The Role of Emotion in the Functions of Autobiographical Memory

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ABSTRACT

The Role of Emotion in the Functions of Autobiographical Memory

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Prior research indicates that people call on autobiographical memories to serve social, self-related, and directive functions (Bluck, 2003). The first goal of the current study was to examine whether the emotions associated with memories influence the functions those memories serve at recall. In Study 1, participants recalled nine memories, each associated with a distinct emotion (i.e., guilt and happiness). For each memory, they reported one time they recalled the event and rated the functions that were served. As expected, certain types of emotional memories were associated with certain autobiographical functions. The second goal was to more closely consider the emotions associated with memories that serve to define the self. Studies 2 and 3 examined the impact people feel self-defining memories events have had on them (and how this subjective impact relates to meaning making), and the pattern of current and recalled emotions for these self-defining memories (Singer & Moffitt, 1991-1992). In Study 2, subjective impact was shown to be a good marker for meaning making with respect to self-defining events. In Study 3, participants recalled five self-defining memories, reported ten current and recalled emotions for each event, and rated the subjective impact of each event. A pattern of benefaction (i.e., less current negative and more current positive emotion) emerged for self-defining memories, which was accounted for by subjective impact.

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Chapter 1
General Introduction

In the last 25 years, psychologists have become increasingly interested in the nature of autobiographical memory. Autobiographical memories are memories for personal events and experiences (Brewer, 1986; Conway & Pleydell-Pearce, 2000). Many theorists have highlighted the importance of understanding autobiographical memory from an ecological perspective (Baddeley, 1988; Bruce, 1985). This approach involves studying autobiographical memory as it functions in natural settings. One of the primary goals of this approach is to identify and understand the reasons why people recall personal past events, either to themselves or to others, in their everyday lives. Research on the functions of autobiographical memory has flourished in recent years: researchers from different areas of psychology have shown that recalling autobiographical events serves a wide range of important functions in people's lives (Bluck, 2003; Bluck & Alea, 2002; Hyman & Faries, 1992; Pillemer, 1992, 1998; Webster, 1993, 1997). These findings indicate that recalling autobiographical memories serve social (e.g., developing and maintaining relationships), self-related (e.g., providing people with a sense of continuity of identity over time), and directive (e.g., solving current problems) functions (Alea & Bluck, 2002; Bluck, 2003; Pillemer, 1992, 1998, 2003; Webster, 1993; 1997).

The nature of the memories that people call on to serve any one function is unclear. Emotion is one characteristic of autobiographical memory that may influence whether an event is called on to serve a particular function. For example, at a social gathering a woman may recall a memory that made that her feel proud as opposed to a memory that made her feel happy as a means of impressing others. Emotions, more generally speaking, are thought to be an important component of autobiographical

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memory: emotions are considered important in terms of how autobiographical memories are encoded, stored, and retrieved (Conway, 1991). However, the extent to which emotions are implicated in the functions of autobiographical memory is not clear. The first goal of the present research is to examine whether people call on different specific emotional events (e.g., happy events versus guilty events) to serve different functions in their lives. The second goal is to more closely consider the emotions associated with memories that serve to define the self (i.e., self-defining memories). Specifically, how do people's current feelings about the memories that they perceive as self-definitional compare to how they retrospectively recall feeling at the time those events occurred. In addition, what factors may determine the differences that emerge across these emotions.

Before reviewing the literature on the functions of autobiographical memory, a consideration of the nature of autobiographical memory is warranted. Brewer (1986) proposed that there are three types of autobiographical events stored in memory: personal memories (e.g., I remember when I found that shell on the beach); generic personal memories (e.g., I remember the vacations I used to take in Mexico); and autobiographical facts (e.g., I remember that I grew up in Calgary). In contrast to Brewer (1986), Conway and Pleydell-Pearce (2000) suggested that autobiographical memories are not stored as specific individual events, but rather are dynamic mental constructions. Specifically, memories are generated from an underlying knowledge base consisting of three types of autobiographical knowledge: lifetime periods, general events, and event-specific knowledge. Lifetime periods refer to events that extend over a period of time, but have a common theme (e.g., remembering when I was in university). General events refer to single events that are shorter in duration than lifetime periods and longer than specific

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events (e.g., remembering my one week trip to London). General events also refer to similar events that are repeated over time (e.g., remembering the times I had coffee with my mother). Event-specific knowledge consists of information uniquely related to specific events that are short in duration (e.g., remembering the picnic on Labour Day). When autobiographical memories are recalled they rarely consist of only one type of knowledge. For example, the recall of specific events is often contextualized within a general event and, in turn, related to one or more lifetime periods.

Bluck and Levine (2001) described the similarities between the models proposed by Brewer (1986) and Conway and Pleydell-Pearce (2000). They note that in both models the role of the self is emphasized. Brewer (1986) suggests that autobiographical memories are one of several components of the self, and that the self influences the encoding and retrieval of events from memory. Conway and Pleydell-Pearce's (2000) model is more detailed in terms of explicating how the self is implicated in the construction of memory during encoding and retrieval. Specifically, they argue that autobiographical memories are not stable representations of events, but rather are selectively encoded and recalled based on what they refer to as the working self. The working self is a reflection of people's goals and motivation. Such goals are linked to various aspects of the self, including people's self-concept and personality. Conway, Singer, and Tagnini (2004) have since extended Conway and Pleydell-Pearce's (2000) model: they added a component that they refer to as the long-term self. Unlike the working self, which is dependent on people's current goals, the long-term self refers to more permanent aspects of the self, such as personal scripts, possible selves, and beliefs. The long-term self contains knowledge that is required to organize and instantiate active

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goal processes. The long-term self also has an impact on the reconstruction of autobiographical memory.

The central role of the self in autobiographical memory is supported by prior research on self-schemas (Markus, 1977), and personality (McAdams, 1982, 1985; McAdams, Hoffman, Mansfield, & Day, 1996; Woike, 1995). Markus (1977) showed that people with certain self-concepts had memories consistent with that self-concept. For example, people who reported that they were independent (i.e., people who were self-schematic for independence) recalled more memories involving independent behaviour and parallel findings emerged for people who reported they were dependent (i.e., people who were self-schematic for dependence). Other research has focused on the extent to which people's personalities are reflected in their autobiographical memories. Woike (1995) compared the memories of agentic individuals (i.e., people concerned with power, achievement, and independence) to those of communal individuals (i.e., people concerned with nurturing interpersonal relationships). Agentic individuals consistently recalled events involving themes of achievement or failure, whereas communal individuals recalled events involving themes of love and intimacy. In the research by McAdams and his colleagues (1996) similar findings emerge between individuals' personality characteristics and the content of their autobiographical memories.

A broad range of research indicates that emotion plays a significant role in autobiographical memory. For example, early research on autobiographical memory highlighted the importance of emotion in the formation and maintenance of vivid memories. It was argued that when people process highly emotional events, their cognitive systems are fully engaged, which, in turn, leads to events being encoded in

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memory in great detail (Conway, 1991). Research also indicates that events that are more emotionally intense are more accessible when retrieved compared to events that are less emotionally intense (Robinson, 1980).

Although emotionally intense events are more easily retrieved, they are not necessarily more accurate. Inconsistent findings have emerged with respect to the accuracy of emotional memories. Initially it was believed that people's recollections of highly emotional events were accurate reflections of the originating events. This notion stemmed from Brown and Kulik's (1977) landmark study on memories in which people recalled vivid, detailed memories concerning where and how they first learned about John F. Kennedy's assassination. Brown and Kulik (1977) referred to these memories as flashbulb memories. These memories were assumed to be accurate, even though it was impossible to verify the veridicality of people's accounts. Subsequent studies indicated that these so-called flashbulb memories are in fact subject to error and distortion (Neisser & Harsch, 1992).

Some recent evidence suggests that specific types of highly emotional events are recalled with accuracy. In one study, highly emotional memories involving sexual abuse were recalled with relative accuracy (Alexander, Quas, Goodman, Ghetti, Edelstein, Redlich, Cordon, & Jones, 2005). Other studies show that central details of highly emotional events are recalled with more accuracy than peripheral details (for a review, see Christianson, 1992). In such studies, central details are considered those that are the most closely connected with the source of the emotional arousal. Christianson (1992) argues that the weapon focus effect supports this position. Specifically, when people are asked to recall the details concerning the action in a robbery, they recall the details of the

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weapon more accurately than details regarding the perpetrator (Christianson & Hubinette, 1993). More recent research indicates that people's enhanced memory for central details for events tends to be limited to memories that are associated with negative affect, not positive affect (Berntsen, 2002).

Emotion is only one of several factors that influence the accuracy of recalled events. Other factors include the personal relevance of an event, repeated rehearsal, the passage of time, and exposure to additional events (see Roediger III & Marsh, 2003 for a review). In one study, both personal relevance and emotional intensity predicted memory accuracy. In a multinational test-retest study, people's memories concerning the context in which they learned of the resignation of British Prime Minister Margaret Thatcher were examined (Conway, Anderson, Larsen, Donnelly, McDaniel, McClelland, Rawles, & Logie, 1994). The findings indicated that more than 86% of the UK participants had developed detailed and accurate memories for the event a year later whereas only 26% of the non-UK participants had developed such memories: in examining potential causal variables, they found that the formation of these memories was associated with both people's greater reported affect and people's greater personal importance attached to the event. In sum, many factors influence memory accuracy, and the evidence to support the accuracy of emotional memories, as discussed here, is inconsistent.

Autobiographical Memory across the Lifespan

Research indicates that when people are asked to recall autobiographical memories, the recalled events are not equally distributed across different periods of their lives. For example, people have difficulty recalling events that occurred under the age of three. Pillemer and White (1989) review the literature on this phenomenon, known as

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childhood amnesia, and report that the findings across studies indicate that people's earliest memories are for events that occurred, on average, at 3 ½ years of age. Many theories have been proposed to explain this phenomenon. Nelson (1993), for example, suggested that memories are encoded in the form of language and, as such, until infants' language abilities are fully developed, they do not have the capability of encoding events in memory.

In contrast to childhood amnesia, there are other stages of life in which a large proportion of events are well remembered. For example, when middle aged and older adults are asked to recall memories, they produce a disproportionately large number of events from adolescence and early adulthood, that is, between the ages of 10 and 30 (see Rubin, Rahhal, & Poon, 1998). Recent research indicates that this phenomenon, known as the reminiscence bump, is associated with more positive memories than negative memories (Berntsen & Rubin, 2002; Rubin & Bernsten, 2003). Many theories have been proposed to explain the reminiscence bump. One theory is that people's cognitive capabilities are at a peak during this stage of life and thus a large number of events from this period are likely to be stored in long-term memory. Another theory is that events that occur during young adulthood are preferentially retained because these events shape one's identity and aid in consolidating the self (Rubin et al., 1998).

Functions of Autobiographical Recall

Theorists working in many areas of psychology have discussed the functions of autobiographical memory (e.g., Baddeley, 1988; Bluck, 2003; Bluck & Levine, 1998; Bruce, 1985; Butler, 1963; Fivush & Nelson, 2004; Howe & Courage, 1993; Pillemer, 1992, 1998, 2003; Robinson & Swanson, 1990; Staudinger, 2001; Webster, 1993, 1997;

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Wilson & Ross, 2003). Researchers have approached the study of autobiographical memory functions from two perspectives: autobiographical memory and reminiscence. The similarities between these perspectives have been discussed in length (Bluck, 2003; Bluck & Alea, 2002; Bluck & Levine, 1998; Webster & Cappeliez, 1993). Researchers interested in self-disclosure provide an additional perspective on the functions that are specific to recalling events to others (Derlega & Grzelak, 1979). The theoretical and empirical work from these three research areas are described below.

Functions from an autobiographical memory perspective. Empirical studies that focus on the functions of autobiographical memory have flourished in recent years (Alea & Bluck, 2003; Hyman & Faries, 1992; Marsh & Tversky, 2004; Pasupathi, 2003; Pillemer, 2003; Wilson & Ross, 2003). Pillemer (1992) proposed a theoretical model for the functions of autobiographical memory. Three broad categories of autobiographical functions are defined in this model: social functions, self-related functions, and directive functions. These three categories have provided a framework for how many theorists and researchers have conceptualized the functions of autobiographical memory. The empirical work that has emerged for each category is considered in turn.

The social function of autobiographical memory concerns memories that serve to develop and maintain relationships with others (Alea & Bluck, 2003). The social functions that have been identified at a general level are developing and maintaining relationships with others, and, at the more specific level, are making conversation, engaging the audience in a story, eliciting empathic responses from others, and empathizing with others (Alea & Bluck, 2003; Cohen, 1998; Pillemer, 1998; Robinson & Swanson, 1990). In addition, it has been suggested that sharing personal memories in the

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context of discourse makes statements appear more truthful and believable, and, as such, can serve to persuade or teach others (Pillemer, 1992; Webster, 1993, 1997).

Few empirical studies have focussed on the social functions of autobiographical memory. Hyman and Faries (1992) asked participants to recall important memories that they frequently talked about. In a second study, they elicited memories for events with affective or general cue words. In both studies, participants described specific occasions on which they had previously recalled those memories to themselves or discussed them with others, and their responses were coded for eight functions. The most frequently reported social functions were making conversation, explaining to other people one's current concerns, describing oneself to others, and getting a point across. In a more recent study, Marsh and Tversky (2004) asked young adults to record, over a four-week period, occasions in which they talked about events to others. For each retelling participants reported the purpose for recalling that particular event and whether they had given an accurate retelling. The most common reason for retelling events was to convey facts to others, followed by a desire to elicit sympathy from others and, finally, to entertain. Participants reported that 61% of their retellings contained exaggerations, omissions, minimizations, or additions. They found that different types of distortions were linked to different social functions. For example, when people recalled events as a means of entertaining others, they tended to add information that did not occur during the originating event.

Another function of autobiographical memory is self-definition. Researchers and theorists have argued that life events play an important role in identity: how individuals come to know who they are as people is partially a function of their personal life

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experiences (Barclay, 1996; Habermas & Bluck, 2000; Fivush & Nelson, 2004; Howe & Courage, 1993; McAdams, 1985; Moffitt & Singer, 1994). More specifically, the recollection of personal events allows individuals to link the past to the present and the future, which provides them with a consistent sense of self (Fivush, 2001; McAdams, 1985). It has been argued that the process of recalling past events in the service of developing identity begins in childhood. Fivush and her colleagues have examined the role of autobiographical memory in relation to the emergence of the self by studying interactions between parents and their children. They found that some parents guide children in organizing, interpreting, and evaluating their past experiences. They argue that interactions between children and parents aid in facilitating the development of a child's sense of self (Fivush, 2001; Haden, Haine, & Fivush, 1997).

As previously described, the self is reflected in people's recollections of past events (e.g., McAdams et al., 1996; Woike, Gershkovich, Piorkowski, & Polo, 1999). Given the important role of autobiographical memory in consolidating identity, some researchers would argue that autobiographical memory is in fact subservient to the self. For example, individuals' personal memories may be reconstructed to reflect their current beliefs and attitudes (Conway & Ross, 1984; McFarland, Ross, & DeCourville, 1989; Ross, 1989). In one study, McFarland et al. (1989) asked female participants to report affective and physical symptoms on a daily basis for 4 to 6 weeks. Half of the participants were later asked to recall their ratings on a day in which they were menstruating, while the other half of participants recalled their ratings on a day in which they were not menstruating. Participants in the menstrual condition reported symptoms that were consistent with their beliefs about menstrual distress. Specifically, the more

women believed menstruation to be distressful, the more they exaggerated the negativity of their symptoms during their last menstrual cycle. In contrast, the ratings of participants in the control condition were unrelated to their beliefs about menstrual distress.

One approach to studying the identity function of autobiographical memory is to examine self-defining memories. Singer and his colleagues (Blagov & Singer, 2004; Moffitt & Singer, 1991-1992; Moffitt, Singer, Nelligan, Carlson, & Vyse, 1994; Singer, 1995, 1997, 1998, 2001; Singer & Salovey, 1993) initiated and pursued this approach, which has since been employed by other researchers (McLean & Thorne, 2003; Sutin & Robins, in press; Thorne & McLean, 2002; Thorne, McLean, & Lawrence, 2004). Self-defining memories are described as memories for significant personal events that people perceive as defining who they are (Singer & Salovey, 1993). Self-defining memories contain a wide range of themes, such as life-threatening events, conflicted or close relationships, success or failure in achievement domains, and recreational activities (Blagov & Singer, 2004; Thorne & McLean, 2002). Although there are individual differences with respect to the content of self-defining memories, these memories share five main features. The first feature of self-defining memories is that they are emotionally intense and complex: regardless of whether a memory is viewed as positive or negative overall, people generally associate both positive and negative emotions with these memories (Moffitt et al., 1994; Singer & Moffitt, 1991-1992). The second feature of self-defining memories is their vividness: self-defining memories are rated as more vivid than other autobiographical events (Singer & Moffitt, 1991-1992). The third feature of self-defining memories is that they are repeatedly recalled over time. The fourth feature of self-defining memories is that they represent characteristic interests, motives, and

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concerns of individuals and, as such, tend to be linked to other events that are stored in memory. The final feature of self-defining memories is that they are linked to current concerns or goals, or unresolved conflicts. Singer and his colleagues examined emotions and goals with respect to self-defining memories (Moffitt & Singer, 1994; Singer, 1990; Singer & Salovey, 1996). In one study, people who felt positively about their self-defining memories viewed them as relevant to the attainment of their current goals (Moffitt & Singer, 1994). In contrast, people who felt angry, embarrassed, or sad about their self-defining memories viewed them as reflecting the non-attainment of their goals.

More recent research on self-defining memories indicates that there are individual differences in the emotional content of self-defining memory narratives. Specifically, Thorne and McLean (2002) found gender differences in self-defining memories involving life-threatening events. In this study, young adults' self-defining memories were coded for four themes (i.e., life threatening events, achievement events, relationship events, and leisure events) and three emotional positions. The emotional positions were tough (i.e., minimal references are made to emotions), vulnerable (i.e., one's own emotional vulnerability is emphasized), and compassionate (i.e., references to concern or empathy for others). With respect to memories involving life-threatening events, gender differences in emotional positioning emerged. Specifically, women referred more to themes of compassion in their narratives while men referred to themes of toughness in their narratives.

The final category of autobiographical functions involves directive functions. The directive functions include recalling past events to solve problems, gain confidence in one's ability to complete a current task, and develop opinions or attitudes that guide one's

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behaviour (Pillemer, 1992). For example, people may call on past events as a means of testing hypotheses about how the world operates, which in turn allows them to make predictions about the future (Pillemer, 2003). Some researchers have suggested that directive functions are less prominent than social or self-related functions (Nelson, 1993) and some empirical work supports this notion. Specifically, in Hyman and Faries' (1992) study previously described, individuals' autobiographical memories, and description of recall contexts, did not contain references to recalling events in the service of problem solving. Pillemer (2003) argued that it may be difficult for people to identify when they have called on memories to serve directive functions: this type of processing may be so common that it becomes automatic and thus such functions may not be reflected in people's autobiographical memory descriptions. Some research suggests that recalling past events to serve directive functions may be important in certain contexts. For example, Pasupathi, Lucas, and Coombs (2002) found that in the context of close romantic relationships, people often call on past events to serve directive functions. In this study, married couple's conversations were coded for autobiographical functions. The findings showed that past events were frequently called on to problem solve, plan, reminisce, evaluate an event, oneself or one's partner, and to explain oneself.

Other research indicates that there is an association between problem solving ability and autobiographical memory. Specifically, research has shown a link between people's ability to retrieve specific events and the ability to solve hypothetical social problems. In one such study, parasuicidal patients were given cue words and asked to recall autobiographical events (Evans, Williams, O'Loughlin, & Howells, 1992). Participants were also given ten scenarios: for each scenario, a presenting problem (e.g.,

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moving to a new neighbourhood where a person knows no one) and outcome (e.g., the person has friends and is involved in the community) were provided. Problem-solving was measured by participants' ability to provide detailed descriptions of how the protagonist achieved his or her goal. Participants who had more difficulty recalling specific memories also had more difficulty providing detailed descriptions for how the protagonists in the scenarios achieved their goals. This study has since been replicated (see Sidley, Whitaker, Calam, & Wells, 1997) and parallel findings have emerged in studies focussing on depressed individuals (Goddard, Dritschel & Burton, 1996, 1997). Other studies also indicate that the lessons people have learned from past events serve to guide their present or future behaviour (McCabe, Capron, & Peterson, 1991; Pratt, Arnold, Norris, & Filyer, 1999).

An additional function of autobiographical memory is mood regulation. One mood regulatory function identified by Pillemer (1992) has yet to be examined by autobiographical memory researchers: it was argued that recalling negative events serves a cathartic function in allowing people to release pent up emotions. Another mood regulatory function, proposed by Clark and Isen (1982), concerns recalling positive personal memories to improve negative mood. Several studies support this position (Boden & Baumeister, 1997; Erber, Wegner, & Therriault, 1996; Josephson, Singer, & Salovey, 1996; Smith & Petty, 1995). Josephson et al. (1996) induced negative mood by asking participants to watch a sad film. Following the film participants were asked to recall two autobiographical events. The findings showed that depressed individuals recalled two negative events. In contrast, non-depressed individuals recalled a sad event followed by a happy event. The latter group reported that they recalled sad events first

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because they had just finished watching a negative film, but then recalled happy events in order to make themselves feel better. In a similar study, participants recalled autobiographical events after watching a sad film. The results showed that people with high self-esteem recalled more positive events than people with low self-esteem (Smith and Petty, 1995). Setliff and Marmurek (2002) criticized the methodology employed by Josephson et al. (1996) and Smith and Peter (1995): they argued that inducing negative mood by way of viewing a film is problematic in that participants' memories may reflect the content of the film and not spontaneous recall. However, parallel findings have emerged when researchers induced negative through other means, such as listening to somber music (Parrott & Sabini, 1990). In sum, prior research suggests that people's positive memories can serve to repair negative mood.

Functions from a reminiscence perspective. There has been considerable controversy regarding how reminiscence relates to autobiographical memory. Reminiscence has been defined in many different ways. Based on a review of the reminiscence literature, Bluck and Levine (1998) defined reminiscence as one form of autobiographical memory. Specifically, they argued that autobiographical memory is the system that encodes, stores, and retrieves episodic information related to personal experiences and that reminiscence is the act or process of recalling specific or generic episodes. Further, they suggest that reminiscence may be volitional or nonvolitional. Finally, recalled events are accompanied by the sense that these recollections are veridical accounts of original experiences. An early paper suggested that reminiscing serves a psychodynamic function (Butler, 1963). Specifically, it was proposed that older

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adults reminisce as a means of resolving intrapsychic conflicts and reconciling familial relationships in preparation for their impending death.

Since Butler (1963), reminiscence researchers have identified a broad range of functions that extend beyond death preparation. The Reminiscence Functions Scale (RFS: Webster, 1993; 1997) was developed to measure the frequency with which people call on events to serve a wide range of functions. The RFS consists of 43 items with eight subscales, each subscale representing a different function. Bluck and Alea (2002) describe how the functions represented on the RFS reflect the three major domains of functions (i.e., social, self-related, and directive) identified by autobiographical memory researchers (Pillemer, 1992). Specifically, the Identity (i.e., recalling events to define oneself) and Death Preparation subscales on the RFS can be categorized as self-related functions. The Problem Solving subscale represents a directive function (i.e., to direct future behaviour). The Teach/Inform (i.e., to teach others), Conversation (i.e., to bond with others), and Intimacy Maintenance (i.e., remembering close others who are no longer around) subscales reflect social functions. Only two subscales fail to fall under the three categories: Boredom Reduction (i.e., recalling past events when there is nothing else to do) and Bitterness Revival (i.e., recalling past events that are distressing or upsetting). Bluck and Alea (2002) suggest that these two functions are intrapsychic in nature and have yet to be fully embraced by autobiographical memory researchers.

The RFS has limitations. One limitation is that the scale requires people to make a global judgment regarding the frequency with which they have called on events to serve particular functions. This methodology is problematic given research showing that people tend to be poor judges of how frequently they recall events from their lives (Thompson,

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Skowronski, Larsen, & Betz, 1996). Another limitation is of the Death Preparation subscale. Specifically, this function is problematic in that it is only applicable to a very specific population of people: those people who are currently faced with a life threatening event or who are sufficiently old enough that their own death looms. Despite these limitations, the RFS has been widely used to study individual differences in reminiscence.

While early reminiscence theorists believed that reminiscence only applied to older adults, more recent research indicates that people of all ages engage in such recall. For example, younger and older adults are generally equal in terms of the frequency with which they report engaging in reminiscence while middle-aged adults reminisce less frequently than both younger and older adults (Hyland & Ackerman, 1988; Merriam & Cross, 1982). In another study, participants ranging in age from 17 to 90 completed the RFS (Webster, 1995). Although no age differences emerged on the total RFS score, age differences did emerge for some RFS subscales. Adolescents and young adults more frequently called on events to serve self-definitional and problem-solving functions compared to middle-aged or older adults. In addition, people forty years of age and older called on events to teach others more so than younger adults. The results also showed a positive linear trend with respect to calling on past events as a means of preparing for death with people of all ages endorsing this function, albeit especially so for older adults (i.e., adults 80 or older). It is unclear why adolescents and young adults, most of whom are presumably not faced with life threatening circumstances, would be calling on events to prepare for death.

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Research indicates that there are also cultural differences in terms of the frequency with which people report reminiscing and the likelihood with which they call on events to serve various functions. Merriam (1993) asked adult participants, recruited from the Georgian Centenarian Study, to complete a 17-item scale developed to measure the functions of reminiscence and the frequency of reminiscence in two groups (one group was referred to as Black and the other group as White) were compared. The Black group used reminiscence more than the White group to understand themselves and to teach others about the past and their own accomplishments. It was suggested that these findings are reflective of the strong oral tradition in the Black community. In another study, Webster (2002) compared the functions of reminiscence in two groups that he labeled as Chinese and White. Participants ranged in age from 18 to 81. Younger participants were recruited from the undergraduate population at a community college and older participants were recruited by psychology students from the same college. Chinese participants called on memories to serve the functions of bitterness revival, boredom reduction, conversation, death preparation, and teach/inform more than White participants. Webster (2002) suggests that these findings may reflect issues related to recent immigration, different oral traditions, or differences in the cultural construction of identity between eastern and western societies. With respect to the latter point, eastern cultures tend to be more collectivist compared to western cultures which tend to be more individualistic (Triandis, 1995).

Functions from a self-disclosure perspective. The functions identified in the self-disclosure literature are largely reflective of the social functions identified by researchers interested in autobiographical memory and reminiscence. Self-disclosure has

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been defined as the degree to which persons reveal information about themselves (Derlega & Grzelak, 1979). In addition to disclosing autobiographical memories, people may reveal a wide range of information about themselves, including personal states, dispositions, and plans for the future (Derlega & Grzelak, 1979). Many functions of self-disclosure have been identified: social (i.e., disclosing to enhance relationships with others), information (i.e., disclosing to provide information to others or elicit information from others), social validation (i.e., disclosing to receive feedback from others), expression (i.e., releasing pent up emotions), self-clarification (i.e., clarifying one's own position by talking about one's beliefs and opinions), and social control (i.e., recalling events as a means of controlling and exploiting others). Several of these functions overlap with the social functions identified by researchers interested in autobiographical memory and reminiscence (e.g., relationship enhancement, social validation, and information giving). However, the self-disclosure literature also introduces functions that have yet to be identified by autobiographical memory or reminiscence researchers. One such function is social control.

Current Issues on the Functions of Autobiographical Memory

Past research on autobiographical memory functions has raised interesting questions for future research. One question is the extent to which autobiographical functions overlap: it has been argued that when people call on a past event on any one occasion, that event may serve any number of social, self-related, or directive functions (Bluck, 2003). For example, people may recall a past success (e.g., a lecture that was well received in a class) to serve the directive function of preparing for an upcoming talk at a conference. If the event is recalled in the presence of others, it may simultaneously serve

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the function of impressing others. If an event recalled on any one occasion can serve multiple functions, the question is whether some functions are more prominent than others.

Another question concerns how contextual variables at recall and memory characteristics are related to the functions of autobiographical memory. Alea and Bluck (2003) argued that in order to understand the social functions of autobiographical memory, it is necessary to examine contextual variables regarding the recall of events as well as the characteristics of the events themselves. Specifically, they suggest that speaker (i.e., age, gender, and personality), audience (e.g., relationship to speaker and similarity to speaker), and memory characteristics (i.e., level of detail and amount of emotion recalled) all influence whether an event is likely to be called on to serve a particular social function. One could also argue that the specific emotions associated with a particular memory, would not only have an influence on whether events are called on to serve social functions, but also self-related and directive functions.

Meaning Making and the Functions of Autobiographical Memory.

Meaning making may play an important role in the functions of autobiographical memory. Specifically, meaning making is a process that results in an integration of an event with one's sense of self, which suggests that meaning making may be particularly important for past events that serve a self-definitional function (Blagov & Singer, 2004; Bluck & Gluck, 2004; Habermas & Bluck, 2000; Singer, 2004; Singer & Bluck, 2001). Researchers have discussed meaning making in different ways. With respect to autobiographical memory, meaning making may involve recognizing the lessons learned or insights gained from an event (McLean & Thorne, 2003; Thorne et al., 2004).

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Research indicates that a large proportion of people spontaneously refer to meaning making when they are asked to describe self-defining memories. For example, McLean and Thorne (2003) coded young adults' self-defining memories for meaning making and found that 40% of the memory narratives either included references to lessons learned or to insights gained. Meaning making can have positive consequences. For example, meaning making has been shown to be associated with less grief (Bauer & Bonanno, 2001), a deeper appreciation for life (Courtenay, Merriam, & Reeves, 1998), enhanced mood (Thompson, 1991), and greater well-being (King, Scollon, Ramsey, & Williams, 2000). Meaning making can include finding benefit in adverse events. McAdams et al. (2001) reviews the research on coping with adverse events: studies indicate that finding benefit in adverse experiences can lead to positive outcomes (e.g., less depression, less negative affect, superior psychological adjustment, and fewer intrusive thoughts). Finding benefit in even very traumatic events has been associated with increased self-reliance, adjustment, and positive changes in how people view life overall (see Tedeschi & Calhou, 1995, for a review). Thus, the process of benefit-finding allows an individual to maintain a positive view of the self as opposed to seeing the self as a helpless victim. Meaning making is not only associated with negative life events, but also with positive outcomes more generally speaking. For example, Debats, Drost and Hansen (1995) showed that students who engaged in more meaning making in their everyday lives had greater positive self-regard than students who engaged in less meaning making.

In sum, meaning making can influence people's current emotional responses to events. One could argue that meaning making would also have a broader impact on how people construe important emotional memories. In particular, meaning making may also

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impact the intensity of the emotions that people retrospectively recall experiencing at the time self-defining events occurred, given that meaning making involves the significant reconstruction of past events.

Emotion

It was noted earlier that emotions are understood to play an important role in autobiographical memory, but that it is unclear how emotions are implicated in the functions of autobiographical memory. To understand how emotions relate to the functions of autobiographical memory, a consideration of the characteristics that differentiate specific emotions is warranted. Researchers have addressed a wide range of issues that pertain to differentiating specific emotions, such as the non-verbal expression of emotion, subjective experience of emotion, antecedents of emotional responses, physiological aspects of emotion, and perceptions of self and others' emotional experiences. Particular focus has been on defining basic or primary emotions. Controversy swirls over what constitutes a basic or primary emotion and this is reflected in the variability in the emotions that researchers consider basic. For example, Izard (1977) defined anger, disgust, distress, fear, interest, guilt, joy, shame, and surprise as basic emotions whereas Ekman (1984) defined anger, disgust, fear, happiness, sadness, and surprise as basic emotions.

Other researchers have taken a prototypical approach to identifying primary emotions, which focusses on the lay person's understanding of emotion. Shaver, Schwartz, Kirson, and O'Connor (1987) found that people think about emotions in terms of a limited number of prototypes. Participants were asked to sort 135 emotion terms by similarity. The findings indicated that people think about emotions in terms of five

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prototypes: love, joy, anger, sadness, and fear. In a second study, participants were asked to describe an event for each prototype that either they themselves experienced or an event that they deemed typical of that particular emotional response. The responses were coded for prototypical antecedents. The findings indicated that anger typically results from people being treated unfairly whereas fear generally emerges in situations where people feel threatened. People reported that sadness emerges in situations involving loss. Finally, happiness results from things turning out as expected whereas love typically emerges in situations where people feel close to others.

Alvarado (1998) criticized the methodology employed by Shaver et al. (1987). Specifically, in Shaver et al.'s (1987) study, participants were asked to sort 135 emotion terms into piles based on similarity, yet there was no set limit for how many piles participants were to create. Given the method of data analyses, the data from participants who created fewer piles were weighted more heavily. Alvarado (1998) replicated Shaver et al.'s (1987) study, but constrained the number of piles in which participants categorized the emotion terms. The analyses were similar to those conducted by Shaver et al.'s (1987) study, but the results did not fully replicate those findings. Alvarado suggested that the pile sort methodology may be inappropriate for determining the prototypically of emotion terms and more generally for addressing predictions from prototype theory. Despite these criticisms, the prototypes identified by Shaver et al.'s (1987) largely reflect the emotion terms deemed as basic by other researchers (Ekman, 1984; Izard, 1977).

Researchers have examined the different factors that distinguish specific emotions from one another and these factors, discussed below, generally show cross-cultural

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convergence (Scherer, 1997; Scherer & Wallbott, 1994). Researchers have sought to differentiate discrete emotions based on expression (Ekman, 1984), physiological changes (for a review see LeDoux, 1996), and action tendencies (Fridja, 1992). Researchers have also considered the extent to which cognitive appraisals distinguish discrete emotions: researchers discovered that it is not the events themselves that cause different emotional responses, but rather how people cognitively appraise those events (Roseman, 1984; Smith & Ellsworth, 1985; Smith & Lazarus, 1990; Scherer, Schorr, & Johnstone, 2001). Smith and Ellsworth (1985) were among the first to systematically examine, in a comparative fashion, cognitive appraisals for different emotions. They asked participants to recall past experiences associated with each of 15 emotions and to rate each experience in terms of six orthogonal dimensions. They found that happiness and pride were elicited in situations that involved a minimal amount of effort and a strong desire to pay attention. Shame and guilt were elicited in situations in which people assessed themselves as responsible for negative outcomes. Fear and sadness were elicited in situations that were appraised as unpredictable and out of their control. In contrast, anger and disgust were emotions in which people struggled to maintain a sense of control over a particular outcome. The latter findings concord with other research indicating that fear and sadness are low-potency emotions that involve withdrawal or passivity whereas anger and disgust are high-potency (i.e., high potency reflects interpersonal dominance) emotions that involve a tendency to attack the antagonist (Roseman, Wiest, & Swartz, 1994; Russell & Mehrabian, 1977).

Self-conscious emotions. Given the significance of the self to autobiographical memory, a second group of discrete emotions, known as self-conscious emotions, may

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also play an important role in autobiographical memory functions. The self-conscious emotions are embarrassment, guilt, pride, and shame (Miller, 1995; Lazarus, 1991; Lewis, 1971, 1992; Tangney, 2003). These emotions differ from other emotions in that they involve self-evaluation and self-reflection (Tangney, 2003). Researchers have strived to identify the factors that distinguish the self-conscious emotions from one another. For example, pride emerges in situations in which people take credit for an achievement and feel a sense of self-enhancement (Lazarus, 1991). In contrast, the negative self-conscious emotions (i.e., embarrassment, guilt, and shame) emerge in situations where people perceive they have violated moral standards, personal expectations, or social norms. Furthermore, embarrassment is distinguished from guilt and shame in that it is argued to be experienced in trivial social situations (Miller, 1995). Embarrassment has been compared to shame: Miller and Tangney (1994) asked participants to recall three situations in which their strongest emotion was shame and three situations in which their strongest emotion was embarrassment. They were then given 56 cards, each card exemplifying one or both of these emotions, and were asked to sort the descriptors into two stacks, one for shame and one for embarrassment. The findings showed that, compared to shame, embarrassment is viewed as a milder shorter-lived emotion in which one's embarrassing deficiencies are viewed as temporary errors. In contrast, one's shameful deficiencies were viewed as deep-seated flaws. People associated embarrassing situations with awkwardness and shameful situations with feelings of immorality.

Guilt resembles shame more than embarrassment. Tangney (2003) pointed out how clinical psychologists have historically viewed guilt and shame as very similar

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emotions. However, there are important theoretical distinctions between guilt and shame that have been proposed by Lewis (1971, 1992): shame is considered a more painful emotion than guilt and involves a global attribution of oneself as defective. When people experience shameful feelings, they often desire to disappear. In contrast, guilt generally involves an evaluation of one's behaviour tied to a particular situation, but does not result in some negative attribution to one's global self. The elicitors of guilt and shame also differ. A methodology similar in nature to that employed by Shaver et al. (1987) was used by Tangney (1992) to examine prototypical elicitors of guilt and shame. In this study, participants provided brief descriptions of shame-inducing and guilt-inducing situations, and these descriptions were coded for content. The findings indicate that guilt and shame are both experienced in interpersonal contexts. Although in most cases the reported situations did not differentiate guilt and shame, lying, cheating, and stealing were events that were significantly more likely to elicit guilt compared to shame whereas events involving hurting someone emotionally or failing in work, school, or sports were more likely to result in greater feelings of shame compared to guilt.

In another study, Tangney, Miller, Flicker, and Barlow (1996) attempted to further identify the factors that distinguish the three negative self-conscious emotions. In this study, participants described embarrassing, guilty, and shameful events and for each event they completed a questionnaire that addressed a number of issues, including phenomenological characteristics. The findings indicated that guilt and shame were more similar to each other than to embarrassment. Guilt and shame were rated as more intense and painful than embarrassment and involved a greater sense of moral transgression. As well, shame differed from guilt in that it was viewed as more intense and more aversive

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than guilt. Shame also led people to feel more isolated, diminished, and inferior to others compared to guilt. In contrast to guilt and shame, embarrassment almost always occurred in the presence of an audience, whereas guilt and shame occurred either with or without an audience.

The extent to which specific emotions are implicated in the functions of autobiographical memory has not been addressed in prior research. Given the distinctions between specific emotions, different types of emotional events likely serve different functions at recall. The implications of emotion for functions of autobiographical memory are addressed in more detail below.

Emotions and autobiographical memory. Researchers have examined how people's current feelings about autobiographical memories compare to how they felt at the time the events occurred. Three such studies were conducted by Walker, Vogl, and Thompson (1997): participants kept a diary of events and rated the pleasantness of each event at the time it occurred. Participants then made parallel ratings of pleasantness after 3-months (Study 1), one-year (Study 2), or 4 ½ years (Study 3). The findings showed that the intensity of affect decreased for both pleasant and unpleasant events, although the decrease was greater for unpleasant events. Holmes (1970) showed a similar effect in a diary study in which participants reported one event a day for seven days and rated each event in terms of pleasantness. One week later, participants were asked to recall the events they recorded and to make ratings of how pleasant they currently viewed the event. As expected, the intensity of unpleasant events decreased more so than the intensity for pleasant events. This effect has come to be known as the attenuation effect.

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Other research has compared current feelings about events to retrospective reports of how people perceive they felt at the time of an event. In one study, Cason (1932) asked participants to describe three to eight emotional events from the previous week and to then make ratings of both how they currently feel about those events and how they think they felt at the time. The results showed that people feel less intense affect now than they recall feeling at the time, although the effect was stronger for unpleasant events relative to pleasant events. Parallel findings emerged in a study in which people recalled negative and positive emotional memories from the most recent six months (Walker, Skowronski, Gibbons, Vogl, & Thompson, 2003). Other research focussing on traumatic events has shown a similar effect: participants who recalled traumatic events currently felt less intense negative affect than they retrospectively perceived that they felt at the time (Byrne, Hyman, & Scott, 2001).

These studies suggest that there are important differences in terms of how people feel about past events now and how they perceive that they felt at the time. Note, however, that these studies focus on the general valence of emotional reactions (i.e., positive versus negative). It is not clear whether these patterns of emotions hold true for specific emotions (e.g., guilt and sadness).

Individual differences in ratings of emotions. There may be individual differences with respect to recalling emotional memories. For example, women seem to have better autobiographical memory than men (Fivush, 1998; Seidlitz & Diener, 1998), especially for highly emotional events (Davis, 1999). When women recall past events, they retrospectively recall experiencing more intense emotions at the time of those events compared to men (Pillemer, Rhinehart, & White, 1986). In addition, women have been

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shown to refer to more emotions than men when describing past events. For example, Bauer, Stennes, and Haight (2003) asked people to report events from early and late childhood. They coded the memories for the number of references to positive and negative emotions. The findings showed that women's descriptions from late childhood contained more positive and negative emotion terms compared to men's descriptions. Parallel findings emerged in a study on "flashbulb" memories (Niedzwienska, 2003). Women's greater reference to emotions in their descriptions of past events compared to men emerges early in life. For example, one study with six-year olds showed that girls referred to a greater number and variety of emotion terms in describing past events compared to boys (Adams, Keubli, Boyle, & Fivush, 1995).

Gender differences with respect to emotion and autobiographical memory reflect the findings from the broader literature on gender differences in emotion. A large body of research suggests that women generally report experiencing more emotion than men, although this varies depending on the specific emotion in question. Specifically, women report experiencing more positive (e.g., warmth and love) and negative emotions (e.g., sadness, fear, hurt, and depression) than men (see Brody & Hall, 2000, for a review). In addition, women report experiencing certain negative self-conscious emotions (i.e., embarrassment and shame) more than men (Brody, 1999). The findings for guilt, however, are inconsistent (Brody, 1997; Ferguson & Crowley, 1997; Harder & Zalma, 1990). Whether women or men are likely to report more guilt is dependent on the situation, and the characteristics of the sample in question (Brody, 1999). Women and men tend to report an equal amount of anger, both in terms of frequency and intensity (Averill, 1982). However, some studies suggest that the elicitors of anger differ for

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women and men. Fehr and Baldwin (1996) showed that women reported more anger following betrayal of trust, rebuff, negligence, and unwarranted criticism than men. In another study, women reported more anger after listening to an audiotape of a couple having a conflict related to sexual jealously than men (Strachan & Dutton, 1992). Based on these findings, Kring (2000) suggested that women experience more anger than men in the context of interpersonal relationships and highlighted the importance of context when considering gender differences in emotion.

The Present Research

The goal of the present research was twofold. The first goal was to determine whether people call on different emotional events to serve different functions. This issue was addressed in Study 1. In this study participants were asked to recall 10 events, each with a different dominant emotion. For each emotional event, participants were also asked to focus on one occasion that they recalled the event and to rate the extent to which the event served 13 functions at the time of recall. The 13 functions were based on prior research. The second goal was to better understand the emotions associated with memories that serve the self-identity function. This issue was addressed in Study 3. Specifically, in Study 3, participants were asked to recall five self-defining memories. For each memory, they rated the extent to which they recalled experiencing ten specific emotions at the time the event occurred. Participants made parallel emotion ratings in terms of how they currently felt about the event. Participants also rated the extent to which each event had an impact on them. Subjective impact was predicted to account for patterns of current and recalled emotions. Study 2 addressed the hypothesis that people's

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subjective sense of the impact a self-defining event has had on them is a good reflection of the amount of meaning making that they have engaged in for the event.

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Chapter 2

This Chapter contains Study 1 presented in manuscript-style format, entitled:

Why did I recall that event?: The role of emotion in the functions of autobiographical

memory

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Introduction

Recalling personal past events may serve important functions in people's lives. For example, a woman may recall a memory that involves a past achievement in the service of impressing others at a dinner party or a memory involving a conflict with her mother to help someone get to know her better. Memories such as these, that involve information related to the self, are defined as autobiographical memories (Brewer, 1986; Conway, M.A., & Pleydell-Pearce, 2000; Conway, M. A., Singer, & Tagini, 2004). In prior research, social (e.g., to make conversation), self-related (e.g., to define oneself), and directive (e.g., to problem solve) functions of autobiographical memories were identified (Bluck, 2003; Bluck & Alea 2002; Derlega & Grzelak, 1979; Hyman & Faries, 1992; Pillemer, 1992, 2003; Watt & Wong, 1991; Webster, 1993, 1994, 1995, 2003; Webster & McCall, 1999). It has been argued that the characteristics of autobiographical memories likely influence the functions that are served by those events at recall (Alea & Bluck, 2003; Bluck, 2003). The emotional quality of memories may prove to be an especially important characteristic.

It is well established that emotions are implicated in how autobiographical memories are encoded, stored, and recalled (Conway, M.A., 1996; Conway, M.A. & Pleydell-Pearce, 2000; Neisser, 1982; Neisser & Fivush, 1994), but how emotions affect the functions of autobiographical memory has yet to be systematically explored. It has been argued that whether a person calls on an event to serve a particular function is likely dependent on whether the event is positive or negative. For example, it has been proposed that negative memories involving failure serve as a reminder of what to avoid in the future, whereas positive memories involving success serve to provide confidence that one

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is able to face a current challenging task (Bluck, 2003; Stein & Levine, 1987; Thorne & Klohnen, 1993). In line with this argument, our view is that the specific emotions associated with an event (e.g., sadness and guilt) may be important. The goal of the current study is to examine the relation between the specific emotions associated with autobiographical memories and the functions that are served by those events at recall.

The specific emotion (e.g., anger or fear) associated with a memory provides insight into the significant themes of that memory. Although there are many specific emotions, Shaver, Schwartz, Kirson and O'Connor (1987) showed that people think about emotions in terms of a limited number of basic categories: anger, fear, joy, love, and sadness. The methodology in Shaver et al.'s (1987) study has since been criticized (Alvarado, 1998), although these basic categories generally reflect those proposed by other emotion theorists (Ekman, 1984; Epstein, 1984; Izard, 1977). In addition, other core emotions that involve self-evaluation have been advanced: pride, embarrassment, guilt, and shame (Lazarus, 1991; Miller, 1995; Tangney, 1995, 2003). Emotion reflects the significant themes of an event. For example, memories involving anger often reflect themes in which people feel as though they were treated unfairly. In contrast, memories concerning fear reflect themes of threat and those involving sadness are typically related to loss. Memories that involve happiness often will be memories of things turning out as expected whereas memories involving love reflect feeling close to others (Shaver et al., 1987). Memories that involve pride reflect events in which people have taken credit for an achievement and feel a sense of self-enhancement (Lazarus, 1991). In contrast, memories involving embarrassment reflect events in which people felt as though they were being socially evaluated (Miller, 1995). Finally, memories involving shame reflect

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events in which people felt worthless and desired to disappear, and those involving guilt reflect events in which people desired to make amends for an act committed (Tangney, 1995).

In the current study, the predictions are formulated in terms of how such emotional memories serve the different types of functions that have been identified in prior research. Functions of autobiographical memory have been addressed in three areas of research: autobiographical memory (Bluck, 2003; Bluck & Alea 2002; Hyman & Faries, 1992; Pillemer, 1992, 2003), reminiscence (Watt & Wong, 1991; Webster, 1993, 1994, 1995, 2003; Webster & McCall, 1999), and self-disclosure (Derlega & Grzelak, 1979). The functions for the current study were largely based on those of the Reminiscence Functions Scale (RFS: Webster, 1993; 1997), with the exception of death preparation (pilot work indicated that this function was not relevant for an undergraduate sample). We relied on the RFS functions as they overlap extensively with those identified in autobiographical memory research (see Table 4.1 of Bluck & Alea, 2002). In the current study, 13 functions were addressed. Those functions considered self-related were: a) making oneself feel better; b) making oneself look good; c) defining oneself; d) passing the time; and e) reviewing upsetting events. The functions considered both self-related and directive were: f) helping oneself decide what to do in a situation; and g) making oneself feel more competent (both f and g were subsumed under the Problem Solving function on the RFS). Finally, the functions considered social were: h) making conversation; i) bonding with others by telling them about oneself (both h and i were subsumed under the Conversation function on the RFS); j) remembering close others who

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are no longer a part of one's life; k) teaching others; l) getting a point across; and m) making someone else feel good.

Five sets of predictions were formulated in terms of these various functions in the current study. See Table 1 for the list of functions. The first set of predictions concerns the self-related functions: making oneself look good (i.e., self-present), making oneself feel better (i.e., uplift), making oneself feel more competent (i.e., self-enhance), and defining oneself (i.e., self-define). The second set of predictions involves passing the time (i.e., occupy) and making conversation (i.e., converse). The third prediction involves reviewing upsetting events (i.e., ruminate). The fourth set of predictions involves bonding with others by telling them about oneself (i.e., bond) and remembering close others who are no longer a part of one's life (i.e., reminisce). The fifth prediction involves helping oneself decide what to do in a situation (i.e., decide). As becomes apparent below, a number of consistent differences are expected to emerge. Specifically, different predictions emerged for embarrassing events, given the typically trivial nature of these events relative to other negative events (Miller, 1995). In addition, it is predicted that positive events are called on to serve self-related functions more so than negative events, except for the self-define function. Finally, no clear predictions were proposed for teaching others (i.e., teach), making someone else feel good (i.e., benefit) and getting a point across (i.e., persuade) given that people may call on any memory to serve these functions depending on the context in which the memory is recalled.

The first prediction is that people will report recalling happy, loving, and proud memories in the service of making them look good, feeling more competent, and feeling better. In contrast, people will report calling on both positive and negative memories

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(with the exception of embarrassment) in the service of defining oneself. In terms of making oneself look good, the rationale is that others may be impressed when people showcase their accomplishments by disclosing events that made them feel proud. Recalling events in which one was successful at achieving a particular goal may also function to make oneself feel more competent. As with pride, feelings of love involve having self-confidence (Shaver et al., 1987) and feeling good about oneself (Aron & Westbay, 1996; Fehr, 1988). People may call on past events involving romantic or loving familial relationships to make oneself look good or to make oneself feel more competent in the interpersonal domain. As happy events do not always involve achievement, these events may be called on less than proud events in the service of making oneself look good or making oneself feel more competent. The prediction that people will call on happy, loving, and proud memories in the service of making oneself feel better is based on prior research by Josephson, Singer, and Salovey (1996), which indicates that people call on positive memories to repair sad mood. In terms of self-definition, although people strive to maintain a positive view of the self (Greenwald, 1980), people will experience a range of positive and negative events or outcomes in their lives that they later consider as self-defining (Moffitt & Singer, 1994; Singer & Moffitt, 1991-1992). Even though negative events (e.g., getting fired or a death in the family) may be considered self-defining, people later view such events as more benign compared to how they likely perceived them at the time (Wood & Conway, M., 2004a). In addition, given the trivial nature of embarrassing events (Miller, 1995), it is unlikely that people will call on such events to define the self.

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The second prediction is that people will report recalling positive emotional memories (e.g., happy, loving, and proud) in addition to embarrassing memories in the service of passing the time and making conversation. It has been argued that when people share memories with others, they tend to share positive experiences more so than negative experiences (Webster & McCall, 1999). This would especially be the case when people are engaging in casual conversation. Embarrassing events may also be called on to pass the time and make conversation. Embarrassment is elicited in relatively trivial social transgressions or untoward social interactions (Tangney, Miller, Flicker, & Barlow, 1996). In addition, people find humour in embarrassing events more than shameful events (Miller & Tangney, 1994).

The third prediction is that people will report recalling events associated with a range of negative emotions in the service of review (i.e., ruminate), with the exception of embarrassing events. This finding is expected given that the item representing this function in the current study explicitly refers to the review of upsetting or distressing events. In addition, embarrassing events may be called on less often than other negative events given that embarrassment is a response to trivial social transgressions (Tangney et al., 1996) and thus may have less of a long-term impact on people.

The fourth prediction is that people will report recalling positive and negative emotional memories in the service of bonding with others by telling them about oneself, and sad, happy, and loving events in the service of remembering close others who are no longer a part of their lives. People may call on positive memories in order to bond with people with whom they are developing relationships. In addition, in the context of trusting relationships, people may also recall negative emotional events as a means of

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deepening their bond with significant others (Cohen, 1998). People may recall memories involving sadness in the service of remembering close others who are no longer a part of their lives as sadness is an expression of loss (Shaver et al., 1987). In addition, loving and happy events may also be called on to serve this function: loving events involve close others and happy events may involve close others.

The fifth prediction is that people will recall negative and positive events in the service of helping them make decisions. A range of negative events may be called on to make decisions in an attempt to avoid similar negative outcomes or consequences. For example, as shame and guilt involve negatively evaluating the self, people would remember such events when making decisions to avoid such feelings in the future. In addition, people may recall positive experiences to help them make decisions that would lead to similar feelings of happiness, pride, or love.

Study 1

Participants reported nine events, each event associated with an emotion: anger, embarrassment, fear, guilt, happiness, love, pride, sadness, and shame (Shaver et al., 1987; Tangney & Fischer, 1995). Specific episodes were deemed the most appropriate level of analysis given that the focus is on emotion, and emotional responses are considered short-lived responses that emerge during personally meaningful episodes (Fredrickson & Branigan, 2001; Oatley & Jenkins, 1996). After reporting each event, participants focused on one time they talked about the event or thought about it on their own and made ratings of the functions served. See Table 1 for the list of functions. In a prior study, a general version of the function questionnaire used in the current research was validated by being concurrently administered with the RFS (Wood & Conway, M.

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2004b)[1]. In addition to reporting the functions that each event served, participants also reported who they talked to about the event at recall (if anyone) and the emotions they felt.

<center>Method</center>

Participants

Students were recruited from a booth on the Concordia University campus. A sign indicated *Psychology Project: Volunteers Needed.* Students who approached the booth were offered the chance of winning lottery prizes for completing some questionnaires (unrelated to the present research); those who were interested in participating in future paid research provided their names and telephone numbers. A total of 148 students participated. The data for four participants were excluded because they did not follow the instructions. The final sample consisted of 73 women and 71 men with a mean age of 24.7 years ($SD = 5.8$) and a range of 17 to 45. This age range is acceptable to examine autobiographical memories as is indicated by prior research.[2] With regard to ethnicity and language, participants responded to the following questions at the time of recruitment: "What cultural group, if any, do you identify most with?" The list of groups was identical to that used by Census Canada in 2001 (the census agency for the Canadian federal government). Percentage of responses in each category were as follows: White (50.7%), Chinese (18.8%), Arab (5.6%), South Asian (5.6%), Black (3.4%), Latin American (3.4%), West Asian (1.4%), Southeast Asian (1.4%), Korean (.7%), and Other (9%). When asked "What languages do you speak most often at home?", the responses were as follows: 53.5% indicated English alone, 11.1% indicated French alone, 4.2% indicated

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English or French and some third language, and 31.2% indicated a language other than English or French.

Measures

Emotional events. Participants were asked to describe nine events, each event associated with a different emotion: anger, embarrassment, fear, guilt, happiness, love, pride, sadness, and shame. For the love event, "in love or loving" was used in order to represent romantic love in addition to other types of love. For each emotion, participants were instructed to recall one event and were provided examples of typical elicitors. Examples of typical elicitors for anger, fear, happiness, love, and sadness were drawn from Shaver et al. (1987), for guilt and shame from Tangney and Fischer (1995), and for embarrassment and pride from Miller (1995) and Lazarus (1991), respectively. For example, instructions for the proud event were as follows: "Please describe ONE event that at the time made you feel PROUD because of something you achieved in school, work, or sports." Examples of instructions for other emotions were as follows: "...HAPPY because things turned out the way you wanted or better than expected," "...ANGRY because you felt as though you had been treated unfairly or that things were not the way they ought to be," and "...GUILTY for something that you did, such as lying, cheating, or stealing." Participants were provided four lines to describe each emotional event. Participants reported the emotional events in different random orders.

Functions. For each event, participants reported on one occasion that they talked about or thought about the event. They indicated the emotions they felt, who they talked to (if anyone), and the functions served. Specifically, participants identified from a checklist all of the emotions that they felt at recall. The checklist consisted of the nine

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emotions used to identify emotional events, with the addition of disgust. Disgust is not one of the prototypical emotions identified by Shaver et al. (1987), but it was included as some researchers consider it to be a basic emotion (Izard, 1977; Ekman, 1984). Participants then indicated from a checklist all of the individuals they talked to about the event (i.e., acquaintance, classmate, colleague, family member, friend, partner, stranger, and other). Finally, participants identified the functions the recalled event served. The functions are listed in Table 1. Each function was presented as a completion to the stem: "When I talked about or thought about the event it was..." Each of the 13 functions was followed by a 5-point scale with endpoints labeled *not at all* (1) and *a great deal* (5). Functions were presented in different random orders.

Procedure

One to four participants were present at each 1-hour session. Those participants who required more than 1 hour were given as much time as necessary. Participants were first informed about the nature of the study and then wrote descriptions for the nine emotional events. After completing their descriptions, they were asked to complete the questionnaire packet in which they reported, for one occasion that they recalled each of the events, how they felt, who they talked to (if anyone), and functions served. At the end of the study, participants were paid $10 Canadian.

Results

Eight cases were excluded from the analyses due to participants indicating they had not experienced certain emotional events (i.e., three participants for shame, one for guilt, three for love, and one for embarrassment). Initial analyses were conducted with gender entered as a between-subjects factor and no gender differences emerged.

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Preliminary analyses were also conducted to address cultural identity. Given participants' responses to the cultural identity item on the demographics questionnaire, participants were divided into two groups: those who identified as white and all others, which resulted in two groups that were approximately equal in size. Participants who identified as belonging to a cultural group other than white were identifying with cultures that are largely considered collectivistic (Triandis, 1995). Culture was entered as a between-subjects factors and a three way interaction emerged $F(96, 12480) = 1.46, p < .05$. A range of differences emerged, notably for the Decide, Self-present, Converse, and Reminisce functions.[3] Although the emotional events that participants reported were not coded for content, our prior research using the same methodology indicates that people do recall events that conform to the example elicitors given (Wood & Conway, M., 2004b).[4] All post-hoc comparisons were conducted with Bonferroni correction.

Functions

Participants reported the extent to which each event served the functions in Table 1. A 9 (emotional event) X 13 (functions) repeated measures ANOVA was conducted on the function ratings. See Table 2 for means, pairwise comparisons, and F values. The emotional event by functions interaction was significant, $F(96,12576) = 24.62, p < .01$. Post-hoc comparisons were conducted for each function. There were also main effects for functions, $F(12,1572) = 33.36, p < .01$ and emotional events, $F(8,1048) = 30.99, p < .01$. We first consider the pattern of results for each function.

Self-present, self-enhance, uplift, and self-define. As expected, the overall pattern indicates that positive events served the Self-present, Self-enhance, and Uplift functions more than negative events. Specifically, the various positive events served the Self-

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present and Self-enhance functions equally and more so than the negative events, with the addition that proud events served these functions the most, followed by happy events, and, in turn, loving events. There was only one exception to this overall pattern: for the Self-enhance function, loving events unexpectedly did not differ from fearful events. The hypothesis for the Uplift function was also supported: various positive events served the Uplift function equally, and more so than the negative events. Note that for the Uplift and Self-enhance functions some unexpected differences also emerged between the negative emotional events, which do not qualify the overall pattern.

As expected, both positive and negative events were generally equal in terms of serving the Self-define function, with the exception of embarrassing which were called on somewhat less often. Specifically, in line with expectations, embarrassing events had the lowest mean value and this mean was significantly less than the mean for three of the other events (loving, sad, and shameful). Unexpectedly, proud and happy events were called on somewhat more often. Specifically, proud events served the self-define function more than five negative events (angry, embarrassing, fearful, guilty, and shameful) and happy events more than two negative events (angry and embarrassing).

Occupy and converse. The overall pattern indicates that positive events and embarrassing events generally served the Occupy and Converse functions more than other negative events, with some exceptions and some additional differences for fearful and loving events. Specifically, embarrassing events were called on as often as positive events for the Occupy function. The positive and embarrassing events served the Occupy function more than four of the negative events (angry, guilty, sad, and shameful). In line with expectations, embarrassing events and positive events served the Converse function to a

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similar extent and embarrassing events did more so than three of the negative events (guilt, sad, and shame). The identical pattern unexpectedly emerged for fearful events. In contrast to the positive events, which served the Occupy function equally, loving events unexpectedly served the Converse function less than proud and happy events. Loving events, however, served the Converse function more than shameful events, but not more than other negative events.

Ruminate. This function item explicitly referred to reviewing negative events. Not surprisingly, negative events were called on more often than positive events to serve the Ruminate function. As expected, embarrassing events were called on less often than all of the other negative events and more often than positive events. Although loving and proud events both had low ratings overall, loving events unexpectedly served this function more than proud events.

Bond and Reminisce. As expected, sad and loving events were called on equally and more so than all other events to serve the Reminisce function. Unexpectedly, happy events were not called on more than other events. Although positive and negative events were generally equal in terms of serving the Bond function, unexpectedly positive events were called on slightly more often. Specifically, happy events served the Bond function more than shameful events. In addition, proud events served the Bond function more than three negative events (angry, fearful, and shameful).

Decide. As expected, positive and negative events were generally equal in terms of serving the Decide function. However, unexpectedly, shameful events were called on more often than embarrassing, happy, and proud events. In addition, angry events were unexpectedly called on more than embarrassing events.

Benefit, Persuade, and Teach. No predictions were formulated for the Benefit, Persuade, and Teach functions. Although positive and negative events were generally equal in terms of serving the Benefit function, in some cases positive events were called on slightly more often. Specifically, happy events served the Benefit function more than two of the negative events (angry and guilty). In addition, loving events served the Benefit function more than three negative events (angry, guilty and sad). One additional difference emerged: embarrassing events served this function more than guilty events.

Angry events were called on more often than all other events to serve the Persuade function, with the exception of proud events. Negative and positive events were generally equal in terms of serving the Teach function, except for embarrassing and guilty events, which were both called on less than angry, fearful, happy, and proud events.

Functions and emotional events. As noted above, the 9 (emotional event) X 13 (functions) ANOVA revealed a significant function main effect. Overall, the Self-define ($M = 2.58$, $SD = 1.07$) and Ruminate ($M = 2.47$, $SD = .77$) functions had the highest means and were significantly higher than all other functions, except for the Decide ($M = 2.32$, $SD = .94$) and Uplift ($M = 2.30$, $SD = .75$) functions. In addition, the mean for Ruminate did not differ from that for Bond ($M = 1.86$, $SD = .75$). In turn, the recalled events served the Decide and Uplift functions more than six of the nine remaining functions. Benefit ($M = 1.68$, $SD = .64$), Occupy ($M = 1.70$, $SD = .65$), Reminisce ($M = 1.86$, $SD = .75$), and Self-present ($M = 1.73$, $SD = .58$) were served the least, less than any other function, with only a few exceptions.

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The ANOVA also revealed a main effect for emotional events. See Table 2 for means. Specifically, positive events served more functions than negative events with only two exceptions. As well, angry, fearful and sad events served more functions than embarrassing and guilty events.

Audience

For each event, participants indicated whether they talked about the event with others or thought about the event on their own. If they talked to others about the event, they indicated from a checklist who they spoke to. Checked items were coded as one and non-checked as zero. The percentage of participants who talked about the event with at least one other person was calculated for each emotional event: pride (84%), happiness (78.5%), anger (76.4%), fear (75.7%), embarrassment (68.1%), love (66.7%), sadness (66.7%), shame (59%), and guilt (55.6%). A Cochran Q analysis revealed significant differences between these proportions, $Q(8) = 47.81, p < .001$. Post-hoc comparisons were conducted using McNemar's Test (Leach, 1979). More people talked to others about proud events compared to three negative events (guilty, sad, and shameful), and happy events compared to two negative events (guilty and shameful). Some additional differences emerged between the negative events. Additional analyses revealed that particular audiences were not linked with particular functions.[5]

Emotions at Recall

For each event, participants completed a checklist to identify the emotions they felt when they recalled the event. Checked items were coded as one and non-checked as zero. A Cochran Q analysis across the nine emotional events was performed for each emotion separately. Q values ranged from 214.36 to 631.32, $ps < .01$. Post-hocs were

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conducted using McNemar's Test. Consider the results for love: participants checked off love significantly more often (88%) when recalling loving events compared to all remaining events. The corresponding pattern emerged for the angry, disgusting, fearful and sad checklist items (percentages ranged from 69 to 86). For the self-conscious emotion checklist items (i.e., embarrassment, guilt, and shame), the percentages were highest for the corresponding event (percentages ranged from 80 to 84), but not always significantly higher than the percentages for the other negative self-conscious events (e.g., embarrassing events, guilty events, and shameful events). For the pride and happy checklist items, the percentages were highest for the corresponding event (percentages were 82 and 92, respectively), but not always significantly higher than the percentages for the other positive events (i.e., happy events, loving events, and proud events). In addition, participants checked off happy equally (92%) for both proud events and happy events.

Discussion

In the current study, participants described a number of emotional events and for each event reported on a prior instance that they talked to someone about the event or . thought about it on their own. They also indicated who they talked to (if anyone), how they felt, and the functions served. For self-related functions and, to a lesser extent, social functions, people generally called on positive emotional events (i.e., happy, loving, and proud) more than negative emotional events. Specifically, people called on positive memories to serve the self-related functions of making themselves look good, feeling more competent, and feeling better. The exception to this pattern was for self-definition: people called on positive events only slightly more, as people also called on negative

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events in the service of defining who they are. In addition, positive events proved important for making conversation and passing the time. Positive events were also called on slightly more than negative events to serve the social functions of bonding with others by telling them about oneself, which was unexpected, and making someone else feel good. What is most noteworthy is the different pattern that emerges for self-definition whereby people consider both negative as well as positive events as self-defining. The function of self-definition is likely distinctive in that there are presumably a limited number of events that people perceive as self defining, and events that are self-defining likely remain so over time. In contrast, when people call on events to serve other self-related functions, such as impressing others, they may choose from a wide range of positive events depending on the context, and so this choice may vary a great deal.

In line with expectations, embarrassing events served different functions than events associated with other negative emotions. Specifically, embarrassing events were called on more often to make conversation and pass the time compared to other negative events, but less often to teach others, and define oneself. For rumination, people called on a range of negative events, although events associated with embarrassment were called on the least. The present findings obtained for embarrassing events underscore the fact that it is necessary to extend beyond the valence of events to understand the functions that any one event may serve at recall.

For some functions, one event stood out as more important than some or all of the other events. For example, although people generally called on both positive and negative events to make decisions, shameful events unexpectedly stood out as more important than three other emotional events, including proud events. People may be especially motivated

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to avoid shame, given that shame entails a global attribution of oneself as defective (Tangney, 2003). In contrast, proud events stood out as the most important event for some of the self-related functions: people called on proud events more than happy and loving events in the service of making themselves look good and feeling more competent. In terms of persuading others, people called on angry events more so than all other events with the exception of pride. A priori, it is not clear why angry events would stand out for this function, as presumably people could call on any memory to get a point across depending on the circumstance. Perhaps when people are trying to get a point across during an animated conversation, angry events may come mind because anger is an assertion of authority (Averill, 1982).

For some functions, both positive and negative events were equally important. For example, people called on both sadness and love to remember close others who are no longer a part of their lives. For teaching others and making decisions, a range of positive and negative events were called on equally.

People not only reported on the functions that each event served at recall, but also how they felt at recall and, in the case where they talked to somebody about the event, who they spoke to. People's feelings at recall reflected the emotional nature of the events. In the case where people focused on one occasion where they talked to others, they disclosed happy and proud memories more than negative memories and spoke to a wide range of individuals regardless of the function any one particular event served at recall (see Footnote 5).

The social functions of emotional memories examined in the current study may be compared to the social functions of emotions more generally (Johnson-Laird &

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Oatley, 1992; Keltner & Gross, 1999). Researchers interested in emotion have shown that when people interact with others, the emotions that they express provide the audience with information regarding the communicator's beliefs and intentions (Keltner & Haidt, 2001). In addition, the expression of emotion may evoke complementary and reciprocal emotions in others that can serve to foster intimacy (Keltner & Haidt, 2001). The difference between the functional nature of emotion and the functional nature of emotional memories is that, in the latter case, emotions are not necessarily expressed. Rather, when recalling emotional memories, the emotional quality of the event may be communicated through one's description of an event and, regardless of whether that description includes the expression of emotion, social functions may still be served. For example, if people express happiness when spending time with a new acquaintance, it may serve to bring them closer to that person. Similarly, as the findings in the current study indicate, people may describe a happy event from their lives to a new acquaintance and, regardless of whether happiness is expressed the disclosure will bring them closer to that person by allowing him or her to get to know them better.

In addition to the patterns that emerged between emotions and functions, the findings indicate that, overall, the emotional events served some functions more than others. Specifically, people called on emotional events to serve the self-define and ruminate functions the most, and the benefit, occupy, reminisce and self-present functions the least. These findings may, in part, reflect the methodology in which memories were elicited in the current study. Researchers have argued that autobiographical memories may have different retrieval paths and that these retrieval paths may influence the functions that a particular event is likely to serve at recall (Hyman & Faries, 1992). In the

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current study, participants recalled emotional memories and when they subsequently selected one time they thought or talked about a particular event, they may have been influenced by the emotion associated with that event. For example, if people recalled happy events involving a family vacation, happiness, being a salient feature, may have led them to think about the time they recalled the event in the service of making them feel better. If the same memory was elicited with the cue word "travel," experienced cultural differences may have been the salient feature, which, in turn, could lead people to focus on the time they recalled the event to teach somebody about a particular aspect of the culture they experienced. One could argue, then, that events that are framed in terms of affect may be more likely to serve certain functions. However, the current findings only partially support this argument. Specifically, people reported that negative emotional events often served the rumination function, which one would expect. In contrast, other functions, in which affect would presumably play an important role (i.e., reminisce and benefit), were reported the least.

One could also argue that participants' ratings of functions may have been influenced by the elicitors presented for each emotion. For example, for the angry event, participants were asked to recall an event that made them feel angry because of being treated unfairly. In this case, a person may be focused on the fact that they were treated unfairly, as opposed to other aspects of the event, which, in turn, could influence the functions they report that event served at recall. One could elicit emotional events by presenting participants with only emotions, not elicitors. However, this methodology is not without limitations. Specifically, people may describe a broad range of heterogeneous

emotional events, some innocuous in nature, making it difficult to interpret the meaning of the findings.

What is argued in the current study is that emotions lead to functions. However, it is important to note that the current data is correlational in nature, and what is unknown is the causal direction of these variables. One could address the issues in the current study employing an experimental design. For example, different groups of participants could be presented with different goals (e.g., to teach a class about a particular topic or to get a point across during a conversation), and told that they may give examples from their past. The examples from their past could, in turn, be coded for the emotional content to determine what types of goals or functions are associated with what types of emotional memories.

The findings provide a context for better understanding how emotions relate to the functions of autobiographical memory and why people may call on certain events to serve some functions over others. The study raises some interesting questions for future research. One question is whether a particular memory serves the same functions on different occasions. For example, participants in the current study were asked to focus on one instance that they recalled an event and to report the functions that the event served. However, if participants were asked to focus on another instance they recalled the same event, perhaps they would report that that event served different functions. Another question is whether it is effective to use emotional memories to serve particular functions. For example, the findings in the current study indicate that positive events are called on to make conversation and prior research suggests that when people describe such events

in very emotional terms, the audience may perceive such disclosures as too personal (Howell & Conway, 1990).

The current research sheds light on the types of memories that people call on to serve the various functions that have been identified in prior research. Specifically, the findings indicate that the emotional nature of past events plays an important role in the functions that those events serve at recall. The findings converge with other research on autobiographical memories that emphasize the importance of emotion with respect to how autobiographical memories are encoded, stored, retrieved, and used in the course of people's lives.

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Chapter 3

This chapter contains Studies 2 and 3 presented in manuscript-style format,

entitled: Subjective impact, meaning making, and current and recalled emotions for self-

defining memories.

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Introduction

When people recall autobiographical memories, they often experience emotions and remember the emotions that they felt when the events occurred: a young adult may experience a sense of pride when recalling her high school graduation and remember the happiness she and her family experienced at the time. If autobiographical memories are memories for information related to the self (Brewer, 1986; Conway, M.A., & Pleydell-Pearce, 2000; Conway, M.A., Singer, & Tagini, 2004), then the recall of emotions experienced in prior events is a further source of self-relevant information (Conway, M.A., 1991; Conway, M.A., & Pleydell-Pearce, 2000; Stein, Liwag, & Wade, 1996). In recent years, some researchers have focused their efforts on understanding the functions of autobiographical memory, that is, why do people think or talk about personal past events. Individuals may recall autobiographical memories in order to generate a coherent and unified sense of narrative identity – a life story that ties events and emotions from the past and present together and is also linked to future aspirations (Bluck, 2003; Habermas & Bluck, 2000; Lieblich & Josselson, 1997; McAdams, 1985, 1987, 1998; Pillemer, 1992; Singer, 2004; Wilson & Ross, 2003). This process of establishing a narrative identity relies on a wide range of positive and negative emotional memories (Wood & Conway, M., 2005).

The present research is concerned with people's emotional memories for self-defining events (i.e., self-defining memories). The research is focused first on the relation between how much impact people feel self-defining events have had on them, and the extent to which they have engaged in meaning making for these self-defining events. Second, the present research examines how people's perceptions of impact may account

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for the pattern of current and recalled emotions they report for these events. An examination of people's self-defining memories is an approach to understanding the relation between self and autobiographical memory that was initiated and has been pursued by Singer and his colleagues (Blagov & Singer, 2004; Moffitt & Singer, 1994; Moffitt, Singer, Nelligan, & Carlson, 1994; Singer, 1995,1997,1998, 2001; Singer & Moffitt, 1991-1992; Singer & Salovey, 1993, 1996), and employed by other researchers (e.g., McLean & Thorne, 2003; Thorne & McLean, 2002; Thorne, McLean, & Lawrence, 2004; Sutin & Robins, 2005). Self-defining memories are memories for significant personal events that people perceive as contributing to their overall life story or sense of identity (Singer & Salovey, 1993). Self-defining memories are emotionally complex (Singer & Salovey, 1993); people report moderate to high negative and positive current emotions for their self-defining memories (Singer & Moffitt, 1991-1992). They report currently feeling both negative and positive emotions, whether events were primarily negative or positive (Moffitt et al., 1994). Furthermore, emotional reactions toward self-defining memories depend on current goals and concerns. For example, people feel better about a self-defining event that is consistent with their attainment of current goals (Moffitt & Singer, 1994).

The hypothesis in Study 2 was that people's subjective sense of the impact of self-defining events on their current lives reflects the meaning making they have engaged in for these events. Meaning making is a process that results in an integration of an event with one's positive sense of self (Blagov & Singer, 2004; Bluck & Gluck, 2004; Habermas & Bluck, 2000; Singer & Bluck, 2001; Singer, 2004). People engage in meaning making when recalling self-defining memories, particularly those that are

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predominantly negative (McLean & Thorne, 2003; Thorne et al., 2004). Prior research has not addressed people's reports of the impact self-defining events have had on them, nor how these subjective impact ratings may reflect meaning making. In prior research on self-defining memories, meaning making has been identified by examining the content of the written descriptions people provide when asked to describe these memories. That is, meaning making has been identified from spontaneous references to meaning making provided in descriptions (Blagov & Singer, 2004; McLean & Thorne, 2003; Thorne et al., 2004). These references may, for example, be to lessons learned or insights gained. In contrast, participants in the present research were explicitly asked to rate self-defining events on how much impact the events have had on them, as well as to rate on other scales (in Study 2) how much they had engaged in meaning making for these events.

Study 3 addressed the hypothesis that the subjective impact of self-defining events accounts for the pattern of current and recalled emotions that people report for these self-defining memories. Specifically, we hypothesized that events judged to have had greater impact would lead to more positive emotion over time (a "benefaction" effect). In other words, for events with greater perceived impact, individuals would feel better now in recalling the event than how they recall feeling at the time of the original event. Patterns of current and recalled emotions for self-defining memories have not been examined in prior research, yet may be an important aspect of how people represent and incorporate their self-defining events into their narrative identity.

Consider negative self-defining memories. As meaning making involves an assumption of change (i.e., of improved outcomes over time), people may exaggerate how badly they felt at the time of a negative event, a notion supported by prior research

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(Conway, M. & Ross, 1984). In this case, people would presumably report feeling less negative emotion now (e.g., anger) than how they recall feeling at the time. As well, finding benefit or learning a lesson from a past negative experience would presumably lead people to feel more positive emotion (e.g., pride) about the event now compared to how they recall feeling at the time. Indeed, people often describe the long-term positive aspects or outcomes of negative events when recalling traumatic events or their life stories (Janoff-Bulman, 1989). In one study, life narratives were found to consist of more sequences involving a transformation from negative to positive affect (referred to as redemption sequences) than vice versa (McAdams, Reynolds, Lewis, Patten, & Bowman, 2001).

There may also be a particular pattern of current and recalled emotion for positive self-defining memories. People may reflect on how positive events have had long-term positive consequences. This may be particularly the case when people reflect on situations in which they have acted wisely (Bluck & Gluck, 2004). As well, when positive events are shared with others, people experience positive affect that is above and beyond the positive affect associated with the event itself (Langston, 1994). In sum, people recalling positive self-defining events would presumably report feeling as positive, or more positive emotion now (e.g., pride) than how they recall feeling at the time. In terms of negative emotion, people may recall negative emotions felt at the time of a positive event (e.g., a person may recall the frustration of planning a wedding, even though the wedding itself was a positive experience overall). However, reflecting on the positive consequences of a positive event may result in people reporting less negative emotion (e.g., anger) now than how they recall feeling at the time.

There is no assumption made here with regard to the accuracy of recalled emotions for self-defining memories. Indeed, at least for everyday events, people tend to overestimate the intensity of the negative and positive emotions that they experienced in the past (Thomas & Diener, 1990). With respect to self-defining memories, it is impossible to measure the emotions felt at the time the events occur given that people only consider events as self-defining after the events have had an enduring impact on them.

Three predictions were made for Study 3: one for the pattern of current and recalled emotions for negative self-defining memories, one for the pattern of current and recalled emotions for positive self-defining memories, and one for how subjective impact can account for these patterns of current and recalled emotions. The first prediction is that for negative self-defining memories, people will report feeling less negative emotion (e.g., guilt and sadness) and more positive emotion (e.g., happiness and pride) now compared to how they recall feeling at the time. The second prediction is that for positive self-defining memories, people will report positive emotions (e.g., happiness and pride) that are equal in intensity, or higher, and less negative emotion (i.e., anger and guilt) compared to how they recall feeling at the time. The third prediction is that the predicted patterns of current and recalled emotions are a function of subjective impact: how much people feel the events have had an impact on them.

The predicted patterns in Study 3 of current and recalled emotions for self-defining memories are distinct from what has been demonstrated in prior research for other types of memories. When people recall everyday events, they report less intense affect than they recall experiencing at the time, particularly for negative events relative to

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positive events (Cason, 1932; for similar findings, see Walker, Skowronski, Gibbons, Vogl, & Thompson, 2003). This lower intensity is similar to what is expected here for negative self-defining events, except for the predicted higher levels of current positive emotion relative to recalled positive emotion. As well, the prediction here for positive self-defining events is of equal or higher levels of current positive emotion relative to recalled positive emotion. This prediction for positive events goes against the expectation for a relative drop in intensity.

The predictions in Study 3 for the patterns of current and recalled emotions can also be derived from other theoretical models that are relevant to self-regulation, emotion, and memory. Yet these other models do not lead to predictions cast specifically in terms of subjective impact and meaning making. For example, Taylor's (1991) mobilization-minimization model for negative events would lead to the same predictions as proposed here for negative self-defining memories. Similarly, coping directed at a negative event and its consequences would also lead to reductions in distress over time (Lazarus & Folkman, 1984). The same could be said for coping with negative aspects of a predominantly positive event. In contrast to minimization or coping models, the present focus on subjective impact underscores the importance of meaning making in the context of current and recalled emotions for self-defining memories.

In sum, we focused in the present studies on subjective impact, meaning making, and current and recalled emotions for self-defining memories. We examined the relation between subjective impact and meaning making in Study 2, with the hypothesis that the subjective impact that people report for self-defining events reflects the meaning making they have engaged in for these events. There were two goals in Study 3: one was to

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identify the pattern of current and recalled emotions that people report for self-defining memories, and the second was to determine whether this pattern of emotions can be accounted for by these individuals' subjective impact ratings. A pattern of benefaction was expected for current and recalled emotions for self-defining memories: there will be less negative and more (or the same amount of) positive emotions felt now than recalled. As well, we expected that the subjective impact ratings that participants report for their self-defining events would account for these patterns of emotions.

Subjective impact is taken here to reflect a personal evaluative process, not the objective quality of events as may be assessed by observers. Even for relatively extreme events, such as the death of close others or suffering physical or sexual assault (all of which can be self-defining events), the affective intensity of the event can be distinguished from the meaning the event acquires in the context of a person's life. Alternative predictions would be made in Study 3 if impact simply reflected the sheer affective intensity of an event (i.e., its degree of positivity or negativity). In particular, greater impact for negative events would be associated with greater current negative emotion, but not with greater current positive emotion. Greater impact for positive events would be associated with greater current positive emotion, but not with greater recalled negative emotion. This distinction between subjective impact ratings and the affective intensity of events was empirically addressed in Study 3.

In the context of this current paper, the enduring impact of an event, despite the event's positive or negative affective quality, is seen as beneficial to individuals. Subjective impact reflects meaning-making, and the ability to derive meaningful lessons from negative events is a critical factor in positive narrative identity and adjustment. For

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example, finding meaning from such past events has been linked to less grief in the loss of a spouse (Bauer & Bonannon, 2001), a deeper appreciation for life in people with HIV (Courtenay, Merriam, & Reeves, 1998), less depression in stroke victims (Thompson, 1991), and greater well being in parents of children with Down Syndrome (King, Scollon, Ramsey, & Williams, 2000). More generally, Tedeschi and Calhoun (1995) argued on the basis of their review that finding benefit from adverse experiences can result in a better level of emotional expressiveness, increased self-reliance, and positive changes in how people view life overall.

The focus here on subjective impact was not to the exclusion of addressing other indicators of meaning making. As noted above, prior research on self-defining memories has addressed meaning making in terms of spontaneous references to meaning making in people's written descriptions of self-defining events. We did the same in Study 3, in that we not only asked participants to rate how much impact the self-defining events had had on them, but we also coded their written descriptions of self-defining events for references to meaning making. Should one expect a close relation between these two indices of meaning making (i.e., the impact ratings and spontaneous references)? Not necessarily. Many factors may come into play in how much people spontaneously report meaning making when describing self-defining events, including the relative emphasis on describing what happened versus why it happened, describing the event itself or its consequences, and individual differences in self-focused attention (Trapnell & Campbell, 1999).

Self-defining memories are those identified by a person as being of great personal significance, and it is for such events that meaning making (and felt impact) may be

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substantial. Other events and experiences in a person's life may actually influence the person a great deal, but this influence may not be acknowledged. People may rationalize, justify, or distance themselves from past events as a means of minimizing the actual or apparent impact of some events (Beike & Landoll, 2000; Wilson & Ross, 2003).

Study 2

Participants in Study 2 reported on how much impact self-defining events have had on them, as well as on the extent to which they engaged in meaning making for these events. The hypothesis in this correlational study was that people's reports of the subjective impact of self-defining events would provide a good indication of the amount of meaning making they have engaged in for those events.

Method

Participants and Procedure

Students were recruited from a booth on the Concordia University campus. A sign indicated *Psychology Project: Volunteers Needed.* Students who approached the booth were offered the chance of winning lottery prizes for completing a packet of questionnaires. A self-defining memory questionnaire was included in each packet. Two hundred and seventy nine students (135 women and 144 men) with a mean age of 24.41 ($SD = 6.54$) years (range 17-58) completed the packet. With regard to demographics, participants responded to the following question: "What cultural group, if any, do you identify most with?" The list of groups was the one used by Census Canada in 2001 (the census agency for the Canadian federal government). Responses were as follows: White (61.7%), Chinese (6.4%), South Asian (5.4%), Latin American (5.0%), Arab (4.6%), Black (3.2%), Filipino (.4%), Japanese (.4%), West Asian (2.5%), Other

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(9.9%), and No response (.7%). Approximately half the participants completed the positive version of the questionnaire (i.e., asking for a predominantly positive event); the other half completed the negative version.

Measures

The instructions for the self-defining memory questionnaire were adapted from Singer and Moffitt (1991-1992). The instructions were as follows: "you are asked to think about an event in your past that you feel is still *important* and *helps you define who you are*. The memory is at least one year old and is *very clear* and *familiar* to you. This is a memory that helps you understand who you are as an individual and might be a memory you would tell someone if you wanted that person to understand you in a basic way. In this questionnaire, you are being asked to remember an event that is tied to *strong* _____ *feelings*, even though there may also be some _____ feelings involved [italics in original]." In the positive version of the questionnaire, the blanks were filled with the words *positive* and *negative*, respectively. In the negative version of the questionnaire, the blanks were filled with the words *negative* and *positive*, respectively.

The instructions continued as follows: "Please write 2-3 keywords that would remind you of this event." Three lines were provided. Participants then reported on 7-point scales with endpoints *not at all* (1) and *very much* (7) how much they endorsed each of the following statements: (a) This past event has had a big impact on me; (b) I feel that I have grown as a person since experiencing this past event, (c) Having had this experience, I have more insight into who I am and what is important to me, (d) Having had this experience, I have learned more about what life is all about, (e) Having had this experience, I have learned more about what other people are like, (f) Even when I think

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of the event now, I think about how it has affected me, and (g) I have often spent time thinking about what this event means to me. Statements were presented in counterbalanced order.

Results and Discussion

Overall, participants gave indications of high levels of meaning making for the self-defining events they recalled. Ratings of impact ($M = 5.38$, $SD = 1.61$), growth ($M = 5.20$, $SD = 1.76$), self-insight ($M = 5.34$, $SD = 1.54$), learning about life ($M = 4.91$, $SD = 1.74$), learning about others ($M = 4.87$, $SD = 1.80$), current thoughts about impact ($M = 4.94$, $SD = 1.66$), and time spent thinking ($M = 4.54$, $SD = 1.74$) all indicated meaning making. Means hovered around the value of 5, which was labeled on the rating scale as *quite a bit*.

Participants' ratings of the seven statements were subjected to a principal components analysis (PCA). One factor emerged with an eigenvalue of 3.88, which accounted for 55.38% of the variance. Other eigenvalues were less than 1. The loadings for the statements were all equal to or greater than .70 (range .70-.82), with the exception of item (e), for which the loading was .59. Item (e) refers to learning more about what other people are like, and so differs from the other items. Consequently, this item was excluded. The remaining six ratings were all positively correlated, as reported in Table 3. Reliability was high for the six items ($\alpha = .86$). Ratings of impact had a high loading (.81) on the factor (self-insight had a slightly higher loading of .82), and impact ratings had the highest correlations with the other ratings (i.e., all above .49). The correlation between impact ratings and the mean of the remaining items was .71. These findings support the

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hypothesis that individuals' reports of the impact self-defining events have had on them is linked to the amount of meaning making they have engaged in for these events.

Finally, an analysis of variance (ANOVA) was conducted on the mean of the six items with questionnaire version (i.e., positive vs. negative self-defining memories) and participant gender as between subject factors to determine whether there were differences as a function of memory valence and participant gender on reported meaning making. The gender main effect was significant, $F(1, 275) = 5.73, p < .02$. Overall, women ($M = 5.24, SD = 1.21$) reported more meaning making than men ($M = 4.87, SD = 1.34$). This was the case for both positive and negative self-defining memories. The corresponding analysis for impact ratings alone failed to reveal a gender difference, however, $F(1, 274) = .13, p > .2$. As such, impact ratings are an effective indicator of meaning making, but are not as sensitive to gender differences as other meaning making items included in this study. It may also be that the one item impact rating is less stable as a measure than the average of the remaining 6 items. We return to the issue of gender differences in the General Discussion.

Study 3

The hypothesis in Study 3 was that subjective impact ratings account for the pattern of current and recalled emotions for self-defining memories. The expected pattern was one of benefaction. For negative self-defining events, participants were expected to report less negative emotion (e.g., sadness) and more positive emotion (e.g., pride) now compared to how they recall feeling at the time. For positive self-defining events, participants were expected to report feeling an equal level of (or more) positive emotion (e.g., love) and less negative emotion (e.g., fear) compared to how they recall feeling at

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the time. The prediction for subjective impact was that participants' ratings of how much impact the events have had on them would account for these patterns of current and recalled emotions. Greater impact would be associated with a greater relative difference between current and recalled emotion.

Participants reported five self-defining memories. As in most prior research (the exception being Study 2 above), participants were *not* given instructions on whether to recall memories that were predominantly negative or positive (in fact, nearly all participants recalled both types). For each memory, participants rated their current and recalled emotions. Participants made ratings in terms of the following specific emotions: anger, disgust, fear, happiness, love, and sadness (Izard, 1977; Shaver, Schwartz, Kirson, & O'Connor, 1987), as well as the self-conscious emotions of embarrassment, guilt, pride, and shame (Tangney & Fischer, 1995). Participants also rated how much each event had had an impact on them. In line with prior research on self-defining memories, and to allow comparisons with this earlier research, the written descriptions of self-defining memories were coded by two observers for content, references to meaning making, specificity, and references to emotions.

Method

Participants

Students were recruited from a booth, as in Study 2. Those who were interested in participating in future paid research provided their names and telephone numbers. Seventy-seven students (38 women and 39 men) with a mean age of 26.26 ($SD = 9.26$) years (range 18-71) were contacted and participated in the study. Ethnicity was assessed as in Study 2. Responses were as follows: White (52.6%), Chinese (13.2%), South Asian

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(10.5%), Latin American (5.3%), Arab (1.3%), Black (1.3%), Filipino (1.3%), Japanese (1.3%), West Asian (1.3%), Other (9.2%), and No response (2.7%). One participant did not follow instructions; the data for that participant were excluded.

Measures

Self-defining memories. Participants were asked to report five self-defining memories (Singer & Moffitt, 1991-1992). Participants were provided with the following description of a self-defining memory: (a) It is at least one year old; (b) It is a memory from your life that you remember very clearly and that still feels important to you even as you think about it; (c) It is a memory that helps you to understand who you are as an individual and might be a memory you would tell someone else if you wanted that person to understand you in a basic way; (d) It may be a memory that is positive or negative, or both, in how it makes you feel now. The only important aspect is that it leads to strong feelings; and (e) It is a memory that you have thought about many times. It should be familiar to you like a picture you have studied or a song (happy or sad) you have learned by heart.

Participants were provided one page to describe each memory. At the bottom of each page, participants were asked, "How much has this event had an impact on you?" This item was followed by a five-point scale with endpoints labeled 1 (*a little*) and 5 (*extremely*). In an open-ended format, participants were also asked to report how many years ago each event occurred and how often they thought about or talked about each event.

Recalled and current emotion ratings. For each memory, participants completed two emotion questionnaires. In the first questionnaire, participants rated ten emotions felt

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when the self-defining event occurred (i.e., recalled emotions): anger, disgust, embarrassment, fear, guilt, happiness, love, pride, sadness, and shame. Each emotion was followed by a 5-point scale with endpoints labeled 1 (*not at all*) and 5 (*a great deal*). The emotions appeared in different random orders. Participants were also asked how they felt overall at the time of the event. This item was followed by a 3-point scale: 1 (*mostly negative or negative*), 2 (*equally negative and positive*), and 3 (*mostly positive or positive*). The second questionnaire was identical to the first, except participants made ratings of how they currently feel about the events.

Event Coding

To provide a comprehensive portrait of participants' self-defining memories and to allow for comparisons with prior research on self-defining memories, the memories were coded for event type, references to meaning making, references to emotion, and specificity. The coding schemes were developed on 25% (95) of the memories, and based on prior research on self-defining memories. For all four types of coding, reliability was assessed by having two independent raters code a randomly selected 40% of the memories (152 of 380). Raters were blind to participants' affect ratings and demographics (e.g., gender; although some self-defining memories made gender evident). One rater was blind to the hypotheses. For discrepant ratings, the raters came to a consensus regarding the most appropriate coding category.

Event type and valence. The 380 memories were classified into 19 categories. The categories are similar to those of Blagov and Singer (2004) and Thorne and McLean (2002). The overall kappa was .83, with individual kappas ranging from .74 to 1.0. Four categories accounted for over half the memories: interpersonal conflict, positive

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relationships, recreation or exploration, and skill-related achievement. There were many negative categories of low frequency. To determine the valence of each content category, a separate sample of psychology graduate students (six men and six women) made ratings of the valence of each category on a 7-point scale with endpoints labeled –3 (*very negative*) and +3 (*very positive*). To validate these observer ratings, 12 correlations were conducted. In each case, the ratings of one observer for the 19 categories were correlated with the mean ratings of these 19 categories across the remaining 11 observers. The 12 correlations ranged from .93 to .98 (*M* = .96).

Spontaneous references to meaning making in written descriptions. Each memory was coded for the absence (0) or presence (1) of meaning making. Meaning making was coded as present when there was an indication that the individual had gained insight, or attempted to step back from and evaluate the event (see Appendix D). The present coding scheme took into account both explicit and implicit references to meaning making (either was coded as meaning making). An example of an explicit reference to meaning making is as follows: for a break-up, one participant wrote "…this moment really changed the way I thought about relationships, kids and my priorities in life." This coding of explicit references to meaning making is similar to that employed by Blagov and Singer (2004), and Thorne and McLean (2002).[6] Blagov and Singer (2004) coded memories as integrative (i.e., as involving meaning making) if there was explicit reference to why a memory is important and emotional. The present coding scheme also took into account implicit references to meaning making, and in this respect differs from the coding of Blagov and Singer (2004). Implicit references were taken into account to provide a more comprehensive assessment of spontaneous references to meaning making. An implicit

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reference to meaning might be a description of being aware of how an event had impacted them without an explicit statement as to why the event was important. For example, one participant wrote "I changed careers by myself without consulting with my family. It was difficult, but I stood up and took direction of my life." This description implies that she is aware that the event is important because, through her own volition, she changed the course of her life. Kappa for meaning making coding was .78. Meaning making was present in 38% of the negative memories and 46% of the positive memories (for an overall rate of 40.3%).

References to emotion in written descriptions. The written descriptions of self-defining memories were also coded for references to emotion. References to emotions were coded as either negative or positive. Emotion was broadly defined: proper emotion words (e.g., happy, fearful, and sad), colloquial expressions that suggest emotion (e.g., alienated, bad, and shocked), and behavior that indicates emotional expressions (e.g., crying and laughing) were included. If an emotion word was repeated in the same narrative, it was counted each time it occurred. For negative emotions, kappa was .89. For positive emotions, kappa was .88.

Specificity of written descriptions. Blagov and Singer's (2004) coding scheme was used to code each event for one of three levels of specificity: specific, episodic, or generic. Specific events are unique occurrences that are less than a day in duration (e.g., remembering a picnic I had on July 1st). Episodic events are described in general terms that correspond to a lengthy time frame (e.g., remembering my summer vacation). Generic events involve a description of several equivalent events that are repeated over time (e.g., remembering the times I had coffee with my mother). Overall kappa was .85.

Participants reported mostly specific memories (72%), some episodic memories (24%), and few generic memories (4%).

Procedure

One to four participants were present at each 1 hour session. Participants requiring more than 1 hour were given as much time as necessary. Participants were first informed about the nature of the study. Then participants were asked to read over the description of a self-defining memory and to complete the questionnaire packet. In the packet, participants reported a self-defining memory, made an impact rating, and then reported recalled and current emotions for that particular event. This sequence was repeated 5 times. At the end of the study, participants were paid $10 Canadian.

Results

Current and Recalled Emotions, Impact ratings, and References to Meaning Making in Written Descriptions

Events were identified as being negative or positive based on observer ratings of affective intensity (see Event type and valence above). This categorization was based on the mean observer ratings, which, as can be seen in Table 4, were unambiguously either negative or positive. The types of events reported by participants and event frequencies are listed in Table 4. Prior to analyses, four sets of mean affect scores were derived for each participant. First, a mean was calculated for each *recalled* emotion (e.g., anger) across the negative self-defining memories (participants varied in the number of negative events they reported). This resulted in 10 mean affect scores. Second, a mean was calculated for each *current* emotion (e.g., anger) across the negative self-defining memories. This coding resulted in a separate set of 10 affect scores. In a parallel manner,

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means were derived across the positive self-defining memories (again, participants varied in the number of positive events they recalled), resulting in 10 mean affect scores for recalled emotions and 10 mean affect scores for current emotions. In sum, each participant had 40 affect scores, and it is these that were subjected to analyses. The emotion ratings were tested for multivariate outliers and no outliers emerged. Preliminary analyses of emotion ratings were conducted with gender entered as a between-subject variable. No gender effects emerged.[7]

All statistical analyses were conducted for negative and positive events separately, with an alpha level of .05.[8] For both negative and positive events, the prediction was for a Time effect in the MANOVA with Time (recalled and current) as the within-subject factor and the ten emotion ratings entered as dependent variables. For negative events, a MANOVA was conducted with Time (recalled and current) as the within-subject factor and the ten emotion ratings entered as dependent variables.[9] The expected Time main effect was significant, $F(10, 64) = 16.92, p < .01$. Current and recalled emotions are presented in Figure 1. Post-hoc comparisons with Bonferroni correction were conducted for each emotion separately. As expected, when participants recalled negative events, they reported feeling less anger ($M = 2.30, SD = 1.05$), disgust ($M = 2.14, SD = 1.19$), embarrassment ($M = 2.02, SD = 1.02$), fear ($M = 1.62, SD = .91$), guilt ($M = 1.88, SD = 1.01$), sadness ($M = 2.70, SD = 1.08$), and shame ($M = 1.96, SD = .93$) than they recalled experiencing at the time. The corresponding means for recalled emotions were 3.27 ($SD = 1.18$), 2.62 ($SD = 1.27$), 2.88 ($SD = 1.27$), 3.19 ($SD = 1.05$), 2.53 ($SD = 1.18$), 3.59 ($SD = 1.09$), and 2.76 ($SD = 1.16$), respectively. In contrast, participants reported feeling more happiness ($M = 1.82, SD = .96$) and pride ($M = 1.84, SD = 1.05$) than they recalled

experiencing at the time. The corresponding means for recalled emotions were 1.43 (SD = .59) and 1.50 (SD = .71), respectively. Contrary to expectation, no significant difference emerged between current (M = 1.98, SD = 1.16) and recalled (M = 2.05, SD = 1.14) feelings of love.

In the corresponding MANOVA for positive events, the Time main effect was also significant, $F(10, 58)$ = 5.17, p < .01. Current and recalled emotions are presented in Figure 1. Post-hoc comparisons were conducted as for negative events. For positive events, participants reported current happiness (M = 4.12, SD = .86), love (M = 3.14, SD= 1.18), and pride (M = 3.45, SD = 1.33) that were similar in intensity to how they recalled feeling at the time. The corresponding means for recalled emotions were 4.06 (SD = .88), 3.15 (SD = 1.08), and 3.31, (SD = 1.28), respectively. As expected, participants reported that they now felt less anger (M = 1.34, SD = .59), disgust (M = 1.28, SD = .59), embarrassment (M = 1.42, SD = .72), fear (M = 1.24, SD = .46), guilt (M = 1.20, SD = .45), and shame (M = 1.25, SD = .50) than they did at the time. The corresponding means for recalled emotions were 1.55 (SD = .88), 1.41 (SD = .73), 1.95 (SD = 1.00), 2.11 (SD = 1.06), 1.44 (SD = .63), and 1.57 (SD = .71), respectively. Contrary to expectation, no significant difference emerged between current (M = 1.64, SD = .84) and recalled (M = 1.74, SD = .93) sadness.

Analyses controlling for impact ratings. Analyses were conducted to address the expectation that impact ratings would account for the pattern of current and recalled emotions for self-defining memories. A mean impact rating was calculated for each participant by averaging across the ratings the participant made for negative self-defining memories. Similarly, a mean impact rating was calculated by averaging across the ratings

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for positive self-defining memories. Mean impact ratings did not differ across negative, and positive events (see Table 5), or across women and men. As noted, one can expect that impact ratings would be correlated, albeit not strongly, with spontaneous references to meaning making made in the written descriptions. Impact ratings were positively correlated with spontaneous references to meaning making for positive events, but not with spontaneous references to meaning making for negative events. Correlations are reported in Tables 6 and 7. Finally, it was argued earlier that impact ratings are not ratings of the affective intensity (i.e., positivity or negativity) of events, as can be assessed from observer ratings. In line with this view, participants' impact ratings were not correlated with the event valence ratings obtained from observers (as noted in Tables 6 and 7). As well, participants' impact ratings for negative events were positively correlated with both their current and recalled *positive* emotion. Participants' impact ratings for positive events were positively correlated with their recalled *negative* emotion.

For negative events, a MANCOVA was conducted with Time (recalled and current) entered as the within-subject factor, the ten emotion ratings entered as dependent variables, and the mean impact rating for negative events entered as a covariate. Impact ratings met the criteria stipulated by Tabachnick and Fidell (1996) for the selection of covariates for a MANCOVA analysis. Specifically, as reported in Table 6, impact ratings were positively correlated with recalled negative emotions, recalled positive emotions, and current positive emotions. Impact was a significant covariate, $F(10, 63) = 5.49$, $p < .01$, $\eta^2 = .47$. With the introduction of impact as a covariate, the time effect was no longer significant, $F(10, 63) = 1.44$, $p = .18$. These findings indicate that subjective

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impact ratings account for the pattern of current and recalled emotions for negative self-defining events.

As with negative events, a MANCOVA for positive events was conducted with Time (recalled and current) as the within-subject factor, the ten emotion ratings entered as dependent variables, and the mean rating of impact for positive events entered as a covariate. As reported in Table 7, impact ratings were positively correlated with recalled negative emotions, recalled positive emotions, and current positive emotions. Impact was a significant covariate, $F(10, 57) = 4.06$, $p < .01$, $\eta^2 = .42$. With the introduction of impact as a covariate, the time effect was no longer significant, $F(10, 57) < 1$. These findings indicate that subjective impact ratings account for the pattern of current and recalled emotions for positive self-defining events.

Analyses controlling for references to meaning making in written descriptions. As just demonstrated, impact ratings account for the pattern of current and recalled emotions for self-defining memories. Alternatively, one might argue that the other index of meaning making obtained in the present research can similarly account for patterns of emotion. To address this, the amount of meaning making in the written descriptions for positive and negative events was entered as a covariate in the analyses of current and recalled emotions. For negative events, a MANCOVA analysis was conducted with Time (recalled and current) as the within-subject factor, the ten emotion ratings entered as dependent variables, and number of references to meaning making (for negative events) as covariate. Meaning making was not a significant covariate, $F(10, 63) < 1$. For positive events, a parallel analysis was conducted. Meaning making was a marginally significant covariate, $F(10, 57) = 1.79$, $p < .08$, $\eta^2 = .23$, but did not account for the effect of Time.

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As such, substituting spontaneous references to meaning making in the written descriptions for the impact ratings did not lead to parallel results in the MANCOVA.

Memory Characteristics

The means for the memory characteristics for negative and positive events are presented in Table 5. Gender differences that emerged are noted below. Overall, negative events were described in more words than positive events, t (66) = -2.33, $p < .05$, and positive events were more recent than negative events, t (64) = 2.24, $p < .05$.

Event type and valence. The 19 categories for self-defining events are listed in Table 4. Valence ratings were obtained from a separate sample of psychology graduate students. The valence score assigned to each of the 19 categories of events recalled by participants was the mean of the valence ratings obtained from the observers. These mean valence ratings are in Table 4. Each of the 380 events recalled by participants was classified as either positive or negative based on their corresponding category valence scores. Sixty-seven participants reported both positive and negative events, seven participants reported only negative events, and two participants reported only positive events. Overall, participants reported more negative events ($M = 2.76$, $SD = 1.18$) than positive events ($M = 2.07$, $SD = 1.18$), t (75) = 2.65, $p < .01$.

Gender differences also emerged. Overall, women ($M = 3.13$, $SD = 1.14$) reported more negative events than men ($M = 2.39$, $SD = 1.10$), t (74) = 2.86, $p < .01$. The gender difference was notable in the highest frequency categories (> 5%) of negative events. Women recalled 41, 10, and 15 events concerning interpersonal conflict, death, and disappointment in self, respectively. For men, the corresponding frequencies were 22, 12, and 5. Gender differences were generally less notable in the low frequency categories.[10]

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For each participant, a mean valence rating was calculated separately for negative and positive events. For negative events, the mean valence rating was calculated for each participant by dividing the sum of the valence scores for the negative events by the total number of negative events reported. Parallel calculations were conducted for positive events.

Spontaneous References to Meaning Making in Written Descriptions. For each participant, a mean meaning making score was calculated separately for negative and positive events. For negative events, a mean meaning making score was calculated for each participant by dividing the number of the negative event descriptions that included meaning making by the total number of negative events reported. A mean was calculated in a parallel manner for positive events. As reported in Table 5, positive events included more references to meaning making than negative events. Even though there was a significant difference in meaning making across positive and negative events, across participants the amount of meaning making for positive events was positively correlated with that for negative events, $r(67) = .42, p < .01$. Unexpectedly, gender differences emerged for spontaneous references to meaning making, in that women gave more evidence of meaning making than men in their written descriptions. Women's negative memories included more references to meaning making ($M = .50, SD = .35$) than men's negative memories ($M = .27, SD = .33$), $t(71) = 2.86, p < .01$. Similarly, women's positive memories included more references to meaning making ($M = .65, SD = .41$) than men's positive memories ($M = .33, SD = .40$), $t(65) = 3.34, p < .05$.

To consider the meaning making for different types of events, the 19 event categories in Table 4 were collapsed into six general categories. The six general

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categories are generally analogous to those of Thorne et al. (2004), with the exception of maintaining the distinction between negative and positive events. There were 3 general categories for negative events: (a) conflicted relationships (items 1, 11, and 12), (b) failure (items 3, 4, and 6), and (c) threat (items 2, 5, 7, 8, 9, 10, and 13). There were 3 general categories for positive events: (a) achievement (items 16, 17, and 18), (b) positive relationship (item 14), and (c) and recreation (item 15). For the 3 general negative event categories, the percentage of memories that contained references to meaning were 52%, 40% and 24% for conflicted relationships, failure, and threat, respectively. For the 3 general positive event categories, the percentages were 51%, 49%, and 43% for achievement, recreation, and positive relationships, respectively.

References to emotion. The calculations for the number of references to emotions was conducted separately for negative and positive events. For negative events, the mean score for negative emotions was calculated for each participant by dividing the sum of the references to negative emotions across the negative events by the total number of negative events reported. Parallel calculations for positive emotions were conducted for negative events. Corresponding calculations were conducted to derive means for the positive events. As shown in Table 5, there were more references to negative emotions and fewer references to positive emotions for negative relative to positive self-defining memories. As well, gender differences emerged for references to emotions for both negative and positive events. Women referred to more negative emotions ($M = 2.24$, $SD = 1.58$) than did men ($M = 1.27$, $SD = .96$), $t (71) = 3.17$, $p < .05$, for negative events. As well, women ($M = 1.35$, $SD = 1.08$) referred to more positive emotions than did men ($M = .81$, $SD = .78$), $t (65) = 2.36$, $p < .05$, for positive events.

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Specificity. For negative events, a mean specificity score was calculated for each participant by dividing the number of the specific negative events by the total number of negative events reported. A parallel calculation was conducted for positive events. As noted in Table 5, there was no significant difference in the specificity of negative and positive self-defining memories.

General Discussion

The present studies brought to bear a novel perspective on the meaning making that occurs for self-defining memories, and the consequences of such meaning making for the patterns of current and recalled emotions people have for these memories. The second study involved participants completing a face valid, self-report measure on meaning making for self-defining memories. What emerged was that a one item rating of the impact the event had had on them was a good index of the amount of meaning making that had occurred, at least as reported on the meaning making questionnaire used in Study 2. The items of the meaning making questionnaire (with the exception of the one on time spent thinking about the meaning of the event) were all contemporaneous in nature. Participants were asked to report their current views on how much the event had had an impact on them, and how much they had learned about life in general and themselves in particular. They reported on how much they currently think about the impact of the event, and how much they felt they had grown as a consequence of the event. As such, the measure was for the most part *not* retrospective in nature, and so is not subject to the various biases that may be evident in autobiographical memory (Neisser & Fivush, 1994). As well, people may have difficulty reporting on the content of their earlier thoughts. Research on autobiographical memory suggests that people have

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poor memory for thought content (Brewer, 1988). Indeed, concerns might be raised if we would have attempted to assess meaning making in Study 2 by asking participants to report retrospectively on the frequency (in the past month, for example) of specific thoughts, such as thoughts about how the event relates to their feelings about their family, about their work or schooling, and so on. The issue of item specificity underscores another feature of Study 2. Participants were not asked to report on the actual nature of their meaning making. The questionnaire items in Study 2 did not go beyond general references to impact, growth, insight, learning, and meaning making. The high correlation of the impact item with the other meaning making items indicated that this item could be used on its own to assess individuals' judgments of the perceived impact of particular recollected events in their lives.

In the third study, participants also rated the subjective impact that self-defining events had had on them, and these ratings accounted for the pattern of current and recalled emotions that participants reported for these memories. That participants' current feelings about negative events were less negative (e.g., less anger) and more positive (e.g., more happiness) was accounted for by their ratings of the impact of these negative events. And similarly, the finding that participants' current feelings about positive events were equally positive and less negative was accounted for by their impact ratings. That impact ratings could account for these results highlights the fact that impact ratings do not reflect the sheer affective intensity of the event, as might be reported by observers. Indeed, impact ratings were not significantly correlated with the observer ratings of the valence of the self-defining memories reported in Study 3. In contrast, participants' impact ratings were correlated with their reported emotions in ways that seem to reflect

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meaning making. For negative events, greater reported impact was *positively* correlated with current and recalled positive emotions. For positive events, greater reported impact was *positively* correlated with recalled negative emotions. Impact ratings were important here in the context of self-defining memories, but have not been shown to be significant for other types of memories. Specifically, studies on flashbulb memories (Pillemer, 1984) and college memories (Pillemer et al., 1988) showed little association between how people recall feeling at the time of a past event and how much impact they view that event as having had on them.

What remains unclear from impact ratings is the actual nature of the meaning making that people might engage in for self-defining events. To complement these ratings, and to allow for comparisons with prior research, participants' written descriptions of self-defining events were coded for spontaneous references to meaning making. This latter approach is the one that has been used in prior research on self-defining memories (e.g., Blagov and Singer, 2004). What is noteworthy is that impact ratings were not highly correlated with these spontaneous references to meaning making. For positive events, the correlation was significant, but only .29. For negative events, the correlation was not even significant. This weak association is understandable, as many factors likely come into play in determining the likelihood of spontaneous references to meaning making. As such, impact ratings provide a measure of meaning making that is quite distinct from that obtained from coding spontaneous references to meaning making. In general, researchers may benefit in the future by assessing meaning making in both ways. As well, one might argue that a third route may be followed. People may be explicitly asked to report on the nature of the meaning making that they have engaged in,

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such as in terms of lessons learned or insights gained. Caution is in order, however, as this type of instruction has been shown to inflate impact ratings (Wood & Conway, 2004). That is, instructions to provide written descriptions of meaning making may elicit novel elaborations that increase the subjective impact of events.

Despite the weak relation between impact ratings and spontaneous references to meaning making, indications are that participants in the present studies engaged in the same type of meaning making as has been observed in prior research on self-defining memories. Indeed, the coding categories used here for spontaneous references to meaning making in Study 3 were based on those of earlier research on self-defining memories (Blagov & Singer, 2004; Thorne & McLean, 2002). For example, explicit references to lessons learned and insights gained were coded. Nevertheless, meaning making was coded here in a manner different from what was done in earlier research, by also taking into account implicit references to meaning making. These implicit references acknowledged the significance or importance of the event in people's lives, without explaining this importance.

This difference in coding may account for the overall higher rates of meaning making found in the written descriptions in Study 3 relative to those reported by Thorne et al. (2004). What the difference in coding does not account for is that there were more spontaneous references to meaning making coded in Study 3 for positive than for negative self-defining events. In the Thorne et al. (2004) research, there was virtually no meaning making coded for positive self-defining memories. Nevertheless, the present difference between positive and negative self-defining events was particularly due to a low amount of meaning making for negative self-defining events involving threat (e.g.,

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physical assault of self). Other types of negative and positive self-defining memories in Study 3 included higher, and similar amounts of references to meaning making (in the range of 40-50%). In contrast, Thorne et al. (2004) found that threat-related self-defining memories included as much or more meaning making as other types in the written descriptions. Finally, the overall higher rates of meaning making found in the written descriptions in Study 3 relative to those reported by Thorne et al. (2004) could also be due to the age difference between samples. Participants in Study 3, with a mean age of 26.26 years, are on average over 6 years older than the individuals who participated in the Thorne et al. (2004) research. One might expect more meaning making from older individuals, at least in the context of young adulthood. It is also possible that their older age may have allowed them to put some of the physical threat memories in greater perspective and reduced the novelty and effort to make sense of these particular life events.

The meaning making that a person engages in for a particular self-defining event is clearly linked in a fundamental way with the particular life experiences of that individual, and with that individual's personality. For example, having successfully saved to make a down payment on a house may be a very significant event for a person who has spent frivolously for years. For another person, this saving may be routine. Self-defining memories are situated in a context of a life narrative, and vary a great deal across individuals. The self-defining events described by participants in Study 3 covered a wide range of life experiences that involve the self or close others. Some of the events were quite extreme, and were rated as such by the independent observers. These included being subjected to physical assault, or experiencing the death of a close other, either by

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illness, murder, or suicide. On the positive side, some very positive events were falling in love, or certain forms of recreation or experimentation such as travel. Yet not all self-defining events are emotionally intense, at least from an observer's perspective. For example, some negative self-defining events included losing possessions and failing a course, whereas some positive self-defining events included helping a vagrant and saving money for a purchase. The present findings underscore the importance of allowing people free rein in specifying what is of personal significance to them.

Gender differences

The predicted results of Study 3 for impact ratings and patterns of current and recalled emotion were observed for both women and men. Furthermore, there were no gender differences on impact ratings or on rated emotions, just as there were no differences on impact ratings in Study 2. Yet gender differences emerged in the present studies for other measures. In the first study, women and men did not differ on impact ratings, but women did report more meaning making than men in response to the other meaning making self-report items. In the second study, women and men again did not differ on impact ratings, but women's written descriptions of self-defining memories included more references to meaning making compared to men. The latter difference emerged even as there was no significant gender difference in the number of words women and men wrote to describe their self-defining events. As such, the fact that women's written descriptions include more references to meaning making cannot be explained by a general tendency for women to describe autobiographical events in more elaborate terms (see Fivush, 1998, for a review of relevant research).

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In contrast to the present findings, no gender differences in meaning making have emerged in prior research on autobiographical memory narratives (e.g., McLean & Thorne, 2003). It remains unclear how to explain this discrepancy between the current observed gender differences and their absence in earlier research. Yet it bears repeating that no gender differences were observed in either Study 2 or 3 on subjective impact ratings. This absence of a gender difference for impact ratings may be due to the fact that the item assessing perceived impact (i.e., "This past event has had a big impact on me") did not refer to self-reflection, whereas the other items assessing meaning making in Study 2 did so. Prior research indicates that women are more likely than men to report that they reflect upon the self (Csank & Conway, M., 2004), and more generally research findings suggest that women may be higher than men in private self-consciousness (which involves reflecting upon the self; see Csank & Conway, M., 2004, for a review).

Women also included more references to emotions than did men in their descriptions of self-defining memories in Study 3. The finding is consistent with prior research on gender differences in autobiographical memory: women refer to more emotions in their memory descriptions compared to men (Bauer, Stennes, & Haight, 2003; Niedzwienska, 2003; see Fivush & Buckner, 2003 for a review). Despite the fact that women included more references to emotions than men in their descriptions of self-defining events, no gender differences emerged in the emotion *ratings* that provided the data to test the hypotheses of Study 3. Recall that participants in Study 3 indicated their current and recalled emotions in terms of 10 specific emotions (including shame and love, for example). The specific nature of the emotion ratings may have precluded gender differences, as such differences are more likely to emerge on more general emotion

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ratings (Lafrance & Banaji, 1992; in this regard, it is interesting to note that Pillemer, Rhinehart, and White [1986] found that women reported experiencing more intense emotion at the time of significant life events compared to men, but identified this difference on a general emotion rating). Another reason that gender differences may not have emerged on participants' emotion ratings in Study 3 is that there were a wide variety of events recalled by participants, and gender differences in emotion may be more apparent for particular emotions felt in the context of particular types of events. For example, studies suggest that women experience more anger than men specifically in the context of interpersonal relationships (Kring, 2000). Study 3 did not lend itself to addressing this type of question. An analysis of gender and emotion with respect to memory content was not conducted given the type of research design employed (i.e., a within-subject design), and the unequal number of memories in each content category.

Limitations

One possible criticism of the current study is that people completed a questionnaire assessing their recalled emotions followed by a questionnaire assessing their current emotions. One could argue that this methodology may lead participants to feel that they are expected to report different levels of emotional intensity for recalled and current emotions. However, the findings do not reflect this expectation given that differences between recalled and current emotions did not emerge for all of the emotions assessed. Specifically, for negative self-defining memories there were no differences between recalled and current feelings of love, and for positive self-defining memories there were no differences between recalled and current feelings of happiness, love, or pride.

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Conclusion

People construct life narratives in order to maintain an ongoing sense of unified and purposeful identity. These life narratives are punctuated by particular life events that were assigned high levels of subjective impact and meaning. In the current set of studies, despite the fact that a very wide range of events and experiences was reported by participants as being self-defining, a systematic pattern of benefaction was found for the emotions associated with these self-defining memories. This benefaction pattern was accounted for by individuals' ratings of subjective impact of the recalled events. These findings suggest that healthy individuals work to build a positive narrative identity that will yield an overall optimistic tone to the most important recalled events from their life. As individuals recall these highly significant life events, they will tend to see them as leading toward more positive emotion and less negative emotion over time. In the active process of narrative identity development over the life course, people strive to maintain a positive and coherent sense of self in the face of a wide range of life adversity and opportunity.

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Chapter 4

Summary and Conclusions

Contributions to the literature

The contribution of the findings to current research on the functions of autobiographical memories, and self-defining memories are considered in turn, followed by a discussion of future research.

Functions of Autobiographical Memory

Autobiographical functions are self-related, social, and directive in nature. The current research provides a framework for better understanding the nature of the recalled memories that serve these functions. Specifically, the findings from Study 1 indicate that the specific emotion associated with an event influences whether that event is likely to be called on to serve a particular function. Some functions are primarily associated with one specific type of emotional event. For example, people primarily call on angry events to get a point across, and shameful events to make decisions. For other functions, two or more emotional events proved to be of equal importance. For example, people called on both sad and loving events to remember close others who are no longer a part of their lives. For teaching others, people called on a range of positive and negative events equally.

For certain functions, the valence of the event in question (i.e., positive or negative) proved to be more important than the specific emotion associated with an event. For example, people called on positive emotional memories (i.e., happiness, pride and love) to serve most self-related functions, including impressing others. Prior research indicates that people are concerned about, and aware of, the impressions that they make on other people (Leary & Kowalski, 1990). People describe their typical daily affect as positive in nature and view such affect as normative (Sommers, 1984). As such, it

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follows that the memories people recall in the service of impressing others are positive in nature, as opposed to negative. Positive events also served the self-related functions of making oneself feel competent and improving mood. Interestingly, the function of self-definition stands apart from these self-related functions. People reported that they called equally on both positive and negative events in the service of self-definition. The findings in Study 3 parallel those in Study 1 in that people reported both positive and negative self-defining memories. Study 3 further clarifies the nature of self-defining memories. Specifically, regardless of whether people call on positive or negative memories to serve self-definitional purposes, they feel less negative and more positive about these events now, compared to how they recall feeling at the time. Thus, the events that people select to serve self-definitional purposes are viewed in the best possible light, even those events that are associated with negative affect.

In Study 1, 13 functions were examined, whereas in Study 3 the focus was on the function of self-definition. There may be other functions of autobiographical memory than those examined here. As previously mentioned, there are functions of autobiographical memory that have yet to be identified by autobiographical memory or reminiscence researchers. For example, in the self-disclosure literature it has been shown that people recall events as a means of controlling others (Derlega & Grzelak, 1979). People may also call on past negative memories (e.g., embarrassing events) as a means of attacking others or portraying others in a negative light. Given the complexity of social communication and social interaction, it is difficult to generate an exhaustive list of functions for autobiographical memory. The present research addresses the main functions of autobiographical memory, as these have been identified in prior research (see

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Bluck, 2003, for a review).

Self-defining memories

The current research presents a new methodology for measuring meaning making in the context of self-defining events. As shown in Study 2, a one item rating of the impact an event has had on a person is a good index of the amount of meaning making that had occurred. In prior research on self-defining memories, meaning making has been examined by coding spontaneous references to meaning making in people's memory descriptions (e.g., Thorne & McLean, 2002). As previously discussed, there are many reasons why people would not spontaneously include references to meaning making when asked to describe self-defining events. Thus relying on spontaneous references to meaning making is likely underestimating the amount of meaning making that people engage in. The novel method presented here (i.e., asking people how much impact an event has had on them) is easy to adopt and can provide an alternative measure of meaning making for self-defining events. It should be noted that Study 2 examined how the subjective impact of events relates to general references to impact, growth, insight, and learning. Thus, future research may determine, more specifically, the types of meaning making that are best represented in judgments of subjective impact.

The present research sheds light on the nature of the emotions associated with self-defining memories. The results from Study 1 indicate that when people are asked to report on a wide range of emotional events, they perceive many of those events as self-definitional. Study 3 provides a different perspective on the emotions associated with self-defining memories. In contrast to Study 1, participants in Study 3 were asked to recall events that they perceive as self-definitional. The findings highlight the emotional

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complexity of self-defining events: regardless of whether people view their self-defining memories as positive or negative overall, these memories are typically associated with a range of both positive and negative emotions. This finding parallels prior research on self-defining events (Singer & Moffitt, 1991-1992). That said, the present findings showed that, overall, negative self-defining events are primarily associated with much higher levels of negative affect than positive affect. Similarly, positive self-defining events are primarily associated with much higher levels of positive affect than negative affect.

In Studies 1 and 3, parallel findings emerged with respect to emotions and self-defining memories. Specifically, the results in both studies indicate that people call on a range of positive and negative events to serve the purpose of self-definition. The parallel findings across Studies 1 and 3 are interesting given the different methodologies that were employed. Specifically, in Study 1 participants were asked to recall *important* events from their lives, each event associated with a different emotion, and then they were asked to report the functions those events served during one recall episode. In contrast, in Study 3 participants were asked to recall *self-defining* events without specification of the emotional content of those events. The convergence of findings raises the question of whether, conceptually speaking, there are differences between *important* memories and *self-defining* memories. Singer and Moffitt's (1991-1992) research indicates that self-defining memories are rated as more important than other types of autobiographical events. However, importance is only one of several criteria that distinguish self-defining memories from other types of memories. For example, self-defining memories are rated as more vivid than other autobiographical events (Singer &

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Moffitt, 1991-1992). It is also argued that self-defining memories represent characteristic interests, motives, and concerns of individuals and that such events are repeatedly recalled (Singer & Salovey, 1996). Self-defining memories are also linked to individuals' current concerns or goals, or unresolved conflicts. Thus, importance is a necessary, but not sufficient feature of self-defining memories. What researchers have yet to address is whether important memories are necessarily self-definitional in nature. Arguably, the extent to which important events in people's lives are viewed as self-definitional varies considerably. For example, if a woman is informed that her parents are separating, she would presumably view the event as important. However, the degree to which she views that event as self-definitional may vary depending on her own values, attitudes, and life circumstances. For example, her parents' separation may provide a lesson in relationships, and guide her in her own selection of a partner. In this case, she may later reflect on her parents' divorce as a self-defining event given that the event has had a significant impact on her own life. However, if she is in an established and committed relationship, she may view the separation as important, but not necessarily self-definitional, given that the event did not influence her sense of self. Thus, self-defining memories, by definition, are important memories. However, important memories are not necessarily considered self-definitional in nature.

In Study 1, embarrassing events were the least likely of all of the emotional events to be called on to serve the function of self-definition. It is not surprising that people are less likely to call on embarrassing events in the service of self-definition, as embarrassment, unlike guilt and shame, is less likely to have a major impact on an individual's sense of self. However, this notion is challenged by the results that emerged

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for embarrassment in Study 3. Specifically, when people reported their feelings (current and recalled) about their self-defining memories, embarrassment did not stand apart from guilt and shame (see Figure 1). It is unclear why, in this study, embarrassment emerged as an emotion associated with self-defining memories. The finding may be explained by the emotional complexity of self-defining events. Specifically, self-defining memories are associated with a range of positive and negative emotions. As such, people may associate their self-defining events with embarrassment, but embarrassment may not be considered the primary emotion associated with these memories. Perhaps people assume that when they feel shame and guilt, they also feel embarrassed (although, given the nature of these emotions, the opposite may not be assumed).

The findings in Study 3 did not distinguish embarrassment from guilt and shame. However, the results for certain functions in Study 1 highlighted the distinctions between these emotions. Specifically, people reported that they were more likely to call on embarrassing events, along with positive events, to serve the functions of passing the time and making conversation than other negative events. This finding makes sense in light of prior research comparing embarrassment, on the one hand, to guilt and shame, on the other hand. Specifically, embarrassment, relative to guilt and shame, is more likely to be elicited in trivial situations that involve an audience (Tangney et al., 1996). Compared to embarrassing events, guilty and shameful events typically elicit strong negative feelings about the self. In the case of shame, these negative attributions are generally global in nature. As such, people may be more open talking about embarrassing events with others given that embarrassment is not an emotion that highlights very negative aspects of the self.

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The findings also highlight the distinctions between shame and guilt. Although guilty events were not particularly called upon, shameful events stood out as more important than events associated with three other emotions in the service of making decisions (Study 1). Given that shame and guilt have been described as similar emotions, it is unclear why people would call on shameful events and not guilty events to serve this function. Prior research indicates that there are subtle, yet important distinctions between guilt and shame: guilt is the desire to undo a past action whereas shame leads to global feelings about oneself as generally defective (Lewis, 1971, 1992; Tangney, 2003). Given that shame is a more painful emotion than guilt, people may be focused on making decisions that aim to avoid shameful feelings more so than guilty feelings.

Self-defining memories and the life narrative. The current findings provide a better understanding of the role that self-defining memories play in the context of the life narrative. McAdams (1985, 1987, 1998, 2001) has argued that identity is developed in the form of a story, which consists of a setting, scenes, characters, themes, and a plot. This internalized story evolves over time and is a key component of what constitutes the unique characteristics of an individual. Not all autobiographical memories are part of the life narrative. Rather, as McAdams (2001) has noted, people are more likely to integrate self-defining memories (i.e., affectively charged, vivid memories that are related to important and unresolved themes in people's lives) into their life narratives over other types of memories. Life narratives are typically described in ways that imply an evolution from negative to positive outcomes as opposed to vice versa (McAdam et al., 2001). Such findings can be compared to those that emerged in the current research. Specifically, making meaning for past events allows people to minimize the negative aspects, and

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capitalize on the positive aspects, of their negative and positive self-defining events. As a result, viewing even tragic events in the best possible light may ease the process of incorporating such events into the life narrative. It is also important to note, however, that there may be very traumatic events in people's lives that are not amenable to meaning making or to the pattern of benefaction for recalled and current emotions illustrated in the current study. Holocaust survivors, for instance, may have difficulty making meaning from their experience. Take Primo Levi, a holocaust survivor, as an example: although it is unclear why he committed suicide, one hypothesis is that he never psychologically recovered from his experience living in a concentration camp (Angier, 2002). Perhaps it is difficult to extract lessons or gain insight from such extreme experiences.

It is important to note that while self-defining memories, and more broadly speaking, the life narrative, are an important part of a person's identity, some theorists have described aspects of identity that do not involve memory or narrative. For example, Neisser (1988) describes memory as only one of five aspects of self-knowledge. He argues that identity is also tied to other variables such as the interpersonal self (e.g., I am the person who is here engaging in this interaction) and the private self (e.g., I am the only one who can feel this pain). Further, he argues that these aspects of the self are interrelated and contribute to a sense of continuity over time. Given the interrelated nature of these aspects, impairment in one type of self-knowledge would likely impact other types of self-knowledge.

The relation of autobiographical memory to identity has been examined in individuals who have experienced memory loss. Case studies of individuals with profound retrograde and anterograde amnesia indicate that people with impaired memory

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retain certain knowledge about themselves, such as autobiographical facts (e.g., I was born in Montreal) and personality characteristics (Cermak & O'Connor, 1983). In addition, people's sense of their personality characteristics does not rely on them remembering events in which such characteristics were salient (Kihlstrom, Beer, & Klein, 2003). Amnesiacs are also able to retain a sense of self through their likes and dislikes (e.g., cooking or fishing) and such individuals will often plan their lives around such activities (Cermak & O'Connor, 1983). People with memory loss may even be able to recall important life events (e.g., a man may recall attending his son's wedding), but will describe such events in vague and unsubstantiated terms (Hirst, 1994). Despite amnesiacs difficulty remembering the details of past events, they are still able to rebuild their life narratives. For example, the amnesiacs studied by Hirst (1994) were able to integrate themes of loss (e.g., divorce, unemployment and loss of autonomy) into their life narratives after the onset of their amnesia. Thus, although memory loss may be argued to have a profound impact on a person's sense of self, personality characteristics, autobiographical facts, and the ability to reconstruct the life narrative allows people who have experienced memory loss to maintain some semblance of identity.

It is important to acknowledge that self-defining memories are, by definition, events that are self-selected (McAdams, 2001). Self-defining memories are important in that they provide insight into how people define themselves, but it is likely that there are other formative events in people's lives that they may never construe as self-definitional. For example, people may deny, repress, or fail to acknowledge life events that are associated with shameful feelings (Lewis, 1992). In addition, there may be formative experiences that people are unable to recall. For example, research indicates that people

have difficulty recalling memories from the first three years of life (Pillemer & White, 1989). It is likely that events that occur during this period of life contribute to the shaping of identity. Thus, people's self-defining memories, while important, are not exhaustive in terms of the life experiences that may contribute to the formation of one's sense of self.

One question not addressed in the current research is whether self-defining memories are accurate representations of the events as they occurred at the time. There is considerable controversy over whether events, especially salient and emotional events in people's lives, are accurately recalled. Consider examples of relevant research. Some research indicates that highly emotional memories involving sexual abuse are recalled with relative accuracy (Alexander et al., 2005). Other research suggests that the central details of highly emotional events are recalled with more accuracy than peripheral details (see Christianson, 1992, for a review). Many factors influence memory accuracy, including the passage of time, exposure to additional events, the personal importance of events, and repeated rehearsal (see Roediger III & Marsh, 2003 for a review). It is very difficult, if not impossible, to measure the accuracy of self-defining events, given that self-defining events are likely not defined as such until well after an event has occurred. However, it is important to note that the validity of self-defining memories is not contingent on whether those memories are accurate representations of the original events. More specifically, self-defining memories are personally chosen and subjectively viewed as defining the self, and thus accuracy is of no concern to autobiographical memory researchers. Although accuracy is not a major concern to those who study self-defining memories, it should be noted that people likely to want to believe that their self-defining memories are accurate. This distinction between people's own sense of accuracy and

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actual accuracy is a common one made for autobiographical memory (Spence, 1982), as it is made for social cognition more generally (Heider, 1958).

One could argue that the findings from Study 3, with respect to current and recalled emotions, could be interpreted as a general pattern that may occur for any recalled event, even for memories that involve mundane events in people's lives. Prior research does support an attenuation effect with respect to how people felt at the time of everyday events, compared to how they currently feel about those events (Walker et al., 1997). However, the findings in Study 3 suggest that impact can account for the pattern of current and recalled emotions for self-defining memories. In contrast, it is unlikely that impact would account for such patterns in everyday events, given that such events are unlikely to have a major impact on people's lives.

Future Research

Gender. Gender was considered in the current program of research. Gender differences emerged with respect to the valence of the self-defining events recalled, references to emotions in self-defining memory descriptions, and meaning making. Specifically, in Study 3 women relative to men recalled more negative self-defining events, made more references to negative and positive emotion terms in their self-defining memory descriptions, made more spontaneous references to meaning making in their self-defining memory descriptions, and reported engaging in more meaning making for their self-defining events. There were no gender differences with respect to emotional memories and functions in Study 1, or the impact of self-defining events or emotion ratings of self-defining events in Study 3. It is interesting to note that while no gender differences emerged with respect to ratings of emotional intensity, gender differences did

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emerge with respect to references to emotions in memory descriptions. The latter finding is consistent with prior research on autobiographical memory (Niedzwienska, 2003). With respect to emotion ratings, one might have expected women to report more intense emotions given that, on global self-report measures, women report more intense emotionality than men overall (Brody, 2000). However, other research suggests that when specific emotions are considered (as was the case in the current study) gender differences are less apparent (Lafrance & Banaji, 1992). Furthermore, when gender differences do emerge, they tend to be context specific. For example, studies suggest that women experience more anger than men specifically in the context of interpersonal relationships (Kring, 2000). As previously discussed, Study 2 does not lend itself to addressing the question of whether gender differences for specific types of emotions would emerge for different types of memories. Such questions may be addressed in future research. One could ask people to recall specific types of events (e.g., achievement-related events, or positive or negative interpersonal memories) associated with specific emotions. As an example, people could recall important memories involving interpersonal conflicts that led to anger, and rate the emotions associated with the event as well as the extent to which they perceive the event as self-definitional. Such a design would allow for an analysis of gender differences with respect to both memory content and emotion.

Other gender differences than have been shown in the coding described here may emerge in memory narratives. For example, there may be gender differences with respect to themes of agency and communality. Researchers have coded for such themes in prior research on autobiographical memory (McAdams et al., 1996; Woike et al., 1999).

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Age. The participants in the current research were primarily young adults. One could question whether the findings in the present research generalize to other age groups. Age differences in autobiographical memory have been demonstrated in prior research. For example, younger and older adults are generally equal in terms of the frequency with which they report recalling past events, but middle-aged adults reminisce less frequently than both younger and older adults (Hyland & Ackerman, 1988; Merriam & Cross, 1982). While there are age differences in terms of frequency of recall, there is no reason, a priori, to believe that middle aged or older adults, compared to young adults, would recall different types of emotional events to serve different functions. Yet, one could argue that older individuals, compared to younger individuals, have a wider range of life experiences to draw from, and thus perhaps they call on a wider range of emotional events to serve various functions. Age differences may also emerge with respect to the recollection of self-defining memories. Previous research suggests that when middle-aged and older adults recall past events, they recall more events that occurred between the ages of 10 and 30 compared to any other period of their lives (Rubin, Rahhal, & Poon, 1998). This so-called reminiscence bump may apply to self-defining memories given that events that occur during these years tend to be novel (e.g., first job, moving out etc.) and likely influence one's identity. The reminiscence bump has recently been shown to be associated with more positive memories than negative memories (Berntsen & Rubin, 2002; Rubin & Bernsten, 2003). Thus one could argue that if older adults' self-defining memories primarily fall within the reminiscence bump, they may recall more positive than negative self-defining memories. There are other reasons why older adults might recall more positive self-defining memories than younger adults.

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The socio-emotional selectivity theory suggests that older adults' goals tend to orient toward feeling good (Carstensen, Fung, & Charles, 2003). Thus, one might expect that older adults would recall more positive self-defining events to enhance positive affect. In contrast, one could also argue that older adults would be more likely to recall negative as opposed to positive self-defining memories. Research indicates that as people age, they increasingly call on events in the service of preparing for death (Webster, 1995). Early theorists, such as Butler (1963), suggested that this preparation involves resolving intrapsychic conflicts and reconciling familial relationships. In this case, it could be argued that older adults would recall more negative, as opposed to positive, self-defining events in an attempt to come to terms with difficult or adverse life events before they die.

Culture. There is some question as to whether people from different cultures would call on different types of emotional events to serve different functions. The findings from Study 1 provided some support for this notion. Specifically, a range of cultural differences emerged, notably for the Decide, Self-present, Converse, and Reminisce functions. Participants who identified with a cultural group other than white (group 1) reported calling on all of the positive events, and four negative events (i.e., embarrassment, fear, guilt, and sadness) in the service of making decisions, significantly more than those identifying as white (group 2). In addition, group 1 reported calling on sad events to self-present and make conversation, proud and shameful events to reminisce, and happy events to self-define, significantly more than group 2. In contrast, group 2 reported calling on sad events to reminisce, loving events to pass the time, and embarrassing events to bond with others, significantly more than group 1. Such findings are promising in terms of identifying some potentially important cultural differences.

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However, the interpretation of such findings is complex. The analysis involved combining several different cultural groups due to small numbers of individuals identifying with certain cultural groups (e.g., black and Arab). One could argue that the participants who identified as belonging to a cultural group other than white were identifying with cultures that are largely considered collectivistic (Triandis, 1995). However, caution is in order in making such assumptions. Specifically, not only was the non-white group heterogeneous in nature, but other cultural variables, such as assimilation, were not taken into account.

It would be important to consider cultural variables in the future. For example, with respect to self-defining memories, different cultures often have very different notions of the self. How the self is defined may, in turn, impact the types of memories (if any) that people perceive as self-definitional. For example, Buddhists have a different notion of the self than do people from other cultures. The basic tenet of Buddhism is that evil and suffering arise from greed and ambition. Thus, the Buddhist's goal is to disengage from the very idea of the self (Barth, 1997). As a result, Buddhists may refrain from defining the self. In contrast, in other cultures where individualism is stressed, defining the self through memory and narrative may be encouraged.

Conclusion

People recall autobiographical memories to serve a wide range of self-related, social, and directive functions. The present findings highlight the importance of better understanding the nature of the memories that are recalled to serve these functions. Specifically, the specific emotion associated with an event was shown to be an important indicator of whether that event is called on to serve a particular function. Further, the

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results shed light on the emotional nature of memories that serve self-definitional purposes. People call on both positive and negative memories to define who they are, but strive to view those events in the best possible light through the process of meaning making. Viewing self-defining memories in this way may allow people to maintain a positive and coherent sense of self, regardless of the types of events they are faced with during their lives.

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Figure 1
Recalled and current emotion ratings for positive and negative self-defining memories

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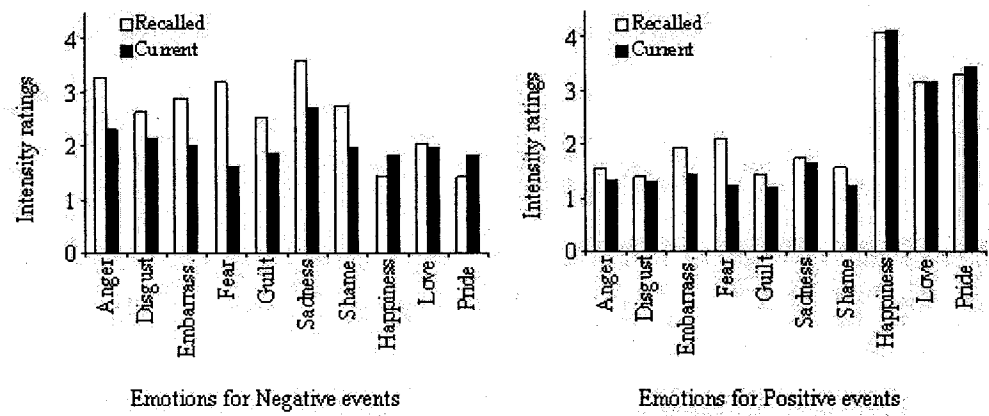
Table 1

Items on the function questionnaire

Function	Item
Bond	...to bring me close to others by telling them about myself
Benefit	...to make someone else feel good
Converse	...to make conversation
Decide	...to help me decide what to do in a situation
Occupy	...to pass the time
Persuade	...to get a point across
Reminisce	...to remember people I was close to but who are no longer a part of my life
Ruminate	...to review upsetting or distressing events
Self-define	...because remembering my past helps me define who I am
Self-enhance	...to make me feel more competent
Self-present	...to make myself look good
Teach	...to teach or inform someone of something I know
Uplift	...to make me feel better

Table 2

Means, differences for pairwise comparisons, and F values for each function

Functions		Emotional Events									F
		Proud	Happy	Loving	Fearful	Sad	Angry	Shameful	Guilty	Embarrassed	
Self-present	(M)	3.08_a	2.58_{bc}	1.96_{bde}	1.44_{bdf}	1.27_{bdf}	1.38_{bdf}	1.27_{bdf}	1.27_{bdf}	1.27_{bdf}	89.14*
	(SD)	1.47	1.38	1.24	.88	.60	.79	.63	.71	.67	
Self-enhance	(M)	3.48_a	2.94_b	2.11_c	1.74_{df}	1.49_e	1.71_{ef}	1.57_{ef}	1.31_{eg}	1.30_{eg}	93.93*
	(SD)	1.43	1.45	1.29	1.21	.92	1.08	.94	.71	.67	
Uplift	(M)	3.24_a	3.21_a	3.27_a	2.01_{bc}	1.95_{bc}	1.95_b	1.89_b	1.72_b	1.54_{bd}	55.86*
	(SD)	1.29	1.34	1.38	1.29	1.31	1.26	1.24	1.22	.90	
Occupy	(M)	1.80_a	1.96_{ac}	1.94_{ac}	1.66	1.42_b	1.50_b	1.46_b	1.53_d	1.94_{ac}	9.47*
	(SD)	.96	1.23	1.13	1.01	.80	.86	.91	.98	1.18	
Converse	(M)	2.30_a	2.33_a	1.87_{be}	2.02_c	1.61_{bd}	1.83_b	1.49_{bdf}	1.64_{bd}	2.14_c	13.51*
	(SD)	1.27	1.35	1.13	1.24	.95	1.13	.84	1.08	1.25	
Bond	(M)	2.52_a	2.44_c	2.41	2.06_b	2.16	2.06_b	1.95_{bd}	2.00	2.17	4.50*
	(SD)	1.36	1.36	1.43	1.35	1.32	1.29	1.30	1.33	1.32	
Benefit	(M)	1.77	1.88_c	1.99_a	1.67	1.53_b	1.48_{bd}	1.64	1.39_{bdf}	1.83_e	5.11*
	(SD)	1.19	1.16	1.35	1.11	.98	.86	1.07	.83	1.16	

Table 2 (Continued)

Functions		Proud	Happy	Loving	Fearful	Sad	Angry	Shameful	Guilty	Embarrassed	F
										Emotional Events	
Teach	(M)	2.39_a	2.38_a	1.92	2.32_a	1.94	2.32_a	1.97	1.73_b	1.80_b	6.68*
	(SD)	1.41	1.42	1.28	1.41	1.32	1.44	1.29	1.13	1.17	
Self-define	(M)	3.06_a	2.77_c	2.76_e	2.43_b	2.70_e	2.39_{bd}	2.56_{be}	2.35_b	2.15_{bdf}	9.52*
	(SD)	1.48	1.44	1.44	1.47	1.44	1.41	1.37	1.43	1.34	
Ruminate	(M)	1.45_{bdf}	1.55_{bd}	1.80_{bde}	3.06_a	3.20_a	3.00_a	2.93_a	2.79_c	2.49_{bc}	52.42*
	(SD)	.92	.92	1.25	1.40	1.39	1.42	1.40	1.36	1.38	
Persuade	(M)	2.29	2.23_b	2.14_b	2.19_b	2.03_b	2.70_a	2.09_b	2.04_b	2.04_b	4.68*
	(SD)	1.39	1.31	1.35	1.33	1.31	1.49	1.34	1.26	1.26	
Reminisce	(M)	1.70_b	1.70_b	2.37_a	1.57_b	2.74_a	1.74_b	1.76_b	1.68_b	1.48_b	17.76*
	(SD)	1.20	1.23	1.62	1.11	1.77	1.30	1.23	1.17	.99	
Decide	(M)	2.16_b	2.04_b	2.41	2.44	2.31	2.51_c	2.61_a	2.33	2.06_{bd}	4.30*
	(SD)	1.38	1.29	1.49	1.52	1.33	1.43	1.43	1.41	1.29	
Overall	(M)	2.40_a	2.32_b	2.23_c	2.05_{df}	2.03_{ef}	2.04_{ef}	1.94_e	1.83_{eg}	1.86_{eg}	30.99*
	(SD)	.74	.70	.71	.68	.60	.64	.57	.57	.61	

Note: Function ratings are on a 1 to 5 scale with 5 representing greater agreement. For all functions, a-b, c-d, and e-f indicate significant pairwise differences at $p < .05$ with Bonferroni correction, with the exception of Self-enhance where c-d, and e-f do not indicate differences and Overall Means where a-b, c-d, and e-f do not indicate differences. Additional significant differences: Self-enhance: a-c, a-d, a-e, b-c, b-d, b-e, c-e, and f-g, Overall Means: a-c, a-d, a-e, b-d, b-e, c-e, and f-g. Overall means are presented and may differ slightly for each pairwise comparison due to missing values and cases being excluded on a pairwise basis. $*p < .01$.

Table 3

Intercorrelations between ratings of impact and other indicators of meaning making
for self-defining memories in Study 2

Items	1	2	3	4	5	6
1. Impact	—	.53	.59	.49	.62	.52
2. Growth		—	.65	.50	.42	.36
3. Self-insight			—	.67	.46	.42
4. Learning about life				—	.49	.40
5. Current thoughts					—	.63
6. Time thinking						—

Note. Higher values for the items reflect more impact, more growth, and so on. All correlations are significant at p <.001. n = 279.

Table 4

Event categories, valence of event categories, and percentages of memories in each event category in Study 3

Negative events	V	%
1. Interpersonal conflict (e.g., breakups, conflict with bosses, close others, or teachers, divorces)	-2.25	16.6
2. Death (e.g., death of close others by illness, murder, or suicide)	-2.75	5.8
3. Disappointment in self (e.g., for engaging in promiscuous activities, hurting others, shoplifting)	-1.83	5.3
4. Failure in a skill-related domain (e.g., failing a course, getting fired, losing a small business)	-1.92	4.7
5. Physical assault (e.g., being attacked by strangers, familial violence, being mugged)	-2.83	4.5
6. Struggles in skill-related or personal domains (e.g., adjusting to new situations, social anxiety)	-1.17	3.7
7. Various negative events (e.g., being close to a war zone, death of a pet, losing possessions)	-1.92	3.4
8. Accidents, injuries, and illnesses (e.g., bike accidents, burns, car accidents)	-2.33	2.1
9. Accidents, injuries, and illnesses of close others (e.g., falls, heart attacks, suicide attempts)	-2.75	2.1
10. Harassment (e.g., bullying or teasing, peeping toms, racial slurs)	-2.17	2.1

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	V	%
11. Geographic separation from close others (e.g., moving away from close others)	-1.83	1.8
12. Lack of relationships (e.g., an inability to attain or maintain relationships)	-2.17	1.6
13. Sexual assault (e.g., rape)	-2.83	1.1
Positive events	**V**	**%**
14. Positive relationships (e.g., dating, falling in love, marriage, moments with close others)	2.58	14.2
15. Recreation or exploration (e.g., drug experimentation, hobbies, travel experiences, vacations)	2.75	11.3
16. Skill-related achievement (e.g., completing a degree, receiving recognition or an award)	2.33	11.1
17. Attaining a personal goal (e.g. losing weight, obtaining a visa, saving money for a purchase)	2.50	3.7
18. Being a good Samaritan (e.g., caring for a injured cat, helping a vagrant)	1.50	1.1
Unclassifiable[a]	N/A	3.9

Note: V = valence for each category based on observer ratings on a 7-point scale with endpoints -3 (*very negative*) and +3 (*very positive*); % = percentage of memories of each category relative to the total number of events recalled.

[a]These events were either illegible or did not fall into the above categories.

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Table 5

Means for characteristics of negative and positive self-defining memories in Study 3

Characteristics for self-defining memories	Negative self-defining memories (n=74)		Positive self-defining memories (n=68)		t
	M	SD	M	SD	
Age at the time of the event (in years)	15.48	5.6	17.17	6.66	2.24*
Valence	-2.22	0.28	2.51	0.23	112.07**
Negative emotions	1.77	1.4	0.59	0.78	-7.14**
Positive emotions	0.46	0.91	1.06	0.96	3.95**
References to Meaning making	0.39	0.36	0.48	0.43	2.03*
Specificity	0.76	0.34	0.68	0.36	-1.4
Number of words	101.15	36.59	93.98	40.59	-2.33*
Reported frequency of recall	30.27	38.78	23.8	34.07	-0.96
Reported impact on self	3.9	0.77	3.9	0.99	0.16

Note: The n for negative and positive self-defining memories is slightly lower than the overall n because two participants only reported positive events and seven participants only reported negative events; Degrees of freedom varied slightly for the t-tests due to missing data; Valence = mean valence of the events (range for individual events: -2.83 to 2.75, as per Table 2); Negative emotions = mean number of references to negative emotions; Positive emotions = mean number of references to negative emotions; References to meaning making = mean

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meaning making score for memories (0 = no descriptions include meaning making, 1 = all descriptions include meaning making); Specificity = mean specificity score for descriptions (0 = no descriptions are specific, 1 = all descriptions are specific); Number of words = mean number of words per description; Reported frequency of recall = mean number of times each self-defining event was reportedly recalled in the past; Reported impact on self = mean ratings of impact for self-defining events (ratings on a 1 to 5 scale with 5 reflecting higher impact).

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

Table 6

Correlations between coded memory characteristics, and participants' ratings of negative and positive emotions for negative events

	1	2	3	4	5	6	7
1. Valence ratings by observers	−						
2. Reported impact ratings	-.16	−					
3. Meaning making	.12	.20	−				
4. Specificity	-.13	-.19	-.32**	−			
5. Negative emotion ratings (recalled)	-.07	.35**	.08	.04	−		
6. Negative emotion ratings (current)	-.24*	.21	.07	.15	.55**	−	
7. Positive emotion ratings (recalled)	.03	.24*	.09	-.04	-.10	-.08	−
8. Positive emotion ratings (current)	.11	.29*	.14	-.11	-.06	-.24*	.79**

Note: Valence = mean valence of the negative events (range from −2.79 to −1.55); Reported impact on self = mean ratings of impact for negative events (ratings on a 1 to 5 scale with 5 reflecting higher impact); Meaning making = mean meaning making score for negative events (0 = no negative events include meaning making, 1 = all negative events include meaning making); Specificity = mean specificity score for negative events (0 = no negative events are specific, 1 = all negative events are specific); Negative emotion ratings (recalled) = mean for negative emotion ratings at the time across the negative events; Positive emotion ratings (recalled) = mean for positive emotion ratings at the time across the negative events; Negative emotion ratings (current) = mean for current negative emotion ratings across the negative events; Positive emotion ratings (current) = mean for current positive emotion ratings across the negative events. $*p < .05.$ $**p < .01$

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Table 7

Correlations between coded memory characteristics, and participants' ratings of negative and positive emotions for positive events

	1	2	3	4	5	6	7
1. Valence ratings by observers	—						
2. Reported impact ratings	-.09	—					
3. Meaning making	.11	.29*	—				
4. Specificity	.14	.12	-.19	—			
5. Negative emotion ratings (recalled)	-.07	.33**	.29*	-.08	—		
6. Negative emotion ratings (current)	-.18	.23	.03	.07	.60**	—	
7. Positive emotion ratings (recalled)	.02	.35**	-.00	-.16	-.09	-.21	—
8. Positive emotion ratings (current)	.02	.45**	.21	-.15	.14	-.13	.70**

Note: Valence = mean valence of the positive events (range from 1.50 to 2.75); Reported impact on self = mean ratings of impact for positive events (ratings on a 1 to 5 scale with 5 reflecting higher impact); Meaning making = mean meaning making score for positive events (0 = no positive events include meaning making, 1 = all positive events include meaning making); Specificity = mean specificity score for positive events (0 = no positive events are specific, 1 = all positive events are specific); Negative emotion ratings (recalled) = mean for negative emotion ratings at the time across the positive events; Positive emotion ratings (recalled) = mean for positive emotion ratings at the time across the positive events; Negative emotion ratings (current) = mean for current negative emotion ratings across the positive events; Positive emotion ratings (current) = mean for current positive emotion ratings across the positive events. $*p < .05.$ $**p < .01.$

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Footnotes

[1] In a separate sample (n=122), the RFS and a general version of the function questionnaire was administered. In the general version, participants were asked to report, when they recall events in general, the functions that those events typically serve. For each function, they made ratings on a 1 to 5 scale with 5 representing greater agreement. The findings indicate that the function items selected for the current study are positively correlated with the corresponding subscale scores from the RFS (rs ranged from .44 to .69, ps < .05). A series of stepwise multiple regressions were conducted with each item of our general scale entered as the dependent variable and subscale scores from the RFS entered as the independent variables. The regressions were all significant, βs ranged from .30 to .69, ps < .01. The mean β was .55. For all items on our functions scale that reflect those on the RFS, the corresponding subscale scores on the RFS were the best predictor.

[2] Prior research indicates that there are age differences in the frequency in which people call on memories to serve the various functions of autobiographical memory (Webster & McCall, 1999). However, the differences that emerged were generally between young (i.e., people between the ages of 17 and 30) and older (i.e., people between the ages of 60 and 80) adults (Webster & McCall, 1999) as opposed to between young and middle aged adults.

[3] Participants identifying with a culture other than white (Group 1), reported calling on all of the positive events, and four negative events (i.e., embarrassment, fear, guilt, and sadness) in the service of making decisions, significantly more than those identifying as white (Group 2). In addition, Group 1 reported calling on sad events to

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self-present and make conversation, proud and shameful events to reminisce, and happy events to self-define, significantly more than Group 2. In contrast, Group 2 reported calling on sad events to reminisce, loving events to pass the time, and embarrassing events to bond with others, significantly more than Group 1.

[4] There were 96 participants. For each emotional event, a coding scheme was developed and the number of content categories ranged from 4 to 11. Two independent coders achieved over 80% reliability for each of the nine emotional events. The most frequently cited events were: 63% for loving events involving romantic partners (love), 55% for succeeding in one's studies (pride), 44% for being injured, robbed, or mugged (fear), 38% for performing well in one's studies (happiness), 31% for feeling incompetent for making a mistake (embarrassment), 26% for experiencing the death or illness of someone close (sad), and 26% for insulting, criticizing, or disrespecting someone (shame), 21% for stealing (guilt), and 18% for being treated unfairly in the context of friendships (anger). The specified emotion is indicated in parentheses.

[5] To examine the relationship between functions and audience, correlations between ratings of functions and types of audience were calculated. For each function, an overall mean was calculated across each emotional event. For each audience type, an overall mean was calculated across each emotional event (for events that were only thought about, not talked about, the case was marked as missing). The correlation table of audience type by function did not reveal any particular pattern. Specifically, for 11 functions, there were significant or marginally significant positive correlations with six or more audience types (rs ranged from .19 to .57, $ps < .09$). For the Self-define function, positive correlations emerged for family, acquaintance, and other (rs ranged from .21 to

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.37, $ps < .05$). For the Occupy function, positive correlations emerged with acquaintance ($r = .26, p < .05$) and other ($r = .41, p < .05$).

[6]The distinction between lessons learned and insights gained has been made in prior research (Thorne et al., 2004). In the current research, this distinction was not made as lessons learned could not be reliably distinguished from insights gained when coding the data.

[7]Preliminary analyses were also conducted to consider the effects of age and cultural identity. Age, entered as a covariate, was significant in the analysis for positive events (i.e., the older the participant, the lower the ratings for recalled fear and current shame), but did not account for the time effect. Participants were divided into two groups based on their responses to the ethnicity item: those who identified themselves as white and all others (groups were of approximately equal size). Ethnicity was entered as a between-subjects factor. There were no time by ethnicity interactions.

[8] Preliminary analyses for recalled and current emotions were conducted across both positive and negative events. A MANOVA was conducted with Time (recalled and current) as the within subject factor and the ten emotion ratings entered as dependent variables. A main effect of time emerged: current negative emotions were significantly less intense than recalled negative emotions and current positive emotions were significantly more intense than recalled positive emotions (with the exception of love).

[9] For both positive and negative events, parallel analyses were conducted on overall ratings (recall that participants not only made ratings on the 10 specific emotions, but also provided a global rating as to whether they viewed the event as mostly positive, mostly negative, or both positive and negative). For negative events, the repeated-

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measures ANOVA with Time (recalled and current overall ratings) entered as the within-subject factor was significant, $F(1,72) = 56.09$, $p < .01$. Participants viewed the negative events as less negative now than at the time. An ANCOVA was conducted with impact ratings. Impact was not a significant covariate, but with the introduction of the covariate, the time effect was not significant, $F(1,71) < 1$. For positive events, the ANOVA was also significant, $F(1,67) = 6.21$, $p < .02$. Participants viewed the positive events as more positive now than at the time. An ANCOVA was conducted with impact as a covariate. Impact was not a significant covariate, but again the time effect was now not significant, $F(1,66) < 1$.

[10] Each participant recalled 5 events. Given that some events were unclassifiable, a significant gender difference in number of negative events recalled does not imply a corresponding significant difference in number of positive events recalled. Indeed, men tended to recall more positive events than women, but the difference was not significant, $p > .05$.

References

Adams, S., Kuebli, J., Boyle, P. A., & Fivush, R. (1995). Gender differences in parent child conversations about past emotions: A longitudinal investigation. *Sex Roles, 33,* (5-6), 309-323.

Alea, N., & Bluck, S. (2003). Why are you telling me that? A conceptual model of the social function of autobiographical memory. *Memory, 11*(2), 165-178.

Alexander, K. W., Quas, J. A., Goodman, G. S., Ghetti, S., Edelstein, R., Redlich, A. D., Cordon, I. M., & Jones, D. P. H. (2005). Traumatic impact predicts long-term memory for documented child sexual abuse. *Psychological Science, 16*(1), 33-40.

Alvarado, N. (1998). A reconsideration of the structure of the emotion lexicon. *Motivation and Emotion, 22*(4), 329-344.

Angier, C. (2002). *The Double Bond Primo Levi: A Biography.* New York: Farrar, Straus and Giraux.

Aries, E., & Johnson, F. (1983). Close friendship in adulthood: Conversational content between same-sex friends. *Sex roles, 9,* 1183-1196.

Aron, A., & Westbay, L. (1996). Dimensions of the prototype of love. *Journal of Personality and Social Psychology, 70*(3), 535-551.

Averill, J. R. (1982). *Anger and aggression: An essay on emotion.* New York: Springer-Verlag.

Baddeley, A. (1988). What the hell is it for? In M. M. Gruneberg, P. E. Morris & R. N. Sykes (Eds.), *Practical aspects of memory: Current research and issues* (Vol. 1, pp. 3-18). New York: Wiley.

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Barclay, C. R. (1996). Autobiographical remembering: Narrative constraints on

objectified selves. In D. C. Rubin (Ed.), *Remembering our past: Studies in

autobiographical memory* (pp. 94-125). New York, Cambridge University Press.

Barth, F. (1997). How is the self conceptualized? Variations among cultures. In U.

Neisser & D.A. Jopling (Eds.), *The conceptual self in context: Culture,

experience, self-understanding* (pp. 75-91). New York: Cambridge University

Press.

Bauer, J., & Bonanno, G. A. (2001). Doing and being well (for the most part): Adaptive

patterns of narrative self-evaluation during bereavement. *Journal of Personality,

69*(3), 451-482.

Bauer, P. J., Stennes, L., & Haight, J. C. (2003). Representation of the inner self in

autobiography: Women's and men's use of internal states language in personal

narratives. *Memory, 11*(1), 27-42.

Beike, D. R., & Landoll, S. L. (2000). Striving for a consistent life story: Cognitive

reactions to autobiographical memories. *Social Cognition, 18*(3), 292-318.

Berntsen, D. (2001). Involuntary memories of emotional events: Do memories of traumas

and extremely happy events differ? *Applied Cognitive Psychology, 15*(7),

135-158.

Berntsen, D. (2002). Tunnel memories for autobiographical events: Central details are

remembered more frequently from shocking than from happy experiences.

Memory and Cognition, 30(7), 1010-1020.

Berntsen, D., & Rubin, D. C. (2002). Emotionally charged autobiographical memories

across the life span: The recall of happy, sad, traumatic and involuntary memories. *Psychology and Aging, 17*(4), 636-652.

Blagov, P. S., & Singer, J. A. (2004). Four dimensions of self-defining memories (specificity, meaning, content, and affect) and their relationships to self-restraint, distress, and repressive defensiveness. *Journal of Personality, 72*(3), 461-481.

Bluck, S. (2003). Autobiographical memory: Exploring its functions in everyday life. *Memory, 11*(2), 113-123.

Bluck, S., & Alea, N. (2002). Exploring the functions of autobiographical memory: Why do I remember the autumn? In J. D. Webster & B. K. Haight (Eds.), *Critical Advances in Reminiscence Work: From Theory to Application*: Springer.

Bluck, S., & Gluck, J. (2004). Making things better and learning a lesson: Experiencing wisdom across the lifespan. *Journal of Personality, 72*(3), 543-572.

Bluck, S., & Levine, L. J. (1998). Reminiscence as autobiographical memory: A catalyst for reminiscence theory development. *Ageing and Society, 18*, 185-208.

Boden, J. M., & Baumeister, R. F. (1997). Repressive coping: Distraction using pleasant thoughts and memories. *Journal of Personality and Social Psychology, 73*(1), 45-62.

Brewer, W. F. (1986). What is autobiographical memory? In D. C. Rubin (Ed.), *Autobiographical memory* (pp. 25-49). New York: Cambridge University Press.

Brewer, W. F. (1988). Memory for randomly sampled autobiographical events. In U. Neisser & E. Winograd (Eds.), *Remembering reconsidered: Ecological and traditional approaches to the study of memory. Emory symposia in cognition, 2* (pp. 21-90). New York: Cambridge University Press.

Brody, L. R. (1997). Beyond stereotypes: Gender and emotion. *Journal of Social Issues, 53*, 369-393.

Brody, L. R. (1999). *Gender, emotion, and the family*. Cambridge, MS: Harvard University Press.

Brody, L. R., & Hall, J. A. (2000). Gender and emotion. In M. Lewis & J. M. Haviland-Jones (Eds.), *Handbook of emotions* (2nd ed., pp. 338-349). New York: Guilford.

Brown, R., & Kulik, J. (1977). Flashbulb memories. *Cognition, 5*(1), 73-99.

Bruce, D. (1985). Functional explanations of memory. In L. W. Poon (Ed.), *Everyday cognition in adulthood and late life* (pp. 44-58). New York, NY, US: Cambridge University Press.

Bruner, J. (1994). The "remembered" self. In U. Neisser (Ed.), *The remembering self: Construction and accuracy in the self-narrative. Emory symposia in cognition, 6. (pp. 41-54)*. New York: Cambridge University Press.

Burton, C. M., & King, L. A. (2004). The health benefits of writing about intensely positive experiences. *Journal of Research in Personality, 38*(2), 150-163.

Butler, R. N. (1963). The life review: An interpretation of reminiscence in the aged. *Psychiarty, 26*, 65-75.

Byrne, C. A., Hyman, I. E., Jr., & Scott, K. L. (2001). Comparisons of memories for traumatic events and other experiences. *Applied Cognitive Psychology, 15*(7), S119-S133.

Carstensen, L. L., Fung, H. H., & Charles, S. T. (2003). Socioemotional selectivity theory and the regulation of emotion in the second of life. *Motivation and Emotion, 27*(2), 103-123.

Cason, H. (1932). The learning and retention of pleasant and unpleasant activities. *Archives of Psychology. No. 134: 96.*

Cermak, L.S. & O'Connor, M. (1983). The anterograde and retrograde retrieval ability of a patient with amnesia due to encephalitis. *Neuropsychologia, 21*(3), 213-234.

Christianson, S. A. (1992). Emotional stress and eyewitness memory: A critical review. *Psychological Bulletin, 112*(2), 284-309.

Christianson, S. A., & Huebinette, B. (1993). Hands up: A study of witnesses' emotional reactions and memories associated with bank robberies. *Applied Cognitive Psychology, 7*(5), 365-379.

Clark, M. S., & Isen, A. M. (1982). Towards understanding the relationship between feelings states and social behavior. In A. Hastorf & A. M. Isent (Eds.), *Cognitive social psychology* (pp. 72-108). New York: Elsevier.

Cohen, G. (1998). The effects of aging on autobiographical memory. In C. P. Thompson & D. J. Hermann & D. Bruce & J. D. Read & D. G. Peace & M. P. Toglia (Eds.), *Autobiographical memory: Theoretical and applied perspectives* (pp. 105-124). Mahwah: Lawrence Erlbaum Associates.

Conway, M. A. (1991). *Autobiographical memory: an introduction.* Buckingham, England: Open University Press.

Conway, M. A. (1996). Autobiographical knowledge and autobiographical memories. In D. C. Rubin (Ed.), *Remembering our past: Studies in autobiographical memory.* (pp. 67-93). New York: Cambridge University Press.

Conway, M. A., Anderson, S. J., Larsen, S. F., Donnelly, C. M., McDaniel, M. A., McClelland, A. G. R., Rawles, R. E., & Logie, R. H. (1994). The formation of flashbulb memories. *Memory and Cognition, 22*(3), 326-343.

Conway, M. A., & Pleydell-Pearce, C. W. (2000). The construction of autobiographical memories in the self-memory system. *Psychological Review, 107*(2), 261-288.

Conway, M. A., Singer, J. A., & Tagini, A. (2004). The self and autobiographical memory: Correspondence and coherence. *Social Cognition. 22*(5), 491-529.

Conway, M., & Ross, M. (1984). Getting what you want, by revising what you had. *Journal of Personality and Social Psychology, 47,* 738-748.

Costa, P. T., & McCrae, R. R. (1985). *The NEO Personality Inventory.* Odessa, Florida: Psychological Assessment Resources.

Courtenay, B. C., Merriam, S. B., & Reeves, P. M. (1998). The centrality of meaning-making in transformational learning: How HIV-positive adults make sense of their lives. *Adult Education Quarterly, 48*(2), 65-84.

Csank, P.A.R., & Conway, M. (2004). Engaging in self-reflection changes self-concept clarity: On differences between women and men, and low- and high-clarity individuals. *Sex Roles, 50,* 469-480.

Davis, P. J. (1999). Gender differences in autobiographical memory for childhood emotional experiences. *Journal of Personality and Social Psychology, 76*(3), 498-510.

Debats, D. L., Drost, J. & Hansen, P. (1995). Experiences of meaning in life: A combined qualitative and quantitative approach. *British Journal of Psychology, 86*(3), 359-375.

Derlega, V. J., & Grzelak, J. (1979). Appropriateness of self-disclosure. In G. J. Chelune (Ed.), *Origins, patterns, and implications of openness in interpersonal relationships* (pp. 151-176). San Francisco: Jossey-Bass.

Easterbrook, J. A. (1959). The effect of emotion on cue utilization and the organization of behavior. *Psychological Review, 66*, 183-201.

Ekman, P. (1984). Expressions and the nature of emotion. In K. S. Scherer & P. Ekman (Eds.), *Approaches to emotion* (pp. 319-343). Hillsdale, NJ: Erlbaum.

Epstein, S. (1984). Controversial issues in emotion theory. In P. Shaver (Ed.), *Emotions, relationships, and health* (Vol. 5 of Review of personality and social psychology, pp. 64-88). London: Sage.

Erber, R., & Erber, M. W. (1994). Beyond mood and social judgment: Mood incongruent recall and mood regulation. *European Journal of Social Psychology, 24*, 79-88.

Erber, R., Wegner, D.M., & Therriault, N. (1996). On being cool and collected: Mood regulation in anticipation of social interaction. *Journal of Personality and Social Psychology, 70*(4), 757-766.

Evans, J., Williams, J.M., O'Loughlin, S, & Howells, K. (1992). Autobiographical memory and problem-solving strategies of parasuicide patients. *Psychological Medicine, 22*(2), 399-405.

Fehr, B. (1988). Prototype analysis of the concepts of love and commitment. *Journal of Personality and Social Psychology, 55*, 557-579.

Fehr, B., & Baldwin, M. (1996). Prototype and script analyses of laypeople's knowledge of anger. In G. J. O. Fletcher & J Fitness (Eds.), *Knowledge structures in close*

relationships: A social psychological approach (pp. 291-245). Mahwah, NJ:

Lawrence Erlbaum.

Ferguson, T. J., & Crowley, S. L. (1997). Gender differences in the organization of guilt

and shame. *Sex Roles, 37*(1-2), 19-44.

Fivush, R. (1998). Gendered narratives: Elaboration, structure, and emotion in parent-

child reminiscing across the preschool years. In C. P. Thompson (Ed.),

Autobiographical memory: Theoretical and applied perspectives (pp. 79-103).

Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.

Fivush, R. (2001). Owning experience: Developing subjective perspective in

autobiographical narratives. In C. Moore & K. Lemmon (Eds.), *The self in time:*

Developmental perspectives (pp. 35-52). Mahwah, NJ: Lawrence Erlbaum.

Fivush, R. & Bucker, J. P. (2003). Creating gender and identity through autobiographical

narratives. In C.A. Haden & Fivush, R. (Eds), *Autobiographical memory and the*

construction of a narrative self: Developmental and cultural perspectives (pp.

149-167) Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.

Fivush R., & Nelson, K. (2004). Culture and language in the emergence of

autobiographical

memory. *Psychological Science, 15*(9), 573-577.

Forgas, J. P., Brunham, D. K., & Timboli, C. (1988). Mood, memory, and social

judgments in children. *Journal of Personality and Social Psychology, 54*,

697-703.

Fredrickson, B. L., & Branigan, C. (2001). Positive emotions. In T. J. Mayne (Ed.), *Emotions: Current issues and future directions. Emotions and social behavior* (pp. 123-151). New York, NY, US: Guilford Press.

Fridja, N. (1992). Universal antecedents exist and are interesting. In P. Ekman & R. J. Davidson (Eds.), *The nature of emotion: Fundamental questions* (pp. 155-162). New York: Oxford University Press.

Goddard, L., Dritschel, B., & Burton, A. (1996). Role of autobiographical memory in social problem solving and depression. *Journal of Abnormal Psychology, 105*(4), 609-616.

Goddard, L., Dritschel, B., & Burton, A. (1997). Social problem solving and autobiographical memory in non-clinical depression. *British Journal of Clinical Psychology, 36*(3), 449-451.

Greenwald, A. G. (1980). The totalitarian ego: Fabrication and revision of personal history, *American Psychologist, 35*(7), 603-618.

Habermas, T., & Bluck, S. (2000). Getting a life: The emergence of the life story in adolescence. *Psychological Bulletin, 126*(5), 748-769.

Haden, C. A., Haine, R. A., & Fivush, R. (1997). Developing narrative structure in parent-child reminiscing across the preschool years. *Developmental Psychology, 33*(2), 295-307.

Harder, D. H., & Zalma, A. (1990). Two promising shame and guilt scales: a construct validity comparison. *Journal of Personality Assessment, 55*(3&4), 729-745.

Heider, F. (1958). *The psychology of interpersonal relations.* New York: Wiley and Sons.

Hirst, W. (1994). The remembered self in amnesics. In U. Neisser & R. Fivush (Eds.), *The remembering self: Construction and accuracy in the self-narrative* (pp. 253-277). New York: Cambridge University Press.

Holmes, D. S. (1970). Differential change in affective intensity and the forgetting of unpleasant personal experiences. *Journal of Personality and Social Psychology, 15*(3), 234-239.

Howe, M. L., & Courage, M. L. (1993). The emergence and early development of autobiographical memory. *Psychological Review, 104*(3), 499-523.

Howell, A., & Conway, M. (1990). Perceived intimacy of expressed emotion. *Journal of Social Psychology, 130*(4), 467-476.

Hyland, D. T., & Ackerman, A.M. (1988). Reminiscence and autobiographical memory in the study of the personal past. *Journals of Gerontology, 43*(2), 35-39.

Hyman, I. E., & Faries, J. M. (1992). The functions of autobiographical memory. In M. Conway & D. C. Rubin & H. Spinnler & W. A. Wagenaar (Eds.), *Theoretical perspectives on autobiographical memory* (pp. 207-221). Dordrecht, The Netherlands: Kluwer Academic.

Izard, C. E. (1977). *Human emotions*. New York: Plenum Press.

Janoff-Bulman, R. (1989). The benefits of illusions, the threat of disillusionment, and the limitations of inaccuracy. *Journal of Social and Clinical Psychology, 8*(2), 158-175.

Johnson Laird, P. N., & Oatley, K. (1992). Basic emotions, rationality, and folk theory. *Cognition and Emotion, 6*(3-4), 201-223.

Josephson, B. R., Singer, J. A., & Salovey, P. (1996). Mood regulation and memory: Repairing sad moods with happy memories. *Cognition and Emotion, 10*(4), 437-444.

Keltner, D., & Gross, J. J. (1999). Functional accounts of emotions. *Cognition and Emotion, 13*(5), 467-480.

Keltner, D., & Haidt, J. (2001). Social functions of emotions at four levels of analysis. In W. G. Parrott (Ed.), *Emotions in social psychology: Essential readings* (pp. 175-184). Philadelphia, PA, US: Psychology Press.

Kihlstrom, J. F., Beer, J. S., & Klein, S. B. (2003). Self and identity as memory. In M. Leary & J. P. Tangney (Eds.), *Handbook of Self and Identity* (pp. 68-90). New York: Guilford Press.

King, L. A., Scollon, C. K., Ramsey, C., & Williams, T. (2000). Stories of life transition: Subjective well-being and ego development in parents of children with Down Syndrome. *Journal of Research in Personality, 34*(4), 509-536.

Kring, A. M. (2000). Gender and anger. In A. H. Fischer (Ed.), *Gender and emotion: Social psychological perspectives* (pp. 211-231). New York, NY, US: Cambridge University Press.

Lafrance, M. & Banaji, M. (1992). Toward a reconsideration of the gender-emotion relationship. In M.S. Clark (Ed.), *Emotion and social behavior* (pp. 178-201). Newbury Park, CA:Sage.

Langston, C. A. (1994). Capitalizing on and coping with daily-life events: Expressive responses to positive events. *Journal of Personality and Social Psychology, 67*(6), 1112-1125.

Lazarus, R. S. (1991). *Emotion and adaptation*. New York: Oxford University Press.

Lazarus, R.S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.

Leach, C. (1979). *Introduction to statistics: a nonparametric approach for the social sciences*. New York: Wiley.

Leary, M. R., & Kowalski, R. M. (1990). Impression management: A literature review and two-component model. *Psychological Bulletin, 107*(1), 34-47.

LeDoux, J. (1996). *The emotional brain: The mysterious underpinnings of emotional life*. New York,: Touchstone.

Lewis, M. (1971). *Shame and guilt in neurosis*. New York: International Universities Press.

Lewis, M. (1992). *Shame: The exposed self*. New York, NY, US: Free Press.

Lieblich, A., & Josselson, R. (Eds.). (1997). *The narrative study of lives (Vol 5.)*. London: SAGE Publications.

Markus, H. (1977). Self-schemata and processing information about the self. *Journal of Personality and Social Psychology, 35*(2), 63-78.

Marsh, E. J., & Tversky, B. (2004). Spinning the stories of our lives. *Applied Cognitive Psychology, 18*(5), 491-503.

Martin, M., Ward, J. C., & Clark, D. M. (1983). Neuroticism and the recall of positive and negative personality information. *Behaviour Research and Therapy, 21*(5), 495-503.

McAdams, D. P. (1982). Experiences of intimacy and power: Relationships between social motives and autobiographical memory. *Journal of Personality and Social Psychology, 42*(2), 292-302.

134

McAdams, D. P. (1985). *Power, intimacy, and the life story: Personological inquiries into identity*. New York: Guilford Press.

McAdams, D. P. (1987). A life-story model of identity. In R. Hogan & W. H. Jones (Eds.), *Perspectives in personality* (Vol. 2, pp. 15-50). Greenwich, CT: JAI Press.

McAdams, D. P. (1998). The role of defense in the life story. *Journal of Personality, 66*(6), 1125-1146.

McAdams, D. P. (2001). The psychology of life stories. *Review of General Psychology, 5*(2), 100-122.

McAdams, D. P., Hoffman, B. J., Mansfield, E. D., & Day, R. (1996). Themes of agency and communion in significant autobiographical scenes. *Journal of Personality, 64*(2), 339-377.

McAdams, D. P., Reynolds, J., Lewis, M., Patten, A. H., & Bowman, P. J. (2001). When bad things turn good and good things turn bad: Sequences of redemption and contamination in life narrative and their relation to psychosocial adaptation in midlife adults and in students. *Personality and Social Psychology Bulletin, 27*(4), 474-485.

McCabe, A., Capron, E., & Peterson, C. (1991). The voice of experience: The recall of early childhood and adolescent memories by young adults. In A. McCabe (Ed.), *Developing narrative structure* (pp. 137-173). Hillsdale, NJ, England: Lawrence Erlbaum Associates Inc.

McFarland, C., Ross, M., & DeCourville, N. (1989). Women's theories of menstruation and biases in recall of menstrual symptoms. *Journal of Personality and Social Psychology, 57*(3), 522-531.

135

McLean, K. C., & Thorne, A. (2003). Late adolescents' self-defining memories about

    relationships. *Developmental Psychology, 39*(4), 635-645.

Merriam, S. B. (1993). Race, sex, and age-group differences in the occurrence and uses

    of reminiscence. *Activities, Adaptation and Aging, 18*(1), 1-18.

Merriam, S. B., & Cross, L. H. (1982). Adulthood and reminiscence: A descriptive study.

    Educational Gerontology, 8(3), 275-290.

Miller, R. S. (1995). Embarrassment and social behavior. In J. P. Tangney & K. W.

    Fischer (Eds.), *Self-conscious emotions: The psychology of shame, guilt,*

    embarrassment, and pride. (pp. 322-339). New York: Guilford.

Miller, R. S., & Tangney, J. P. (1994). Differentiating embarrassment and shame. *Journal*

    of Social and Clinical Psychology, 13(3), 273-287.

Moffitt, K. H., & Singer, J. A. (1994). Continuity in the life story: Self-defining

    memories, affect, and approach/avoidance personal strivings. *Journal of*

    Personality, 62(1), 21-43.

Moffitt, K. H., Singer, J. A., Nelligan, D. W., Carlson, M. A., & Vyse, S. A. (1994).

    Depression and memory narrative type. *Journal of Abnormal Psychology, 103*(3),

    581-583.

Neisser, U. (1982). Snapshots or benchmarks? In U. Neisser (Ed.), *Memory observed:*

    Remembering in natural contexts (pp. 43-48). San Francisco: Freeman.

Neisser, U. (1988). Five kinds of self-knowledge. *Philosophical Psychology, 1*(1), 35-59.

Neisser, U., & Fivush, R. (Eds.). (1994). *The remembering self: Construction and*

    accuracy in the self-narrative. New York: Cambridge University Press.

Neisser, U., & Harsch, N. (1992). Phantom flashbulbs: False recollections of hearing the news about Challenger. In U. Neisser & E. Winograd (Eds.), Affect and accuracy in recall: Studies of "flashbulb" memories. Emory symposia in cognition, 4. (pp.9-31). New York, Cambridge University Press.

Nelson, K. (1993). Explaining the emergence of autobiographical memory in early childhood. In A. F. Collins & S. E. Gathercole & M. A. Conway & P. E. Morris (Eds.), *Theories of memory* (pp. 355-385). Hove, UK: Lawrence Erlbaum Associates.

Nelson (2003). Self and social functions: Individual autobiographical memory and collective narrative. *Memory, 11*(2), 125-136.

Nelson, K. & Fivush, R. (2004). The emergence of autobiographical memory: A social cultural developmental theory. *Psychological Review, 111*(2), 486-511.

Niedzwienska, A. (2003). Gender differences in vivid memories. *Sex Roles, 49*(7-8), 321-331.

Oatley, K., & Jenkins, J. M. (1996). *Understanding emotions*. Malden, MA, US: Blackwell Publishers.

Office of Institutional Research, Concordia University, (2003). Undergraduate enrolment by department. Montreal, Quebec: Author.

Parrott, W. G., & Sabini, J. (1990). Mood and memory under natural conditions: Evidence for mood incongruent recall. *Journal of Personality and Social Psychology, 59*(2), 321-336.

Pasupathi, M. (2003). Emotion regulation during social remembering: Differences

between emotions elicited during an event and emotions elicited when talking

about it. *Memory, 11*(2), 151-163.

Pasupathi, M., Lucas, S., & Coombs, A. (2002). Conversational functions of

autobiographical remembering: Long-married couples talk about conflicts and

pleasant topics. *Discourse Processes, 34*(2), 163-192.

Pillemer, D. (1984). Flashbulb memories of the assassination attempt on President

Reagan. *Cognition, 16*(1), 63-80.

Pillemer, D. (1992). Remembering personal circumstances: A functional analysis. In I. E.

Winograd & U. Neisser (Eds.), *Affect and accuracy in recall: The problem of*

flashbulb memories (pp. 236-264). New York: Cambridge University Press.

Pillemer, D. B. (1998). *Momentous events, vivid memories.* Cambridge, MA, US:

Harvard University Press.

Pillemer, D. B. (2001). Momentous events and the life story. *Review of General*

Psychology, 5(2), 123-134.

Pillemer, D. B. (2003). Directive functions of autobiographical memory: The guiding

power of the specific episode. *Memory, 11*(2), 193-202.

Pillemer, D. B., Goldsmith, L. R., Panter, A. T., & White, S. H. (1988). Very long term

memories of the first year in college. *Journal of Experimental Psychology:*

Learning, Memory, and Cognition, 14(4), 709-715.

Pillemer, D. B., Rhinehart, E. D., & White, S. H. (1986). Memories of life transitions:

The first year in college. *Human Learning: Journal of Practical Research and*

Applications, 5(2), 109-123.

Pillemer, D. B., & White, S. H. (1989). Childhood events recalled by children and adults.

In H. W. Reese (Ed.), *Advances in child development and behavior* (Vol. 21, pp.

297-340). San Diego, CA: Academic Press.

Pratt, M.W., Norris, J.E., Arnold, M.L., & Filyer, R. (1999). Generativity and

moral development as predictors of value-socialization narratives for young

persons across the adult life span: From lessons learned to stories shared.

Psychology and Aging, 14(3), 414-426.

Revenson, T. A., Wollman, C. A., & Felton, B. J. (1983). Social supports as stress buffers

for adult cancer patients. *Psychosomatic medicine, 45*(4), 321-331.

Rinck, M., Glowalla, U., & Schneider, K. (1992). Mood-congruent and mood-

incongruent learning. *Memory and Cognition, 20,* 29-39.

Robinson, J. A. (1980). Affect and retrieval of personal memories. *Motivation and

Emotion, 4*(2), 149-174.

Robinson, J. A., & Swanson, K. L. (1990). Autobiographical memory: The next phase.

Applied Cognitive Psychology, 4(4), 321-335.

Roediger, H. L. III, & Marsh, E. L (2003). Episodic and autobiographical memory.

Handbook of psychology: Experimental psychology, 4, 475-497.

Roseman, I. J. (1984). Cognitive determinants of emotion: A structural theory. In P.

Shaver (Ed.), *Emotions, relationships, and health, Vol. 5 of Review of Personality

and Social Psychology* (pp. 11-36). Beverly Hills, CA: Sage.

Roseman, I. J., Wiest, C., & Swartz, T. S. (1994). Phenomenology, behaviors, and goals

differentiate discrete emotions. *Journal of Personality and Social Psychology, 67,*

206-221.

Ross, M. (1989). Relation of implicit theories to the construction of personal histories. *Psychological Review, 96*(2), 341-357.

Rubin, D. C. & Berntsen, D. (2003). Life scripts help to maintain autobiographical memories of highly positive, but not highly negative, events. *Memory and Cognition, 31*(1), 1-14.

Rubin, D. C., Rahhal, T. A., & Poon, L. W. (1998). Things learned in early adulthood are remembered best. *Memory and Cognition, 26*(1), 3-19.

Ruiz-Caballero, J.A., & Bermudez, J. (1995). Neuroticism, mood, and retrieval of negative personal memories. *Journal of General Psychology, 122*(1), 29-35.

Russell, J. A., & Mehrabian, A. (1977). Evidence for a three-factor theory of emotions. *Journal of Research in Personality, 11*, 273-294.

Rusting, C. L. (1999). Interactive effects of personality and mood on emotion congruent memory and judgment. *Journal of Personality and Social Psychology, 77*(5), 1073-1086.

Schacter, D. L. (1996). *Memory distortion: How minds, brains, and societies reconstruct the past.* Cambridge, MA: Harvard University Press.

Scherer, K.R. (1997). The role of culture in emotion-antecedent appraisal. *Journal of Personality and Social Psychology, 73*(5), 902-922.

Scherer, K. R., Schorr, A., & Johnstone, T. (2001). *Appraisal processes in emotion: Theory, methods, research. Series in affective science.* London: Oxford University Press.

Scherer, K. R., & Wallbott, H. G. (1994). Evidence for universality and cultural variation of differential emotion response patterning. *Journal of Personality and Social Psychology, 66,* 310-328.

Sedikides, C. (1994). Incongruent effects of sad mood on self-conception valences: It's a matter of time [Special Issue: Affect in social judgments and cognition]. *European Journal of Social Psychology, 24,* 161-172.

Seidlitz, L., & Diener, E. (1998). Sex differences in the recall of affective experiences. *Journal of Personality and Social Psychology, 74*(1), 262-271.

Setliff, A.E. & Marmurek, H. (2002). The mood regulatory function of autobiographical recall is moderated by self-esteem. *Personality and Individual Differences, 32*(4), 761-771.

Shaver, P., Schwartz, J., Kirson, D., & O'Connor (1987). Emotion knowledge: Further exploration of a prototype approach. *Journal of Personality and Social Psychology, 52,* 1061-1086

Sidley, G. L., Whitaker, K., Calam, R. M., & Wells, A. (1997). The relationship between problem-solving and autobiographical memory in parasuicde patients. *Behavioural and Cognitive Psychotherapy, 25*(2), 195-202.

Singer, J. A. (1990). Affective responses to autobiographical memories and their relationship to long-term goals. *Journal of Personality, 58*(3), 535-563.

Singer, J. A. (1995). Putting emotion in context: Its place within individual and social narratives. *Journal of Narrative and Life History, 5*(3), 255-267.

Singer, J. A. (1997). *Message in a bottle: Stories of men and addiction.* New York, NY, US: Free Press.

141

Singer, J. A. (1998). Applying a systems framework to self-defining memories. *Psychological Inquiry, 9*(2), 161-164.

Singer, J. A. (2001). Living in the amber cloud: A life story analysis of a heroin addict. In D. P. McAdams (Ed.), *Turns in the road: Narrative studies of lives in transition* (pp. 253-277). Washington, DC, US: American Psychological Association.

Singer, J. A. (2004). Narrative identity and meaning making across the adult lifespan: An introduction. *Journal of Personality, 72*(3)438-459.

Singer, J. A., & Bluck, S. (2001). New perspectives on autobiographical memory: The integration of narrative processing and autobiographical reasoning. *Review of General Psychology, 5*(2), 91-99.

Singer, J. A., & Moffitt, K. H. (1991-1992). An experimental investigation of specificity and generality in memory narratives. *Imagination, Cognition and Personality, 11*(3), 233-257.

Singer, J. A., & Salovey, P. (1993). *The remembered self: Emotion and memory in personality.* New York: Free Press.

Singer, J. A., & Salovey, P. (1996). Motivated memory: Self-defining memories, goals, and affect regulation. In L. L. Martin & A. Tesser (Eds.), *Striving and feeling: Interactions among goals, affect, and self regulation.* (pp. 229-250). Mahwah, NJ: Lawrence Erlbaum Associates.

Smith, C. A., & Ellsworth, P. C. (1985). Patterns of cognitive appraisal. *Journal of Personality and Social Psychology, 48*, 813-838.

Smith, C. A., & Lazarus, R. S. (1990). Emotion and adaptation. In L. A. Pervin (Ed), *Handbook of personality: Theory and research.* (pp.609-637). New York, NY,

US: Guilford Press.

Smith, S. M., & Petty, R. P. (1995). Personality moderators of mood congruency effects on cognition: The role of self-esteem and negative mood regulation. *Journal of Personality and Social Psychology, 68*, 1092-1107.

Sommers, S. (1984). Reported emotions and conventions of emotionality among college students. *Journal of Personality and Social Psychology, 46*(1), 207-215.

Spence, D. P. (1984). *Narrative truth and historical truth: Meaning and interpretation in psychoanalysis*. New York: Norton & Company.

Staudinger, U. M. (2001). Life reflection: A social-cognitive analysis of life review. *Review of General Psychology, 5*(2), 148-160.

Stein, N. L., & Levine, L. J. (1987). Thinking about feelings: The development and organization of emotional knowledge. In R. E. Snow & M. Farr (Eds.), *Aptitude, learning, and instruction: Vol. 3. Cognition, conation and affect.* (pp. 168-198). Hillsdale, NJ: Erlbaum.

Stein, N. L., Liwag, M. D., & Wade, E. (1996). A goal-based approach to memory for emotional events: Implications for theories of understanding and socialization. In R. D. Kavanaugh (Ed.), *Emotion: Interdisciplinary perspectives* (pp. 91-118). Hillsdale, NJ, England: Lawrence Erlbaum Associates Inc.

Strachan, C. E., & Dutton, D. G. (1992). The role of power and gender in anger responses to sexual jealousy. *Journal of Applied Social Psychology, 22*(22), 1721-1740.

Sutin, A. R., & Robins, R. W. (in press). Continuity and correlates of emotions and motives in self-defining memories. *Journal of Personality.*

143

Tabachnik, B. G., & Fidell, L. S. (1996). *Using multivariate statistics* (2nd ed.). New York: Harper and Row.

Tangney, J. P. (1992). Situational determinants of shame and guilt in young adulthood. *Personality and Social Psychology Bulletin, 18*(2), 199-206.

Tangney, J. P. (1995). Recent advances in the empirical study of shame and guilt. *American Behavioral Scientist, 38*(8), 1132-1145.

Tangney, J. P. (2003). Self-relevant emotions. In M. R. Leary (Ed.), *Handbook of self and identity* (pp. 384-400). New York, NY, US: Guilford Press.

Tangney, J. P., & Fischer, K. W. (Eds.). (1995). *Self-conscious emotions: The psychology of shame, guilt, embarrassment, and pride.* New York, NY, US: Guilford Press.

Tangney, J. P., Miller, R. S., Flicker, L., & Barlow, D. H. (1996). Are shame, guilt, and embarrassment distinct emotions? *Journal of Personality and Social Psychology, 70*(6), 1256-1269.

Taylor, S. E. (1991). Asymmetrical effects of positive and negative events: The mobilization-minimization hypothesis. *Psychological Bulletin, 110*(1), 67-85.

Tedeschi, R. G. & Calhoun, L. G. (1995). *Trauma & transformation : Growing in the aftermath of suffering.* Thousand Oaks, Calif.: Sage Publications.

Thompson, S. C. (1991). The search for meaning following a stroke. *Basic and Applied Social Psychology, 12*(1), 81-96.

Thomas, D. L., & Diener, E. (1990). Memory accuracy in the recall of emotions. *Journal of Personality and Social Psychology, 59*(2), 291-297.

Thompson, C. P., Skowronski, J. J., Larsen, S. F., & Betz, A. L. (1996).

Autobiographical memory: Remembering what and remembering when. New

Jersey: Lawrence Erlbaum Associates.

Thompson, S.C., Sobolew-Shubin, A., Graham, M.A., & Janigian,A.S. (1989).

Psychosocial adjustment following a stroke. Social Science and Medicine, 28(3),

239-247.

Thorne, A., & Klohnen, E. (1993). Interpersonal memories as maps for personality

consistency. In D. C. Funder (Ed.), Studying lives through time: Personality and

development (pp. 223-253). Washington, DC, US: American Psychological

Association.

Thorne, A., & McLean, K. C. (2002). Gendered reminiscence practices and self-

definition in late adolescence. Sex Roles, 46(9-10), 267-277.

Thorne, A., McLean, K. C., & Lawrence, A. M. (2004). When remembering is not

enough: Reflecting on self-defining memories in late adolescence. Journal of

Personality, 72(3), 513-541.

Trapnell, P.D., & Campbell, J. D. (1999). Private self-consciousness and the five-factor

model of personality: Distinguishing rumination from reflection. Journal of

Personality and Social Psychology, 76(2), 284-303.

Triandis, H. C. (1995). Individualism & collectivism. Boulder, CO, US: Westview Press.

Tversky, B. & Marsh, E. J. (2000). Biased retellings of events yield biased memories.

Cognitive Psychology, 40(1), 1-38.

145

Walker, W. R., Skowronski, J. J., Gibbons, J. A., Vogl, R. J., & Thompson, C. P. (2003). On the emotions that accompany autobiographical memories: Dysphoria disrupts the fading affect bias. *Cognition and Emotion, 17*(5), 703-723.

Walker, W. R., Vogl, R. J., & Thompson, C. P. (1997). Autobiographical memory: Unpleasantness fades faster than pleasantness over time. *Applied Cognitive Psychology, 11*(5), 399-413.

Watson, D. (2000). *Mood and temperament.* New York, NY, US: Guilford Press.

Watt, L. M., & Wong, P. T. (1991). A taxonomy of reminiscence and therapeutic implications. *Journal of Gerontological Social Work, 16*(1-2), 37-57.

Webster, J. D. (1993). Construction and validation of the Reminiscence Functions Scale. *Journals of Gerontology, 48*(5), 256-262.

Webster, J. D. (1994). Predictors of reminiscence: A lifespan perspective. *Canadian Journal on Aging, 13*(1), 66-78.

Webster, J. D. (1995). Adult age differences in reminiscence functions. In B. K. Haight & J. D. Webster (Eds.), *The art and science of reminiscing: Theory, research, methods, and applications* (pp. 89-102). Philadelphia, PA, US: Taylor & Francis.

Webster, J. D. (1997). The reminiscence functions scale: A replication. *International Journal of Aging and Human Development, 44*(2), 137-148.

Webster, J. D. (2002). Reminiscence functions in adulthood: Age, race, and family dynamics correlates. In J. D. Webster (Ed.), *Critical advances in reminiscence work: From theory to application* (pp. 140-152). New York, NY, US: Springer Publishing Co.

Webster, J. D. (2003). The reminiscence circumplex and autobiographical memory

   functions. *Memory, 11*(2), 203-215.

Webster, J. D., & Cappeliez, P. (1993). Reminiscence and autobiographical memory:

   Complementary contexts for cognitive aging research. *Developmental Review,*

   13(1), 54-91.

Webster, J. D., & McCall, M. E. (1999). Reminiscence functions across adulthood: A

   replication and extension. *Journal of Adult Development, 6*(1), 73-85.

Wilson, A. E., & Ross, M. (2003). The identity function of autobiographical memory:

   Time is on our side. *Memory, 11*(2), 137-149.

Woike, B. A. (1995). Most-memorable experiences: Evidence for a link between implicit

   and explicit motives and social cognitive processes in everyday life. *Journal of*

   Personality and Social Psychology, 68(6), 1081-1091.

Woike, B., Gershkovich, I., Piorkowski, R., & Polo, M. (1999). The role of motives in

   the content and structure of autobiographical memory. *Journal of Personality and*

   Social Psychology, 76(4), 600-612.

Wood, W. J., & Conway, M. (2004a). Subjective impact, meaning making, and current

   and recalled emotions of self-defining memories. Manuscript submitted for

   publication.

Wood, W. J., & Conway, M. (2004b). [How elaboration influences the subjective impact

   of emotional memories]. Unpublished raw data.

Wood, W. J., & Conway, M. (2005). Why did I recall that event?: The role of emotion in

   the functions of autobiographical memory. Manuscript submitted for publication.

Wood, J. V., Taylor, S. E., & Lichtman, R. R. (1985). Social comparison in adjustment to

breast cancer. *Journal of Personality and Social Psychology, 49*(5), 1169-1183.

Appendices

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Appendix A
Measures for Study 1
Below is the first questionnaire participants completed in Study 1.

EEQ_2

In the present study, you are being asked to remember important events in your life. What is important to any one person can vary for many different reasons. Below you are asked to remember important events in your life that caused you to experience different feelings. Please write about events that you have talked about or thought about since the events occurred. After you write your descriptions of these events, you will be asked to complete some questionnaires regarding your impressions and reactions to these events.

Please describe ONE event that at the time made you feel...

...**SHAMEFUL** because of a failure (e.g., in school or work) or because you hurt someone emotionally.

_____

... **IN LOVE OR LOVING** because you felt that your relationship with another person was based on closeness, openness, and trust.

_____

...**PROUD** because of something that you achieved in school, work, or sports.

_____

...**ANGRY** because you felt as though you had been treated unfairly or that things were not the way they ought to be.

_____

...**SAD** because of a loss or not getting what was wanted.

_____

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...**HAPPY** because things turned out the way you wanted or better than expected.

...**EMBARASSED** for doing something silly (e.g., dropping something) or forgetting something (e.g., a person's name).

...**FEARFUL** because you felt threatened in what was perhaps an unfamiliar situation.

...**GUILTY** for something that you did, such as lying, cheating, or stealing.

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After describing their memories, participants completed nine sets of questionnaires, each set of questionnaires corresponding to one of the nine emotional memories they described. The version shown below is for the fearful memory. The other versions of the questionnaires were identical to this version except that the emotion and the emotional elicitor (i.e., in this case, "fearful because you felt threatened in what was perhaps an unfamiliar situation") were replaced by one of the other eight emotions and the corresponding elicitor. In addition, the list of emotions was adjusted accordingly (e.g., for the angry memory, fear, in addition to the emotions listed below would appear, but anger would not).

PERQ_2

For this questionnaire, we would like you to focus on the event that you described concerning a time that you felt **FEARFUL** because you felt threatened in what was perhaps an unfamiliar situation. Please look over your description of the event that made you feel **FEARFUL** and indicate any other feelings that you **may have felt at the time.**

Happiness

1	2	3	4	5
Not at all	A little	Somewhat	A lot	A great deal

Sadness

1	2	3	4	5
Not at all	A little	Somewhat	A lot	A great deal

Anger

1	2	3	4	5
Not at all	A little	Somewhat	A lot	A great deal

Love

1	2	3	4	5
Not at all	A little	Somewhat	A lot	A great deal

Pride

1	2	3	4	5
Not at all	A little	Somewhat	A lot	A great deal

Shame

1	2	3	4	5
Not at all	A little	Somewhat	A lot	A great deal

Guilt

1	2	3	4	5
Not at all	A little	Somewhat	A lot	A great deal

Embarrassment

1	2	3	4	5
Not at all	A little	Somewhat	A lot	A great deal

Disgust

1	2	3	4	5
Not at all	A little	Somewhat	A lot	A great deal

We are interested in the reasons why people recall certain events. For this questionnaire, please focus on the event you described above that made you feel **FEARFUL.** Please think of **a time (or one time)** that you talked about or thought about the event and answer the following questions.

1. How long ago did you talk about or think about this event? _____

2. Please place a check mark beside all of the feelings you remember experiencing at the time you were recalling the event.

___ Happiness	___ Guilt
___ Love	___ Embarrassment
___ Anger	___ Disgust
___ Fear	___ Sadness
___ Pride	___ Shame

3. Please check one:

_____ I talked about this event with other(s).

_____ I thought about this event on my own.

If you were talking to others, who were they? Please check off as many as apply.

___ Friend	___ Colleague at work
___ Partner or spouse	___ Acquaintance
___ Family member	___ Stranger in a novel situation
___ Classmate	___ Other (Please specify: _____)

5. Using this scale, please indicate the extent to which each item applies to you.

1	2	3	4	5
Not at all	*A little*	*Somewhat*	*A lot*	*A great deal*

When I talked about or thought about the event, it was... Please circle one number for each item

...to teach or inform somebody about something I know	1	2	3	4	5
...to bring me closer to others by telling them about myself	1	2	3	4	5
...to get a point across	1	2	3	4	5
...to make conversation	1	2	3	4	5
...to remember people I was close to but who are no longer a part of my life	1	2	3	4	5
...to help me decide what to do in a situation	1	2	3	4	5
...to make someone else feel good	1	2	3	4	5
...to pass the time	1	2	3	4	5

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...to review upsetting or distressing events	1	2	3	4	5
...to make me feel better	1	2	3	4	5
...because remembering my past helps me define who I am	1	2	3	4	5
...to make myself look good	1	2	3	4	5
...to make me feel more competent	1	2	3	4	5

6. You just described a particular time that you talked about or thought about this event. How many **other times** have you talked about or thought about this event? If you are unsure, please give us your best guess. _____

Appendix B

Measures for Study 2
There are two versions of the self-defining memory questionnaire. The version shown here asks people to focus on a positive self-defining memory. The second version is identical to this version, except that "strong positive feelings" is substituted with "strong negative feelings" and "even though there may also be some negative feelings involved" is substituted with "even though there may be some positive feelings involved".

SDM

In this questionnaire, you are asked to think about an event in your past that you feel is still *important* and *helps you define who you are*. The memory is at least one year old and is *very clear* and *familiar* to you.

This is a memory that helps you understand who you are as an individual and might be a memory you would tell someone else if you wanted that person to understand you in a basic way.

In this questionnaire, you are being asked to remember an event that is tied to **strong positive feelings**, even though there may also be some negative feelings involved. Please write 2-3 keywords that would remind you of this event, and then answer the questions:

_____   _____

_____

I have often spent time thinking about what this event means to me.

1	2	3	4	5	6	7
not at all	a little	somewhat		quite a bit	a great deal	very much

Even when I think of the event now, I think about how it has affected me.

1	2	3	4	5	6	7
not at all	a little	somewhat		quite a bit	a great deal	very much

This past event has had a big impact on me.

1	2	3	4	5	6	7
not at all	a little	somewhat		quite a bit	a great deal	very much

Having had this experience, I have learned more about what other people are like.

1	2	3	4	5	6	7
not at all	a little	somewhat		quite a bit	a great deal	very much

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Having had this experience, I have learned more about what life is all about.

1	2	3	4	5	6	7
not at all	a little	somewhat		quite a bit	a great deal	very much

Having had this experience, I have more insight into who I am and what is important to me.

1	2	3	4	5	6	7
not at all	a little	somewhat		quite a bit	a great deal	very much

I feel that I have grown as a person since experiencing this past event.

1	2	3	4	5	6	7
not at all	a little	somewhat		quite a bit	a great deal	very much

When thinking about this past event, I have tried to downplay the negative.

1	2	3	4	5	6	7
not at all	a little	somewhat		quite a bit	a great deal	very much

Appendix C

Instructions for Study 3
Below is the definition of a self-defining memory. Each participant was provided one copy of this sheet.

SDM

In this study, you will be asked to write about memories that help you define who you are (i.e., a self-defining memory).

A self-defining memory has the following attributes:

1. It is at least one year old.

2. It is a memory from your life that you remember very clearly and that still feels important to you even as you think about it.

3. It is a memory that helps you to understand who you are as an individual and might be a memory you would tell someone else if you wanted that person to understand you in a basic way.

4. It may be a memory that is **positive or negative, or both**, in how it makes you feel now. The only important aspect is that it leads to strong feelings.

5. It is a memory that you have thought about many times. It should be familiar to you like a picture you have studied or a song (happy or sad) you have learned by heart.

To understand what a self-defining memory is, imagine you are talking to somebody and your goal in the conversation is to describe who you are. The person you are talking to may be someone you have met recently, or it may be someone you have known for a long time and want him or her to get to know you better. You are very committed to helping the other get to know the "Real You"... In the course of the conversation, you describe a memory of some significant event or experience from your past, one that has had a major impact on you as a person. This memory is of something that has influenced who you have become as a person. It is precisely this memory that constitutes a self-defining memory.

In the following pages, you are provided space to write five self-defining memories. After you finish describing each memory, please complete the questionnaires related to that memory before moving onto the next memory.

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Measures for Study 3
Participants reported five self-defining memories. Participants first described one memory, and then completed three questionnaires pertaining to that memory. The set of questionnaires for each memory was identical. Below are the questionnaires for Memory #1.

Memory #1

How much has this event had an impact on you?

1	2	3	4	5
A little	Somewhat	Quite	A great deal	Extremely

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Memory #1

For this questionnaire, we would like you to focus on **Memory #1** that you just described. Please look over your description for **Memory #1** and indicate any of the feelings that you **may have felt at the time the event occurred.**

Happiness

1	*2*	*3*	*4*	*5*
Not at all	*A little*	*Somewhat*	*A lot*	*A great deal*

Shame

1	*2*	*3*	*4*	*5*
Not at all	*A little*	*Somewhat*	*A lot*	*A great deal*

Sadness

1	*2*	*3*	*4*	*5*
Not at all	*A little*	*Somewhat*	*A lot*	*A great deal*

Fear

1	*2*	*3*	*4*	*5*
Not at all	*A little*	*Somewhat*	*A lot*	*A great deal*

Love

1	*2*	*3*	*4*	*5*
Not at all	*A little*	*Somewhat*	*A lot*	*A great deal*

Pride

1	*2*	*3*	*4*	*5*
Not at all	*A little*	*Somewhat*	*A lot*	*A great deal*

Anger

1	*2*	*3*	*4*	*5*
Not at all	*A little*	*Somewhat*	*A lot*	*A great deal*

Guilt

1	*2*	*3*	*4*	*5*
Not at all	*A little*	*Somewhat*	*A lot*	*A great deal*

Embarrassment

1	*2*	*3*	*4*	*5*
Not at all	*A little*	*Somewhat*	*A lot*	*A great deal*

Disgust

1	*2*	*3*	*4*	*5*
Not at all	*A little*	*Somewhat*	*A lot*	*A great deal*

Overall, at the time of the event did you feel that the experience was negative, positive, or both? Please circle one.

1	2	3
Negative or mostly negative	Equally negative and positive	Positive or mostly positive

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Memory #1

For this questionnaire, we would again like you to focus on **Memory #1** that you just described. Please look over your description of **Memory #1** and indicate any of the feelings that you **currently have about the event.**

Happiness

1	*2*	*3*	*4*	*5*
Not at all	*A little*	*Somewhat*	*A lot*	*A great deal*

Shame

1	*2*	*3*	*4*	*5*
Not at all	*A little*	*Somewhat*	*A lot*	*A great deal*

Sadness

1	*2*	*3*	*4*	*5*
Not at all	*A little*	*Somewhat*	*A lot*	*A great deal*

Fear

1	*2*	*3*	*4*	*5*
Not at all	*A little*	*Somewhat*	*A lot*	*A great deal*

Love

1	*2*	*3*	*4*	*5*
Not at all	*A little*	*Somewhat*	*A lot*	*A great deal*

Pride

1	*2*	*3*	*4*	*5*
Not at all	*A little*	*Somewhat*	*A lot*	*A great deal*

Anger

1	*2*	*3*	*4*	*5*
Not at all	*A little*	*Somewhat*	*A lot*	*A great deal*

Guilt

1	*2*	*3*	*4*	*5*
Not at all	*A little*	*Somewhat*	*A lot*	*A great deal*

Embarrassment

1	*2*	*3*	*4*	*5*
Not at all	*A little*	*Somewhat*	*A lot*	*A great deal*

Disgust

1	*2*	*3*	*4*	*5*
Not at all	*A little*	*Somewhat*	*A lot*	*A great deal*

Overall, do you currently see the experience as positive, negative, or both? Please circle one.

1	2	3
Negative or mostly negative	Equally negative and positive	Positive or mostly positive

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Memory #1

We are interested in the reasons why people recall certain events. For this questionnaire, please focus on **Memory #1**. Please think of **one time** that you talked about or thought about this event and answer the following questions.

1. How long ago did you talk about or think about this event? _____

2. Please place a check mark beside all of the feelings you remember experiencing at the time you were recalling the event.

____ Happiness   ____ Guilt
____ Love   ____ Embarrassment
____ Anger   ____ Disgust
____ Fear   ____ Sadness
____ Pride   ____ Shame

3. Please check one:
_____ I talked about this event with other(s).
_____ I thought about this event on my own.

If you were talking to others, who were they? Please check off as many as apply.

____ Friend   ____ Colleague at work
____ Partner or spouse   ____ Acquaintance
____ Family member   ____ Stranger in a novel situation
____ Classmate   ____ Other (Please specify: _____)

4. You just described **a particular time** that you talked about or thought about this event. How many **other times** have you talked about or thought about this event? If you are unsure, please give us your best guess. _____

In Study 3, a separate sample of graduate students was asked to rate the valence of the content of participants' self-defining memories (based on content coding). Below is an example of the questionnaire that the graduate students completed.

Please indicate the extent to which you feel that each event is a positive or negative experience by circling the appropriate number on the scale.

How positive or negative are the following events and experiences:

...moving away from close others (friends, family members)

-3	-2	-1	0	1	2	3
Very Negative	*Quite Negative*	*Somewhat Negative*	*Neutral*	*Somewhat Positive*	*Quite Positive*	*Very Positive*

...experiencing recognition, achievement, accomplishment, success, or attaining goals in a skill-related domain

-3	-2	-1	0	1	2	3
Very Negative	*Quite Negative*	*Somewhat Negative*	*Neutral*	*Somewhat Positive*	*Quite Positive*	*Very Positive*

...being sexually assaulted (or having someone threaten to sexually assault you)

-3	-2	-1	0	1	2	3
Very Negative	*Quite Negative*	*Somewhat Negative*	*Neutral*	*Somewhat Positive*	*Quite Positive*	*Very Positive*

...engaging in recreation, play, exploration, or travel

-3	-2	-1	0	1	2	3
Very Negative	*Quite Negative*	*Somewhat Negative*	*Neutral*	*Somewhat Positive*	*Quite Positive*	*Very Positive*

...attaining a personal goal or overcoming a personal obstacle (e.g., obtaining a visa, losing weight)

-3	-2	-1	0	1	2	3
Very Negative	*Quite Negative*	*Somewhat Negative*	*Neutral*	*Somewhat Positive*	*Quite Positive*	*Very Positive*

...observing or hearing about accidents, injuries, or illnesses that involve close others

-3	-2	-1	0	1	2	3
Very Negative	*Quite Negative*	*Somewhat Negative*	*Neutral*	*Somewhat Positive*	*Quite Positive*	*Very Positive*

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...experiencing difficulty developing relationships (i.e., including unrequited love, finding a partner, or making friends)

-3	-2	-1	0	1	2	3
Very Negative	*Quite Negative*	*Somewhat Negative*	*Neutral*	*Somewhat Positive*	*Quite Positive*	*Very Positive*

...experiencing failure, frustration, inadequacy, incompetence, or disappointment in a skill-related domain

-3	-2	-1	0	1	2	3
Very Negative	*Quite Negative*	*Somewhat Negative*	*Neutral*	*Somewhat Positive*	*Quite Positive*	*Very Positive*

...experiencing interpersonal conflict (e.g., includes divorce or break-up, disagreement, irreconcilable differences, betrayal, punishment/reprimand, criticism, disappointment and confrontation)

-3	-2	-1	0	1	2	3
Very Negative	*Quite Negative*	*Somewhat Negative*	*Neutral*	*Somewhat Positive*	*Quite Positive*	*Very Positive*

...experiencing harassment: racial, sexual, or linguistic (also includes teasing and bullying).

-3	-2	-1	0	1	2	3
Very Negative	*Quite Negative*	*Somewhat Negative*	*Neutral*	*Somewhat Positive*	*Quite Positive*	*Very Positive*

...experiencing obstacles, fearful situations, novel situations or performance anxiety in a skill-related domain

-3	-2	-1	0	1	2	3
Very Negative	*Quite Negative*	*Somewhat Negative*	*Neutral*	*Somewhat Positive*	*Quite Positive*	*Very Positive*

...experiencing an accident, injury, or illness

-3	-2	-1	0	1	2	3
Very Negative	*Quite Negative*	*Somewhat Negative*	*Neutral*	*Somewhat Positive*	*Quite Positive*	*Very Positive*

...disengaging from goals and/or changing direction in a skill-related domain

-3	-2	-1	0	1	2	3
Very Negative	*Quite Negative*	*Somewhat Negative*	*Neutral*	*Somewhat Positive*	*Quite Positive*	*Very Positive*

...self-awareness, including self-discovery, acceptance, expansion, realization of self/identity (e.g. learning about aspects of your personality, interests, values, goals, sexual orientation etc.)

-3	-2	-1	0	1	2	3
Very Negative	Quite Negative	Somewhat Negative	Neutral	Somewhat Positive	Quite Positive	Very Positive

...being physically assaulted (or having someone threatening to physically assault you)

-3	-2	-1	0	1	2	3
Very Negative	Quite Negative	Somewhat Negative	Neutral	Somewhat Positive	Quite Positive	Very Positive

...experiencing failure, frustration, inadequacy, incompetence or disappointmet in self

-3	-2	-1	0	1	2	3
Very Negative	Quite Negative	Somewhat Negative	Neutral	Somewhat Positive	Quite Positive	Very Positive

...establishing or deepening a relationship (includes receiving approval/positive regard/love within a relationship and giving birth and marriage)

-3	-2	-1	0	1	2	3
Very Negative	Quite Negative	Somewhat Negative	Neutral	Somewhat Positive	Quite Positive	Very Positive

...random events (e.g. miscarriage, unwanted pregnancy, loss of job due to layoff, death of pet, etc.)

-3	-2	-1	0	1	2	3
Very Negative	Quite Negative	Somewhat Negative	Neutral	Somewhat Positive	Quite Positive	Very Positive

...experiencing the death of a loved one

-3	-2	-1	0	1	2	3
Very Negative	Quite Negative	Somewhat Negative	Neutral	Somewhat Positive	Quite Positive	Very Positive

...being a good Samaritan (e.g., saving a street person from being beaten up)

-3	-2	-1	0	1	2	3
Very Negative	Quite Negative	Somewhat Negative	Neutral	Somewhat Positive	Quite Positive	Very Positive

Appendix D

The following is the coding scheme for meaning making used in Study 3. The meaning

making coding scheme took into account both explicit and implicit references to meaning

making (either was coded as meaning making).

Explicit references to meaning making.

Explicit references to meaning making suggest that an individual has gained

insight, or attempted to step back from and evaluate the event. This statement must

extend beyond saying that the event is important. An example of an explicit reference to

meaning making is as follows: for a break-up, one participant wrote "...this moment

really changed the way I thought about relationships, kids and my priorities in life."

Implicit reference to meaning making.

As with explicit references to meaning making, implicit references meaning

making suggest that an individual has gained insight, or attempted to step back from and

evaluate the event. In contrast to explicit references to meaning making, implicit

references do not directly indicate why the memory is important and emotional.

However, a sense of realization, of reframing, or of learning is nonetheless conveyed.

Change, learning, or realizations may be described in two ways. First, people may refer to

how a past event has influenced current functions. For example, one participant described

overcoming a fearful event and then indicated "again to this day, a trouble may occur and

scare me, and I will take some time to evaluate, and calm myself as much as possible, and

go over that problem afterward in usually a good way. Second, people may refer to how

the event changed an aspect of their lives, again without explicitly saying that the change

was due to the event itself. For example, one participant wrote, "I changed careers by

myself without consulting with my family. It was difficult, but I stood up and took

direction of my life." This description implies that she's aware that the event is important

because through her own volition she changed the course of her life.