

On the Directive Function of Episodic Memories in People's Lives: A Look at Romantic Relationships

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We argue that episodic memories have an active and directive function with respect to a number of relational outcomes. In line with self-determination theory, it is expected that the satisfaction of 3 needs (autonomy, competence, relatedness) in couple-related memories facilitates the quality of romantic relationships and their development. Results of 4 studies support this contention. Study 1 showed that need satisfaction in couple-related memories was associated with relationship quality, even after controlling for other important relational constructs. Study 2 underscored the context-dependent aspect of the directive function of episodic memories. Need satisfaction in couple-related memories was found to be associated with partner relationship quality but not with friendship quality, whereas need satisfaction in friend-related memories was associated with friendship quality but not with partner relationship quality. Study 3 showed that couple-related memories contributed independently to each partner's perceptions of relationship quality, that is, both the rememberer and the partner. Study 4 showed the long-term directive function of episodic memories. Need satisfaction in couple-related memories positively and negatively predicted increases in relationship quality and the likelihood of a breakup over a 1-year period, respectively. This directive function of memories was examined along with the self function of memories (self-enhancement, self-protection) and shown to be complementary. We also examined the stability of need satisfaction in couple-related memories over time and investigated this stability as a function of whether the partners had broken up or not over the year. Overall, the findings suggest that episodic memories play an important role in romantic relationships.

Keywords: episodic memories, need satisfaction, directive function, couple relationship

My partner and I were visiting a house with our real estate broker. We had visited about 20 other houses before, without finding the right one. I remember that when we finished the visit, thanked the owner, and went outside, my partner and I quickly glimpsed at each other in complicity, without saying anything. We then told our broker that we wanted to make an offer on that house. He looked a bit confused, as he could not understand how we could have reached this decision so quickly. Driving back home, we tried to explain to him that we were sure that this was the house we needed. He was so confused that he had to stop the car on the side of the road, which made us laugh. We bought the house, and we have lived happily in it since then.

What is the role of such a memory in these partners' lives? How may such a specific and significant memory define the quality of

their relationship and influence their future relationship outcomes over and above their attachment style or the perceptions of each other's need fulfillment? For how long will this memory impact their relationship? In the present research, we seek to provide answers to these questions. Using a functional perspective of episodic memories, we argue that significant episodic memories such as the one above have a directive force on the interactions between the partners of a couple, which in turn influence their romantic lives.

On the Function of Memories

Memory research during the twentieth century has focused heavily on the study of memory accuracy. In the last decades, however, research has started to investigate the function of episodic memories, that is, their role in people's lives, regardless of their accuracy. The starting point of this recent research avenue is that episodic memories, as they are encoded or remembered by people, constitute an important source of information that can be used to build one's identity, connect with others, or guide behavior (Bluck, 2003; Pillemer, 2001; Robinson, 1986). This research has underscored three general functions played by episodic memories in people's lives: the self, social, and directive functions. The self function is concerned with how memories are used to promote a sense of identity coherence over time (Conway, Singer, & Tagini, 2004) or to protect the self, such as through the self-enhancement of one's past successes or the diminished perceived importance and emotional consequences of past failures (Wilson & Ross,

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2003). As such, people with a positive romantic relationship may be more likely to recall positive couple-related memories. Similarly, when recalling memories related to a relationship that ended, people may tend to evaluate these memories as less positive than they were. The social function is concerned with how people use their episodic memories in their conversation with others (Alea & Bluck, 2003) as well as the personal benefits of such sharing (Pasupathi, 2003).

The directive function, which is the main focus of the present article, represents how memories may be intentionally or unintentionally used to influence behavior, cognition, and emotion (Pillemer, 1998, 2003). For example, research has looked at how memories may be used to derive a lesson (Pratt, Arnold, Norris, & Filyer, 1999) or a meaning from life situations such as death (Bluck, Dirk, Mackay, & Hux, 2008). Other studies have investigated how the deliberate recollection of a memory may immediately influence behavior, cognition, and emotion (Bazzini, Stack, Martincin, & Davis, 2007; Beike, Adams, & Naufel, 2010; Josephson, Singer, & Salovey, 1996). Recent studies have also underscored that people may not be aware of the effect of the recalled memory on their behavior (Kuwabara & Pillemer, 2010; Philippe, Koestner, Beaulieu-Pelletier, Lecours, & Leles, 2012, Study 1; Pillemer, 2003). Other studies (Philippe et al., 2012, Study 3; Philippe, Koestner, Lecours, Beaulieu-Pelletier, & Bois, 2011) have also shown that memories can be unconsciously triggered by specific environmental cues without active reminiscence (Conway & Pleydell-Pearce, 2000; Pillemer, 2003), while still affecting people's cognitions and emotions outside of their awareness. As such, couple-related memories may actively influence people's cognition, emotion, and behavior with their partner when these memories are either consciously recalled or unconsciously triggered by specific environmental cues. Over time, a couple-related memory that is frequently activated should actively contribute to building enduring romantic outcomes.¹

Few studies have examined the role of memories in romantic relationships, and those few have focused on the short-term effect of memories (for an exception, see Alea & Vick, 2010). In an experimental study, Alea and Bluck (2007) showed that having people remember positive autobiographical memories about their current romantic relationship led to a subsequent increase in perceived warmth with respect to their relationship. Similarly, Bazzini et al. (2007) showed that couples reminiscing about a past experience involving shared laughter reported subsequent increases in their relationship satisfaction. These studies highlight the immediate and situational effect of memories on perceived relationship quality. However, it is also expected that, over time, the frequent activation of a couple-related memory through deliberate recall or unconscious activation will lead to enduring changes in the quality of the romantic relationship. No study to our knowledge has investigated the long-term directive function of couple-related memories on romantic relationship outcomes. Such studies are critical for both the relationship and memory literature, as they would provide the first empirical evidence that couple-related memories not only reflect common relational constructs and not only have a transient situational effect but can also actively contribute to building important relational resources over time.

In the present research, we seek to examine how a frequently activated couple-related memory may affect critical romantic relationship outcomes in young adults. Because relationships in

emerging adulthood (18 to 30 years old) can evolve relatively quickly—from initial dating to becoming engaged or ending the relationship—the dynamic nature of this sphere of life in young adults makes it a compelling domain and population in which to study the long-term effect of episodic memories on romantic outcomes.

Episodic Memories and Their Experiential Component

An episodic memory is a memory for a past, usually significant, event, which preserves a trace representing what the person experienced during this initial event (Conway, 2008; Wheeler, Stuss, & Tulving, 1997)—what is called the experiential component. According to self-determination theory (Deci & Ryan, 2000), one fundamental experiential component of people's living experience is the satisfaction or the thwarting of three psychological needs: autonomy, competence, and relatedness. Autonomy refers to the need to feel volitional and authentic in one's actions. Competence is defined as the need to feel effective and efficacious. Relatedness refers to the need to feel connected, to care for others, and to be cared for by others in turn. Researchers have highlighted the fundamental nature and importance of these three needs for specific events and across diverse domains and cultures (e.g., Deci et al., 2001; Sheldon, Elliot, Kim, & Kasser, 2001; Tay & Diener, 2011). Furthermore, it has been shown that the satisfaction of these needs is positively associated with markers of well-being (e.g., Reis, Sheldon, Gable, Roscoe, & Ryan, 2000; Sheldon, Ryan, & Reis, 1996; Sheldon & Schuler, 2011) and relationship quality (e.g., Patrick, Knee, Canevello, & Lonsbary, 2007).

Because of the prominence of these needs across situations and contexts, people should recall the level of need satisfaction they experienced in a majority of significant episodic memories. Indeed, recent research (Philippe, Koestner, Beaulieu-Pelletier, & Lecours, 2011) has shown that need satisfaction in episodic memories (either positive or negative) is a basic experiential component of such memories and is distinct from several other memory characteristics examined in past memory research (e.g., explicit and implicit motives, intrinsic and integrative memories, memory perspective, sharing, rehearsing,

¹ Recently, two studies showed that the deliberate recall of a couple-related memory could affect immediate ratings of warmth (Alea & Bluck, 2007) and that the valence of a couple-related memory was related to marital satisfaction (Alea & Vick, 2010). The authors mentioned that their results were an illustration of the social function of memories, since memories were used to sustain a relationship or increase intimacy. However, to us, these findings can also be explained by the directive function of memories. In our past work, we have shown that memories have an active force on well-being, emotion regulation and, more recently, on work-related outcomes. For example, work-related memories, through their conscious or unconscious activation, can affect workers' performance over time. These are clear effects of the directive function of memories. The same theoretical model is applied here to romantic outcomes. It should also be noted that it is possible for more than one function to be at play (Bluck & Alea, 2011; Pillemer, 2003, 2009), such that the same memory could be deliberately recalled to strengthen one's relationship and at another time be activated outside of one's awareness and influence one's relationship quality. Other evidence suggests that the directive function could be hierarchically superior to the social and self functions (Bluck, Alea, Habermas, & Rubin, 2005). Whether the social, directive, or both functions are used to explain the results presented in this article, these are just different terminologies that do not affect the empirical findings.

etc.). Furthermore, research has also shown that need satisfaction in memory is empirically distinct from the valence of the memory (Philippe, Koestner, Beaulieu-Pelletier, & Lecours, 2011, Studies 2 and 3; Philippe et al., 2012, Study 3) as well as the emotions recalled from a memory (Philippe, Koestner, Lecours, et al., 2011, Study 2). When need satisfaction is pitted against valence or emotions recalled from memories in regression analyses, need satisfaction explains variance in outcomes better than valence and emotions, and over and above these variables. In addition, the concept of need satisfaction provides an explanation about what is positive or negative in a memory and is grounded in a strong evidence-based theoretical framework (Deci & Ryan, 2000). For these reasons, need satisfaction was preferred to valence in the present research.

One way episodic memories can have a directive function on romantic outcomes is through the level of need satisfaction characterizing them. When an episodic memory is activated, its experiential component is also triggered, and it affects a person accordingly in the present (Ledoux, 1992; Philippe et al., 2012; Schwartz, Weinberger, & Singer, 1981). Thus, the level of need satisfaction attached to a memory should be an active ingredient influencing a person's attitude and behavior in the here-and-now of the situation that triggered the memory. In line with self-determination theory, need satisfying memories should signal possibilities for psychological growth and the opportunity to build and expand the self and the self in relation to others (Aron & Aron, 1986; Waugh & Fredrickson, 2006), whereas need thwarting memories should signal a potential threat to the self and should lead to self-closure and strategies to protect the self (Deci & Ryan, 2000; Hodgins & Knee, 2002). If repeated over time, this process is expected to build or hinder various important life outcomes in a stable and enduring fashion. As such, a need satisfying couple-related memory that is frequently activated should affect a person's attitude and behavior toward his or her partner, which should, over time, affect the quality of the relationship and other important relational outcomes in an enduring fashion.

Memories and Personality

Episodic memories should be considered active and independent aspects of personality, although they should not be equated with constructs such as traits or schemas (Bluck, 2003; McAdams & Pals, 2006; Philippe, Koestner, Beaulieu-Pelletier, & Lecours, 2011; Pillemer, 2001). First, traits and schemas generally reflect what people know about themselves or about their self (i.e., self-knowledge or generic knowledge about the self; Brewer, 1986), whereas episodic memories represent the significant specific episodes that people experienced in their life. Although traits may affect how people experience their life events, the way they are remembered over time is posited to have an impact on people's lives, independently of their traits and schemas. To highlight this independent effect of memories, we controlled for a number of trait-level variables throughout the studies, such as attachment, general perceptions of need satisfaction, or mental health. This also serves to underscore that memories not only reflect common relational constructs but also have a unique effect on relational outcomes.

Present Research

The present research was conducted to provide the first evidence of the active force of couple-related memories on romantic relationship outcomes, including long-term effects. Study 1 investigated the association between a chronically accessible couple-related memory and relationship quality while controlling for the effect of important relational constructs, such as attachment and couple relationship need satisfaction. Study 2 examined the context-dependent nature of episodic memories, that is, the differential predictive value of need satisfaction in a couple-related memory and in a friendship-related memory on romantic and friend relationship quality. This study also rules out several alternative explanations, such that people who more highly rate relationship quality might also recall memories with higher levels of need satisfaction. Study 3 investigated the dyadic roles of couple-related episodic memories in both partners' perceptions of relationship quality. Taken together, Studies 1 to 3 establish both the discriminant and predictive validity of need satisfaction in couple-related memories on relationship quality. Finally, Study 4 used a prospective cross-lagged design to investigate the long-term effect of memories on relationship outcomes (increases in relationship quality or breakup) and their reciprocal association, as well as the stability over time of these memories and of their characteristic level of need satisfaction. Overall, the present research seeks to provide evidence of the consequences of episodic memories within the sphere of romantic relationships.

Study 1

The purpose of Study 1 was to investigate the association between need satisfaction in episodic memories related to people's current romantic relationship and components of romantic relationship quality. More specifically, participants described a chronically accessible episodic memory related to their current couple relationship and rated the level of need satisfaction they experienced during the event grounding this memory (as they remembered it). We hypothesized that the level of need satisfaction characterizing this memory would be positively associated with perceived relationship quality. In addition, we hypothesized that this association would hold even after controlling for other important relational constructs, such as attachment and couple relationship need satisfaction, and for contamination by extraneous variables, such as psychological symptoms. Attachment has been shown to be a strong predictor of relationship quality (e.g., Brennan, Clark, & Shaver, 1998). Although it was expected that need satisfaction in a couple-related memory would be associated with attachment, episodic memories related to one's current couple relationship and attachment schemas should be, at best, moderately overlapping constructs. The most stringent test was to control for the need satisfaction people generally perceive in their couple relationship. This provides strong evidence that memories and general perceptions are not equivalent measures, thus increasing the distinction between episodic memories and generic self-knowledge. Finally, it has been shown that people with psychological symptoms (e.g., depression, anxiety, somatization) often recall more negative memories (e.g., Brittlebank, Scoot, Williams, & Ferrier, 1993); these memories may perhaps be characterized by a lower level of need satisfaction. While this effect may be expected, it should be independent of the rela-

tionship between need satisfaction in couple-related memories and relationship quality.

Method

Participants. A total of 198 undergraduate and graduate students (152 female, 46 male) were recruited from a Canadian university. In all studies of the present research, graduate students were also recruited in order to increase sample representativeness and to obtain responders who were more likely to be involved in a serious long-term relationship. At the time of the study, all participants were involved in a romantic relationship that had lasted for at least 3 months ($M = 47.78$ months, $SD = 51.79$ months). Four participants were in a homosexual relationship and two others refused to report their sexual orientation. The mean age was 25.87 ($SD = 6.74$). The vast majority of this sample (79.3%) was Caucasian. In addition, there were no differences on all study variables as a function of ethnicity. Because the proportion of Caucasians was about the same in all studies and there were no significant differences on any variable across ethnicities in all studies, we did not consider ethnic background in the present research.

Measures.

Attachment. The Experiences in Close Relationships Scale (ECR; Brennan et al., 1998) was used to measure adult romantic attachment. This scale measures two attachment dimensions with 18 items each regarding Avoidance (i.e., discomfort with closeness and discomfort depending on others) and Anxiety (i.e., fear of rejection and abandonment). Cronbach's alpha coefficients in this study for the avoidant and anxious subscales were both .87.

Couple relationship need satisfaction. The Basic Need Satisfaction in Relationships Scale (La Guardia, Ryan, Couchman, & Deci, 2000) measures perceived need satisfaction experienced in general within the couple relationship. There are three items each for autonomy, competence, and relatedness, with total need satisfaction computed as the average of the nine items. Participants rated on a 7-point Likert scale how well their basic needs were generally met when they were with their romantic partner. Sample items are "When I am with my partner, I feel free to be who I am" (autonomy), "When I am with my partner, I feel like a competent person" (competence), and "When I am with my partner, I feel loved and cared about" (relatedness). Cronbach's alpha coefficient for the total scale was .86 in this study.

Psychological symptoms. The short scale of the Symptom Checklist (SCL-10R; Rosen et al., 2000) was used to assess psychological symptoms. This scale is composed of 10 items responded to on a 5-point Likert scale (1 = *not at all*, 5 = *extremely*), and the scale assesses various psychological symptoms including depression, anxiety, interpersonal sensitivity, hostility, phobic avoidance, obsessive-compulsive symptoms, somatization, psychoticism, and paranoia. This short scale correlates at .95 with the full 90-item original scale (Rosen et al., 2000). Participants were asked to rate the extent to which they had been bothered by each symptom during the last 2 months. A sample item is "to feel hopeless about future." A high score on this scale indicates high levels of psychological symptoms. Cronbach's alpha coefficient for the scale was .85 in this study.

Perceived relationship quality. Couple relationship quality was assessed with the Perceived Relationship Quality Components

Inventory (PRQC; Fletcher, Simpson, & Thomas, 2000b). This measure assesses six components of romantic relationships (satisfaction, commitment, intimacy, trust, passion, and love) with three items each. In addition, a romance subscale was also measured with three items in line with Fletcher, Simpson, and Thomas' (2000a) further expansion of the PRQC. Cronbach's alpha coefficients ranged from .79 to .97 for each of the seven subscales.

Couple-related episodic memory. Participants were asked to describe a specific, significant personal memory of an experience that they had within their current couple relationship. They were instructed to select a memory that reveals something about how they perceive themselves within the romantic domain and that often comes to their mind (and thus has a high probability of being frequently activated). They were asked to provide sufficient details in the description of their memory so that another person could understand it. Instructions were drawn from Philippe, Koestner, Beaulieu-Pelletier, and Lecours, (2011), which were initially derived from self-defining memory instructions (Singer & Salovey, 1993) and adapted for the purpose of the present research. These instructions are similar to those used in past work on couple-related memories (Alea & Vick, 2010; Sutin & Robins, 2005).

Need satisfaction in the couple-related episodic memory. Next, participants were asked to rate the level of psychological need satisfaction they experienced when this event/experience occurred: "Think back to how you experienced the event or moment you described above when it occurred and respond to each of the following statements. Respond according to the scale provided below." Ratings for each item were made on a 7-point Likert scale ranging from -3 (*strongly disagree*) to $+3$ (*strongly agree*), with 0 representing "*Do not agree nor disagree or not applicable*"—this latter option indicating that there was an equal level of both need satisfaction and need thwarting in the event or that the event was not characterized by either need thwarting nor need satisfaction. Participants were provided with two items assessing each of the three psychological needs postulated by self-determination theory (Philippe, Koestner, Beaulieu-Pelletier, & Lecours, 2011). A sample item for autonomy was "I felt free to do things and to think how I wanted," a sample item for competence was "I felt competent or capable," and a sample item for relatedness was "I felt connected to one or more people." One item measuring autonomy did not correlate well with the other items and was thus deleted. An index assessing need satisfaction in the couple-related episodic memory was also computed by averaging all item scores. Cronbach's alpha coefficient for this index was .77. Past research (Philippe, Koestner, Beaulieu-Pelletier, & Lecours, 2011, Study 1) showed a large correlation ($r = .70$) between need satisfaction in memory descriptions as rated by the participants themselves and as coded by independent judges.

Procedure. Participants were contacted through their university e-mail and informed that we were conducting a study on romantic relationships. The incentive to participate, used for all studies reported in the present article, was a drawing for one of three prizes of \$125. Those who agreed to complete the questionnaire logged into a secure website and expressed their agreement with the terms of an informed consent by clicking a specific button. Finally, it is important to note that participants completed all measures *before* describing their couple-related memory. This order was deemed important in order to ensure that the recall of the memory did not influence the ratings on the other scales. Although

it is possible that completing the relationship scales presented above might have primed certain memories, this effect should be cancelled out by controlling for couple relationship need satisfaction when examining the relationship between need satisfaction in couple-related memories and relationship quality.

Results and Discussion

Table 1 presents the means, standard deviations, and correlational results of all study variables. Satisfaction of autonomy, competence, and relatedness needs in the couple-related memory were all positively associated with each other and with relationship quality. Need satisfaction in the couple-related memory was also weakly negatively associated with attachment avoidance and anxiety and marginally negatively associated with psychological symptoms. There was also a significant but small association between need satisfaction in the couple-related memory and general perceptions of need satisfaction within one's couple relationship, thus highlighting the distinction between these constructs.

A structural equation model was used to test the hypothesis that need satisfaction in the couple-related memory would be positively associated with relationship quality, even after controlling for attachment, couple relationship need satisfaction, and psychological symptoms. Age, gender, and duration of the relationship were also controlled for in the model. Random item parceling was used for attachment avoidance and anxiety, couple relationship need satisfaction, psychological symptoms, and relationship quality in order to obtain more stable estimations—that is, observed index variables composed of four or five items for the attachment subscales and of two or three items for the other measures were created for each latent construct (see Bandalos, 2002). The estimation method was Maximum Likelihood. Figure 1 shows the final model. Fit indices for this model were adequate, $\chi^2(291, N = 198) = 493.88, p < .001$, normed chi-square (NC) = 1.70, non-normed fit index (NNFI) = .96, comparative fit index (CFI) = .96, root-mean-square error of approximation (RMSEA) = .060 [.050; .068], standardized root-mean-square residual (SRMR) = .063. Results revealed that as expected, need satisfaction in a couple-related memory was positively associated with relationship quality after controlling for attachment, couple relationship need satisfaction, psychological symptoms, age, gender, and relationship duration. Couple relationship need satisfaction and attachment avoidance, respectively, were also positive and negatively associ-

ated with relationship quality. We also examined whether gender was a moderator of need satisfaction in memory on relationship quality. The interaction term was not significant ($p = .30$).

In order to examine if relatedness accounted for the largest association with relationship quality, a model was tested in which relatedness formed a single latent variable and autonomy and competence formed another. Results revealed that both autonomy-competence and relatedness were significantly associated with relationship quality ($\gamma = .30, p < .01$, and $\gamma = .24, p < .01$, respectively). This result underscores that not only relatedness contributes to the quality of couple relationships, but also autonomy and competence. Overall, the present results suggest that need satisfaction in an episodic memory related to one's current romantic relationship is associated with relationship quality and that this association is not explained by attachment, need satisfaction generally perceived in one's couple relationship, or psychological symptoms. These findings provide evidence for the distinction between the constructs of episodic memories and generic self-knowledge measures of relationships.

Study 2

An alternative explanation for the results of Study 1 is that need satisfaction in any kind of episodic memory could be associated with any kind of relational outcomes. Conversely, it is proposed that memories are context-dependent (Philippe, Koestner, Lecours, et al., 2011; Philippe, Lecours, & Beaulieu-Pelletier, 2009; Rasmussen & Berntsen, 2009). Episodic memories are expected to guide people's attitudes and behavior when people find themselves in contexts that trigger some of their memories, based on the shared characteristics between the external environment and the memories (Rasmussen & Berntsen, 2009). As such, memories corresponding to a context (e.g., romantic relationship) are more likely to be activated by context-related cues, such as at home with one's partner, and are therefore more likely to exert their effect within these partner-related contexts and affect partner-related consequences only. Conversely, memories related to one's work, for instance, are more likely to be activated by the perception of colleagues, work environment, or supervisors, rather than by one's partner, and thus exert their effect in work contexts and affect work-related (but not partner-related) consequences. For these reasons, an episodic memory should mostly be associated with consequences related to its context and not with consequences

Table 1
Means, Standard Deviations, and Correlations: Study 1

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. Couple-related memory NS	1.69	1.21	—								
2. Autonomy	1.92	1.52	.70**	—							
3. Competence	1.51	1.53	.86**	.54**	—						
4. Relatedness	1.74	1.47	.81**	.36**	.45**	—					
5. Relationship quality	5.67	0.87	.32**	.17*	.29**	.27**	—				
6. Couple relationship NS	6.10	0.82	.19**	.09	.21**	.13	.67**	—			
7. Attachment anxiety	3.08	1.08	-.14*	-.06	-.01	-.16*	-.17*	-.36**	—		
8. Attachment avoidance	2.21	0.89	-.21**	-.07	-.21**	-.17*	-.45**	-.52**	.22**	—	
9. Psychological symptoms	2.09	0.73	-.11	.00	-.15*	-.07	-.21**	-.39**	.57**	.28**	—

Note. $n = 198$. NS = need satisfaction.

* $p < .05$. ** $p < .01$.

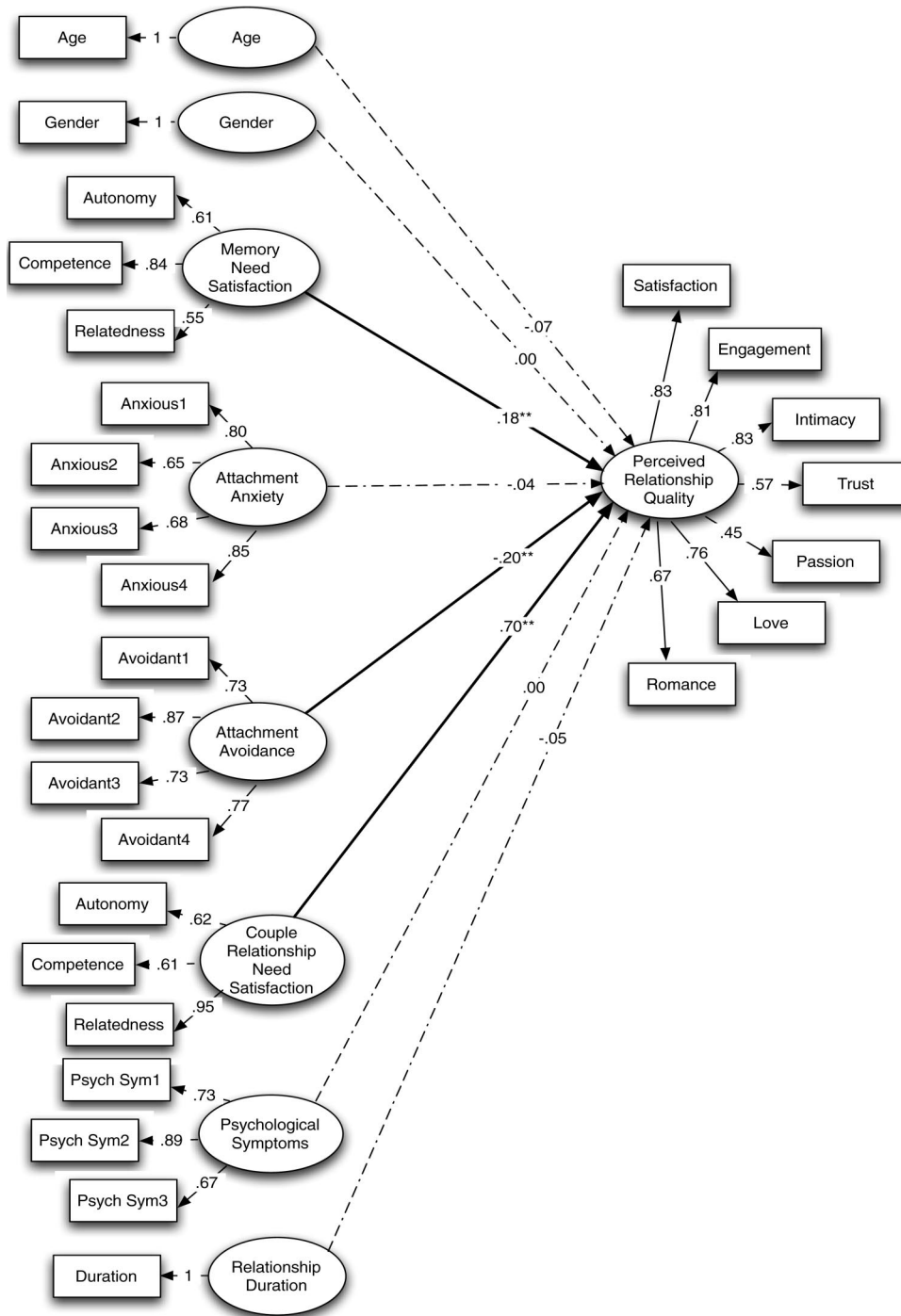


Figure 1. Structural equation model of the association between need satisfaction in a couple-related episodic memory and relationship quality, controlling for attachment, couple relationship need satisfaction, psychological symptoms, age, gender, and relationship duration. Covariances among the latent variables are not shown for the sake of clarity. Psych Sym = psychological symptoms. *** $p < .01$.

related to another context. Traits and schemas, however, are believed to have a broader effect on attitudes and behavior across contexts (e.g., Paunonen, 2003).

Study 2 specifically investigated this issue. All participants completed an attachment questionnaire and described a memory

related to their partner and a memory related to their best friend. We expected that need satisfaction in the couple-related memory would be associated with romantic relationship quality but be unrelated to best-friend relationship quality. Conversely, need satisfaction in the best friend-related memory was expected to be

associated with friendship quality but be unrelated to romantic relationship quality. We also expected that need satisfaction in couple-related memories would only be weakly to moderately correlated with need satisfaction in friend-related memories, since contextually different memories should not show a strong overlap (Philippe et al., 2012, Study 1). We also expected that attachment would be associated with the quality of both the romantic and the friendship relationships.

Method

Participants and procedures. Participants were 137 undergraduate and graduate students (111 female, 26 male) involved in a romantic relationship that had been on-going for at least 3 months. Mean age was 25.28 years ($SD = 6.59$ years). They completed attachment, friendship quality, and romantic relationship quality scales. Next, they described a couple-related memory and a friend-related memory. The order of the description of the memories was counterbalanced across participants.

Measures.

Attachment. The ECR-S (Wei, Russell, Mallinckrodt, & Vogel, 2007) is a short 12-item version of the Experiences in Close Relationships scale (ECR: Brennan et al., 1998), and that scale was used to measure the two adult romantic attachment dimensions, each with six items. Evidence of validity and reliability highly similar to the original full scale has been reported for this short scale (Wei et al., 2007). Cronbach's alpha coefficients in this study were .75 and .66 for the anxious and avoidant subscales, respectively.

Romantic relationship quality. Only the best item determined by Fletcher and colleagues (2000b) of each of the seven subscales of the Perceived Relationship Quality Components Inventory was used in this study. Cronbach's alpha coefficient was .78 in this study.

Friendship quality. Five items from the Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987) were used to measure friendship quality (e.g., "My friend respects my feelings"). These items were selected because of their high factor loadings in the factorial analysis presented by Armsden and Greenberg (1987) and because they were suitable to measure friendship quality in adulthood. One item was also devised for the purpose of the study in order to directly tap friendship closeness: "I feel close to my friend." Participants were asked to nominate a current close (best) friend with whom they had a significant friendship. In order to prevent overlap between friendship and romantic relationships, participants were also instructed to select a friend toward whom

they had *never* experienced any feelings of romantic love and vice versa. Participants were then asked to type in the initials of this friend and to indicate how long they had known this friend. A Principal Components Analysis on the present study data revealed that all six items assessing friendship quality loaded on one single dimension, accounting for 69.06% of the variance. All six items had high factor loadings on this dimension (from .75 to .96). Cronbach's alpha coefficient was .90.

Couple-related and friend-related episodic memories. Instructions and procedures for the main couple-related memory description were the same as those presented in Study 1. Participants were also asked to describe a specific and significant past event experienced with the friend they had identified in the friendship quality questionnaire that often comes to their mind. Participants rated each of their memories for their need satisfaction as in the previous study.

Results and Discussion

Correlational results (see Table 2) revealed that need satisfaction in the couple and friend-related main memory were uncorrelated ($r = .14, ns$). This result underscores the high degree of variability in need satisfaction for relational memories in the same person.

A structural equation model was conducted with romantic relationship quality and friendship quality as the dependent variables. The covariance between these two variables was freely estimated. Independent variables were the two types of attachment, age, gender, need satisfaction in the memory related to one's romantic relationship, and need satisfaction in the memory related to one's best friend. Results revealed fairly adequate fit indices for this model, given the small sample size, $\chi^2(226, N = 137) = 355.94, p < .001, NC = 1.57, NNFI = .88, CFI = .91, RMSEA = .065 [.052; .078], SRMR = .079$. In addition, all factor loadings were high and significant. Figure 2 presents this model. As expected, need satisfaction in the romantic relationship memory was positively associated with couple relationship quality but unrelated to friendship quality. Conversely, need satisfaction in the friend-related memory was positively associated with friendship quality but unrelated to couple relationship quality. Attachment avoidance was negatively associated with both couple relationship and friendship quality. This result underscores the idea that schemas, such as attachment, apply generally to people's interpersonal relationships. Memories, however, are much more context-dependent and only affect outcomes related to the context of the memory. Although one should be cautious about null results, we

Table 2
Means, Standard Deviations, and Correlations: Study 2

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1. Couple-related memory NS	1.88	1.13	—					
2. Friend-related memory NS	1.99	1.04	.14	—				
3. Attachment anxiety	3.14	1.11	-.15	.03	—			
4. Attachment avoidance	2.21	0.84	-.19*	.09	.15	—		
5. Relationship quality	5.60	0.94	.35**	-.03	-.23**	-.49**	—	
6. Friendship quality	5.64	1.03	.09	.17*	-.01	-.29**	.15	—

Note. $n = 137$. NS = need satisfaction.
* $p < .05$. ** $p < .01$.

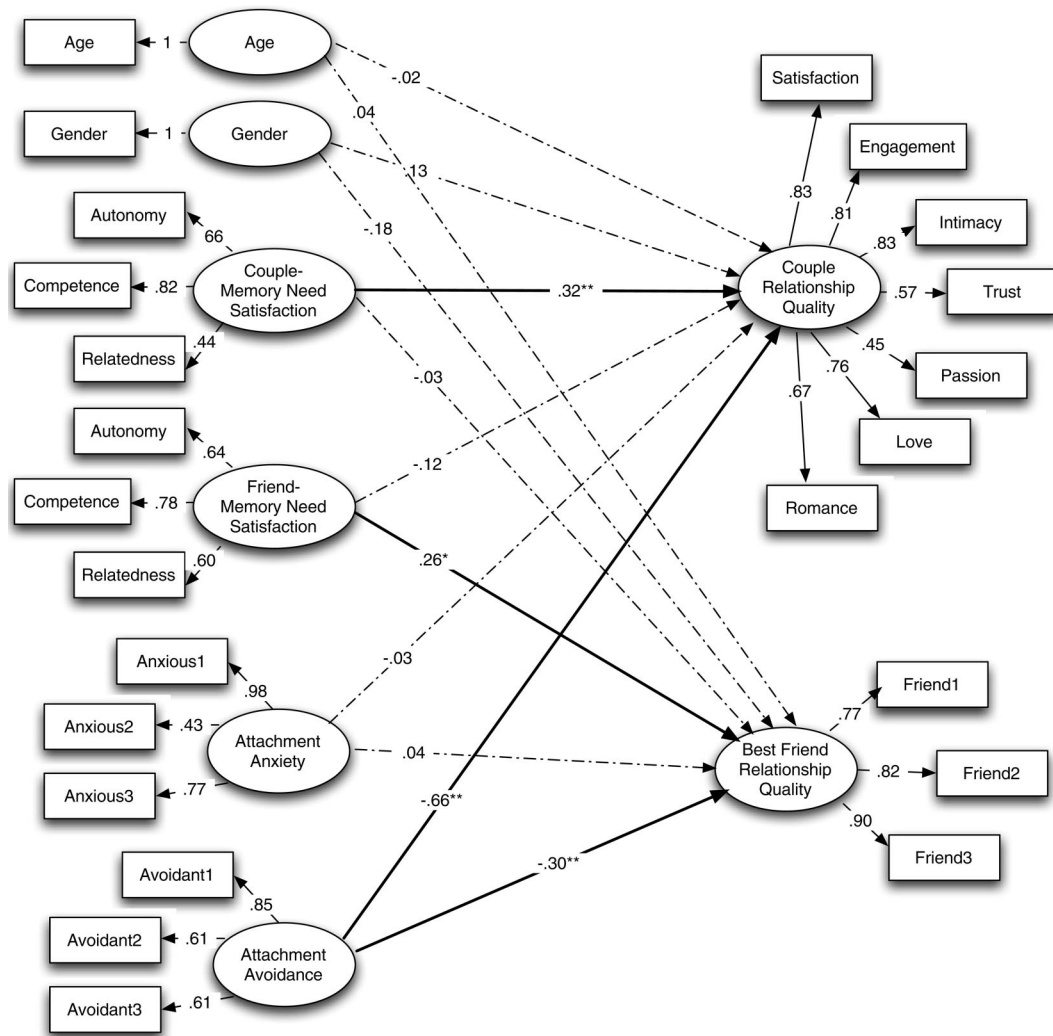


Figure 2. Structural equation model of the association among need satisfaction in a couple-related and in a friend-related episodic memory, relationship quality, and friendship quality. Covariances among the latent exogenous variables are not shown for the sake of clarity. * $p < .05$. ** $p < .01$.

believe it can be confidently concluded that memories related to one context appear to be more strongly associated with context-related outcomes than with unrelated ones. Gender was not a significant moderator in this study (all $ps > .24$).

Study 3

Studies 1 and 2 showed that need satisfaction in a couple-related memory was associated with relationship quality, as perceived by the rememberer. Based on past research (Philippe et al., 2012), we explain this association by the fact that such memories are frequently triggered within people's romantic lives and influence their attitudes and behavior when interacting with their partner. If this is the case, then these memories should be associated not only with the rememberer's perceptions of relationship quality but also with those of his or her partner. The triggering of need satisfying memories within a couple relationship should lead the rememberer to act in a more open and warm manner with his or her partner,

which should impact this rememberer's perceived relationship quality. Likewise, the rememberer's positive interactions with the partner should lead this partner to perceive higher relationship quality. Therefore, a need satisfying couple-related memory recalled by one partner should be uniquely associated with both partners' perceived relationship quality. The purpose of Study 3 was specifically designed to investigate whether a couple-related memory recalled by one member of a couple would be uniquely associated with the perceptions of relationship quality of both members of the couple. In addition, this directive function of episodic memories on relationship quality should not be fully explained by each partner's perceived need satisfaction within their couple relationship in general.

Method

Participants, measures, and procedures. A total of 73 undergraduate and graduate students (50 female, 23 male) and their

heterosexual partner took part in this study (total $n = 146$ for 73 dyads). In this study, the term “participant” refers to the person who initially took part in the study and the term “partner” refers to the romantic partner of this participant who was subsequently invited to take part in the study by the participant. Participants’ age was $M = 25.25$ ($SD = 6.16$), while partners’ age was $M = 26.75$ ($SD = 8.55$). The participants and their partners were instructed to respond to the online questionnaire without the presence of their partner and according to their own perception of their romantic relationship, not as a function of how they thought their partner perceived their relationship or whether their partner would agree with their perception. In order to facilitate honest responses and reduce apprehension, the participants and their partners were told that they would not have access to each other’s responses. Both the participants and their partners completed the seven items of the Perceived Relationship Quality Components Inventory (PRQC: Fletcher et al., 2000b; $\alpha_s = .85$ and $.77$) and the Basic Need Satisfaction in Relationships Scale ($\alpha_s = .84$ and $.90$). After rating these scales, the participants—but not their partners—described a couple-related episodic memory and rated their need satisfaction for this memory. Since we were specifically interested in the effect of the rememberer’s memory on his or her partner’s perceived relationship quality, we asked the participants, but not their partners, to describe a couple-related memory.

Results

Correlational results showed that relationship quality as perceived by the participants and their partners were correlated at $r = .51$, $p < .001$. Need satisfaction in the memory was correlated at $r_s = .51$ and $.42$, $p < .001$, with the participants’ and the partners’ perceived relationship quality, respectively (see Table 3 for all correlations and means). A dyadic path analysis was conducted according to the Actor–Partner Interdependence Model (APIM: Kenny, Kashy, & Cook, 2006). More specifically, the participants’ need satisfaction in the couple-related memory and both the participants’ and the partners’ ratings of couple relationship need satisfaction in general were included as exogenous variables. Only the participants’ age and gender were included as controlled variables, since all dyads were heterosexual couples and the age of the members of a dyad were correlated at $r = .86$. The participants’ and the partners’ relationship quality scores served as the dependent variables, and a covariance was drawn between these two scores to account for their nonindependence. Such a just-identified model yields perfect fit indices. Figure 3 presents the parameter coefficients of this model. As can be seen, participants’ and partners’ couple relationship need satisfaction scores were associ-

ated with their own relationship quality scores and marginally associated with the other partner’s relationship quality scores ($\gamma = .17$, $p < .10$, and $\gamma = .11$, $p < .20$). These results, although marginal, replicate those of La Guardia et al. (2000), which showed that perceiving that one’s partner satisfies one’s needs influences one’s perceived relationship quality but also influences one’s partner’s perceived relationship quality. More importantly for the present investigation, need satisfaction in a couple-related memory predicted both the participants’ and their partners’ relationship quality, over and above need satisfaction generally perceived in the couple relationship. Surprisingly, need satisfaction in specific couple-related memories better predicted partners’ judgments of relationship quality than did more general ratings of need satisfaction in the relationship as a whole. Gender was not a significant moderator of need satisfaction in the couple-related memory in predicting either the participants’ or their partners’ perceived relationship quality ($p_s = .46$ and $.14$, respectively).

These results show that need satisfaction in a couple-related memory is associated with both the rememberer’s perceived relationship quality and his or her partner’s perceived relationship quality. In addition, this effect seems to be specific to the episodic memory measured and not fully explained by the need satisfaction generally perceived by both partners in their relationship. This study also addresses the limitation of the common measurement methods (self-report) used in Studies 1 and 2. In this study, need satisfaction in an important couple-related memory, as rated by the participants, was associated with their partners’ ratings of relationship quality.

Study 4

Studies 1 to 3 served to establish the discriminant validity of the construct of need satisfaction in couple-related memories and its predictive validity with respect to relationship quality. However, the direction of the association between memories and relationship quality has not been directly addressed. Indeed, in line with the self function of memories, the quality of one’s romantic relationship should taint the quality of the memories recalled through a reconstructive process (Wilson & Ross, 2003), such that people with high perceived relationship quality may recall more positive, need satisfying memories (Relationship quality \rightarrow Memory need satisfaction). Conversely, the directive function of memories predicts that couple-related memories have an active force on romantic outcomes, which should build enduring relational resources over time (Memory need satisfaction \rightarrow Relationship quality). The direction of the statistical relationship each function predicts is thus opposite. A point of concern when the self and the directive functions are pitted against each other

Table 3
Means, Standard Deviations, and Correlations: Study 3

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Participants’ couple-related memory NS	1.50	1.42	—				
2. Participants’ couple relationship NS	6.15	0.66	.38**	—			
3. Partners’ couple relationship NS	5.94	0.94	.33**	.40**	—		
4. Participants’ relationship quality	5.87	0.83	.51**	.68*	.40**	—	
5. Partners’ relationship quality	5.84	0.73	.42**	.47*	.66*	.51**	—

Note. $n = 73$. NS = need satisfaction.

* $p < .05$. ** $p < .01$.

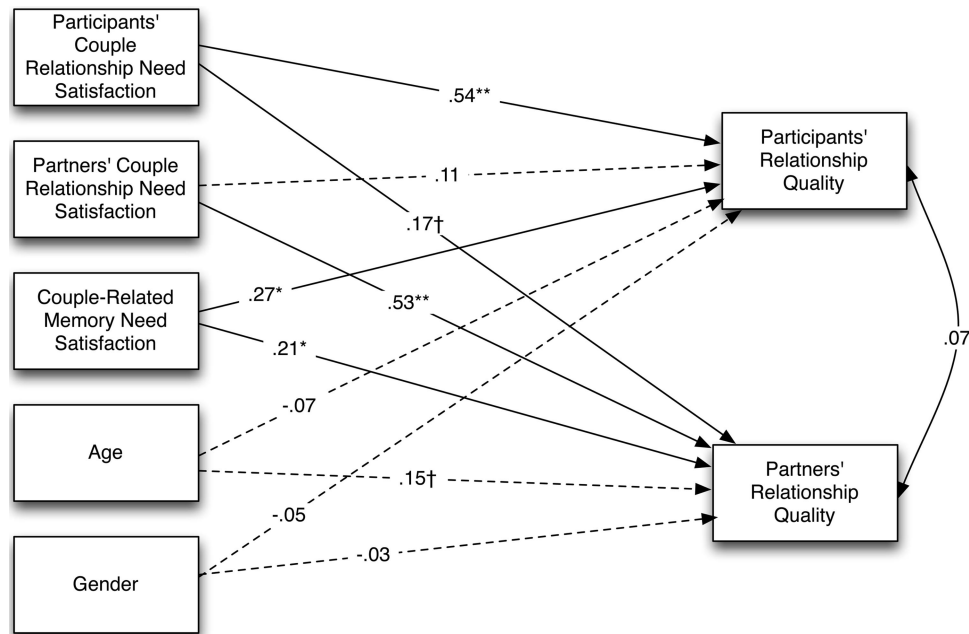


Figure 3. Dyadic path analysis of the participants' need satisfaction in a couple-related episodic memory and the participants' and their partner's couple relationship need satisfaction predicting the participants' and their partners' perceptions of relationship quality. Covariances among the exogenous variables are not shown for the sake of clarity. † $p < .10$. * $p < .05$. ** $p < .01$.

is that if a memory is reconstructed over time, how would it be possible for the same memory to build relational resources over time in a stable fashion if it constantly changes? We argue that only a portion of a memory is reconstructed over time, whereas another portion remains stable. This stable portion should *prospectively* predict changes in the romantic relationship, and this should occur regardless of the nature of the reconstructive process operating on this memory over time.

To examine these issues we conducted a 1-year prospective study. At Time 1, participants described a couple-related memory and rated the perceived quality of their romantic relationship. At Time 2, we asked the participants whether they were still with their partner and, if so, to rate their relationship quality again. We also asked participants at Time 2 to describe a couple-related memory again. They could describe either the same memory they had described 1 year ago or a new one if this new memory now seemed more significant to them. Finally, we presented the participants with the memory description they wrote 1 year ago and asked them to rate again their level of need satisfaction for this memory.

Our first hypothesis, in line with the directive function of memories, is that the need satisfaction ratings for the same memory at Times 1 and 2 should remain fairly stable over time (high correlation) for both the participants who separated and those who remained with their partner. However, in line with the self function of memories, this rating should also show evidence of reconstruction. That is, participants who remained with their partner over the year should reconstruct this memory as being characterized by higher levels of need satisfaction than what they originally reported 1 year earlier. Conversely, participants who separated during the year should reconstruct their memory as being characterized by lower levels of need satisfac-

tion than what they initially reported when they were still in the relationship. As such, participants should use other life events (strengthening or dissolution of their romantic relationship) to reconstruct their couple-related memory. Nevertheless, a portion of this memory should remain stable over time.

Our second hypothesis concerns the participants who remained with the same partner over the year. In line with the directive function of memories, we expected that need satisfaction in the couple-related memory would predict increases in perceived relationship quality over the year. However, in line with the self function of memories, which suggests that people partly encode and reconstruct memories as a function of who they are (e.g., Conway & Pleydell-Pearce, 2000; Wilson & Ross, 2003), we also expected that perceived relationship quality at Time 1 would predict the recall at Time 2 of a new memory characterized by higher levels of need satisfaction than the one recalled at Time 1. Taken together, these findings would suggest that memories and outcomes are involved in constant bidirectional influences under both the directive and self functions.

Finally, our third hypothesis concerns the participants who ended their relationship during the year. In line with the directive function of memory, we expected that need satisfaction in the couple-related memory described at Time 1 would negatively predict relationship dissolution over the year.

Method

Participants. A total of 196 undergraduate and graduate students (162 female, 34 male) took part in this study. Participants' age was $M = 24.61$ years ($SD = 5.29$ years), and they had been

with their partner for 36.32 months on average ($SD = 34.72$ months). At Time 2, 1 year later, 25% of the participants reported having separated from their partner during the year.

Measures and procedures. At Time 1, participants completed the attachment subscales (Wei et al., 2007; avoidance: $\alpha = .70$; anxiety: $\alpha = .72$), the Basic Need Satisfaction in Relationships Scale (La Guardia et al., 2000; $\alpha = .88$), and the seven-item Perceived Relationship Quality Components Inventory (Fletcher et al., 2000b; $\alpha = .84$). They also described a couple-related episodic memory and rated their need satisfaction for this memory. At Time 2, participants were asked whether they were still with their partner and, if so, to rate their perceived relationship quality again ($\alpha = .80$). They were also invited to describe a memory related to their (current or past) romantic relationship—either the same memory they had described 1 year ago or a new one if this new memory now seemed more significant. They rated it for need satisfaction. Finally, they were presented with the memory description they wrote 1 year ago (that is, at Time 1) and asked to rate the level of need satisfaction they recalled having felt during the event of this old memory.

Results

Preliminary analyses. Memory descriptions at Times 1 and 2 were coded to determine if the new memory described at Time 2 was the same as the one described at Time 1 or if it was a different one. Overall, only one participant described the same memory. This memory was about a traumatic event that had severely handicapped her partner. All other participants described a different memory. Given these results, we also coded memory descriptions at Times 1 and 2 for themes (e.g., conflict, travel, party, sex). Very few participants (5%) reported memories with a common theme. Furthermore, the correlation between the need satisfaction in the memory described at Time 1 and the new one described at Time 2 was only $r = .21$ for those who remained together and $r = .28$ for those who separated from their partner. These results suggest that a couple-related memory that has been important for a time may be replaced by another more important memory in a time span as short as 1 year. In addition, the new memory described seems to share very little in common with the Time 1 memory in terms of its level of need satisfaction, as underscored by the weak correlation found between their ratings of need satisfaction.

Main analyses. Our first hypothesis stated that the need satisfaction ratings made at Times 1 and 2 regarding the Time 1 memory description should remain fairly stable over time. When all participants were included in the analysis, the correlation between ratings at Times 1 and 2 was $r = .70$, $p < .001$ (the correlation was .81 with latent variables and a covariance freely estimated between the measurement errors of each need). As expected, this correlation was not different between those who had separated ($r = .70$) and those who remained with the same partner over the year ($r = .67$).² Thus, about 50% of the variance with respect to the level of need satisfaction characterizing a couple-related memory remained stable over a year, regardless of what happened in the relationship. However, this result also implies that about 50% of this variance also changed during this 1 year.

The change in the need satisfaction ratings for the same memory over the year is likely to have occurred as a function of whether the participants had broken up. To examine this potential bias, we

conducted a 2 (relationship status: broken up vs. intact) \times 2 (need ratings: Times 1 and 2) analysis of variance with repeated measures on the last variable. Results revealed a significant Status \times Need Ratings interaction, $F(1, 194) = 10.38$, $p < .001$, $\eta^2 = .051$. Simple effects analyses revealed that those who had separated over the year reported lower need satisfaction in their memory at Time 2 ($M = 0.81$, $SD = 1.64$) as compared to what they had originally reported at Time 1 ($M = 1.21$, $SD = 1.55$), $t(48) = 2.25$, $p < .05$. Conversely, participants who remained with their partner over the year reported higher need satisfaction in their memory at Time 2 ($M = 1.94$, $SD = 1.25$) than at Time 1 ($M = 1.79$, $SD = 1.08$), $t(146) = 1.95$, $p = .053$. Gender did not moderate any of these effects. Thus, memories showed a substantial stability over time in terms of need satisfaction, and the amount of this stability was not affected by very important changes in the person's romantic life. Although partly stable, need satisfaction in the memory was also colored either by breaking up or not. People who had separated rated their 1-year old memory lower in need satisfaction, whereas people who remained with their partner rated this same memory as even more need satisfying than what they had indicated at Time 1.

Our second hypothesis was that, in line with the directive function, need satisfaction in the memory described at Time 1 should predict increases in perceived relationship quality over the year. However, in line with the self function, perceived relationship quality at Time 1 should predict increases in need satisfaction in the new memory recalled at Time 2. To investigate these predictions, we conducted a cross-lag analysis using structural equation modeling with need satisfaction in memory and relationship quality measured at Time 1 serving as exogenous variables and need satisfaction in the new memory described at Time 2 and relationship quality measured at Time 2 serving as dependent variables (see Table 4 for correlations and means). In addition, we also controlled for age, gender, duration of the relationship, attachment, and couple relationship need satisfaction, all measured at Time 1. This model was applied to those who remained with their partners over the year.

Results for this model revealed adequate fit indices, $\chi^2(422, N = 149) = 733.50$, $p < .001$, $NC = 1.67$, $NNFI = .92$, $CFI = .93$, $RMSEA = .071$ [.062; .080], $SRMR = .076$. In addition, all factor loadings were significant and high. Results (see Figure 4) revealed that relationship quality at Time 1 was positively associated with relationship quality at Time 2 ($\gamma = .75$, $p < .01$) and that need satisfaction in the memory described at Time 1 was marginally and positively associated with need satisfaction in the memory described at Time 2 ($\gamma = .16$, $p < .10$). Furthermore, as expected, need satisfaction in the memory at Time 1 predicted increases in relationship quality over the year ($\gamma = .21$, $p < .05$). In addition, relationship quality at Time 1 predicted increases over 1 year in need satisfaction in the new couple-related memory described at Time 2 ($\gamma = .63$, $p < .01$). Effects from all control variables were nonsignificant and gender did not moderate any of the above relationships. These results show that memories and relationship

² These correlations remained virtually the same after controlling for relationship quality (Time 1), thus implying that the initial level of relationship quality did not affect the stability of the level of need satisfaction in the couple-related memory over time.

Table 4
Means, Standard Deviations, and Correlations: Study 4

Variable	M	SD	1	2	3	4	5	6	7	8
1. Couple-related memory NS T1	1.64	1.24	—							
2. Relationship quality T1	5.69	0.89	.34**	—						
3. Couple relationship NS	6.10	0.80	.29**	.65**	—					
4. Attachment anxiety	3.11	1.03	-.11	-.25**	-.39**	—				
5. Attachment avoidance	1.99	0.75	-.20**	-.47**	-.44**	.17*	—			
6. New couple-related memory NS T2	1.78	1.59	.22**	.33**	.25**	-.07	-.21**	—		
7. Relationship quality T2 ^a	5.95	0.76	.36**	.61**	.45**	-.08	-.35**	.43**	—	
8. Relationship dissolution (0 = no, 1 = yes)	0.25	0.43	-.20**	-.26**	-.18*	.14	.19**	-.31**	-.61**	—

Note. *n* = 196. NS = need satisfaction; T = time.

^a The correlations presented for relationship quality at Time 2 only include participants who remained with their partner over the year.

* *p* < .05. ** *p* < .01.

quality are involved in a reciprocal relationship. First, need satisfying memories seem to build relationship quality over time. Relationship quality, in turn, appears to facilitate the experience/recall of need satisfying events with one’s partner. Finally, these need satisfying memories appear to further strengthen relationship quality.

To examine our final hypothesis, that need satisfaction in the memory described at Time 1 would predict relationship dissolution at Time 2, we conducted a structural equation model using all participants (*n* = 196). Relationship quality at Time 1

and need satisfaction in the couple-related memory at Time 1 served as independent variables. We also controlled for age, gender, duration of the relationship, attachment, and couple relationship need satisfaction, all measured at Time 1. A dichotomous variable indicating whether the participants were still with their initial partner (0) or had separated over the year (1) served as the dependent variable. Results for this model revealed adequate fit indices, $\chi^2(198, N = 196) = 376.51, p < .001, NC(\chi^2/df) = 1.90, NNFI = .93, CFI = .95, RMSEA = .068 [.058; .078], SRMR = .065$, as well as high factor loadings

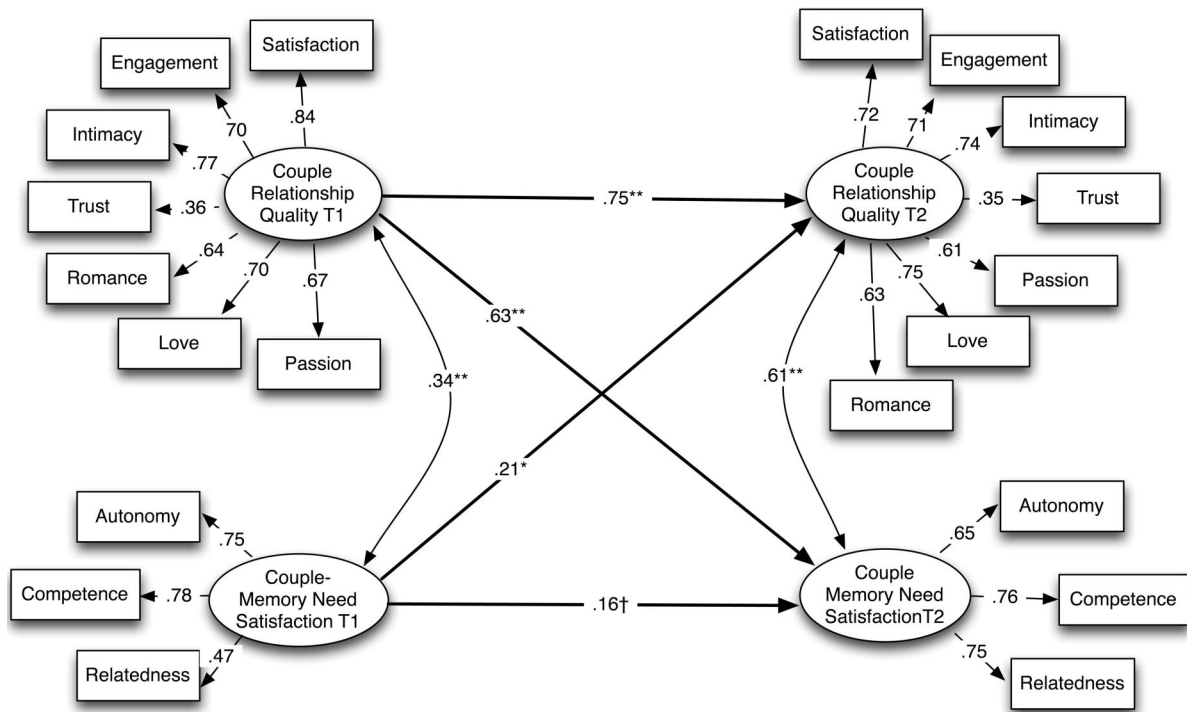


Figure 4. Structural equation model among need satisfaction in couple-related episodic memories and relationship quality over 1 year. Age, gender, relationship duration, couple relationship need satisfaction, and attachment anxiety and avoidance were also controlled for but are not shown for the sake of clarity and because all their path coefficients to the dependent variables were nonsignificant (all *ps* > .10). T = time. † *p* < .10. * *p* < .05. ** *p* < .01.

for all indicators. A logit coefficient was estimated between all independent variables and the dichotomous dependent variable. Results revealed that relationship quality at Time 1 ($\gamma = -.43$, $p < .01$) and duration of the relationship ($\gamma = -.27$, $p < .01$) were significant predictors of relationship dissolution. Need satisfaction in the couple-related memory was a marginal predictor of relationship dissolution ($\gamma = -.14$, $p < .10$). All other predictors were not significant. Gender did not moderate any of these relationships.

We then examined if a dichotomous approach would be more appropriate for need satisfaction in memories. The reasoning is that all levels of need satisfaction in the memory (>0 to $+3$ on the Likert scale) should prevent relationship dissolution, whereas all levels of need thwarting in the memory (-3 to 0) should lead to relationship dissolution (for a similar reasoning and procedure, see Philippe et al., 2012, Study 3). Therefore, we dichotomized need satisfaction in the couple-related memory, with zero and below indicating a need thwarting memory (-3 to 0) and above zero indicating a need satisfying memory (>0 to $+3$). We replaced the continuous variable in the above model with this new dichotomous variable ($0 =$ need thwarting; $1 =$ need satisfying). Results revealed better support for our hypothesis. Relationship quality and duration of the relationship were still significant and virtually unchanged, but need satisfaction in memory became a significant predictor of relationship dissolution ($\gamma = -.19$, $p < .05$).

Overall, the findings of Study 4 imply that memories can serve both a self and a directive function at the same time. Experiential components of memories appear to affect people's attitudes and behaviors within their romantic relationship to the point of influencing relationship status (strengthening or dissolution of the relationship). Concomitantly, people's memories seem to be reconstructed to assimilate these changes in the status of their relationship in order to better reflect their current self and self with a (past) significant other.

Summary Analyses

To examine the effect of gender, age, relationship length, and each need separately within a larger and more representative sample size, we aggregated all data from all four studies. This larger sample size was composed of 130 male and 474 female participants with a mean age of 25.25 years ($SD = 6.21$ years) and who were engaged in a romantic relationship for 3.42 years on average ($SD = 3.86$ years). The correlation between need satisfaction in the couple-related memories and relationship quality was $r = .35$ for this aggregated sample. We conducted several regressions to examine moderations by gender, age, or relationship length. The association between need satisfaction in the couple-related memories and relationship quality was not moderated by any of these variables (all $ps > .20$). We then examined the contribution of each need separately and whether the effect of a particular need was moderated by gender, age, or relationship length. When entered together in a regression analysis, all three needs independently contributed to relationship quality, even after controlling for gender, age, and relationship length (autonomy $\beta = .10$, competence $\beta = .16$, relatedness $\beta = .16$, all $ps < .05$). As for moderations, only two interaction terms emerged as significant. Gender significantly moderated the relationship between the competence need in the couple-related memory and relationship qual-

ity ($\beta = -.11$, $p < .05$). This relationship was stronger for male participants ($\beta = .39$, $t = 3.60$, $p < .01$) than for female participants ($\beta = .13$, $t = 2.38$, $p < .05$). Finally, participants' age moderated the relationship between the relatedness need in the couple-related memory and relationship quality ($\beta = -.11$, $p < .05$). This association was stronger for younger (-1 SD; $\beta = .26$, $t = 4.37$, $p < .01$) than for older ($+1$ SD) participants ($\beta = .09$, $t = 1.75$, $p = .08$). Thus, overall, the association between need satisfaction (and each need) in a couple-related memory and relationship quality appears pretty stable for various personal and relationship characteristics—as expected by self-determination theory and the universality postulate of these three needs and of their consequences (Deci & Ryan, 2000).

General Discussion

The directive function of memories has received much less support in the literature than the self or social functions (Pillemer, 2003). The present research sought to reduce this gap by investigating the active force episodic memories can have on romantic relationship outcomes in emerging adulthood. Drawing from recent research that showed that some episodic memories play a central role in people's lives by being frequently activated in specific contexts and by influencing people's attitudes and behavior in those contexts (Philippe, Koestner, Beaulieu-Pelletier, & Lecours, 2011; Philippe et al., 2012; Philippe, Koestner, Lecours, et al., 2011), the present research showed that significant couple-related memories were associated with important romantic outcomes, including both partners' perceptions of relationship quality and outcomes as important as continuing or terminating a relationship. The present research makes several contributions to the memory and romantic relationship literature and advances knowledge in each of these fields.

Episodic Memories as One Level of Personality

The present research highlights that episodic memories represent people's self and personality with a significant other, without being equivalent to attachment-related schemas. The present set of studies controlled for dimensions of attachment and, in each instance, we found that couple-related memories explained variance in romantic relationship quality that was not accounted for by attachment. This finding parallels that of Kuwabara and Pillemer (2010), who found that the deliberate activation of a university-related memory led to actual donations to the university, over and above general attitudes toward the university. Episodic memories represent a person's self and self with a significant other in specific instances (Klein, Cosmides, Tooby, & Chance, 2002). These instances may or may not generalize to generic self-knowledge structures, such as traits, schemas, or generalized perceptions (Philippe, Koestner, Beaulieu-Pelletier, & Lecours, 2011). This conceptualization echoes those of narrative researchers (Adler, 2012; Lodi-Smith, Geise, Roberts, & Robins, 2009; McAdams, 2001; McLean, Pasupathi, & Pals, 2007) who argue that there are multiple levels to personality and that traits and schemas only represent one of those levels (McAdams & Pals, 2006). The present research further showed that even when the same construct is assessed at different levels, the independence of the levels remains. Indeed, need satisfaction in memories predicted impor-

tant relational outcomes, over and above people's general perceptions of need satisfaction in their couple relationship. This suggests that need satisfaction in couple-related memories is not fully represented at the same level as people's perceptions of need satisfaction within their couple relationship.

The generic self-knowledge level and the episodic level are not only independent, they also seem to fulfill different roles. Episodic memories are specific and context-dependent (Rasmussen & Bernsten, 2009), whereas traits and schemas apply more generally across contexts (Paunonen, 2003). Study 2 supported this conclusion. It showed that need satisfaction in a couple-related memory was associated with romantic relationship quality, but not with friendship quality. However, need satisfaction in an episodic memory with one's best friend was related to the quality of this friendship, but not with romantic relationship quality. Conversely, avoidant attachment was found to be negatively associated with both romantic relationship quality and friendship quality.

On the Association Between Couple-Related Memories and Relationship Quality

The present research suggests that couple-related episodic memories and their experiential component of need satisfaction are actively implicated in the quality of romantic relationships of young adults. First, need satisfaction was found to be an important experiential component of these memories in predicting relationship outcomes. This replicates past research that came to this conclusion with respect to well-being (Philippe, Koestner, Beaulieu-Pelletier, & Lecours, 2011, 2012) and emotion regulation (Philippe, Koestner, Lecours, et al., 2011). Study 3 went beyond this simple association between need satisfaction in memories and relationship quality by showing that couple-related memories as described by one partner were associated not only with this partner's perceptions of relationship quality but also with the other partner's perceptions. Recently, Philippe and his colleagues (2012) primed personal episodic memories outside of people's awareness and found an immediate effect on their situational well-being as a function of the need satisfaction level of the memory primed. We believe that the same process explains the present findings. People's couple-related episodic memories are frequently activated within the context of their relationship through partner-related cues. The activation of these memories should immediately affect their attitude and behavior with their partner as a function of the level of need satisfaction characterizing the memory activated. This attitude and behavior should be perceived by the other partner and should affect his or her perceptions of the quality of the relationship. Although the present findings do not allow us to corroborate this explanation, we believe that Study 3 provided important initial evidence regarding this process. Experimental studies allowing the priming of a couple-related memory and subsequent observations of partners interacting within laboratory settings are needed to confirm this conclusion. One limitation of Study 3 is that we assessed memories as remembered by only one of the two partners. Future research could ask both partners to remember the same memory or a different memory.

Study 4 provided the first evidence of this active force of the directive function of couple-related memories on critical relationship outcomes over time. By following participants over 1 year and by using a cross-lag panel, it was possible to reveal the direction

of this association between need satisfaction in couple-related memories and relationship outcomes. The findings showed a reciprocal relationship between these variables. Couple-related memories appear to have an active force on relational outcomes over time, which seems to build or hinder relational resources as important as increasing one's relationship quality or ending one's relationship. At the same time, high relationship quality appears to later help people experience, encode, or recall (or all of them) new need satisfying couple-related memories. These findings underscore how the self (Relational outcomes → Memories) and the directive (Memories → Relational outcomes) functions of memories may combine to increase one's relational resources over time.

Stability and Reconstruction of Need Satisfaction in Memories

Study 4 also allowed us to examine the stability and the reconstructive process occurring on the experiential component of need satisfaction characterizing a memory, when this memory is assessed at two different moments over 1 year. The findings showed that people reconstructed their memory over time as a function of their relationship status. Those who remained with their partner showed an increase in need satisfaction for this memory, whereas those who broke up rated their need satisfaction lower compared to 1 year before. Parallel to this finding is that, over 1 year, about 50% of the variance of need satisfaction characterizing the couple-related memory remained stable, even if people had experienced other important events that changed the meaning of their memory over this time period. Whether people had separated or not over the year, and regardless of their initial level of relationship quality, they showed the same level of stability in the need satisfaction characterizing their couple-related memory.

These findings support both the self and the directive functions of memories. On the one hand, people are likely to reconstruct their relationship memories as a function of the status of this relationship—increasing their perceptions of need satisfaction for past events related to relationships that are maintained and decreasing these perceptions for past events related to relationships that ended. On the other hand, memories are never totally reconstructed (at least over a year). Results showed that despite a partial reconstruction, a portion of the experiential component of the memory remained stable over time. It was this stable portion that had a directive force on future romantic outcomes. One alternative explanation is that people might have tried to guess how much need satisfaction there was in their memory description based on their reading of their memory at Time 2. However, the fact that a reconstructive process based on the participants' current relationship status was additively at play suggests that this alternative explanation is unlikely. People who had separated or who remained together over the year reported lower and higher need satisfaction, respectively, than what they had initially reported. This finding thus implies that participants actually tried to remember their original memory and did not base their ratings solely on its old description.

Some limitations with respect to the present research need to be underscored. First, all relational outcomes measured pertained to self-reported outcomes. Although there seems to be little chance that some of these outcomes do not reflect the actual behavior of the participants (e.g., reporting having broken up), this research

could be extended by examining whether episodic memories predict the quality of observed partner interactions or other more objective behavioral markers. Second, the present findings cannot be generalized to populations other than undergraduate and graduate students. Perhaps education level is an important factor that the present research could not address. Similarly, the present findings generally apply to the period of emerging adulthood, where relationships remain relatively unstable, as compared to long-term marriages. Future research is necessary to replicate the present results within a community-dwelling population, which should include various age groups, in order to increase the ecological validity of the present findings.

Another limitation is that most participants were female, and male participants were underrepresented in this research. It appears that studies on the topic of romantic relationships seem more appealing to female participants than to male participants. Although the summary analysis section responds to some queries regarding gender, it is still possible that gender might have played a larger role in some specific studies if the sample size had been larger. A final limitation is that the purpose of the present research was to highlight various roles of the directive function within the sphere of romantic relationships, such as its influence on one's perceptions of relationship quality, the context-dependent nature of couple-related memories as compared to other relational memories, and their effect on partners' perceptions of relationship quality and on future relationship outcomes. Although each study touched on these themes, further research is needed to deepen and explore more thoroughly each of these important aspects of the directive function of episodic memories. It is our hope, however, that the present set of studies will prompt more research on the active and directive function of episodic memories in people's lives.

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