Continuity and Correlates of Emotions and Motives in Self-Defining Memories

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ABSTRACT Two studies examined emotions and motives in self-defining memories. In Study 1, participants recalled five self-defining memories (four recent and one earliest childhood), rated their emotions and motives during each memory, and completed a set of personality measures. A subset of participants provided a second set of memories, as well as emotion and motive ratings, approximately 2 weeks after the initial session. Results suggest that emotions and motives are moderately stable across memories and over time and show theoretically meaningful relations with self-esteem, narcissism, and affective dispositions. Study 2 extended the findings of Study 1 to a longitudinal context. Emotions and motives coded from self-defining memories were associated with changes in personality, well-being, and academic performance over a 4-year period.

Researchers have long recognized the intimate connection between autobiographical memories and personality. Early personality theorists emphasized the centrality of memories to personality functioning, viewing them as a window into the affective and motivational orientation of the person (Adler, 1931; Murray, 1938). For Adler, personal memories were the key to understanding personality because they reflect an individual's most pressing current concerns. Adler argued that memories represent a person's "'Story of My

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Life': a story he repeats to himself to warn or comfort him, to keep him concentrated on his goal, to prepare him, by means of past experiences, to meet the future with an already tested style of action" (Adler, 1931, pp. 73–74).

After a lull in the study of autobiographical memories and personality, the past two decades have witnessed a rekindled interest in personological study of memory. McAdams (1996) proposed that identity is a life story—an integration of past, present, and anticipated future. For an individual to answer the questions of identity, he or she must have a coherent life story, woven together from meaningful autobiographical memories. From a clinical perspective, Luborsky (1990) examined core conflictual themes in patients' interpersonal memories as a way of studying how unfulfilled wishes (e.g., wish for love, wish for help) are related to personality and relationship functioning. Thorne (1995) adapted Luborsky's methodology to study the developmental patterns of wishes in nonclinical populations. More recently, Thorne and colleagues (McLean & Thorne, 2003; Thorne, McLean, & Lawrence, 2004) have examined how adolescents use personally meaningful memories to derive lessons and insights about life from memorable experiences. Woike (1994) and colleagues (Woike, Lavezzary, & Barsky, 2001) have used autobiographical memories to examine the connections between implicit motives and memory processes. Conway and colleagues (Conway & Pleydell-Pearce, 2000; Conway, Singer, & Tagini, 2004) have developed a comprehensive model of autobiographical memory and the self, which they term the Self Memory System (SMS). In this model, important autobiographical memories are linked to and activated by self-relevant goals.

Much of the contemporary literature on autobiographical memory builds on Singer and Salovey's (1993) theoretical framework for conceptualizing personality, self, and memory. They refer to an individual's most important autobiographical memories as *self-defining memories*—memories characterized by affective intensity, vividness, repetition, and linkages to other memories. Compared with general autobiographical memories, self-defining memories are more likely to be important to the individual, to tap themes of self-discovery and self-understanding, and to focus on unresolved conflicts or enduring concerns. Self-defining memories have the power to evoke subjective feelings and physiological states similar to those experienced in the original situation (Schwartz, Weinberger, & Sing-

er, 1981). Memories of this type are assumed to reflect the dominant themes in the individual's present life situation and, in times of uncertainty, serve as an anchor to remind the individual of his/her identity (Blagov & Singer, 2004). Recollection of the most salient, pertinent memories can serve as a coping resource, helping to guide thoughts and behaviors during difficult periods.

Despite the renewed interest in autobiographical memories, recent studies have yet to address a number of important questions concerning self-defining memories and personality. The present research aims to fill these gaps by examining (a) differential patterns of emotional and motivational responses in memories across domains and valences, (b) the continuity of individual differences in emotions and motives across five self-defining memories and over time, (c) the relation of emotions and motives in memories to self-esteem, narcissism, and affective dispositions to (d) long-term changes in personality, achievement, and adjustment.

Continuity of Emotions and Motives Across Memories and Over Time

The extant literature tells us little about the continuity of individual differences in emotions and motives reported across self-defining memories. For example, we do not know whether people who report relatively high levels of happiness and power motivation in their positive academic memories also tend to report feeling happy and power-motivated in their other self-defining memories. Although some studies of self-defining memories have required participants to recall multiple memories, these memories have been treated like items on a scale, and ratings of the features of the memories have been aggregated across memories (Moffitt & Singer, 1994; Woike & Polo, 2001). In a typical study, participants are asked to recall several memories, without instructions about the domain or valence of those memories, and then rate their affective response to each memory (e.g., Moffitt & Singer, 1994). The researchers focus on participants' overall affective responses averaged across memories. Although this approach assumes that these reactions are relatively similar across memories, the alpha reliability of affect reported across different memories is rarely reported (e.g., Moffitt & Singer, 1994; Singer & Salovey, 1993). Thus, whether people actually report

similar emotions and motives across memories has not been systematically examined.

There are good reasons to believe that a common thread of affect and motives should tie together a person's self-defining memories. Self-defining memories are assumed to reflect themes of unresolved conflicts or enduring concerns; thus, these concerns and conflicts should be represented across a person's constellation of memories. Although they did not directly address this issue, Thorne and Klohnen (1993) found that memories of ungratified wishes repeated across an individual's constellation of memories contribute to enduring patterns of behavior by setting up expectancies of how self and others should act. Although the content of the memory may change over time, the concerns and conflicts expressed in the memory are assumed to remain the same. In a study examining the stability of important relationship memories over a 6-month period, Thorne, Cutting, and Skaw (1998) found that although only 12% of memories reported in the first assessment were retold at the second assessment, there were no systematic differences in the social motives or affective tone of the memories told at the two time points. This implies that similar emotions and motives should reoccur across an individual's constellation of memories because the underlying themes also reoccur. Following this same line of reasoning, we expected the affective and motivational content of a person's memories would be stable over time, producing relatively high test-retest correlations when these features of memories are correlated across two points in time. More generally, if an individual's concerns and conflicts are shaped by his or her underlying personality characteristics, then individuals should show systematic differences in the affective and motivational content of their memories.

Memories and Personality

If memory features such as affect and motives are stable across contexts and over time, then this suggests that something stable about the person influences which memories become salient and the motivational and affective content of those memories. Consistent with this hypothesis, power-motivated individuals report more power-related themes in their memories of positive experiences, whereas intimacy-motivated individuals report more intimacy-related themes in their memories (Woike, 1994). Individuals high in agency (com-

bined power and achievement motives) show more differentiation (i.e., seeing differences and contrasting aspects) in their personally meaningful memories, whereas individuals high in communion (combined intimacy and affiliation motives) show more integration (i.e., seeing interrelationships and connections among aspects) in their personally meaningful memories (Woike, 1994; Woike, Lavezzary, & Barsky, 2001). Thus, an individual's underlying motive configuration may influence memory processes related to the content and structure of self-defining memories.

Less attention, however, has been given to the influence of other important personality characteristics on self-defining memories. Several individual-difference constructs have clear affective and motivational tendencies associated with them. For example, because narcissists' intrapersonal self-regulatory processes work to maintain artificially high self-esteem and defend against feelings of inadequacy (Morf & Rhodewalt, 2001), their memories should be saturated with power motivation, as memories of exerting power over others would provide repeated validation of their grandiose self. Further, narcissists are likely to put a positive spin on the events they choose to remember, even negative events, in order to inflate their self-esteem and feelings of grandiosity. In contrast, individuals with genuinely high self-esteem should feel positive about their achievements without the defensive reaction to failure. Further, the memories of high self-esteem individuals should be saturated with achievement motivation since efficacy and competence are defining characteristics of high self-esteem.

The relation between self-esteem and personally meaningful memories has been investigated in the domain of personal relationships. For example, Thorne and Michaelieu (1996) found that adolescent girls with high self-esteem tend to have succeeded in the motive to help friends, whereas adolescent boys with high self-esteem tend to have succeeded in the motive to assert themselves with friends; adolescent girls with low self-esteem perceive themselves as having failed to fulfill the motive of winning approval from friends, whereas adolescent boys with low self-esteem perceive themselves as having failed to fulfill the motive of establishing romantic relationships. Although these findings suggest a link between self-esteem and motives in the relationship domain, we do not know whether self-esteem is linked to self-reported motives and affect in achievement-related memories.

Finally, individuals who are dispositionally prone to emotions such as shame, guilt, and pride should display higher levels of these (and related) emotions in their self-defining memories. Moreover, shame-prone individuals may experience more negative emotions in response to negative events than guilt-prone individuals because shame-proneness tends to be associated with more maladaptive affective and behavioral responses than guilt-proneness (Tangney & Dearing, 2002).

Memories and personality, however, may be causally linked through reciprocal relations. The motivational and affective processes connected with specific personality dispositions influence the content of memories and how the experience is later evaluated. The content and the evaluation of the experience in the memory then influence subsequent personality development. For example, autobiographical memories are used to make sense of and explain behavior to both the self and others in much the same way that factual knowledge is used to understand the world around us (Robinson, 1986). Thus, the knowledge gained from memories promotes either continuity or change in personality as that knowledge is integrated into the self-concept. Further, if memories serve to warn and comfort us, as Adler theorized, then a repertoire of easily accessible positive memories gives the individual the capacity to set higher goals and have positive expectations for the achievement of those goals. Likewise, if an individual focuses on negative memories, then he or she might have low expectations for the future, and that may inhibit progress toward attaining the goals. Over time, this may have a negative effect on the individual's self-esteem and may negatively affect his/her achievement and well-being.

The present research reports two studies that address the interconnections among memories, goals, and personality. Study 1 examines the stability of individual differences in affect and self-reported motives across five self-defining memories and over time and the relation between the emotional and motivational content of an individual's memories and his or her underlying personality characteristics, including self-esteem, narcissism, and proneness to shame, guilt, and pride. Study 2 uses longitudinal data to examine the relation between affect and motives coded from a self-defining memory about an academic experience and long-term changes in personality, achievement, and adjustment across 4 years of college.

STUDY 1

Method

Participants and Procedure

A total of 200 undergraduate students (75% women) participated in the study in exchange for course credit. Participants completed measures of personality and self-defining memories (described below). The personality measures were always completed first.[1] The order of recent memories and earliest childhood memory was counterbalanced across participants, and the order of the four recent self-defining memories was counterbalanced for both domain and valence.[2] To examine the continuity of memories over time, a subset of participants ($N = 92$; 72% women) returned to the laboratory approximately 2 weeks later and completed a second self-defining memory task (described below).

Self-Defining Memories

Instructions. Participants were asked to write about five self-defining memories—four recent memories and their earliest childhood memory. The four recent memories included a positive academic memory, a negative academic memory, a positive romantic memory, and a negative romantic memory (18 participants did not provide either of the romantic memories and instead wrote "not applicable" for each request). We asked participants to write about both relationship and academic memories because love and work are two central domains in the lives of most young adults. We asked participants to write about both positive and negative memories because we wanted to examine the influence of valence on self-defining memories.

We adapted the self-defining memory instructions from Singer and Moffitt (1991–1992) retaining their emphasis on the importance and centrality of these memories to the participant's identity: "Please describe

1. Forty-nine percent of the sample completed the personality measures in the same session as the self-defining memories, and 51% of the sample completed the personality measures several weeks earlier. We conducted multiple regression analyses to determine whether time of completion of the personality measures (same vs. earlier session) moderated any of the significant effects to be reported. Time of completion only moderated one of the 26 effects, which is about what would be expected by chance.

2. Only four of the 60 emotions and motives reported across the four recent memories showed an order effect, which is about what would be expected by chance. Therefore, all subsequent analyses are reported without consideration of order effects.

a memory that is personally meaningful to you, and that relates to a *positive* [*negative*] experience you have had in the academic environment (a romantic relationship). The memory should be relevant to your identity as a college student (romantic partner) and reveal something about how you feel about yourself in the academic (relationship) domain. It may be a memory about any kind of *positive* [*negative*] experience, but it should be something you have thought about many times.'' The instructions for the earliest childhood memory stated: ''Please describe your earliest childhood memory. Describe what happened and when, whom you were with, and how each of you felt and reacted. What was your role and what was the outcome of your behavior?'' Participants were given an entire page to write about each memory.

Affect ratings. After describing each memory, participants were asked to rate their emotions during the memory. Specifically, participants were asked to ''think about how you felt at the time of this memory. Use the following words to describe how you felt during the time the memory happened.'' Participants rated six positive emotions (proud, inspired, excited, strong, determined, enthusiastic) and six negative emotions (upset, scared, ashamed, hostile, guilty, distressed), which were taken from the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). The individual emotion ratings were aggregated into Positive Affect (PA) and Negative Affect (NA) scales for each memory. Alpha reliabilities for the PA scale ranged from .66 for PA in the negative romantic memory to .87 for PA in the positive academic and earliest childhood memories; alpha reliabilities for the NA scale ranged from .66 for NA in the negative academic and romantic memories to .82 for NA in the earliest childhood memory. For some analyses, the memory-specific PA and NA scales were aggregated across the five memories to form overall PA and NA scores for each participant (the aggregated PA and NA scales correlated at .10). Correlations of PA and NA across the five memories will be examined in detail in the Results section.

Self-reported motives. After each memory, participants were asked to ''rate the extent to which you had each of the following motives or goals during the experience described in your memory.'' Participants rated the following three motives: Achievement (''to do something well or to excel at something''), Power (''to exert power or control over others''), and Intimacy (a composite of ''to help or nurture others'' and ''to feel close or intimate with others''; alpha = .69). All ratings were made on a 5-point scale, ranging from 1 (*very slightly or not at all*) to 5 (*extremely*). Although the self-reported motives were assessed by only one or two items, previous research suggests that single-item measures can have high reliability and validity (Gosling, Rentfrow, & Swann, 2003; Robins, Hendin, & Trzes-

niewski, 2001). For some analyses, a composite score for each of the three motives was computed across the five memories. Power and Achievement correlated .33, Power and Intimacy correlated .28, and Achievement and Intimacy correlated .47. Correlations of the three motives across the five memories will be examined in detail in the Results section.

Self-defining memory task: Session II. A subset of 92 participants returned to the laboratory approximately 2 weeks after the initial session and wrote about a positive and a negative academic memory. The instructions were identical to those used in the first session, and we gave no indication to the participants whether or not they should write about the same experience they wrote about previously. Participants rated the Session II memories on the same affect and motive dimensions used in Session I. In addition, the Session II positive and negative academic memories were coded as either the same or different from the Session I positive and negative academic memories. A memory was considered the same if the core event described (e.g., failing organic chemistry) was the same, even if the event was elaborated on in the Session II description of the memory. A second judge independently coded whether or not the event was the same for a subset of 20 positive and 20 negative academic memories and demonstrated high agreement with the first judge (kappa = .89 for the positive academic memory and .90 for the negative academic memory).

Personality Measures

Self-esteem. Participants completed the Rosenberg Self-esteem Scale (RSE; Rosenberg, 1965). The 10-item RSE scale assesses global self-esteem and was rated on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). In the present sample, the RSE had a mean of 38.4 ($SD = 7.1$) and an alpha reliability of .87.

Narcissism. Participants completed the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988), a widely used measure of subclinical levels of narcissism. The 40-item NPI uses a forced-choice response format in which participants select one of two statements they agree with more (e.g., "The thought of ruling the world frightens the hell out of me" vs. "If I ruled the world, it would be a much better place"). In the present sample, the NPI had a mean of 14.4 ($SD = 6.2$) and an alpha reliability of .81.

Self-conscious emotions. Participants completed the Test of Self-Conscious Affect (TOSCA; Tangney, Dearing, Wagner, & Gramzow, 2000), a measure of proneness to shame, guilt, and pride. The TOSCA consists of hypothetical scenarios, drawn from written accounts of personal shame,

guilt, and pride experiences. For each scenario, participants are asked to rate how likely they would be to show each of four or five possible responses, using a scale from 1 (*not likely*) to 5 (*very likely*). Alpha reliabilities were .79 for shame, .83 for guilt, and .80 for pride.

Results and Discussion

Mean Differences in Affect and Motives Across Memories and Over Time

Before addressing our primary research questions, we first report analyses of mean differences in self-reported affect and motives across memories (see Table 1). To examine differences among the recent memories, we performed a 2 (memory valence: positive vs. negative) × 2 (memory domain: academic vs. romantic) repeated measures Analysis of Variance (ANOVA) on the affect and motive

Table 1
Mean Differences in Affect and Motives Across Memories

	Academic		Romantic		
Dimension	Positive	Negative	Positive	Negative	Earliest memory
Positive affect	4.0_{a}	1.4_{b}	3.4_{c}	1.4_{b}	2.0_{d}
Proud	4.4_{a}	1.2_{b}	3.2_{c}	1.2_{b}	1.9_{d}
Excited	4.0_{a}	1.3_{b}	4.0_{a}	1.4_{b}	2.6_{c}
Strong	3.5_{a}	1.6_{b}	3.0_{c}	1.8_{d}	1.8_{d}
Inspired	3.8_{a}	1.4_{b}	3.4_{c}	1.3_{b}	1.7_{d}
Determined	3.8_{a}	2.2_{b}	2.6_{c}	2.0_{bd}	1.9_{d}
Enthusiastic	4.0_{a}	1.2_{b}	3.8_{c}	1.1_{d}	2.3_{e}
Negative affect	1.2_{a}	3.3_{b}	1.3_{a}	3.2_{b}	2.0_{c}
Upset	1.2_{a}	4.3_{b}	1.3_{a}	4.5_{c}	2.3_{d}
Scared	1.5_{a}	2.9_{bd}	1.7_{a}	2.9_{b}	2.7_{b}
Ashamed	1.2_{a}	3.3_{b}	1.2_{a}	2.6_{c}	1.6_{d}
Hostile	1.1_{a}	2.6_{b}	1.1_{a}	2.9_{c}	1.5_{d}
Guilty	1.2_{a}	2.5_{b}	1.2_{a}	2.3_{b}	1.5_{c}
Distressed	1.4_{a}	3.9_{b}	1.3_{a}	3.9_{b}	2.5_{c}
Motive					
Power	1.7_{a}	1.6_{ac}	1.5_{bc}	1.9_{d}	1.7_{ab}
Achievement	4.3_{a}	3.2_{b}	2.8_{c}	2.1_{d}	2.5_{c}
Intimacy	2.0_{a}	2.2_{a}	3.7_{b}	2.9_{c}	3.1_{d}

Note. Means in a row with different subscripts differ significantly at $p < .05$. $N = 175$.

ratings. To examine differences between the recent and earliest childhood memories, we conducted a one-way ANOVA on the affect and motive ratings with time of memory (recent vs. earliest) as a factor.

Affect. We found a valence effect such that participants reported more PA in positive memories, $F(1,172) = 902.7$, $p < .05$, and more NA in negative memories, $F(1,172) = 882.7$, $p < .05$; this effect held for the global affect scales and for all 12 individual emotions. We also found a domain effect such that participants reported more PA in their academic than romantic memories, $F(1,172) = 43.9$, $p < .05$; this effect held for all six positive emotions except excited. However, a domain × valence interaction indicated that the domain effect only held for the positive memories—participants reported more PA in their positive academic memory than in their positive romantic memory, but that was not the case for negative academic and negative romantic memories, $F(1,172) = 33.7$, $p < .05$.

When we compared the recent and earliest childhood memories, we found that participants felt more PA, $F(1,195) = 34.4$, $p < .05$, and more NA, $F(1,195) = 8.6$, $p < .05$, in their recent memories than in their earliest childhood memory, suggesting that the recent memories are more emotionally charged in general.[3]

Motives. Participants reported more Power in their negative memories, $F(1,173) = 5.2$, $p < .05$. A valence × domain interaction indicated that participants reported the most Power motivation in their

3. Several interactions with gender also emerged. First, we found a domain × gender interaction for shame ($F(1,172) = 4.8$, $p < .05$), such that women felt more shame than men in the romantic domain, but they did not differ in the academic domain. Second, a domain × gender and a valence × gender interaction emerged for pride ($F(1,172) = 5.7$, $p < .05$ and $F(1,172) = 4.3$, $p < .05$, respectively). Men reported more pride than women reported in the romantic domain, but they did not differ in the academic domain. The valence × gender interaction indicates that men reported more pride than women reported in their positive memories, but they did not differ in their negative memories. Finally, for fear, a valence × gender and a valence × domain × gender interaction emerged ($F(1,172) = 3.9$, $p < .05$ and $F(1,172) = 9.4$, $p < .05$, respectively). In the romantic domain, women reported more fear than men reported, whereas in the academic domain, men and women reported about the same amount of fear. In addition, we found an interaction between gender and time of memory for hostility ($F(1,195) = 4.8$, $p < .05$), such that women felt more hostility in their earliest childhood memory, whereas men felt this emotion more strongly in their recent memories.

negative romantic memories, F (1,173) = 14.8, $p < .05$. Participants reported more Achievement motivation in their positive memories, F (1,173) = 78.5, $p < .05$, and in their academic memories, F (1,173) = 89.3, $p < .05$; a valence × domain interaction indicated that participants reported the most Achievement motivation in their positive academic memory, F (1,173) = 4.1, $p < .05$.[4] Finally, participants reported more Intimacy in their positive memories, F (1,173) = 14.4, $p < .05$, and in their romantic memories, F (1,173) = 108.6, $p < .05$; a valence × domain interaction indicated that participants reported the most Intimacy motivation in their positive romantic memory, F (1,173) = 36.3, $p < .05$. When we compared the recent and earliest childhood memories, we found that participants reported more Achievement motivation in their recent memories, F (1,195) = 23.8, $p < .05$, and more Intimacy motivation in their earliest childhood memories, F (1,195) = 16.4, $p < .05$.

These mean differences in memory features are consistent with previous research. Memories of power-related experiences typically evoke anger, memories of intimacy-related experiences typically evoke happiness and love, and memories of achievement-related experiences typically evoke surprise and excitement (Zurbriggen & Sturman, 2002). Further, emotion-related memories elicit specific content. Memories of happiness-related experiences typically evoke memories of recognition or friendship, memories of pride-related experiences typically evoke memories of accomplishment, memories of anger-related experiences typically evoke memories of betrayal, and fear-related memories typically evoke memories of failure or abandonment (Woike, Gershikovich, Piorkowski, & Polo, 1999). Thus, memories from different domains and valences evoke emotions and motives unique to those specific memories.

To test for mean differences over time, we performed a 2 (Time 1 vs. Time 2) × 2 (same vs. different memory) repeated measures Analysis of Variance (ANOVA) on the affect and motive ratings. We found no main or interactive effects in any of these analyses. Thus, in the sample as a whole, participants did not show any increases or decreases in their ratings of affect or motives over time.

4. A domain × gender interaction (F (1,173) = 6.7, $p < .05$) indicated that men reported slightly more achievement motivation than women reported in their positive romantic memories, whereas women reported more achievement motivation than men reported in both their positive and negative academic memories.

Continuity of Individual Differences in Affect and Motives Across Memories

The analyses reported in the previous section address sample-level differences among memories (assessed by mean differences). For the remainder of the paper, we address questions concerning the continuity of individual differences in the content of self-defining memories (assessed by correlations computed across participants).

Affect. Table 2 shows correlations of PA and NA across the five memories. Several noteworthy findings emerged. First, most of the correlations were significant, suggesting that people do show consistencies in the emotions they experience across memories. However, the magnitude of the correlations was relatively weak (mean intercorrelation across memories = .18). Second, the correlations within a domain or valence were generally stronger than correlations across

Table 2
Correlations of Positive and Negative Affect Across Memories

Type of memory	Academic		Romantic		Earliest memory
	Positive	Negative	Positive	Negative	
			Positive affect		
Academic					
Positive	–				
Negative	.04	–			
Romantic					
Positive	.50*	.19*	–		
Negative	.14*	.34*	.22*	–	
Earliest	.14*	.09	.16*	.19*	–
			Negative affect		
Academic					
Positive	–				
Negative	.11	–			
Romantic					
Positive	.20*	.13*	–		
Negative	.05	.45*	.09	–	
Earliest	.00	.14*	.12	.13*	–

Note. *N*s range from 178 to 196.
*$p < .05$.

domain or valence. In some cases, however, we found significant consistencies across valences (e.g., PA in positive romantic memories correlated .22 with PA in negative romantic memories), across domains (e.g., PA in the positive romantic memories correlated .50 with PA in the positive academic memories), and across valence and domain (e.g., PA in the positive romantic memories correlated .19 with PA in the negative academic memories). Third, affect reported in the earliest childhood memory was modestly correlated with affect in both recent memories. Fourth, PA was generally more consistent across memories than NA (mean intercorrelation = .20 and .14, respectively). Consistent with the pattern for the global PA and NA scales, positive emotions such as strength (mean $r = .18$) and inspiration (mean $r = .18$) were the most consistent, whereas negative emotions such as shame (mean $r = .05$) and upset (mean $r = .06$) were the least consistent.

Motives. Table 3 shows correlations of the Power, Achievement, and Intimacy motives across the five memories. Most of the correlations were significant, indicating that people tend to report similar motives across a wide range of memories. The consistency of motives (mean intercorrelation = .28) was generally higher than the consistency of affect. Power (mean intercorrelation = .34) showed the highest level of consistency, followed by Intimacy (mean intercorrelation = .26) and Achievement (mean intercorrelation = .24). Similar to the findings for affect, the correlations within a domain or valence were higher than correlations across domain or valence. Finally, the three motives in the earliest childhood memory generally correlated with their counterparts in the four recent memories. The notable exception to this finding is that Achievement motivation in the earliest childhood memory did not correlate significantly with Achievement motivation in the positive academic memory.

In summary, both affect and motives showed moderate consistency across the five memories. We next examined the degree to which affect and motives reported in memories are stable over time.

Continuity of Individual Differences in Affect and Motives Over Time

Most participants chose to write about a different experience in the second session; 71% wrote about a different positive memory and 62% wrote about a different negative memory than the memory

Table 3
Correlations of Power, Achievement, and Intimacy Motives Across Memories

Type of memory	Academic		Romantic		Earliest Memory
	Positive	Negative	Positive	Negative	
			Power motive		
Academic					
Positive	–				
Negative	.33*	–			
Romantic					
Positive	.34*	.40*	–		
Negative	.25*	.48*	.33*	–	
Earliest	.38*	.34*	.24*	.29*	–
			Achievement motive		
Academic					
Positive	–				
Negative	.29*	–			
Romantic					
Positive	.21*	.09	–		
Negative	.15*	.24*	.50*	–	
Earliest	.09	.16*	.29*	.35*	–
			Intimacy motive		
Academic					
Positive	–				
Negative	.39*	–			
Romantic					
Positive	.14*	.10	–		
Negative	.17*	.44*	.24*	–	
Earliest	.33*	.23*	.24*	.26*	–

Note. *N*s range from 178 to 196.
*$p < .05$.

from the first session. Interestingly, these percentages are very similar to the percentages found by Thorne et al. (1998) in their study of the stability of memories over a 6-month period, suggesting that the content of important memories changes quickly. This raises the question of whether the continuity of affect and motives across the two sessions differed for individuals who wrote about the same versus a different academic experience.

Table 4
Correlations of Affect and Motives in Memories Over Time

	Positive academic			Negative academic		
Dimension	Overall	Same	Different	Overall	Same	Different
Affect						
Positive	.64*	.74*	.63*	.37*	.44*	.33*
Negative	.24*	.74*	.03	.67*	.62*	.68*
Motive						
Power	.42*	.52*	.44*	.60*	.28	.69*
Achievement	.23*	.31	.19	.43*	.47*	.35*
Intimacy	.52*	.48*	.56*	.64*	.48*	.71*

Note. $N = 92$ for positive academic memory ($n = 27$ "same," $n = 65$ "different"); $N = 88$ for negative academic memory ($n = 33$ "same," $n = 55$ "different").
*$p < .05$.

Table 4 shows correlations of affect and motives over time. The test-retest correlations for PA, NA, and the three motives were moderately strong and generally significant, regardless of whether participants wrote about the same or different academic experiences. Stability tended to be higher when the affect matched the valence of the memory (PA was more stable for positive memories, and NA was more stable for negative memories). Of the three motives, Intimacy was the most stable over time, followed by Power and Achievement. Thus, individual differences in affect and motives reported in self-defining memories are consistent over time, at levels comparable to that found for the consistency of dispositional affect (Watson & Walker, 1996).

Personality Correlates of Affect and Motives in Memories

In this section, we examined the association between the emotional and motivational content of people's memories and their general personality tendencies, specifically their level of self-esteem, narcissism, and proneness to shame, guilt, and pride.

Affect. Table 5 shows correlations of self-esteem, narcissism, and affective dispositions with PA and NA in each of the five memories. High self-esteem individuals tended to report more PA and less NA

Table 5
Correlations Between Personality Dimensions and Affect in Memories

	Positive Affect					Negative Affect				
	Academic		Romantic			Academic		Romantic		
Dimension	Pos	Neg	Pos	Neg	Earliest memory	Pos	Neg	Pos	Neg	Earliest memory
Self-esteem	.30*	.01	.17*	.10	.02	− .09	− .04	− .23*	− .08	− .03
Narcissism	.24*	.07	.15*	.19*	.08	− .02	.04	.06	− .02	.12
Shame	.03	− .05	.06	− .01	.01	.09	.23*	.13	.20*	.19*
Guilt	.11	− .11	.11	− .01	.06	.04	.19*	.04	.08	.04
Pride	.23*	− .11	.12	.07	.20*	− .08	.05	.05	.10	.00

Note. *N*s range from 177 to 196.
*$p < .05$.

in their memories. Specifically, high self-esteem participants were particularly likely to report feeling strength ($r = .26$, $p < .05$) and enthusiasm ($r = .28$, $p < .05$) in their positive academic memory, less shame ($r = -.27$, $p < .05$) and distress ($r = -.22$, $p < .05$) in their positive romantic memory, and more determined ($r = .16$, $p < .05$) in their negative academic memory. Narcissistic individuals also tended to report more PA in their memories, but, in contrast to high self-esteem individuals, they did not report less NA. Narcissistic participants were particularly likely to report feeling strong ($r = .24$, $p < .05$) and inspired ($r = .21$, $p < .05$) in their positive academic memory, inspired ($r = .23$, $p < .05$), determined ($r = .19$, $p < .05$), and hostile ($r = .17$, $p < .05$) in their positive romantic memory, hostile ($r = .24$) in their negative academic memory, proud ($r = .18$, $p < .05$) in their negative romantic memory, and, particularly noteworthy, shame ($r = .20$, $p < .05$) in their earliest childhood memory.

Shame-prone individuals reported more NA across their memories, especially in the negative romantic and academic memories and in the earliest childhood memory. In contrast, guilt-prone individuals tended to report more NA only in their negative academic memories. Interestingly, shame-prone participants were particularly likely to feel hostile ($r = .24$, $p < .05$) in their earliest childhood memory. Guilt-prone participants showed a more appropriate and adaptive pattern, feeling enthusiastic ($r = .18$, $p < .05$) in the positive academic memory, distressed ($r = .20$, $p < .05$), upset ($r = .19$, $p < .05$), and not inspired ($r = -.18$, $p < .05$) in their negative academic memory, and distressed ($r = .21$, $p < .05$) in their negative romantic memory. Pride-prone individuals reported high levels of PA across the five memories and in the positive academic and earliest childhood memories.

Motives. Table 6 shows correlations of self-esteem, narcissism, and affective dispositions with the three motives in each of the five memories. Self-esteem was unrelated to Power motivation, whereas narcissistic individuals consistently reported Power motivation in every one of their memories. High self-esteem individuals reported more Achievement motivation in their positive academic memory, whereas narcissistic individuals reported more Achievement motivation in their negative romantic memory. Neither self-esteem nor narcissism was related to Intimacy motivation.

Table 6
Correlations Between Personality Dimensions and Motives in Memories

	Power motive					Achievement motive					Intimacy motive				
	Academic		Romantic		Early	Academic		Romantic		Early	Academic		Romantic		Early
Dimension	Pos	Neg	Pos	Neg	mem	Pos	Neg	Pos	Neg	mem	Pos	Neg	Pos	Neg	mem
Self-esteem	−.01	.00	.02	.03	.01	.16*	.01	.10	.01	−.07	.01	.01	−.03	−.03	−.06
Narcissism	.26*	.18*	.18*	.21*	.15*	−.02	.01	.01	.17*	.08	.02	.02	.00	−.05	−.02
Shame	.09	−.11	−.11	−.08	.08	.00	.13	−.04	.04	.12	.01	.06	.06	.14	.15*
Guilt	−.06	−.16*	−.23*	−.17*	−.02	.13	.10	−.07	−.02	.01	−.09	.11	.02	.14	.17*
Pride	−.04	−.05	.05	.03	.05	.21*	.17*	.10	.11	.13	−.05	.11	.11	.12	−.04

Note. *N*s range from 177 to 196.
*$p < .05$.

Guilt-proneness correlated negatively with Power motivation across the five memories, especially the negative academic memory and both romantic memories, whereas shame- and pride-proneness were unrelated to Power motivation. Pride-proneness correlated positively with Achievement motivation in both of the academic memories, whereas shame- and guilt-proneness were unrelated to Achievement motivation. The affective dispositions were generally unrelated to Intimacy motivation, except that shame- and guilt-proneness were related to Intimacy motives in the earliest childhood memories.

Predicting changes in affect and motives over time. To test whether personality characteristics predict change in affect and motives over time, we correlated each personality dimension with residual change scores, computed by predicting the Time 2 affect and motive ratings from the corresponding Time 1 ratings and saving the residuals. For the positive academic memory, narcissism was correlated with change in Power motivation ($r = .28$, $p < .05$), indicating that narcissists tended to report even more power in their second memories than in their first memories. Guilt-prone individuals tended to report more NA the second time they wrote about their positive academic memory than the first time ($r = .23$, $p < .05$). There were no other significant correlations between the residual change scores and the personality dimensions. Whether the memory reported at Time 2 was the same or different from the memory reported at Time 1 did not moderate any of the effects.

Together, these findings show that specific personality characteristics underlie the self-reported emotions and motives in personal memories. It appears that each of the personality characteristics we examined—self-esteem, narcissism, and proneness to shame, guilt, and pride—had unique relationships with the memory features. Overall, Study 1 showed that affect and motives reported in memories were (a) stable across situations and over time and (b) meaningfully related to general personality characteristics.

STUDY 2

The purpose of Study 2 was to extend the findings from Study 1 to a real-world context and over a longer period of time. Using data from

a sample of students followed longitudinally through college, we examined how affect and motives coded from a self-defining memory were related to changes in self-esteem, personality, and well-being over a 4-year period and to objective measures of academic achievement (grade point average and graduation status).

Method

Participants and Procedure

This study used data from the Berkeley Longitudinal Study, an ongoing study of self-esteem and personality during college. The sample includes 508 undergraduate students who entered the University of California at Berkeley in 1992. This sample is diverse in terms of ethnicity (43% Asian, 36% Caucasian, 13% Chicano/Latino, 7% African American, 1% Native American), sex (56% female), socioeconomic status (20% came from families with household incomes below $25,000 and 20% from families with household incomes above $100,000), and academic ability (combined SAT scores ranged from 650 to 1540, $M = 1183$, $SD = 181$).

Participants were recruited during the first week of their first year of college and then assessed annually throughout college. Participants were contacted by mail and asked to complete an extensive questionnaire in exchange for money (the financial incentive ranged from $6 to $20). Six assessments were conducted over a 4-year period: first week of college ($N = 508$), end of the first semester ($N = 455$), and end of the first ($N = 306$), second ($N = 260$), third ($N = 200$), and fourth ($N = 303$) years of college. This study used data from a subsample of participants ($N = 156$) who provided a self-defining memory at the end of their third year of college. The self-defining memory was obtained in the Year 3 assessment because we were interested in memories that were relevant to the college student identity and we wanted participants to have time to accumulate salient experiences in college that would lead to the formation of these memories.[5]

5. There were no significant differences between the subset of participants who completed the self-defining memory and the original participants on most of the variables we examined. However, participants who completed the original assessment and provided a self-defining memory were more likely to be women (62% versus 51%, $p < .05$), had higher SAT scores ($M = 1211$, $SD = 163$), $t = 2.34$, $p < .05$, and scored higher on Agreeableness ($M = 3.62$, $SD = .54$), $t = 2.13$, $p < .05$, and Conscientiousness ($M = 3.60$, $SD = .60$), $t = 4.24$, $p < .05$, than participants who did not provide a self-defining memory.

Self-defining Memory

Participants were asked to write about a recent self-defining memory. The instructions stated: "Please describe a memory that is personally meaningful to you. The memory should be relevant to your identity as a college student and reveal something about how you feel about yourself in the academic environment. It may be any memory, either happy or sad, but should be one that you have thought about many times."

Three judges independently coded the memory on four dimensions: (a) presence of *Positive Affect (PA)*, including determined, enthusiastic, excited, inspired, proud, and strong (alpha = .86); (b) presence of *Negative Affect (NA)*, including ashamed, distressed, guilty, hostile, scared, and upset (alpha = .86); (c) degree of *Achievement motivation* imagery, including images related to the passion to learn, a desire to please oneself or one's likes, or the desire to better oneself (alpha = .70); and (d) degree of *Power motivation* imagery, including images related to wanting to have influence or control over another person (alpha = .55).[6] Intimacy motivation was not coded because the instructions indicated that the memory should be relevant to the academic context and consequently very few had intimacy-related themes. All dimensions were coded on a 5-point scale ranging from 1 (*very slightly or not at all*) to 5 (*extremely*). The correlation between PA and NA was $-.56$ ($p < .05$) and the correlation between Power and Achievement was .05 (*ns*).

Academic Outcomes

Achievement. College achievement was measured using the students' cumulative GPA after 5 years of college; this information was obtained from university records. Growth-curve modeling was used to examine change in GPA across college. Positive slopes indicate increases in GPA, and negative slopes indicate decreases in GPA. Change in GPA correlated .00 with cumulative GPA.

Graduation status. Graduation status was a dichotomous variable indicating whether the student had graduated 5 years after entering college; this information was obtained from university records.

6. To test whether valence moderated any of the findings, the valence of the experience described in the memory was also coded (alpha = .91). Valence only moderated 1 out of 48 effects, which is less than what would be expected by chance. Therefore, the valence of the memory is not considered in any of the subsequent analyses.

Personality Measures

Self-esteem. Participants completed the 10-item Rosenberg Self-Esteem scale (RSE; Rosenberg, 1965). Items were rated on a 1 (*not very true of me*) to 5 (*very true of me*) scale. The RSE was administered in all six assessments (alpha reliabilities ranged from .88 to .90). Growth-curve modeling was used to examine change in self-esteem during college. Positive slopes indicate increases in self-esteem over 4 years of college, and negative slopes indicate decreases in self-esteem. The intercept represents the participant's mean self-esteem level across the 4-year period. The slope and the intercept correlated .38 ($p < .05$).

Subjective well-being. Subjective well-being was measured in five assessments. In the first assessment, well-being was measured using a standardized composite of Overall Life Satisfaction (Campbell, Converse, & Rodgers, 1976), the Positive and Negative Affect (reverse scored) scales from the PANAS (Watson, Clark, & Tellegen, 1988), and the Neuroticism scale from the NEO-Five Factor Inventory (reverse scored; Costa & McCrae, 1992). At the end of Years 1, 2, 3, and 4, well-being was assessed using a standardized composite of: Overall Life Satisfaction (Campbell et al., 1976), Adjustment to College scale (adapted from Aspinwall & Taylor, 1992), Perceived Stress Scale (reverse scored; Cohen, Kamarck, & Mermelstein, 1983), and the Center for Epidemiological Studies Depression scale (reverse scored; Radloff, 1977). Growth-curve modeling was used to examine change in well-being during college. Positive slopes indicate increases in well-being and negative slopes indicate decreases in well-being. The intercept represents the participant's mean well-being level across the 4-year period. The slope and intercept correlated .26 ($p < .05$).

Big Five personality dimensions. The Big Five were assessed using the 60-item NEO-Five Factor Inventory (NEO-FFI; Costa & McCrae, 1992). Items were rated on a 5-point scale ranging from 1 (*not very true of me*) to 5 (*very true of me*). The NEO-FFI was administered during the first week of college and at the end of the fourth year. Alpha reliabilities were .83 and .82 for Extraversion, .76 and .77 for Agreeableness, .81 and .83 for Conscientiousness, .84 and .85 for Neuroticism, and .77 and .75 for Openness to Experience, respectively for the two assessments.

A common approach to assessing change across two waves of longitudinal data is to compute residualized change scores by regressing time two scores on Time 1 scores and saving the residuals. This provides an individual-level measure of how much a person changed and in which direction. Residual change scores adjust for differences in initial status

and thus estimate how much individuals would have changed had they all started out at the same level. Change in the Big Five dimensions was assessed using residual scores computed by regressing personality scores at the end of college on personality scores at the beginning of college (i.e., predicting Year 4 scores from Week 1 scores and saving the residuals). For these residual change scores, positive values indicate relative increases over time, and negative values indicate relative decreases.

Results and Discussion

Memory Characteristics and Personality Change

Table 7 shows correlations between affect and motives coded from the memory and changes in the Big Five dimensions, self-esteem, and well-being.

Table 7
Correlations of Affect and Motives Coded from Memories With Changes in Self-Esteem, Well-Being, Personality, and Academic Outcomes

	Affect		Motive	
Dimension	Positive	Negative	Achievement	Power
Self-esteem				
Intercept	.27*	−.20*	.21*	.03
Slope	.16*	−.08	.06	−.01
Well-being				
Intercept	.26*	−.20*	.21*	.01
Slope	.06	−.08	.02	−.19*
Change in personality				
Extraversion	.10	−.23*	.12	.12
Agreeableness	.15*	−.07	.16*	−.03
Conscientiousness	.22*	−.13	.24*	−.08
Neuroticism	−.13	.16*	−.15*	.20*
Openness	.07	−.04	−.05	−.02
Grade point average				
Intercept	.15*	−.15*	.20*	.02
Slope	.23*	−.17*	.13	−.11
Graduation status	.15*	−.16*	.13	.13

Note. *N*s range from 139 to 156.
*$p < .05$.

Affect. Participants who expressed more PA in their memory tended to have higher average levels of self-esteem and well-being and tended to increase in self-esteem, Agreeableness, and Conscientiousness over the course of college. NA expressed in the memory was associated with generally lower self-esteem and well-being, but was not related to change in either variable. NA was also associated with a decrease in Extraversion and an increase in Neuroticism.

Motives. Achievement motivation in the memory was associated with higher average levels of self-esteem and well-being across the 4-year period, but not with change in either variable. Achievement motivation was also related to increases in Agreeableness and Conscientiousness and a decrease in Neuroticism over time. Although Power motivation was not associated with average levels of well-being, it was related to decreases in well-being and increases in Neuroticism over the college years.

Memory Characteristics and Achievement

We next looked at the relation between affect and motives coded from the memory and academic outcomes, specifically college GPA and graduation status (see Table 7).

Affect. Participants who expressed more PA in their memory had generally higher grades, improved their grades across their college experience, and were more likely to graduate from college. In contrast, participants who expressed NA in their memory showed the opposite pattern; these participants had generally lower grades, their grades declined over time, and they were less likely to graduate from college (please note that the last variable, due to its dichotomous nature, was correlated with affective variables, using a point-biserial correlation).

Motives. Participants who expressed Achievement motivation in their memory had generally higher grades and were marginally more likely to improve their grades and graduate from college ($ps < .10$). Power motivation was not related to either academic outcome.

In summary, Study 2 extended the findings of Study 1 in a longitudinal context. Affect and motives coded from the self-defining memory were related to changes in personality and well-being over a 4-year period as well as to grade point average and graduation status.

GENERAL DISCUSSION

The present research examined the emotional and motivational content of self-defining memories. Together, Studies 1 and 2 showed that affect and motives reported in memories are (a) stable across contexts and over time, (b) related to concurrently assessed personality functioning, and (c) related to long-term changes in personality traits, well-being, and academic achievement. Below, we discuss the implications of each of these findings.

Continuity of Affect and Motives Across Memories and Over Time

The findings demonstrate that there are stable individual differences in self-reported affect and motives across academic and romantic memories, across positive and negative memories, and across recent and earliest childhood memories. In addition, affect and motives reported in memories showed moderate levels of consistency over time, even when participants wrote about a different event on the two occasions. In previous research, the continuity of affective reactions across memories has been assumed, but not tested directly. The moderate degree of consistency we found suggests that individuals show stable patterns of encoding and retrieving personally meaningful experiences. That is, individuals construe a wide range of important events in a similar manner, interpreting their experiences through a distinctive affective and motivational lens.

Despite the significant levels of continuity we found across memories, the degree of continuity was far from perfect. Although measurement error may have attenuated the magnitude of the correlations, a more substantive interpretation is that there may be person $\times$ context (e.g., academic vs. romantic) interactions. For example, high achievement-motivated individuals may show the typical pattern of reporting more achievement motivation in their academic memories than in their romantic memories, whereas high intimacy-motivated individuals may not (or may even show the reverse pattern). Such person-context interactions will tend to reduce the correlation of emotion and motives across memories because individual differences are not maintained across contexts.

Self-Defining Memories and Personality

If people show consistency across contexts and over time in the emotional and motivational content of their memories, then there

must be something stable about them that shapes the content of their memories. The present research points to the important role of personality characteristics in the recall of personally meaningful memories and suggests that memories and personality reciprocally influence each other. For example, we found that narcissists reported high levels of power motivation across their memories. According to narcissism theory, narcissists may strive for power to bolster their self-worth and protect themselves against implicit feelings of inadequacy. If self-defining memories reflect unresolved conflicts or enduring concerns (Singer & Salovey, 1993) and if ungratified wishes repeated across an individual's constellation of memories contribute to enduring patterns of behavior (Thorne & Klohnen, 1993), then power should be a primary concern for narcissists across their self-defining memories. Further, this accessibility to power-related experience may then perpetuate narcissistic tendencies, promoting grandiose and exploitative behaviors to achieve power-related goals. High self-esteem individuals, in contrast, have different affective and motivational processes than narcissists, and, consequently, different themes should be apparent across their self-defining memories. In the present research, high self-esteem individuals were not concerned with power across their memories but were concerned appropriately with achievement in their positive academic memory. Again, the accessibility of achievement-related motives may promote behaviors that facilitate actual achievements, which, in turn, promote self-esteem.

Self-Defining Memories and Long-term Changes in Personality and Adjustment

In Study 2, we found that the way participants described and evaluated an important life experience had long-term implications for their personality, well-being, and academic achievement over the course of college. These findings suggest that memories may provide a window into the transformations that occur in a person and thus may foretell how the person changes over time. Our data, however, are correlational in nature, and we cannot disentangle whether memories, in fact, promote changes in personality, whether personality promotes changes in the affective and motivational content of memories, or whether some third variable, such as life experiences, produces changes in both.

The impact of important life experiences on personality has been a longstanding concern of psychologists interested in personality development. A large body of research suggests that external events, such as having a satisfying relationship, changing jobs, or the death of a spouse, promote personality change (Roberts, Robins, Caspi, & Trzesniewski, 2003). Missing from this research, however, is an understanding of the process through which these external experiences transform a person. In other words, how does a satisfying relationship or the death of a spouse become incorporated into the working self and change a person?

We propose, building on the work of Conway and colleagues (Conway & Pleydell-Pearce, 2000; Conway et al., 2004) and Singer and Salovey (1993), that life experiences lead to changes in personality because memories for those experiences first get encoded as self-defining memories, which are then salient and accessible to the individual when he or she forms new goals, enters new social situations, and adopts new roles and identities. More specifically, self-defining memories represent an integration of the conceptual self and the autobiographical knowledge base, which the working self draws upon in selecting and striving for current goals. Self-defining memories become activated to serve as guides for goal-related behavior, which will then contribute to changes in thoughts, feelings, and behaviors in the working self as the individual progresses toward those goals. Over time, changes in the working self lead to changes in both the conceptual self and the autobiographical knowledge base, which contribute to changes in personality.

This analysis shows how self-defining memories can serve as a bridge between the trait and social-cognitive perspectives in personality research. Previous research on long-term personality change has rarely examined the self-cognitive processes that might be involved in maintaining continuity or promoting change in personality. The present findings demonstrate how an understanding of the link between self-defining memories and personality can provide insights into the social-cognitive mechanisms underlying personality change.

From our perspective, changes in an individual's personality reflect, in part, the way in which a person encodes meaningful life events. Specifically, an individual will react to an event based on his or her general personality traits, which influence the way the affective and motivational content of the experience is encoded into

memory. Chronic activation of these memories may then promote long-term changes in personality dispositions by shaping the individual's cognitions, emotions, and behavior, which will then influence reactions and encoding of future events. For example, if an individual high in achievement motivation does poorly in an important course, he may encode this experience as due to not studying enough. With this experience salient to him, he may study harder to master the material for the next challenging course. If he performs well in this course, then this serves to bolster his achievement motivation, which will then motivate him to seek out more situations in which he can express this motive. If he encodes this failure as reflecting a lack of ability, however, the same event may influence the individual in the opposite way. With the failure salient to him, he may come to believe that he is not good at school, study less, and thus progressively perform worse in school, lowering his achievement motivation, which then makes him less likely to seek out challenges. The accumulation of these experiences, both positive and negative, may converge into a "script" about studying and test-taking experiences (Tomkins, 1987). Thus, experience and memory work hand-in-hand to build a social-cognitive filter that can be self-perpetuating and contribute to personality stability and change.

Limitations

Several limitations should be considered when evaluating the present research. First, some of the effects we found were relatively weak, particularly in Study 2. Nonetheless, it is noteworthy that a memory for a single event can have such pervasive connections to a person's goals, traits, and even how they change over 4 years.

Second, we focused on memories from two domains that are central in most people's lives—love and work. However, other domains could be equally relevant to the college students in our sample, such as family or sports and other extracurricular activities. Future research should explore the continuity of emotions and motives across memories from other life domains.

Third, to test the stability of memory and memory features over time, we asked participants to provide a second memory only a few weeks after the initial self-defining memory request. Future research should examine the stability of self-defining memories over longer periods of time.

Fourth, in Study 1, motives were assessed from a single-item, and in Study 2, affect and motives were coded from a single self-defining memory. Future research should improve the measurement of memory content, through aggregation across items and/or across multiple memories.

Fifth, the longitudinal design used in Study 2 did not allow us to examine reciprocal relations between self-defining memories and personality change. Future research should utilize longitudinal designs in which both self-defining memories and personality are assessed at multiple points in time. Such research would help address the question of whether changes in memories lead to changes in personality, whether changes in personality lead to changes in memories, or both.

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