

# Trait Dissociation and the Subjective Affective, Motivational, and Phenomenological Experience of Self-Defining Memories

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**ABSTRACT** The present research reports 2 studies that examine the relation between nonpathological trait dissociation and the subjective affect, motivation, and phenomenology of self-defining memories. In Study 1 ( $N = 293$ ), participants retrieved and rated the emotional and motivational experience of a general and a positive and negative achievement-related memory. Study 2 ( $N = 449$ ) extended these ratings to relationship-related memories and the phenomenological experience of the memory. Dissociation was associated with incongruent affect in valenced memories (e.g., positive affect in a negative memory) and memories that were visually incoherent and saturated with power motivation, hubristic pride, and shame, regardless of valence or domain. The present findings demonstrate that autobiographical memories, which integrate emotional, motivational, and phenomenological components, reflect the emotional and motivational processes inherent to dissociation.

Many people have had the experience of driving from one place to another without any memory of segments of the actual trip. Some people get so absorbed in a movie or novel that they lose awareness of the world around them. Daydreams and fantasies can become so lifelike that they disrupt the normal stream of consciousness. These are common examples of dissociation—a lack of normal integration

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of thoughts, feelings, and experiences into the stream of consciousness and memory (Bernstein & Putnam, 1986).

Dissociation is often conceptualized as a psychogenic trait that develops to help an individual cope with traumatic experiences. The prevalence of normative dissociative experiences, such as those described above, however, indicates that not all dissociative tendencies are the result of trauma (Butler, 2006). In fact, nonpathological dissociation can be thought of as a normally distributed trait in the general population (Waller, Putnam, & Carlson, 1996) that is approximately 50% heritable (Jang, Paris, Zweig-Frank, & Livesley, 1998). Nonpathological dissociation is related to, but distinct from, the five major trait dimensions of personality (Goldberg, 1999) and is characterized by proneness to fantasy, suggestibility, and cognitive failures (for a comprehensive review, see Giesbrecht, Lynn, Lilienfeld, & Merckelbach, 2008).<sup>1</sup> As pathological dissociation may stem from distortions of normal dissociative tendencies (Butler, 2006), a basic understanding of the phenomenology of nonpathological dissociation may shed light on how these normal processes become distorted.

Although disruptions in memory are part of the definition of dissociation, relatively little research has examined how dissociation is related to emotional, motivational, and phenomenological responses to autobiographical memories. Instead, most research on memory and dissociation has focused on basic memory processes and memory errors measured in experimental contexts (e.g., Giesbrecht et al., 2008; Holtgraves & Stockdale, 1997). Autobiographical memory, however, is crucial to the construction and maintenance of the self (Conway & Pleydell-Pearce, 2000), including the formation of goals and construction of a coherent identity (Singer & Salovey, 1993), which are often disrupted by pathological dissociation (Lynn & Rhue, 1994). In addition, because autobiographical memory retrieval involves the integration of emotional, motivational, and

1. There is some debate about whether dissociation should be conceptualized as an avoidant coping strategy that stems from trauma (Bremner, 2010) or as a cognitive style linked to distractibility and fantasy (Giesbrecht et al., 2008). In the present research, we construe dissociation as a nonpathological trait that tends to be normally distributed in the general population. Given that nonpathological dissociation is associated with how individuals process emotional information and integrate experience (Oathes & Ray, 2008), individuals high in this trait may show a distinctive retrieval pattern that would be reflected in their emotional, motivational, and phenomenological experience of self-defining memories.

phenomenological components, these memories should be particularly sensitive to the effects of dissociation. Yet the association between dissociation and this subjective experience of autobiographical memory remains understudied. The aim of the present research is to examine the relation between nonpathological dissociation and the subjective affective, motivational, and phenomenological experience of personally meaningful autobiographical memories.

### Dissociation and Autobiographical Memory

Given that dissociation is primarily studied in clinical populations, it is not surprising that it is most often linked to autobiographical memories of trauma (e.g., Halligan, Michael, Clark, & Ehlers, 2003). The relation between dissociation and autobiographical memories in nonclinical samples, however, deserves attention. An individual's most important autobiographical memories—his or her self-defining memories—provide a window into the psychological functioning of the individual (Sutin & Robins, 2005). These memories are emotional, vivid, frequently retrieved, linked to other important memories, and reflect the individual's current concerns and conflicts (Singer & Salovey, 1993). Self-defining memories help maintain self-consistency and coherence, particularly during difficult transitions or times of upheaval (Conway, Singer, & Tagini, 2004). Because dissociation disrupts these aspects of the self, self-defining memories may be particularly vulnerable to dissociative processes.

The subjective experience of self-defining memories is what is accessible to individuals as they navigate through life. The retrieval of autobiographical memories is a complex process, and the end result of this process reflects, in part, characteristics about the individual. That is, the subjective experience is not idiosyncratic to the event in the retrieved memory; rather, stable individual differences contribute to the affective and motivational responses to the memory (Sutin & Robins, 2005). These responses may thus reveal the affective and motivational tendencies associated with dissociation.

The original conception of self-defining memories included the subjective affective response to the memories (Moffitt & Singer, 1994; Singer & Salovey, 1993). To assess this aspect of self-defining memories, participants are often asked to rate their emotions associated with their memories (Blagov & Singer, 2004; Singer, Rexhaj, & Baddeley, 2007; Sutin & Robins, 2008; Wood & Conway, 2006).

Such subjective affective ratings have been associated with psychological distress (Blagov & Singer, 2004; Sutin & Gillath, 2009) and have been found to shape an individual's most important goals both concurrently (Moffitt & Singer, 1994) and over time (Sutin & Robins, 2008). These affective responses to memories are not solely due to the experience in the memory but reflect, in part, the emotional processes associated with personality traits (Sutin & Robins, 2005).

In addition to affect, the motivational concerns of individuals are also evident in their self-defining memories. For example, consistent with the self-esteem and narcissism literature, individuals with high self-esteem report achievement-oriented concerns in their memories, whereas narcissistic individuals have power-oriented memories (Sutin & Robins, 2005). Similar to affect, motivational responses to memories are associated with self-reported and content-coded personal strivings and are related to changes in goal pursuits over the course of a college term (Sutin & Robins, 2008). Although not always correlated with implicit motives (McClelland, Koestner, & Weinberger, 1989), self-reported motives do predict consequential, objective outcomes (e.g., self-reported achievement motivation predicts subsequent grade point average; Richardson & Abraham, 2009).

The self-reported affective and motivational responses to self-defining memories reflect, in part, the dominant themes in an individual's life (Singer & Salovey, 1993). Self-defining memories are thus partly a reflection of the affective and motivational processes associated with specific trait dispositions. For example, both high self-esteem individuals and narcissists report memories saturated with positive emotions, but, as noted earlier, narcissists report power-related themes, whereas individuals with high self-esteem report achievement-related ones (Sutin & Robins, 2005). The negative self-views and psychological distress common to dissociation may be apparent in their self-defining memories. Individuals high in dissociation suffer from low self-esteem, depression, and anxiety (De Berardis et al., 2009) and are also prone to feelings of shame (DePrince, Zurbriggen, Chu, & Smart, 2010; Talbot, Talbot, & Tu, 2004), hubristic pride (Tracy, Cheng, Robins, & Trzesniewski, 2009), and helplessness (Irwin, 1998a, 1998b).

Further, seeking power and control over others is often a defense used to regulate the experience of shame (Morf & Rhodewalt, 2001). As such, negative affect and power motivation may be apparent in the self-defining memories of individuals high in dissociation.

Equally important as subjective affect and motivation, the phenomenological experience of the memory is a third component of autobiographical memory retrieval. The phenomenology of a memory is independent of its content (Sutin & Robins, 2007) and has been implicated in a range of processes, including emotion regulation (D'Argembeau & Van der Linden, 2006) and psychological distress (Sutin & Gillath, 2009). Individuals high on dissociation tend to report the subjective experience of fragmented memory for experimental material, even when they do not show deficits on objective memory tests (Kindt, Van Den Hout, & Buck, 2005). And, when recounting memories of trauma, these individuals tend to have disorganized narratives of those events, as rated both by the self and the experimenter (Halligan et al., 2003).

Fragmentation, however, is only one aspect of memory phenomenology. Memories can be experienced as visually vivid or dim, coherent or disjointed, emotionally intense or mild (Sutin & Robins, 2007); phenomenology is the process that brings the experience back to life (Singer & Salovey, 1993). In contrast to fragmentation, less is known about how dissociation is associated with other phenomenological components of personally meaningful memories. As autobiographical memories are one prime way to reexperience events, dissociation may disrupt the phenomenology when a memory is retrieved as a way to blunt the reexperience of the event. Thus, individuals high on dissociation may report less vivid and emotionally intense memories to mute the reliving of the event. In addition, because part of the definition of dissociation is feeling like someone else (Cardeña, 1994), these individuals may be more likely to distance their current self from the self in the memory.

### Present Research

The present set of studies addresses basic questions about the relation between dissociation and autobiographical memory. First, do individuals high on dissociation have specific subjective affective and motivational responses to their self-defining memories? We address this question by asking participants to retrieve and evaluate positive and negative memories of autonomous achievement experiences (Study 1), positive and negative memories of experiences with close others (Study 2), and memories of unspecified valence and domain (Study 1). By asking participants to provide ratings of memories in a specific domain and valence, we can test whether affective and motivational responses are memory specific or whether certain

subjective responses saturate memories regardless of the domain or valence. We asked participants to write about academic (Study 1) and relationship (Study 2) memories because work and love are two central domains in the lives of most young adults. Our previous research has shown that these memories reflect the affective and motivational tendencies associated with specific personality dispositions (Sutin & Robins, 2005, 2008). These memories should be central to our participants' identities and thus likely to reflect the affective and motivational processes associated with dissociation. We asked for memories of both positive and negative valence because individuals high in dissociation may be more responsive to emotional prompts. Finally, a completely unconstrained memory provided a useful comparison to the domain- and valence-specific memories.

Second, we ask, is dissociation related to the individual's subjective experience of the memory? As summarized earlier, most research on this question has focused on memory fragmentation to the neglect of other important aspects of memory phenomenology. To address this question, we examined the phenomenological correlates of dissociation (Study 2). Specifically, we asked participants to rate the vividness and emotional intensity of each memory and the extent to which they distance themselves from the self in the memory.

## STUDY 1

In Study 1, we sought to establish the basic relations between dissociation and the affective and motivational responses to self-defining memories. To that end, participants were asked to retrieve and rate two achievement-related memories and a memory unconstrained by domain or valence. As reviewed earlier, we expected that participants high in dissociation would have memories saturated with negative affect and power motivation due to their negative self-views (De Berardis et al., 2009) and feelings of shame (DePrince et al., 2010; Talbot et al., 2004) and helplessness (Irwin, 1998b).

### Method

#### *Participants and Procedure*

A total of 293 undergraduate students participated in this study in exchange for course credit. Participants were primarily female (75%), White (54%) or Asian (25%), and college-aged (median age = 19 years old).

Participants completed measures of self-defining memories (described in the next section) as part of a larger Internet survey on memories and personality. The dissociation measure was completed prior to participation in this study.

### *Measures*

*Self-defining memories.* Participants were asked to write about three self-defining memories: two memories from the academic domain and a general self-defining memory. For these memories, we adapted the self-defining memory instructions from Singer and Moffitt (Singer & Moffitt, 1991–1992), retaining their emphasis on the importance and centrality of these memories to the participant's identity. The instructions for the positive [negative] academic memory stated:

Please describe a memory that is personally meaningful to you, and that relates to a *positive* [*negative*] experience you have had in the academic environment. The memory should be relevant to your identity as a college student and reveal something about how you feel about yourself in the academic 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 general self-defining memory stated:

Please describe a memory that is personally meaningful to you. It can be either positive or negative, but it should convey the most important experience you have had that helps you to understand who you are and how you arrived at your current identity. It may be a memory about any kind of experience, but it should be something you have thought about many times and is still important to you, even as you are recalling it now.

Participants had as much space as they needed to write about each memory.

*Affect.* After describing each memory, participants rated their emotions during the memory. Specifically, participants were instructed, "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 eight positive emotions (determined, enthusiastic, excited, inspired, joyful, proud, strong, superior) and eight negative emotions (angry, ashamed, distressed, guilty, hostile, jealous, scared, upset), which were taken primarily from the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). The individual emotion

ratings were aggregated into Positive Affect and Negative Affect scales for each memory. Alpha reliabilities for the Positive Affect (PA) scale ranged from .69 (negative academic memory) to .92 (general memory), and alpha reliabilities for the Negative Affect (NA) scale ranged from .74 (negative academic memory) to .84 (general memory). For some analyses, the Positive and Negative Affect scales were aggregated across the three memories to form an overall PA score and an overall NA score.

*Motivation.* After each memory, participants also received the following instructions: “Please rate the extent to which you experienced each of the following motives or goals during the event described in your memory.” Participants rated the following three motives: Power (“to exert power or control over others”), Achievement (a composite of “to do something well or to excel at something” and “to learn something or be intellectually stimulated”), and Intimacy (a composite of “to be helped or nurtured by others” and “to feel close or intimate with others”). Alphas for Power and Achievement ranged from .64 (general and positive academic memories) to .71 (negative academic memory); alphas for Intimacy ranged from .71 (positive academic memory) to .78 (negative academic memory). All ratings were made on a 5-point scale, ranging from 1 (*very slightly or not at all*) to 5 (*extremely*). For some analyses, a composite score for each of the three motives was computed across the three memories.

*Dissociation.* Participants completed the 28-item Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986; Carlson & Putnam, 1993). Participants reported how often the particular experience described by the item happens to them; for example, “Some people find that sometimes they are listening to someone talk and they suddenly realize that they did not hear part or all of what was just said. Check the box that shows what percentage of the time this happens to you.” Response options ranged from 0% to 100% in increments of 10%. Carlson and Putnam (1993) developed this response set to be used in both nonclinical and clinical samples and found it to be comparable to their original version, in which participants marked on a line from 0% to 100% how often the particular experience happened to them. In the current sample, DES scores ranged from 0 to 71.80 ( $M = 18.6$ ,  $SD = 10.8$ ), and the scale had an alpha reliability of .96.

### *Analytic Strategy*

We examined how dissociation is associated with the affective and motivational experience of the memories in two ways. First, we report the correlation between the continuous measure of dissociation and the

affective and motivational responses to the memories. Second, we split dissociation into low dissociators ( $DES \leq 10.00$ ) and high dissociators ( $DES \geq 30.00$ ), based on clinical thresholds (Carlson et al., 1993) that have been applied successfully in research on nonclinical samples (e.g., Chiu et al., 2010; Oathes & Ray, 2008), and examine the mean differences in affect and motives across the two groups. We construe these latter analyses as supplementary analyses to the correlational ones; the dichotomous analyses serve to illustrate the differences in memory components between participants who score high and low on dissociation.

### Results and Discussion

Men and women did not differ on dissociation ( $M = 2.15$  [ $SD = 1.57$ ] vs.  $M = 1.76$  [ $SD = 1.48$ ], *ns*, for men and women, respectively). Consistent with previous research (Douglas, 2009), Asian participants scored higher on dissociation than did White participants ( $M = 2.33$  [ $SD = 1.65$ ] vs.  $M = 1.61$  [ $SD = 1.35$ ],  $p < .05$ , for Asian and White participants, respectively). Age was uncorrelated with dissociation ( $r = -.02$ , *ns*). Although dissociation tends to be negatively correlated with age, such that dissociation tends to be higher among young adults (Torem, Hermanowski, & Curdue, 1992), the restriction of range of age in the current sample likely masked this correlation.

Table 1 shows the association between dissociation and the affective and motivational responses to the memories. Averaged across the three memories, dissociation was associated with each type of affective and motivational experience. The relations within the individual memories, however, revealed an interesting pattern for the affective experience: dissociation was most strongly associated with the opposite valence in the positive and negative memories but was unrelated to affect reported in the general memory. That is, high dissociators reported more negative affect in response to a prompt for a positive memory and reported more positive affect in response to a prompt for a negative memory than low dissociators. Dissociation was unrelated to both PA and NA reported in the general self-defining memory, which suggests that valenced memories may trigger more dissociative responses than nonvalenced ones.

We also directly tested whether dissociation was associated with reporting mixed emotions in the valenced memories. We calculated mixed emotions as the minimum affective rating for each valenced memory (i.e., minimum [positive affect, negative affect]), following

**Table 1**

Study 1: Correlations and Mean Differences Between Dissociation and Subjective Affective and Motivational Responses to Memories

Memory Characteristic	$r_{DES}$	Dissociation		Cohen's $d$
		Low	High	
Positive affect	.13*	2.51 (.58)	2.73 (.64)	.36*
Positive academic	.03	3.83 (.84)	3.93 (.95)	.11
Negative academic	.17*	1.23 (.41)	1.40 (.48)	.38*
General	.11	2.46 (1.29)	2.86 (1.34)	.30
Negative affect	.20*	2.10 (.48)	2.36 (.55)	.50*
Positive academic	.27*	1.15 (.32)	1.42 (.71)	.49*
Negative academic	.16*	3.00 (.69)	3.34 (.84)	.44*
General	.04	2.18 (1.00)	2.30 (1.13)	.11
Power motive	.24*	1.44 (.66)	1.99 (.92)	.69*
Positive academic	.15*	1.63 (1.08)	2.23 (1.40)	.48*
Negative academic	.17*	1.27 (.82)	1.70 (1.11)	.44*
General	.23*	1.43 (.81)	2.14 (1.42)	.61*
Achievement motive	.12*	2.91 (.95)	3.12 (.82)	.24
Positive academic	.09	3.66 (1.12)	3.94 (1.03)	.26
Negative academic	.00	2.60 (1.24)	2.62 (1.29)	.02
General	.14*	2.55 (1.46)	3.01 (1.37)	.32*
Intimacy motive	.18*	2.08 (.78)	2.49 (1.00)	.46*
Positive academic	.12*	1.86 (.98)	2.13 (1.19)	.25
Negative academic	.12*	1.73 (1.00)	2.02 (1.18)	.26
General	.13*	2.61 (1.26)	3.15 (1.35)	.41*

Note.  $N = 293$ .  $n = 108$  for low dissociation, and  $n = 57$  for high dissociation.

\* $p < .05$ .

previous conceptualizations of mixed emotions (e.g., Larsen, McGraw, Mellers, & Cacioppo, 2004; Schimmack, 2001). That is, for each valenced memory, the mixed emotion score is the smaller value of PA and NA for that memory. And, indeed, dissociation was associated with greater mixed emotions in both the positive academic memory ( $r = .30$ ,  $p < .01$ ) and negative academic memory ( $r = .21$ ,  $p < .01$ ).

Turning to the motivational experience of the memories, regardless of the type of memory prompt, individuals higher on dissociation reported striving for both power and intimacy in the experiences described as their most self-defining. Although dissociation was related to the mean of Achievement motivation across the three

memories, this finding only held in the general memory, not in the academic ones.

All of these findings held when we controlled for sex, age, and ethnicity. In addition, the findings were identical when we recalculated dissociation scores without the eight taxon items, which presumably removes the pathological aspect of dissociation (Waller et al., 1996).

In sum, Study 1 revealed that individuals who score higher on dissociation show a distinct pattern of affect and motivation in their memories. These individuals have memories saturated with both positive and negative affect, especially in memories of the opposite valence (e.g., reporting more PA in a negative memory). Further, across their memories, individuals higher on dissociation reported wanting power and control over others yet also wanting to be close and intimate with them. Although intriguing, this pattern of emotional and motivational responding may be sample specific or limited to achievement-related memories. In Study 2, we expand on both the domain of memory and the emotional and other characteristics of the memory.

## STUDY 2

Study 2 extended Study 1 in several ways. First, we sought to replicate the pattern of affect reported in the valenced memories in a different context—in self-defining memories of positive and negative experiences with parents and romantic partners. Second, in addition to asking about general positive and negative affect, we probed more specifically for emotional responses that most directly involve the self—feelings of pride and shame. Previous research has shown that dissociation is associated with a dispositional proneness to shame (DePrince et al., 2010) and a dispositional proneness to hubristic pride, but not authentic pride (Tracy et al., 2009). We tested whether individuals high in dissociation saturate their memories with this emotional profile. Third, in addition to affect and motives, we asked participants to report on their subjective experience, or phenomenology, of the memory. Specifically, participants were asked about the vividness, emotional intensity, and distancing of their memories. We expected dissociation to be negatively associated with vividness and emotional intensity and positively associated with distancing.

## Method

### *Participants and Procedure*

A total of 449 undergraduate students participated in this study in exchange for course credit. Participants were primarily female (64%), Asian (41%) or White (39%), and college-aged (median age = 19 years old). Participants completed measures of self-defining memories (described in the next section) as part of a larger Internet survey on memories and personality. The dissociation measure was completed prior to participation in the Internet survey.

### *Measures*

*Self-defining memory instructions.* Participants were asked to write about four self-defining memories: a positive and a negative early memory with their parents and a positive and a negative memory with a romantic relationship partner (either past or current).

The instructions for the two early parental memories stated:

Please describe an early *positive* [*negative*] childhood memory you have with a parent (or other primary caregiver, if not a parent). 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?

For the two recent memories, we again adapted the self-defining memory instructions from Singer and Moffitt (Singer & Moffitt, 1991–1992), retaining their emphasis on the importance and centrality of these memories to the participant's identity. The instructions for the romantic relationship partner memories stated:

Please describe a memory that is personally meaningful to you, and that relates to a *positive* [*negative*] experience you have had in a romantic relationship. The memory can be from any past or present relationship, but it should be relevant to your identity as a romantic partner and reveal something about how you feel about yourself in the context of romantic relationships. It may be a memory about any kind of *positive* [*negative*] experience, but it should be something you have thought about many times.

Participants had as much space as they needed to write about each memory. All participants reported memories for each of the requests.

*Affect.* Participants made the same affect ratings as in Study 1. Alpha reliabilities for PA ranged from .83 (negative romantic memory) to .89

(positive parental memory), and alpha reliabilities for NA ranged from .67 (negative parental memory) to .86 (positive parental memory). For some analyses, the Positive and Negative Affect scales were aggregated across the four memories to form an overall PA score and an overall NA score.

In addition to general positive and negative affect, participants rated their feelings of pride and shame at the time of the event described in the memory. Participants rated two theoretically derived facets of pride (drawn from Tracy & Robins, 2007): Authentic Pride (accomplished, confident, like I have ability, like I have self-esteem, successful) and Hubristic Pride (arrogant, conceited, egoistic, pompous, stuck-up). The alpha reliability ranged from .85 (negative parental memory) to .90 (positive parental memory) for Authentic Pride and from .82 (positive romantic memory) to .86 (negative parental memory) for Hubristic Pride. Participants also rated eight items selected to represent the experience of shame (ashamed, disapproved of, failure, humiliated, rejected, ridiculed, shot down, unsupported). The alpha reliability for Shame ranged from .84 (negative parental memory) to .90 (positive parental memory). For some analyses, a composite score for each of these self-conscious emotions was computed across the four memories.

*Motivation.* Participants rated the same three motivations as in Study 1. In the current sample, alpha reliabilities ranged from .73 (positive parental, positive romantic, and negative romantic memories) to .80 (negative parental memory) for Achievement and from .67 (positive romantic memory) to .84 (negative parental memory) for Intimacy; as in Study 1, Power was a single-item measure. For some analyses, a composite score for each of the three motives was computed across the four memories.

*Phenomenology.* An abbreviated version of the Memory Experiences Questionnaire (MEQ; Sutin & Robins, 2007) was used in the current study. Three MEQ scales were used to assess several aspects of phenomenology: Vividness (e.g., "I can visually picture this memory in great detail in my mind"), alphas ranged from .90 (positive parental memory) to .92 (positive romantic memory); Emotional Intensity (e.g., "I feel the same feelings I felt when the event originally happened"), alphas ranged from .70 (negative romantic memory) to .78 (positive romantic memory); and Distancing (e.g., "I don't have much in common with the person in the memory"), alphas ranged from .78 (negative parental memory) to .84 (positive romantic memory). Participants rated how much they agreed with each statement on a 5-point scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

*Dissociation.* The same dissociation measure was used in Study 2 as in Study 1. In this sample, DES scores ranged from 0 to 75.70 ( $M = 20.6$ ,  $SD = 10.6$ ), and the scale had an alpha reliability of .97.

### Results and Discussion

Similar to Study 1, men and women did not differ on dissociation ( $M = 2.20$  [ $SD = 1.62$ ] vs.  $M = 1.99$  [ $SD = 1.68$ ], *ns*, for men and women, respectively), Asian participants scored higher on dissociation than did White participants ( $M = 2.50$  [ $SD = 1.84$ ] vs.  $M = 1.71$  [ $SD = 1.36$ ],  $p < .05$ , for Asian and White participants, respectively), and age was uncorrelated with dissociation ( $r = -.05$ , *ns*).

*Affect and motivation.* Again, we examined the association between dissociation and affect and motivation in two ways: (a) by using dissociation as a continuous variable and (b) by splitting dissociation into high and low groups. Table 2 shows the relations between dissociation and the affective responses to the four relationship memories. The same pattern emerged as in Study 1. Although participants higher on dissociation had memories saturated with both positive and negative affect at the mean level across the four memories, there was a distinct pattern in the individual memories: dissociation was associated with PA only in the two negative memories and with NA only in the two positive memories. Dissociation was unrelated to positive affect reported in the positive memories and negative affect reported in the negative memories. In addition, as in Study 1, dissociation was related to mixed emotions in each of the memories: dissociation correlated with mixed emotions .20 in the positive parental memory, .24 in the negative parental memory, .16 in the positive romantic memory, and .19 in the negative romantic memory (all  $ps < .01$ ). Thus, we replicated the findings from Study 1 in both a different domain of memory and across different lifetime periods.

A somewhat different pattern, however, emerged for the self-conscious emotions (see Table 2). Similar to PA and NA, participants higher on dissociation reported Hubristic Pride and Shame across their four memories. In contrast to the general affect findings, however, these participants reported more of these self-conscious emotions in all of their individual memories (except Shame in the negative romantic memory). Dissociation was related to Authentic Pride only in the negative parental memory.

**Table 2**

**Study 2: Correlations and Mean Differences Between Dissociation and Subjective Affective and Self-Conscious Responses to Relationship Memories**

Memory Affect	$r_{DES}$	Dissociation		Cohen's $d$
		Low	High	
Positive affect	.18*	2.24 (.43)	2.45 (.59)	.41*
Positive parent	.07	3.13 (1.01)	3.30 (1.15)	.16
Negative parent	.24*	1.26 (.40)	1.59 (.81)	.52*
Positive romantic	.03	3.19 (.90)	3.29 (1.09)	.10
Negative romantic	.19*	1.36 (.51)	1.63 (.77)	.41*
Negative affect	.14*	2.07 (.33)	2.22 (.44)	.39*
Positive parent	.17*	1.16 (.34)	1.38 (.67)	.41*
Negative parent	.04	2.95 (.68)	3.01 (.83)	.08
Positive romantic	.14*	1.25 (.44)	1.42 (.59)	.33*
Negative romantic	.04	2.92 (.79)	3.08 (.85)	.19
Authentic pride	.06	2.55 (.58)	2.64 (.57)	.16
Positive parent	.03	3.26 (1.13)	3.39 (.98)	.12
Negative parent	.13*	1.60 (.75)	1.87 (.89)	.33*
Positive romantic	-.05	3.57 (.97)	3.44 (1.06)	.13
Negative romantic	.03	1.79 (.91)	1.84 (.81)	.06
Hubristic pride	.30*	1.37 (.46)	1.78 (.64)	.74*
Positive parent	.23*	1.37 (.60)	1.80 (.88)	.57*
Negative parent	.17*	1.44 (.70)	1.77 (.88)	.42*
Positive romantic	.28*	1.33 (.54)	1.78 (.80)	.66*
Negative romantic	.23*	1.34 (.59)	1.80 (.80)	.65*
Shame	.22*	1.96 (.45)	2.21 (.49)	.53*
Positive parent	.29*	1.14 (.33)	1.47 (.75)	.57*
Negative parent	.11*	2.52 (.88)	2.85 (.98)	.34*
Positive romantic	.21*	1.18 (.40)	1.39 (.60)	.41*
Negative romantic	.05	3.00 (1.08)	3.15 (.98)	.14

Note.  $N = 449$ .  $n = 147$  for low dissociation, and  $n = 111$  for high dissociation.

\* $p < .05$ .

Turning to the reported motivation of the memories, dissociation was primarily related to striving for power over other people (see Table 3). Participants higher on dissociation reported power-related motivation both across and within all of their relationship memories. Dissociation was only related to Intimacy motivation in the positive

**Table 3**

Study 2: Correlations and Mean Differences Between Dissociation and Subjective Motivational Responses to Relationship Memories

Memory Motive	$r_{DES}$	Dissociation		Cohen's $d$
		Low	High	
Power motive	.23*	1.52 (.68)	2.04 (.86)	.67*
Positive parent	.21*	1.47 (.88)	2.01 (1.11)	.54*
Negative parent	.16*	1.57 (.98)	2.10 (1.24)	.47*
Positive romantic	.20*	1.49 (.91)	2.03 (1.21)	.50*
Negative romantic	.11*	1.54 (.91)	2.01 (1.13)	.46*
Achievement motive	.02	2.63 (.92)	2.75 (1.00)	.12
Positive parent	-.01	3.13 (1.20)	3.15 (1.31)	.02
Negative parent	.02	2.32 (1.25)	2.47 (1.32)	.12
Positive romantic	.01	2.88 (1.25)	2.96 (1.34)	.06
Negative romantic	.05	2.20 (1.27)	2.40 (1.25)	.16
Intimacy motive	-.09	3.11 (.84)	2.99 (.96)	.13
Positive parent	-.03	3.27 (1.19)	3.32 (1.21)	.04
Negative parent	-.07	2.77 (1.39)	2.53 (1.24)	.18
Positive romantic	-.12*	3.56 (.99)	3.29 (1.21)	.24*
Negative romantic	-.04	2.85 (1.33)	2.84 (1.39)	.01

Note.  $N = 449$ .  $n = 147$  for low dissociation, and  $n = 111$  for high dissociation.

\* $p < .05$ .

romantic memory and was unrelated to Achievement motivation in any of the four memories.

*Phenomenology.* We next examined the relation between dissociation and the subjective experience of the four memories (see Table 4). Across the four memories and within each individual memory (except the positive parental memory), participants who scored higher on dissociation reported less vivid memories. Dissociation also correlated positively with the mean of emotional intensity and distancing across the four memories. The former association, however, held only in the parental memories and the latter association held only in the two positive memories.

Finally, as in Study 1, all of the findings in Study 2 held when we included sex, age, and ethnicity as covariates. In addition, the findings were identical when we recalculated dissociation scores without the eight taxon items.

**Table 4**  
**Study 2: Correlations and Mean Differences Between Dissociation and Phenomenology of Relationship Memories**

Memory Phenomenology	$r_{DES}$	Dissociation		Cohen's $d$
		Low	High	
Vividness	-.20*	3.91 (.56)	3.68 (.74)	.35*
Positive parent	-.07	3.50 (.95)	3.43 (.88)	.08
Negative parent	-.11*	3.53 (.88)	3.41 (1.06)	.12
Positive romantic	-.24*	4.40 (.70)	3.99 (.90)	.51*
Negative romantic	-.20*	4.22 (.73)	3.87 (.99)	.40*
Emotional intensity	.10*	2.84 (.58)	3.08 (.58)	.41*
Positive parent	.11*	2.73 (.88)	2.99 (.83)	.30*
Negative parent	.14*	2.30 (.81)	2.70 (.88)	.47*
Positive romantic	-.02	3.39 (.93)	3.41 (.83)	.02
Negative romantic	.05	2.95 (.86)	3.19 (.87)	.28*
Distancing	.17*	2.20 (.55)	2.46 (.57)	.46*
Positive parent	.19*	1.99 (.81)	2.44 (.88)	.53*
Negative parent	-.01	2.65 (.86)	2.67 (.81)	.02
Positive romantic	.18*	1.70 (.76)	2.09 (.86)	.48*
Negative romantic	.08	2.45 (.90)	2.67 (.86)	.25*

Note.  $N = 449$ .  $n = 147$  for low dissociation, and  $n = 111$  for high dissociation.

\* $p < .05$ .

The findings from Study 2 replicated and extended the findings from Study 1, offering insights into the inner workings of dissociative processes. Across their memories, participants higher on dissociation experienced greater feelings of shame and hubristic pride and the desire for power and control over the close others in their lives. Within the individual memories, participants higher on dissociation reported the opposite emotional experience to the valence of the memory (e.g., positive affect in negative memories); emotionally intense early, but not recent, relationship memories; and distancing themselves from their positive, but not negative, relationship memories.

## GENERAL DISCUSSION

The present research examined the relation between dissociation and the subjective affective, motivational, and phenomenological components of autobiographical memory. In two studies, we showed

that the memories of individuals high on dissociation are saturated with positive and negative affect, hubristic pride and shame, and power motivation. In particular, these individuals report incongruent emotional experiences in valenced memories (e.g., reporting positive affect in a negative memory). Individuals high on dissociation also report that their memories are visually incoherent, their memories of important experiences with parents are emotionally intense, and their positive memories are inconsistent with their current self.

The association between dissociation and the subjective experience of personally meaningful autobiographical memories is a neglected aspect of the dissociation picture. In general, much of the research on dissociation and memory in nonclinical samples has focused on basic memory processes using experimental approaches. Recent evidence from this line of research suggests that individuals high on dissociation may have enhanced, rather than diminished, encoding of emotional material, compared to individuals low on dissociation. Oathes and Ray (2008), for example, demonstrated that individuals high on dissociation are faster at making emotional discriminations and do not sacrifice accuracy for speed. They argue that dissociative tendencies that disrupt emotional memory may occur more downstream in the encoding-consolidation-retrieval process rather than at encoding. Self-defining memories, which are the endpoint of the retrieval process, should thus be sensitive to the effects of dissociation.

If dissociation acts as a general avoidance mechanism, individuals high on dissociation should report impoverished emotional experience to blunt potentially distressing emotions. We did not find this. Instead, dissociation was consistently related to affect across the memories: individuals high in dissociation reported memories saturated with both positive and negative emotions. At the level of the individual memories, however, a different picture emerged. In these memories, dissociation did not correlate with the congruent emotional response (e.g., positive affect in a positive memory) but did correlate with the incongruent one (e.g., positive affect in a negative memory). The analyses of individuals high and low on dissociation, however, revealed that high dissociators reported similar emotionally congruent responses to those of low dissociators. Indeed, participants high in dissociation reported experiencing much emotion, both congruent and incongruent, when they retrieved their self-defining memories.

The cognitive processes associated with dissociation may contribute to the mixed emotions found in the current set of studies. Giesbrecht and colleagues (2008) argued that rather than being a motivationally based avoidant defense, cognitive styles inherent to this trait may account for many of the phenomena associated with dissociation. In particular, disruptions in attention and executive functioning are common correlates of dissociation. Chiu and colleagues (2010), for example, demonstrated that individuals high on dissociation show a reduced retrieval-induced forgetting effect, indicating that these individuals have weakened memory inhibition. In the context of self-defining memories, this may mean that individuals high on dissociation cannot inhibit associations related to the event in the memory. Thus, when a memory is retrieved, emotions peripheral to the event may be activated, as well as those central to the experience. In addition, dissociation is related to both schizotypy (Watson, 2001) and alexithymia (De Berardis et al., 2009), and thus individuals high in dissociation may lack emotional clarity and may be unable to distinguish between different emotions (e.g., (Berenbaum, Boden, & Baker, 2009). Finally, dissociation is also related to distractibility (Giesbrecht et al., 2008), which may lead to the reexperiencing of multiple emotions rather than a focus on the dominant emotions associated with the event in the memory. More research is needed to tease apart these different possibilities and to identify the specific cognitive processes that underlie the mixed emotions reported in the current research.

In addition to these cognitive processes, memories are stories in that they typically follow a story's structure: There is a conflict, a climax, and a resolution. Each component of the story may give rise to different emotional responses. For example, a common achievement-related memory for a college student involves a story about overcoming seemingly insurmountable hurdles with a new sense of confidence and determination to overcome any obstacles in the future. In this case, a negative beginning turns into a happy ending. The opposite pattern is also common—a positive beginning turns negative during the course of the memory. These two patterns, referred to, respectively, as redemption and contamination by McAdams (McAdams, Reynolds, Lewis, Patten, & Bowman, 2001), are common themes in the life story. If individuals high on dissociation have superior encoding of emotional material (Oathes & Ray, 2008), they may retrieve the emotions experienced at each stage of the story

in the memory and thus would have more emotionally complex memories than individuals low on dissociation. Consistent with this interpretation, fantasy proneness, a correlate of dissociation, has been linked to well-elaborated memories (Merckelbach & Muris, 2001).

It is notable that this effect, the reporting of incongruent emotional responses in valenced memories, replicated in three different ways across the two studies. First, we found the same pattern for achievement- and relationship-related memories (both parent and partner), indicating that the effect is not domain specific. Second, we replicated it across two different lifetime periods (early childhood and young adulthood), indicating that the effect is not limited to either remote or recent memories. Finally, we found the same pattern using different memory prompts, indicating that it was not simply the wording of the prompt that triggered a dissociative response.

In addition to the general positive and negative affect reported in the memories, the self-conscious emotional experience also revealed how individuals high on dissociation tend to think about themselves. Dissociation was associated with feelings of hubristic pride and shame across all of the relationship memories. Individuals high in dissociation tend to have a dispositional proneness to experience shame (DePrince et al., 2010; Irwin, 1998a) and hubristic pride (Tracy et al., 2009), and thus it is not surprising that this tendency would seep into their memories. Further, hubristic pride may serve, in part, to help regulate the experience of shame (Tracy & Robins, 2007). Both hubristic pride and shame are rooted in the same types of attributions—internal, stable, uncontrollable—and tend to be elicited by the attributions made for the event, rather than the event itself (Tracy & Robins, 2007). These emotions may reflect the perceived helplessness that individuals high in dissociation tend to feel; they do not believe that they have much power to control their lives. Their attributional processes may reflect this perceived helplessness.

This helplessness is also reflected in the motivational needs expressed in their memories. Across both studies, dissociation was consistently related to reporting motivation for power and control over others. As with hubristic pride, power motivation can be one way to help regulate the experience of shame. Theories of narcissism, for example, posit that narcissistic individuals seek power and control as a way to regulate their implicit feelings of shame (Morf & Rhodewalt, 2001). Likewise, individuals high on dissociation

may try to regulate their explicit feelings of shame by exerting power over others.

Finally, we extended the associations between dissociation and the phenomenological experience of memory beyond perceived fragmentation. The phenomenology of a memory is what brings the event back to life during retrieval. Altering the phenomenology of a memory may be one way to dampen the retrieval experience.

Interestingly, despite reporting subjectively more emotional memories than low dissociators, individuals high on dissociation reported memories with poorer phenomenology, compared to their peers. Rather than block out the emotions associated with the memories, blunting the phenomenology of the memory is a second strategy that may serve to down-regulate the reexperience of the emotions at retrieval. For example, to regulate the reexperience of an event, an individual may retrieve the memory as visually incoherent, emotionally blunted, and inconsistent with the current self. We found some evidence for this defensive response in the current study: Dissociation was associated with retrieving visually vague memories that were distanced from the self. Surprisingly, dissociation was related to more emotionally intense early memories, rather than less intense memories. Perhaps, despite the cognitive mechanisms in place to potentially dampen the memory (e.g., less vivid memories that are distanced from the self), the emotionality of these memories persists during retrieval. This discrepancy suggests that individuals high on dissociation may try but fail to regulate the emotional experience of their most meaningful memories.

This research had several strengths, including relatively large samples, probes that assessed a range of memories, and affective, motivational, and phenomenological aspects of self-defining memories. Despite these strengths, several limitations need to be addressed in future research. First, our samples were composed entirely of college students. Although this is a time period when both identity consolidation (Erikson, 1968) and levels of dissociation (Torem et al., 1992) tend to be at their highest, this research needs to be extended to other populations to determine the generalizability of the findings. Second, because our data were correlational, we could not test potential mediators of the dissociation–mixed emotions associations. For example, poor phenomenology may mediate the association between dissociation and mixed emotions, or mixed emotions may mediate the association between dissociation and

poor phenomenology. Experimental research is needed to tease apart these different possibilities. Third, although we identified associations between dissociation and memory components, we did not test potential mechanisms that might account for these associations. For example, the cognitive failures common to dissociation may help to explain the associations found in the current study. Future research could address the role of dissociators' cognitive style in the retrieval of autobiographical memories.

Finally, we examined the subjective affective, motivational, and phenomenological experience of self-defining memories but not the content of these memories. The subjective experience of memories has been linked to a variety of outcomes, including psychological distress (Rottenberg, Joormann, Brozovich, & Gotlib, 2005; Sutin & Gillath, 2009) and goal strivings (Moffitt & Singer, 1994; Sutin & Robins, 2008). Yet it would also be informative to examine the content of self-defining memories, as coded by independent observers. Self-ratings of the subjective experience of the memory, as in the present research, require participants to first produce the memory and then engage in a separate cognitive task to reflect on the memory and rate it. A second approach would be to directly code affect, motivation, and phenomenology from the memory itself, which would not require this additional cognitive appraisal by the participant. Both approaches may provide unique information about how participants understand and experience their most important memories. Future research would benefit from comparing the subjective experience of the memories to the content coded from the narratives.

Dissociation was originally conceived, in part, to explain why some patients had persistent lapses in memory (Janet, 1889/1973). Despite the importance of autobiographical memories in dissociation, this relation remains understudied outside the trauma literature. Much of the research on dissociation and memory has focused on experimental manipulations of basic memory processes to the neglect of other memory processes, such as autobiographical memory, that are core components of dissociation. The present study begins to fill this gap by using large samples to outline and replicate the associations between autobiographical memory and dissociation. Autobiographical memories are the building blocks of the self, and, as such, splintered autobiographical memories may contribute to the splintered sense of self that is characteristic of individuals high on dissociation.

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