Subjective Impact, Meaning Making, and Current and Recalled Emotions for Self-Defining Memories

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ABSTRACT Two studies examined the impact of self-defining events on individuals (i.e., subjective impact), meaning making with regard to these events, and how subjective impact may account for the pattern of current and recalled emotions for these self-defining memories (Singer & Moffitt, 1991–1992). In Study 1, participants recalled self-defining memories, indicating how much impact the recalled events have had on them and described meaning making for these events. Subjective impact was shown to be a good marker for meaning making. Participants in Study 2 each recalled five self-defining memories, reporting their current emotions about the events, the emotions they recalled feeling at the time, and the impact the events have had on them. As expected, for negative memories, people reported less negative emotion (e.g., sadness) and more positive emotion (e.g., pride) compared to how they recalled feeling at the time. For positive memories, people reported equally intense positive emotion (e.g., love) and less negative emotion (e.g., fear) compared to how they

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recalled feeling at the time. These patterns of current and recalled emotions were accounted for by impact ratings.

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; M. A. Conway, & Pleydell-Pearce, 2000; M. A. Conway, Singer, & Tagini, 2004), then the recall of emotions experienced in prior events is a further source of self-relevant information (M. A. Conway, 1991; M. A. Conway, & 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 & M. Conway, 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 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; Sutin & Robins, 2005; Thorne &

McLean, 2002; Thorne, McLean, & Lawrence, 2004). 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) and 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 1 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, 2004; Singer & Bluck, 2001). People engage in meaning making when recalling self-defining memories, particularly those that are 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 or 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 1) how much they had engaged in meaning making for these events.

Study 2 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 (M. Conway, & 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). In addition, 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). Reflecting on the positive consequences of a positive event, however, 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 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 2: 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 2 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 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. Also, 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 2 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 1, 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 2: One was to identify the pattern of current and recalled emotions that people report for self-defining memories; 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. We expected as well that the subjective impact ratings that participants reported 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 that might 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 2 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 2.

In the context of this article, 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 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 2, in that we not only asked participants to rate how much impact the self-defining events 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 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 1

Participants in Study 1 reported on how much impact self-defining events 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 had engaged in for those events.

Method

Participants and Procedure

Students were recruited from a booth on the Concordia University campus. A sign announced *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 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 (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 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 1. 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

Table 1
Intercorrelations Among Ratings of Impact and Other Indicators of Meaning Making for Self-Defining Memories in Study 1

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 $p < .001$, $n = 279$.

support the 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 six items. We return to the issue of gender differences in the General Discussion.

STUDY 2

The hypothesis in Study 2 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 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 1 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 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 1. 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 1. Responses were as follows: White (52.6%), Chinese (13.2%), South Asian (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 1 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 5-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 had 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 10 emotions felt 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 felt 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 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. 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 breakup, 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).[1] Blagov and Singer (2004) coded memories as integrative (i.e., as involving meaning making) if there was an explicit reference to why a memory was important and emotional. The present coding scheme also took into account implicit references to meaning making, and, in this respect, it differs from the coding of Blagov and Singer (2004). Implicit references were taken into account to provide a more comprehensive

1. 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.

assessment of spontaneous references to meaning making. An implicit reference to meaning might be a description of being aware of how an event had impacted the respondent 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 was 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 1). 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 five 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 2, were unambiguously either negative or positive. The types of events reported by participants and event frequencies are listed in Table 2. 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, 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.[2]

All statistical analyses were conducted for negative and positive events separately, with an alpha level of 0.05.[3] For both negative and

2. 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 $\times$ ethnicity interactions.

3. 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 10 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

Table 2
Event Categories, Valence of Event Categories, and Percentages of Memories in Each Event Category in Study 2

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
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.

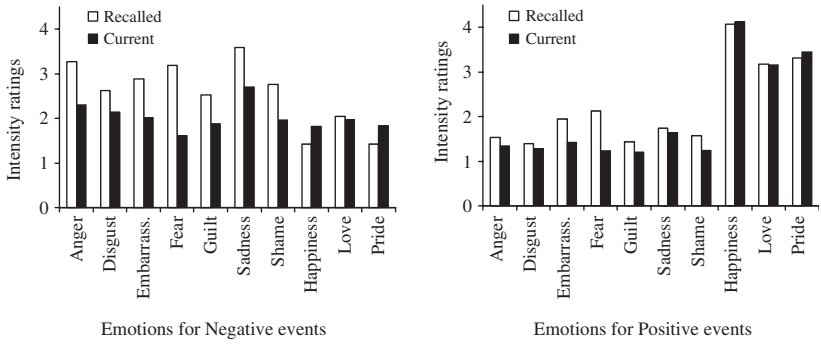

Figure 1
Recalled and current emotion ratings for positive and negative self-defining memories.

positive events, the prediction was for a Time effect in the MANOVA with Time (recalled and current) as the within-subject factor and the 10 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 10 emotion ratings entered as dependent variables.[4] 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 ($M = 2.14$, $SD = 1.19$),

positive emotions were significantly more intense than recalled positive emotions (with the exception of love).

4. 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-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, $F(1,66) < 1$.

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 for positive self-defining memories. Mean impact ratings did not differ across negative and positive

Table 3
Means for Characteristics of Negative and Positive Self-Defining Memories in Study 2

Characteristics for self-defining memories	Negative self-defining memories ($n = 74$)		Positive self-defining memories ($n = 68$)		
	M	*SD*	*M*	*SD*	*t*
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 reported only positive events and seven participants reported only 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 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).
*$p < .05$. **$p < .01$.

events (see Table 3), 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 4 and 5. Finally, it was argued earlier

Table 4
Correlations Between Coded Memory Characteristics, and Participants' Ratings of Negative and Positive Emotions for Negative Events

	1	2	3	4	5	6	7	8
1. Valence ratings by observers	—							
2. Reported impact on self	−.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.
*$p < .05$. **$p < .01$.

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 4 and 5). In addition, 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.

Table 5
Correlations Between Coded Memory Characteristics, and Participants' Ratings of Negative and Positive Emotions for Positive Events

	1	2	3	4	5	6	7	8
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.
*$p < .05$. **$p < .01$.

For negative events, a MANCOVA was conducted with Time (recalled and current) entered as the within-subject factor, the 10 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 4, 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 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 10 emotion ratings entered as dependent variables, and the mean rating of impact for positive events entered as a covariate. As reported in Table 5, 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 10 emotion ratings entered as dependent variables, and number of references to meaning making (for negative events) as a 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. 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 3. 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 2. 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 2. 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.[5]

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

5. Each participant recalled five 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, $p > .05$.

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 3, 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 did ($M = .33$, $SD = .40$), $t\ (65) = 3.34$, $p < .05$.

To consider the meaning making for different types of events, the 19 event categories in Table 2 were collapsed into six general categories. The six general 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 three 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 three general categories for positive events: (a) achievement (items 16, 17, and 18); (b) positive relationship (item 14); and (c) recreation (item 15). For the three 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 three 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 were 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 3, there were more references to negative emotions and fewer references to positive emotions for negative relative to positive self-defining memories. In addition, 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.

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 3, 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 first study involved participants completing a face-valid, self-report measure on meaning making for self-defining memories. What emerged was that a 1-item rating of the impact the event 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 1. 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 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 was not subject to the various biases that may be evident in autobiographical memory (Neisser & Fivush, 1994). People may also have difficulty reporting on the content of their earlier thoughts. Research on autobiographical memory suggests that people have poor memory for thought content (Brewer, 1988). Indeed, concerns might be raised if we had attempted to assess meaning making in Study 1 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 related to their feelings about their family, about their work or schooling, and so on. The issue of item specificity underscores another feature of Study 1. Participants were not asked to report on the actual nature of their meaning making. The questionnaire items in Study 1 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 second study, participants also rated the subjective impact that self-defining events 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 2. In contrast, participants' impact ratings were correlated with their reported emotions in ways that seem to reflect 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 they have not been shown to be significant for other types of memories. Specifically, studies on flashbulb memories (Pillemer, 1984) and college memories (Pillemer,

Goldsmith, Panter, & White, 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 & 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. One might also 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, 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 2 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 2 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 2 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., physical assault of self). Other types of negative and positive self-defining memories in Study 2 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 2 relative to those reported by Thorne et al. (2004) could also be due to the age difference between samples. Participants in Study 2, 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 2 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 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 2 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 1. 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).

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 1 or 2 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 1 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 2. 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 2. Recall that participants in Study 2 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 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 2 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 2 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 might lead participants to feel that they were 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.

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 lives. 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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