotional or non-traumatic events (Ackil et al., 2003; Bauer et al., 2005). Additionally, children include less contextual detail but refer more to thoughts and emotions when describing unpleasant events relative to pleasant events (Fivush et al., 2003). The current results add to the previous literature that the intensity of emotions associated with autobiographical memory reported by children retrospectively tends to fade over time. Further, children's memories for unpleasant events exhibited faster fading than their memories for pleasant events, a phenomenon referred to as the FAB (Walker et al., 2003).

The FAB has been consistently observed in studies of adults (for review see Walker & Skowronski, 2009). The present study was the first to demonstrate that children also show the FAB and the magnitude of this effect is comparable between school-aged children and adults. This presence of the FAB in children is encouraging because the FAB is argued to support a positive view of the future and perceptions of the self (Walker & Skowronski, 2009). For example, the negative affect that accompanies a poor test grade or a missed goal during a soccer game would fade more quickly than the positive affect associated with receiving an A+ on a test or making the winning goal during a soccer game. These emotional patterns are advantageous for the maintenance of the image of oneself as a successful student and athlete, resilience in the face of challenges, and anticipation of future successes.

Although researchers have speculated about the causes and functions of the FAB (Walker & Skowronski, 2009), the processes that underlie the FAB are currently unclear. However, cross-cultural and developmental research may be able to provide insight into this question. Ritchie et al. (2015) recently demonstrated the FAB in 10 ethnically and culturally distinct samples. They argued, similar to Keltner and Haidt's (1999) social function of emotion model, that the FAB may be a universal phenomenon that can be modified by cultural and individual differences in emotion and self-regulation strategies. Observation of the FAB across all age groups throughout the lifespan would be consistent with the universality of the FAB. Therefore, the primary question of interest for developmental researchers may not be when the FAB develops but which factors impact the magnitude of the FAB in children. For example, the FAB may be influenced by the acquisition of socially constructed conversational norms. Children of parents who frequently reappraise unpleasant events as growth and learning experiences (e.g., re-interpreting the fear associated with riding a roller coaster as subsequently positive due to the thrill of the experience) may show a larger magnitude FAB than children of parents who do so less frequently. This effect could either be constrained to the context of parent-child conversations about specific memories or extend

further as the child internalizes this emotion regulation strategy. Similarly, because depressed adults exhibit a smaller FAB than non-depressed adults (e.g., Walker et al., 2003), it is possible that children of parents with depression would exhibit a smaller FAB relative to children of non-depressed parents.

The present study also examined the effect of event-related factors and individual differences in affective states on retrospective reports of changes in affect. Pleasant events that were frequently discussed with other individuals (i.e., socially rehearsed) showed low affective fading. One previous study found that frequency of social rehearsal moderated the FAB (Skowronski et al., 2004). Specifically, Skowronski et al. (2004) showed that frequent social rehearsal was associated with greater fading of unpleasant event affect and no relation between social rehearsal and fading of pleasant event affect in two studies. In contrast, Muir, Brown, and Madill (2015) found social disclosure to be associated with increased positive affect. The current finding is consistent with the results of Muir et al. (2015). Future research is needed to reconcile conflicting results regarding the effect of rehearsal on affective fading. Factors, such as event age (Gibbons et al., 2011; Walker et al., 1997), listener responsiveness (Muir et al., 2015), the typicality and importance of the event (Ritchie et al., 2006), the content of the event shared (Gibbons et al., 2013; Gibbons, Hartzler, Hartzler, Lee, & Walker, 2015), and individual differences in affect (Ritchie et al., 2009; Walker et al., 2003), likely account for differences in findings across studies.

Individual differences in dispositional affect were also related to the fading of unpleasant autobiographical memories. Specifically, participants low in dispositional affect reported experiencing low change in affect for unpleasant events. This result replicates research examining the relation of dispositional affect and the FAB in adults (Ritchie et al., 2009). Moreover, this pattern of results is maladaptive because unpleasant events were likely to maintain their negative affect over time for individuals high in dispositional affect. The relation between low dispositional affect and low change in affect for unpleasant events could either be present because a) individuals with low positive dispositional affect selectively report unpleasant events that minimally change in affect over time or b) the affect for their unpleasant events simply does not change due to inappropriate cognitive processing (e.g., rumination; Papageorgiou & Siegle, 2003). Alternatively, low affective fading of unpleasant autobiographical memories may contribute to low dispositional affect. Future research could conduct diary studies to examine event pleasantness and dispositional affect on a daily basis to determine temporal precedence.

Event age, frequency of personal rehearsal, and depressive symptomology were not related to changes in affect in the current study. Past research that included a maximum retention interval ranging from 1.5 years to many years (i.e., events that occurred before the adult participants were 13 years of age) has found that affective fading increases along with the length of the retention interval (Ritchie et al., 2006, 2009; Walker et al., 1997). However, one study that used a shorter retention interval (i.e., 3 months; Gibbons et al., 2011) did not identify a relation between event age and the FAB. It is possible the null relation between event age and fading affect in the present study was due to the use of a shorter maximum retention interval (i.e., 1 year). Previous research has also reported that dysphoria is associated with a small FAB (Walker et al., 2003). Low variability in affective states or the use of an interview procedure may explain why fading affect was not related to depressive symptomology in the current study. Specifically, it is possible event reporting differs during interview and diary procedures due to the interpersonal nature of an interview. This suggestion is supported by the fact that initial affect ratings in the present study were somewhat lower and the rates of unpleasant events exhibiting flexible affect were higher than the ones observed in previous studies (e.g., Gibbons & Rollins, 2016).

The current study examined change in affect associated with autobiographical memories by utilizing a retrospective recall procedure. Previous research on the FAB in adults has shown that retrospective recall studies (e.g., Walker et al., 2003; Gibbons et al., 2013) and prospective studies that utilize a daily diary procedure (e.g., Holmes, 1970; Walker et al., 1997) yield similar results. To provide clarity on the effect of retrospective bias on the FAB, Ritchie and colleagues (Study 4; 2009), combined the prospective and retrospective approaches. Participants described events and the affect they elicited for 2 weeks and subsequently provided initial and current affect ratings for each event during the retrieval session. The FAB was observed when initial affect ratings were taken from either the diary entries or the retrospective recall session. However, the magnitude of the FAB was attenuated by retrospective recall. Specifically, participants retrospectively underestimated the initial affect associated with unpleasant events. Future research should utilize a prospective diary method to examine the FAB and whether retrospective bias differentially influences children and adults' ratings of the emotional intensity of autobiographical events.

Another limitation of the present study is that characteristics of autobiographical memory narratives were not examined in relation to changes in affect. Consistent with previous studies of the FAB, participants only provided a brief description of experienced events. Therefore, it would not have been appropriate to code the autobiographical narratives for features, such as length, complexity, coherence, and elaborateness. However, this procedural change would be an interesting avenue for future research. The FAB and memory for contextual details associated with events has, to our knowledge, yet to be explored even in adults. Given that children include less contextual detail when describing unpleasant than pleasant events (Fivush et al., 2003), it is possible that the magnitude of the FAB would coincide with the loss of memory for contextual details associated with unpleasant events.

In conclusion, the present study suggests that affect associated with unpleasant events changes more than affect associated with pleasant events by middle childhood. Further, social rehearsal and dispositional affect impact the magnitude of affective fading. This study represents an important first investigation into change in affect associated with children's autobiographical memories over time. Future research is needed to examine potential moderators (e.g., event type; Gibbons et al., 2013, 2015) and mediators (e.g., maternal reminiscing style; Fivush & Sales, 2006; Sales & Fivush, 2005) of affective fading in children as well as the impact of affective fading on children's self-perceptions, resilience, and psychological well-being.

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