

Continuity in the Life Story: Self-Defining Memories, Affect, and Approach/Avoidance Personal Strivings

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ABSTRACT To study affective responses to memories and their relationship to personal strivings, 117 participants (65 males, 52 females) wrote self-defining memories and indicated their affective responses to the memories. A week later they generated personal strivings, rated them along 10 dimensions, and indicated the relevance of their memories to the strivings. Participants who recalled more memories relevant to the attainment of their strivings felt more positively about their memories. Additionally, participants who listed greater percentages of avoidance strivings also recalled more memories related to the nonattainment of their strivings. Participants with higher percentages of avoidance strivings also recalled less positive memories. In an extension of Emmons's (1986) research, participants' feelings about personal strivings were linked to their affective responses to memories generated a week earlier. These results support a goal-based theory of affect and a role for motivation in memory.

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From diverse directions in psychology, researchers have begun to converge on a new model of personality, one that emphasizes an individual's narrative identity or "life story" (McAdams, 1989a, 1989b; Schank, 1990; Spence, 1982; Tomkins, 1979, 1987, 1991). McAdams writes, "*Identity is a life story*—an internalized narrative integration of past, present, and anticipated future which provides lives with a sense of unity and purpose" (1989b, p. 161). To construct an articulated narrative unifying diverse experiences and time periods requires the ability to "see one's own life in continuous perspective" (Erikson, 1958, p. 111). Accordingly, the life story model of personality argues that conscious and identifiable links exist among the various stages of one's life.

One means of demonstrating this continuity is to identify relationships among an individual's memories, current affective responses, and desired but as yet unfulfilled goals. Years ago, Adler (1931) wrote, "Thus [a person's] memories represent his 'Story of My Life'; a story he repeats to himself to warn him 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" (p. 73). In the research presented here, we seek to explore the mechanisms by which our memories may "comfort" or "warn" us. It seems likely that there are both cognitive and affective components to memory's relationship to goals in personality. Cognitively, the content of our memories informs us about the actual possibility of achieving our goals. It is possible that we selectively recall memories relevant to the achievement of desired goals as a means of self-encouragement. Affectively, memories, by recreating in consciousness previous experiences in pursuit of a goal, allow us to feel what it might be like to succeed or fail in our goals. While a triumphant memory may remind us of how good it feels to achieve, a memory of defeat or embarrassment may still cause our stomachs to knot or necks to redden.

In an initial investigation of the relationship between affective responses to memories and an individual's long-term goals, Singer (1990) had college students rate 15 "life goal" sentences (reflecting Murray's [1938] psychogenic need complexes) for desirability. The students generated autobiographical memories, rated their current affective responses to the memories, and related their memories to the attainment or nonattainment of the goals. Participants' judgments about the relevance of their memories to attainment of their goals predicted their

affective responses to their memories—the more relevant a memory was to the attainment of a goal, the more positive affect it generated.

Singer also found serendipitously that affective responses to memories cued by avoidance goals (e.g., “avoid physical pain or danger”) differed from responses to memories cued by approach goals (e.g., “to be admired”). When participants generated their memories in response to approach goals, the memories were generally of attainment of the goals, and affect was primarily positive. However, when participants who desired avoidance goals recalled memories in response to those goals, their memories were most often of failure to avoid the undesired outcome, and thus affect was generally negative. Participants who endorse avoidance goals may generate memories of failed avoidance to reinforce their choices to avoid challenging themselves or risking harm again. The unpleasant experience associated with nonattainment of an avoidance goal may serve as a “cautionary tale” in service of the participants’ allegiance to that particular goal.

The Present Studies

The present studies have extended Singer’s (1990) investigation by (a) implementing a more idiographic and ecologically valid methodology and (b) using more formal and thorough methods to test the observed relationship between avoidance goals and memories of failed avoidance, including the examination of the content of these avoidance goals and failed avoidance memories. Pertaining to the first of these two points, substantive changes in methods for the collection of autobiographical memories and the identification of individuals’ most desired goals were instituted and are described in the following sections.

Self-defining memories. Singer (1990) used two different methods to elicit autobiographical memories from participants. In his first study, goal sentences served as cues for participants’ memories; in his second study, four general categories (family, relationships, school, and recreational activities) were used to elicit memories. The present studies employed a “self-defining” memory request which stresses the importance of self-description in the recalled memory (Singer & Moffitt, 1991/92; Singer, Moffitt, E. Lee, & S. Lee, 1990a, 1990b; Singer, Saltzberg, & Yatim, 1989). In comparison to more general autobiographical memory requests, the self-defining request has been found to result

in a greater percentage of memories considered important, and more memories concerned with themes of self-discovery and understanding (Singer & Moffitt, 1991/92). This result is consistent with McAdams's (1989b) identification of key scenes in the personal narrative which explain the origin or transformation of personal identity. The self-defining memory request was well-suited to the present studies since it evokes personally significant and emotionally evocative memories but at the same time is open in terms of topic or time frame, therefore allowing participants to choose freely from many possible memories.

The affective intensity of memories has been found to change over a period of time (Dutta & Kanungo, 1975; Holmes, 1970; Robinson, 1980). Holmes (1970) has shown affective responses to be representative of the memory's meaning to the individual at the time of recall rather than at encoding. Therefore, we only focused on current affective responses to memories. While affective responses to the autobiographical memories in Singer's study (1990) were made on a continuum of negative to positive, the present studies were designed to assess a range of different emotions in order to understand relationships among emotions better.

Personal strivings. A methodological concern noted in the Singer (1990) study was the use of experimenter-provided goals, which limited the results to general goals rather than allowing participants' to identify their true personal goals. One aim of the present research was to balance the self-defining memory request with a goal assessment method that was idiographic and included a clear and concise rating system. Emmons's (1986) personal striving model, which has been utilized in studying the influence of motivation on both psychological and physical well-being (Emmons, 1986, in press; Emmons & King, 1988, 1989; King & Emmons, 1990), was found to be easily adaptable for this purpose.

As described by Emmons, "Personal strivings are idiographically coherent patterns of goal strivings, and represent what an individual is typically trying to do. . . . Each individual can be characterized by a unique set of these 'trying to do' tendencies" (1989, p. 92). Personal strivings may be something an individual is trying to attain, but in line with Allport's (1953) concern that the study of motives include a focus on what the individual is attempting to avoid, they may also be something the individual typically seeks to avoid or prevent.

Emmons (1986) demonstrated the relationship between personal strivings and daily subjective well-being. Positive affect, as assessed

four times a day over a 3-week period, was found to be most strongly related to the amount of happiness individuals expected they would experience when succeeding in a striving, the amount of unhappiness they expected they would experience when failing in a striving, and the degree of past success in the striving. Negative affect was related to low expectations of future success in the striving, ambivalence regarding the success of the striving, and the degree to which strivings conflicted with each other.

An important goal in applying the personal striving approach to the present research, besides giving a more idiographic cast to Singer's findings, was to demonstrate that personal strivings' affective links extend beyond daily experience to one's experience of the more distant past. That is, what we want for ourselves in the future is interwoven with how we feel about what we have had or not had in the past. Using Emmons's personal striving measure, we hoped to demonstrate that affective responses to memories would be related to participants' assessments of the importance and value of strivings in their lives.

Separation of the memory and striving tasks. In Singer's (1990) study, ratings of goal desirability, recording of memories, and judgment of the memories' relevance to the goals all took place in the same 2½-hour session. The present investigation separated the memory and striving tasks by a week's time. This time span reduced the possibility of an intermingling of participants' affective responses to memories and their judgments of the memories' relevance to the attainment of their strivings.

Hypotheses. Based on the previous research discussed, the following hypotheses were formulated to guide these studies:

(a) Individuals whose memories have greater relevance to the attainment of their strivings should also report more positive affect and less negative affect in response to their memories.

(b) Individuals with higher percentages of avoidance strivings should report less positive and more negative affect in response to their memories.

(c) Individuals with higher percentages of avoidance strivings should recall greater percentages of memories related to the nonattainment of their strivings. The content of these memories should reflect the dire consequences of failed avoidance and serve to reinforce the avoidance strivings.

To extend Emmons's work by demonstrating that the relationship of personal striving characteristics to subjective well-being may be extrapolated to experiences in the more distant past, the following hypotheses were proposed:

(a) Overall positive affective responses to memories should be associated with participants' expectations about the amount of happiness to be experienced with striving attainment and the amount of unhappiness to be experienced with striving nonattainment.

(b) Overall positive affective responses to memories should be positively associated with higher ratings of past success in the strivings, and with greater importance accorded to the strivings.

(c) Overall negative affective responses to the memories should be positively associated with greater estimation of difficulty in satisfying the strivings, lower probability of success in the strivings, and more ambivalence regarding success in the strivings.

METHOD

Participants

Participants were 117 (65 male, 52 female) undergraduate students enrolled in psychology courses at Connecticut College and the United States Coast Guard Academy. Participants received either course credit or \$10 in exchange for their participation. Participants' ages ranged from 18 to 23 years ($M = 19.19$ years).

Measures

Self-defining memory task. Self-defining memories were described as being at least 1 year old, very familiar, clear, and important—memories that had been recalled and thought about many times (Singer & Moffitt, 1991/92). Participants were further instructed that self-defining memories were those that aided in self-understanding, and might be the type of memory told to a friend to convey important information powerfully. While self-defining memories were described as evoking strong feelings, it was explained that those feelings could be positive, negative, or a combination of both. Participants were asked to recall and write 10 memories. One full page was allowed for each memory.

Affective response to memory rating sheet. Ten primary emotions of happiness, sadness, anger, fear, surprise, shame, disgust, guilt, interest, and contempt (Izard, 1977), plus pride, embarrassment, vividness, and importance, were

assessed numerically using a scale of 0 to 6. It was stressed that all responses were to reflect current emotions. Participants also recorded how many years ago the events evoking the memories took place.

Personal strivings list (Emmons, 1986). Participants were instructed to generate and write 15 personal strivings, described as being purposes or goals that they typically attempt to accomplish in their everyday behavior. Examples were given to indicate that strivings could be either positive (trying to attain something) or negative (trying to avoid or do away with something), and could be either broad “trying to make others happy,” or specific “trying to make my spouse happy.” The sentence stem “I typically try to . . .” was provided to prompt each of the strivings.

Striving assessment scales (Emmons, 1986).¹ Participants were guided in rating their personal strivings along the 10 dimensions of (a) the positive or negative quality of the striving (valence),² (b) the anticipated amount of happiness if successful in the striving, (c) the anticipated amount of unhappiness if unable to succeed in the striving, (d) the anticipated amount of unhappiness if successful in the striving (ambivalence), (e) the importance associated with the striving, (f) the amount of past success in the striving, (g) the probability of success in the striving, (h) the amount to which the environment is conducive to success in the striving (opportunity), (i) the difficulty of the striving, and (j) the social desirability of the striving. Valence was rated as either positive (+), negative (−), or neither positive nor negative (0). Probability of success and past attainment were assessed using a scale of 0 to 9. All other ratings were made numerically using a 0 to 5 scale.

Striving/memory relationship task. Participants rated each self-defining memory for its relevance to the attainment or nonattainment of each of the personal strivings. When a memory was relevant to the attainment of a particular striving (success), the striving/memory rating was 1. When a memory was relevant to the nonattainment of the striving (failure), it was rated −1. When a mem-

1. Copies of the updated striving assessment scales were obtained from Robert A. Emmons, University of Illinois at Urbana-Champaign. The original scales were described by the author in an article based on his doctoral dissertation (Emmons, 1986). For the purposes of this study, and after personal communication with Dr. Emmons, we chose to use only the 10 striving characteristics which appeared to be most useful according to his study of personality and subjective well-being.

2. To avoid confusing the positive or negative nature of the striving with any evaluative component, valence will be referred to with alternate terms for the remainder of this article. Positively valenced strivings will be renamed as *approach* strivings, and negatively valenced strivings will be referred to as *avoidance* strivings.

ory was not relevant to a particular striving, the relationship was scored as 0. Instructions for these ratings were provided by a figure/flow chart (Figure 1), and also in paragraph form.

Procedure

Students from psychology courses were recruited from Connecticut College and the United States Coast Guard Academy. Participants attended two 2-hour group sessions. At the beginning of the first session they were told that the study was an effort to learn more about the content and organization of personal memories, and to understand how memories may be related to an individual's characteristic ways of thinking, feeling, and behaving.

During the first session, participants completed the self-defining memory task and the affective response to memory rating sheets. Before leaving, the participants were given a written explanation of the personal striving concept to take with them and were asked to give some consideration over the next week to what their striving list might be. This step was taken to ensure that the list the participants eventually wrote down would reflect more deeply committed strivings as opposed to a more superficial list developed on the spur of the moment.

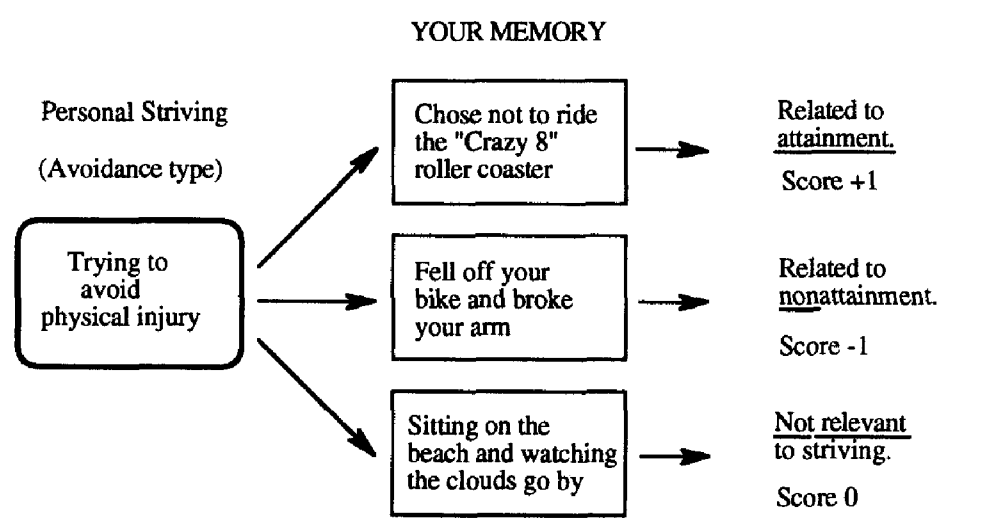
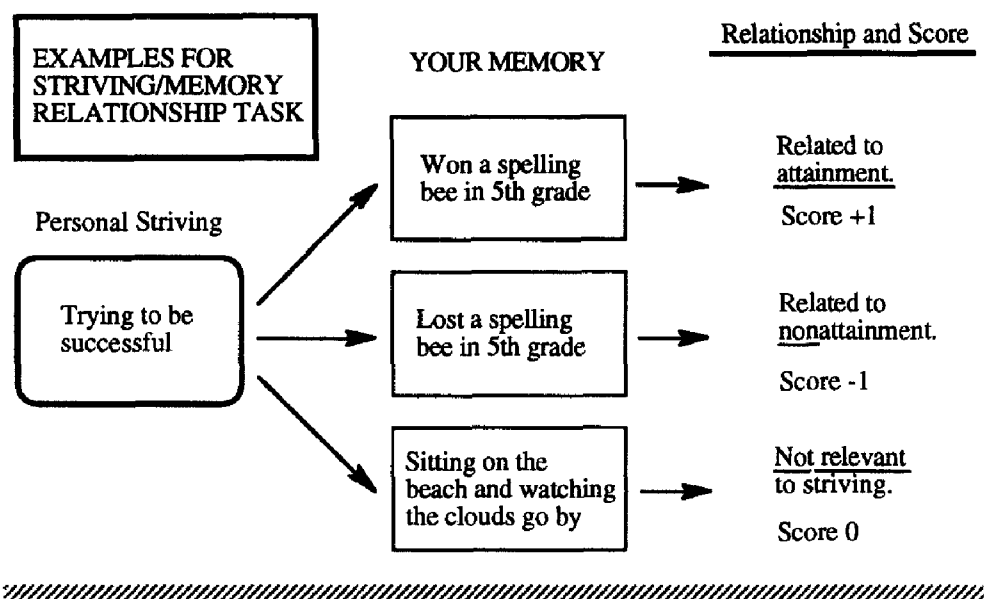
To avoid confounding memory recall and striving selection, 1 week elapsed between the first and second sessions. During the second session, participants were given a second copy of the personal striving concept to review. They completed the personal strivings list, striving assessment scales, and the striving/memory relationship task, respectively. The written memories were returned to them solely for use in completing the striving/memory relationship task.

RESULTS

Affective Responses to the Memories

Descriptive statistics indicate that the self-defining memory request evoked recall of emotionally significant events. On the scale of 0 to 6, using the mean rating of 10 memories for each of 54 participants, these data indicate that memories recalled were considered important ($M = 4.35$, $SD = 0.71$) and vivid ($M = 4.74$, $SD = 0.77$). The mean number of years ago when the events producing the memories took place was 5.85 ($SD = 2.00$), ranging from 1.4 to 10.4.

Factor analysis of affective responses to memories. The 12 adjective ratings for affective responses to memories were subjected to a principal components analysis. Using an eigenvalue of 1 criterion, two



Memory #1

On the 15 lines below, please rate your memory's relevance to the attainment or nonattainment of each of your fifteen personal strivings.

Figure 1
Directions for the Striving/Memory Relationship Task

Table 1
Factor Loadings of Affective Responses to Memories

Affect	Factor	
	1	2
Happiness	-.32	.77
Sadness	.65	-.12
Anger	.79	-.10
Fear	.74	.17
Surprise	.54	.48
Shame	.87	-.24
Disgust	.80	.02
Guilt	.84	-.08
Interest	.16	.75
Embarrassment	.82	-.10
Contempt	.64	.16
Pride	-.12	.86
Variance (%)	43.7	18.7

Note. $N = 117$, based on the mean of 10 ratings for each affect. Factor 1 = negative affective responses to memories; Factor 2 = positive affective responses to memories.

factors were extracted and rotated orthogonally to a varimax criterion. These factors accounted for 62.4% of the variance. Table 1 presents the affective response to memory factors and their respective loadings.

Factor 1, negative affective responses to memories, had loadings of shame, guilt, embarrassment, disgust, anger, fear, sadness, and contempt. Factor 2, positive affective responses to memories, consisted of happiness, pride, and interest. Surprise was divided between the two factors almost equally and was eliminated from further analyses.

Approximate factor scores were created by taking the means of the items that loaded on each factor—the net affective responses to memories factor scores were created by subtracting the negative affective responses to memories factor scores from the positive affective responses to memories factor scores. These new affective responses to memories composite variables were used to determine the overall affective quality of each of the 1,170 memories (10 memories \times 117 participants). Comparing positive affective responses to memories to negative affective responses to memories, 741 memories (63%) were more positive than negative in nature, 422 (36%) were more negative, and in 7 cases (1%),

the positive and negative affective responses to memories were equal in strength.

Memory Relevance to Striving Attainment

We first examined how relevant participants perceived their memories to be to their strivings. Looking at the total number of memories (10 memories \times 117 participants = 1,170), 98% (1,151) of the memories were indicated to be relevant to at least one of the strivings. This result confirms that participants' memories were indeed self-defining in that the vast majority of them were connected to at least one important striving in their lives. It should be made clear that any given memory was not usually related to all 15 personal strivings, but instead to a subset of strivings that applied to the content of the particular events recounted. Of the 1,151 relevant memories, 718 (62%) were rated as having greater relevance to striving attainment than nonattainment. Memories with greater relevance to striving nonattainment numbered 376 (33%), and 57 (5%) were equally related to striving attainment and nonattainment.

Affective responses to memories and striving attainment. A striving attainment percentage was calculated to reflect the degree to which participants recalled memories relevant to the attainment of their strivings. Each participant made 150 ratings (10 memories with a possible relationship to 15 strivings). Ratings of "not relevant" to either attainment or nonattainment of personal strivings were removed from the analysis. The percentage of striving attainment ratings (striving attainment divided by [striving attainment + striving nonattainment]) was calculated for each memory and then averaged across the 10 memories for each participant. This percentage was paired with the mean affective responses to memories (positive, negative, and net) over the 10 memories for each participant. The resulting correlations are presented in Table 2.

Results indicate that participants who recalled memories with greater relevance to striving attainment reported more positive affective responses to memories ($r = .54, p < .0001$) and less negative affective responses to memories ($r = -.36, p < .0001$). Net affective responses to memories also correlated strongly with the relevance of the memories to striving attainment ($r = .62, p < .0001$).

By averaging across memories, there is the risk that we have not measured the direct correspondence between an affective response to a memory and the relevance of that memory to striving attainment/

Table 2
Percentage of Striving Attainment Ratings Correlated with
Affective Responses to Memories

Affective responses to memories	Percentage of attainment memories
Positive affective responses	.54*
Negative affective responses	-.36*
Net affective responses	.62*

Note. $N = 117$. Net affective responses were created by subtracting the negative affective responses to memories factor scores from the positive affective responses to memories factor scores.

* $p < .0001$.

nonattainment. To address this concern, we paired the striving attainment percentage for a given memory with the affective responses to that memory for each of the 117 participants, memory by memory. This analysis yielded 10 correlations for Memories 1 through 10, each based on an n of 117. Positive affective responses to memories correlated with striving attainment percentage at a mean r of .57, $p < .0001$ (the range for the 10 memories was .48 to .63). Negative affective responses to memories correlated with striving attainment percentage at a mean r of $-.52$, $p < .0001$ (the range was from $-.44$ to $-.61$). Net affective responses to memories correlated with striving attainment percentage at a mean r of .62, $p < .0001$ (the range for the 10 memories was .54 to .70). These analyses confirm a specific link between a participant's affective response to a given memory and that memory's relevance to striving attainment.

Avoidance Strivings and Affective Responses to Memories

Out of a total of 1,755 striving approach/avoidance ratings (15 ratings \times 117 participants), 1,351 (77%) were approach strivings, 338 (19%) were avoidance strivings, and 66 (4%) of the strivings were "neutral" (neither approach nor avoidance).

An avoidance striving percentage was calculated for each participant. In order to calculate an individual's percentage of avoidance strivings out of all valenced strivings, strivings rated as "neutral" were removed from the analysis (leaving avoidance strivings divided

by [avoidance + approach strivings]).³ The resulting avoidance striving percentages ranged from 0% to 67% ($M = 20.2\%$, $SD = 13.9\%$). These percentages were correlated with the mean affective responses to memories across the 10 memories for each individual. Participants who generated higher percentages of avoidance strivings showed fewer positive and marginally more negative affective responses ($r = -.25$, $p < .01$, and $r = .17$, $p < .08$, respectively); net affective responses to memories also inversely correlated with percentage of avoidance strivings ($r = -.29$, $p < .01$).

Avoidance strivings and memory relevance to striving nonattainment. To explore the relationship between avoidance strivings and striving nonattainment, a striving nonattainment percentage was calculated by subtracting the striving attainment percentage from 100. The percentage of avoidance strivings for participants was correlated with the percentage of striving nonattainment ratings across their 10 memories. Results indicated that the participants who generated a greater percentage of avoidance strivings also recalled memories with greater relevance to the nonattainment of their strivings ($r = .46$, $p < .0001$).

To explore this effect in more depth, we decided to look at those participants with the highest levels of avoidance strivings. We chose participants with the 10 highest avoidance percentages (the top 8.5% of our sample). All of these 10 participants generated at least 40% avoidance strivings (in other words, at least 6 out of their 15 strivings were concerned with avoidance). Table 3 displays the content of their avoidance strivings.

This subset of participants should show particular evidence of memories associated with failed avoidance. To verify this, we looked at each of these participants' 10 memories and its relevance to the attainment or nonattainment of their avoidance strivings. For each memory, we looked to see whether or not it was rated relevant to the participant's avoidance strivings (the participant assigned a score of +1 or -1 for every striving to which the memory was relevant, the positive or

3. It should be noted that inclusion of neutral strivings in the denominator for the avoidance striving percentage yields (by mathematical necessity) slightly smaller percentages for a few participants. However, given that participants averaged less than 1 neutral striving out of their 15 total strivings, these reductions had no significant effect on the overall relationship of avoidance striving percentages to mean affective responses to memories.

Table 3
High-Avoidance Participants' Avoidance Strivings

Social anxiety
Avoid embarrassment
Avoid feeling inferior
Avoid uncomfortable social situations
Avoid crowds
Avoid being center of attention
Avoid making scenes or displaying feelings
Interpersonal conflict
Avoid conflict with peers
Avoid conflict with parents
Avoid hurting others
Avoid being critical
Avoid imposing opinions on others
Avoid people who don't like me
Avoid prejudice
Avoid being overly competitive
Avoid chasing girls
Negative physical and psychological health
Avoid pain or injury
Avoid overeating
Avoid stress or worry

Note. The listed avoidance strivings were mentioned by at least 2 of the 10 participants (none were mentioned by more than 3).

negative sign indicating the memory's relevance to striving attainment or nonattainment, respectively). We then placed the avoidance striving nonattainment total for that memory over the total of avoidance striving nonattainment and attainment for that memory. The result is a percentage of avoidance striving nonattainment, or how often for a given memory an individual failed to attain his or her avoidance strivings (failed avoidance). Table 4 displays the average percentage of avoidance striving nonattainment (failed avoidance) across the 10 memories for each of the 10 participants.

Overall, these 10 participants' memories were relevant to the non-attainment of their avoidance strivings 77% of the time, or, put in terms of striving attainment, they were related to the attainment of avoidance strivings only 23% of the time. This figure is in striking contrast to par-

Table 4
Participants with Highest Percentage of Avoidance Strivings and
the Relevance of Their Memories to the Nonattainment of
Their Avoidance Strivings (Failed Avoidance)

Lowest to highest in avoidance strivings percentage	Avoidance strivings ^a (%)	Nonattainment (failed avoidance) ^b (%)
1	40	59
2	40	62
3	40	98
4	47	39
5	47	88
6	47	92
7	47	98
8	50	63
9	53	89
10	67	79

a. Avoidance strivings refers to the percentage out of 15 personal strivings designated by participants as avoidance strivings.

b. The percentage of striving nonattainment (failed avoidance) ratings (avoidance striving nonattainment divided by [avoidance striving attainment + striving nonattainment]) was calculated for each memory, and then averaged across the 10 memories for each participant.

participants' general tendency to recall memories relevant to the attainment of their strivings (62%). Table 5 offers some representative examples of failed avoidance memories rated as relevant to the nonattainment of participants' avoidance goals.

Striving Assessment Scales

Turning to an extension of Emmons's striving/daily well-being relationships, we attempted to replicate his findings, substituting remembered experiences from the long-term past for his use of daily events. Evidence that ratings of striving characteristics were correlated with affective responses to memories generated a week earlier would lend support to Emmons's and others' arguments regarding the centrality of goal concepts in individuals' affective experience. Looking first at our participants' personal strivings in comparison to his participants' strivings, an informal analysis suggests that the personal strivings generated were

Table 5
Representative Memories of Failed Avoidance

Memory relevant to the nonattainment of the strivings "avoid people I don't get along with," "avoid pain," "avoid uncomfortable situations," "avoid embarrassment," and "avoid being reprimanded":

"I was having a swimming lesson, and the instructor knew that I had a fear of going under deep water. She tried to solve this by sitting on the side of the pool and having me hold onto her legs and pushing me in and out of the water—so that my head went under. I wanted to stop after a couple of minutes (I was out of breath), but she wouldn't let me—she kept pushing my head under. I panicked and tried to get out, then failing to do this, tried to pull her in. I made so much noise that eventually she let me go, and I ran outside to where my mother was waiting. I remember thinking that I was going to drown."

Memory relevant to the nonattainment of the striving "avoid going somewhere alone":

"I remember driving to Florida for spring break last year. As soon as I got there I missed my family terribly and called them every night. I was happy to be there but whenever it was right around dinnertime I wished I had stayed home."

Memory relevant to the nonattainment of the striving "avoid hurting others":

"Out on the track in eighth grade. I was with this bouncy semipopular girl who was friends with me because we lived in the same neighborhood and rode the bus together. This guy named Xavier was about to start running in a 100-yard dash. The girl stuck her foot out and tripped him. He went flying, face into the dirt. We laughed, but I felt like the biggest rat."

representative of the striving content categories identified by Emmons (1989), reflecting themes of achievement, power, affiliation, intimacy, personal growth/health, self-presentation, autonomy, and avoidance.

Striving factors. We next sought to compare the factor structure of our striving assessment characteristics with those reported by Emmons. To determine the underlying dimensions of the striving assessment scales, a principal components factor analysis was performed by means of varimax rotation.⁴ Using an eigenvalue of 1 criterion, three factors were

4. The striving dimension of valence was omitted from the factor analysis because, unlike the other variables, it was a nominal striving characteristic.

Table 6
Factor Loadings of Striving Assessment Scales

Characteristic	Factor		
	1	2	3
Happiness	.77	.34	.08
Unhappiness	.83	.10	.05
Ambivalence	.00	.00	.98
Importance	.81	.33	.06
Past attainment	.21	.73	.00
Probability of success	.33	.73	-.07
Environmental opportunity	.12	.71	.14
Difficulty	.09	-. .80	.05
Social desirability	.67	-.08	-.13
Variance (%)	38.7	17.1	11.4

Note. $N = 117$, based on the mean of 15 ratings for each striving characteristic. Factor 1 = striving affect; Factor 2 = striving success; Factor 3 = striving ambivalence.

extracted, accounting for 67.2% of the total variance. The results of the rotated factor matrix are presented in Table 6.

Factor 1, striving affect, accounted for 38.7% of the variance and had high positive loadings of unhappiness (if striving not attained), happiness, importance, and social desirability. Past attainment, probability of success, environmental opportunity (to attain the striving), and striving difficulty (loading negatively) made up Factor 2, striving success. Factor 3, striving ambivalence, reflected the unique contribution of ambivalence to the factor structure. These factors were quite similar to those generated by participants in Emmons's (1986) study. Having established that the personal strivings and the assessment of those strivings produced in this study were comparable to Emmons's earlier samples, we turn to the relationship of strivings to memories.

The Relationship between Strivings and Affective Responses to Memories

Personal striving characteristics were correlated with affective responses to memories factors (see Table 7). Positive affective responses to memories correlated significantly with probability of success in attaining one's strivings. Negative affective responses to memories correlated inversely with probability of success and positively with difficulty in attaining

Table 7
Correlations between Affective Responses to Memories and Striving Characteristics

Striving characteristic	Positive affective responses to memories	Negative affective responses to memories	Net affective responses to memories
Happiness	.21	-.18	.27
Unhappiness	.13	-.06	.13
Ambivalence	.08	.19	-.05
Importance	.21	-.26	.31*
Past attainment	.16	-.11	.19
Probability of success	.35**	-.32**	.45**
Environmental opportunity	.07	-.13	.13
Difficulty	-.03	.32*	-.21
Social desirability	-.09	-.17	.03

Note. $N = 117$. Net affective responses were created by subtracting the negative affective responses to memories factor scores from the positive affective responses to memories factor scores. Applying the Bonferroni correction procedure, only correlations at $p < .001$ were accorded significance.

* $p < .001$

** $p < .0001$.

one's strivings. Net affective responses to memories correlated with participants' ratings of striving importance and with the probability of successful attainment of their strivings. Many other correlations were in the predicted direction but did not reach the $p < .001$ significance criterion according to the Bonferroni correction procedure.

DISCUSSION

Employing several methodological refinements, this study has replicated the findings of Singer (1990) and provided more formal support for his hypothesis regarding the relationship between avoidance goals and failed avoidance memories. It has also demonstrated that personal strivings, a measure of long-term goals developed by Emmons (1986), are linked not only to daily well-being, but to more distant experiences from the past. Using idiographic measures of self-defining memories and personal strivings collected in two sessions a week apart, we were able to demonstrate that affective responses to memories, both posi-

tive and negative, are linked to the relevance of participants' memories to the attainment or nonattainment of personal strivings. These results were obtained both for a given affective response to a memory and for a participant's memories in general. They were also true for positive feelings of happiness, pride, and interest about memories and for negative feelings of sadness, anger, fear, embarrassment, shame, disgust, contempt, and guilt. As these results reflect, the memories sampled in this study were selected for strong affective responses. A note of caution is thus warranted about the relationship of personal strivings to all types of autobiographical memories. Personal strivings may be unrelated to more cognitive autobiographical memories (e.g., memories of specific locations, historical facts).

Regarding participants' personal striving characteristics and their relationship with affective responses to their memories (see Table 7), it would appear that participants who recalled more positively toned and less negatively toned memories were more optimistic about the probability of attaining their strivings. On the other hand, participants who recalled more negatively toned memories rated striving attainment more difficult. Additionally, participants who recalled memories that were more positive than negative overall (net affective responses to memories) also rated their personal strivings as more important in their lives. Whether these results reflect a bidirectional causal relationship between memories and personal strivings or simply the effect of an overriding optimism/pessimism dimension cannot be ascertained from this study. At the minimum, however, the data indicate a limited affective flexibility in how participants think about the past and approach the future.

That affective responses to memories correlated highly with the relevance of those memories to participants' personal strivings supports Roseman's goal-based theory of affect (Roseman, Spindel, & Jose, 1990). This theory suggests that affective responses to events are tied closely to the contribution of those events to the attainment or nonattainment of personal goals. While earlier studies (Roseman, 1984; Weiner, 1982; Weiner, Russell, & Lerman, 1979) have found a systematic differentiation of affect based on goal attainment in response to experimenter-provided narratives, the present study was able to show that same relationship with participants' autobiographical memories. Similarly, while Singer (1990) used experimenter-provided goals and found that participants related only 51% of their memories to the attainment or nonattainment of the goals, in the current study no more than

2% of the memories were judged to be unrelated to the participants' self-generated goals (even though these memories had been generated a week earlier).

To encourage a more deliberative and ongoing approach to the identification of personal strivings, we gave participants the personal strivings list instructions to examine during the week between the two experimental sessions. It is possible that memory content could have entered the participants' ruminations about their strivings over the course of the week. Yet it is important to note that participants gave little indication during debriefing that they had consciously drawn upon their memories to generate their subsequent list of personal strivings. It is likely, however, that at a more unconscious level participants relied upon the raw material of their previous experiences, which would include self-defining memories, to help construct their list of personal strivings. Given a life story model of personality that emphasizes continuity between past and future, we would be concerned if it were otherwise. To create a situation in which thoughts about memories and strivings are completely dichotomized would seem to us to be both artificial and contrary to the way we understand the person. Yet for the sake of a more rigorous test, one might propose a future study in which participants came back a week after the memory task, received the personal striving instructions, and then returned still another week later to complete the striving list and the remainder of the experiment.

What is significant about the present study, however, is not that memories and strivings may share similar content, but that participants' affective responses to a memory are linked to their personal strivings. The individual lives in the world of the present, and that world is defined by moment to moment changes in emotion, some barely detectable and some of powerful intensity. When an individual, sitting at a desk, riding a bus, or in the midst of conversation experiences the sudden return of a memory and an accompanying affective surge of pleasure or dismay, the present is momentarily subverted by a past event. Yet what the results of this study suggest is that memory affects individuals not only because it reminds them of what was, but because it is relevant to what they still seek to attain.

This becomes particularly important when considering participants' avoidance goals and failed avoidance memories. This study provided a formal replication of Singer's (1990) observation that participants who prefer avoidance goals tend to recall memories relevant to the nonattainment of those same goals. Participants with the highest percentage of

avoidance strivings provided numerous examples of memories that have either shaped or reinforced their preference for these strivings. Yet these memories are not about the positive outcome of avoiding criticism, failure, or conflicts with parents; they are either formative or reinforcing in the exact opposite fashion. They recall the acute pain and frustration when the unwanted event did occur. Although we all participate in the process of warning ourselves about what might befall us if we are not careful, this high-avoidance subset of our sample seems more invested in this approach than the rest of our sample. In general, our sample of high-achieving college students tended to recall memories of positive experiences that were relevant to the attainment of their most desired outcomes. Their memories appeared to be messages to themselves (and perhaps to the imaginary audience of the experimenter?) that they are "can-do" people who are capable of the successes they desire in academics, athletics, and relationships. This makes the tendency of the avoidance group to recall memories of failure all the more intriguing. What other personality characteristics might accompany their relative preference for cautionary memories (e.g., high anxiety, low sensation-seeking, proneness to phobias, risk aversion) is clearly an important topic of future studies.

The current research does not directly address but certainly raises questions about the motivational role of memory in personality. First, memories, particularly those which are retrieved and contemplated multiple times (such as the self-defining memories explored in this study), may result in affective responses that inform us about what our strivings should be. That is, in replaying significant scenes from our personal past, we may be involved in a self-regulation process that allows us to readjust our current behavior in order to identify and to expedite our personal goals. In this manner, then, affect and memory shape what our goals may become. From the complementary perspective, as we begin to identify and clarify our goals in life, our affective reactions to past events may undergo changes. This perspective is consistent with evidence that affect in response to memories is related to the meaning of the memory at recall, rather than at encoding (Holmes, 1970). It is also related to perspectives that describe the influence of current needs and attitudes on self-reported narrative in therapeutic encounters (Spence, 1982), and on recollection of early memories (Adler, 1927; Ansbacher, 1973). Thus, when autobiographical events are recalled, they may be viewed from one's current life perspective, accommodating changes over the life span.

We hope that future work will begin to identify more specific means by which memories and strivings influence each other in combining to form an individual's unique life story. It would be of great interest to study memories longitudinally and examine how both the content of a memory and one's affective response to that memory might change over time given changes in one's hierarchy of personal strivings. What the present investigation has demonstrated is that our current affective responses to memories are strongly linked not just to the past, but to what we both want and do *not* want in the future.

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