

Motivational Determinants of Integrating Positive and Negative Past Identities

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Five studies examined whether quality of motivation (as individual differences and primed) facilitates or thwarts integration of positive and negative past identities. Specifically, more autonomously motivated participants felt closer to, and were more accepting of, both negative and positive past characteristics and central life events, whereas more control-motivated participants were closer to and more accepting of positive, but not negative, past characteristics and events. Notably, controlled motivation hindered participants' acceptance of their own negative identities but not of others' negative identities, suggesting that control-motivated individuals' rejection of negative past identities was an attempt to distance from undesirable parts of themselves. Defensive processes, reflected in nonpersonal pronouns and escape motives, mediated interaction effects, indicating that lower defense allowed fuller integration. Integration of both positive and negative past identities predicted indicators of well-being, namely, vitality, meaning, and relatedness satisfaction.

Keywords: autonomy, motivation, integration, defense, identity

Central to many classical personality theories is the idea that healthy development involves assimilating and integrating life experiences and, through that process, developing a coherent sense of self (e.g., Freud, 1923; Jung, 1959; Rogers, 1963). In a similar vein, a multitude of research in narrative theory (e.g., Bauer, McAdams, & Pals, 2008; McLean & Fournier, 2008; McLean, Pasupathi, & Pals, 2007) is founded on the notion that important life stories, if coherently woven together, represent the self (McLean & Pratt, 2006). These traditions recognize that people face the challenges of acknowledging significant negative experiences and integrating them into a coherent sense of self. In this article, we use self-determination theory (SDT; Deci & Ryan, 1985b) to examine how current motivations affect people's willingness to integrate both positive and negative aspects of their past.

SDT maintains that *integration* is the process through which people acknowledge aspects of who they are and bring them into harmony with their values, emotions, identities, beliefs, and basic needs (Deci & Ryan, 1985b; Ryan & Deci, 2008). Integrating identities and experiences results in people having a coherent, though ever-changing sense of self. Through the integrative process, people become more self-regulated or volitional, acting consistently with their needs and interests and experiencing higher well-being (Deci & Ryan, 1995). Some people, however, suppress or reject significant experiences and identities, with accompanying costs in wellness (Ryan, Deci, Grolnick, & La Guardia, 2006).

Whether individuals integrate experiences is expected to be a function of their current motivations (Deci & Ryan, 1985a). When

people are controlled, they are less likely to express and integrate experiences, whereas when autonomous, they are naturally inclined toward integration. Herein we test this hypothesis by investigating whether autonomous motivation, either self-reported or primed, better allows individuals to engage past experiences. We expect controlled motivation to diminish people's accepting negative aspects of their life narratives.

Autonomy and Defense

Tendencies to respond defensively to aspects of one's past vary among individuals as a function of their tolerance for threatening self-relevant material (Hart, Shaver, & Goldenberg, 2005). We propose that being autonomously motivated facilitates nondefensive reflection on such material, whereas control motivation inhibits this process. Definitionally, autonomy is a motivational state in which self-initiation and coordination of personally endorsed behaviors predominate. When autonomous, people are interested in what is occurring, operate out of a sense of personal value (Ryan, Kuhl, & Deci, 1997), and assimilate and organize experiences (Deci & Ryan, 1985b). Because autonomy encourages openness and receptivity (Hodgins & Klee, 2002), we expect autonomy to facilitate integration of negative as well as positive aspects of one's past.

Control motivation, on the other hand, reflects functioning driven by externally imposed and introjected contingencies, eliciting pressure to conform to perceived expectations. Such contingencies often involve potential losses or gains to self-image or imagined approval by others. Thus, controlled motivation increases defense as people work to maintain an appealing self-image (Deci & Ryan, 1995; Hodgins, Brown, & Carver, 2007). Control heightens ego-involvement and discourages open learning and growth. Also, it dissuades individuals from learning about themselves if the knowledge holds potential threat (Knee & Zuckerman, 1996).

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Empirical support for the link between autonomy and lower defense was provided by Weinstein and Hodgins (2009), who found that autonomous, but not controlled, motivation yielded less defense to a negative emotional stimulus and more processing of it. Other studies showed that control was related to defensive interpersonal responses that denied conflict (Knee, Patrick, Vietor, Nanayakkara, & Neighbors, 2002). Particularly relevant for the current research are studies showing people high in autonomy and low in control engaged less in the defensive self-serving bias (Knee & Zuckerman, 1996, 1998). Presumably, autonomous people do not feel as much necessity as when controlled to protect their self-image (Knee & Zuckerman, 1996). Although this past research links control to defense against current experiences, the present research examined defense in relation to positive and negative past identities.

Integration, Identities, and Well-Being

Both positive and negative identities are constructed from self-relevant characteristics (Wilson & Ross, 2001) and central life events that represent one's past experiences (McLean & Thorne, 2003; Singer & Salovey, 1993). Each is a memory uniquely shaped by an individual within a specific situation, which interweaves the past with the present to shape a unique life story (Haberma & Bluck, 2000; McAdams, 1988). Said differently, past events are coupled with those of the present through a process of autobiographical reasoning that is more sophisticated in some than in others, as a function of (underexplored) individual differences (Haberma & Bluck, 2000; McLean et al., 2007). In the narrative tradition, as in SDT, these past experiences can add meaning to one's life and can contribute to one's present identity (McLean & Pratt, 2006).

In providing a sense of continuity, former identities can afford comfort (Barclay, 1996) and can also influence people's well-being in more complex ways (Gebauer, Broemer, Haddock, & von Hecker, 2008). Positive memories are easy to accept because they provide comfort and facilitate wellness (e.g., Routledge, Arndt, Sedikides, & Wildschut, 2008), but negative past identities are more challenging to integrate (Pals, 2006). Remembering painful past events can elicit negative emotions, including sadness and anger (Wood, Saltzberg, & Goldsamt, 1990) as well as personal distress and rumination (Loftus, 1993; Pennebaker, 1990).

On the other hand, neglecting negative past experiences comes at a cost. A coherent personal narrative is dependent on integrating both acceptable, pleasant aspects and threatening, unpleasant ones (Fuchs, 1996). Narratives that have conflict or tension may be those most likely to provide a sense of meaning (McLean & Thorne, 2003; Pals, 2006). Knowledge of the negative past also allows people to make different and more adaptive life decisions, learning from past experiences how to better respond to new situations (Freeman, 1993). As Allport (1948) argued, people who can view themselves only positively remain static instead of experiencing growth.

Although individuals like to think of their past in ways that make them feel good about the present (Wilson & Ross, 2001), the inevitable existence of negative past identity experiences implies that choices must be made between good feelings and a subjective sense of continuity. Those who are willing to sacrifice comfort to accept challenging material from the past can develop a stronger

sense of who they are in the present (Bauer, McAdams, & Sakeda, 2005; McAdams, 1995). Others may defend against difficult experiences by reinterpreting past failures to reduce negative affect (Mueller, 1990) or by suppressing past emotional experiences that reflect negatively on them (Baumeister, Dori, & Hastings, 1998; Baumeister, Stillwell, & Wotman, 1990; Davis, 1987). Work by Showers (1992) suggests that the process of integration is difficult and often painful but that, ultimately, flexibility in self-image is important for lasting well-being (see also Showers & Zeigler-Hill, 2003).

As described above, achieving a sense of continuity through successful integration of both positive and negative characteristics and events, though often painful (Showers, 1992), may ultimately lead to higher well-being (Chandler, 1994; Pasupathi, 2001). Specifically, integration promotes *eudaimonic well-being*, or well-being reflective of living in a fully functioning way (Ryan & Deci, 2001), rather than just promoting pleasant affect. We therefore assess several indicators of eudaimonic well-being, including vitality (Ryan & Frederick, 1997) and senses of meaning and connectedness with others (Barclay, 1993; Linde, 1987), assuming these outcomes would likely be associated with an elaborated and coherent life narrative that includes both positive and negative aspects. The latter outcome is considered because full autobiographical remembering should not only help individuals integrate within themselves but also construct a more coherent foundation for feeling related to others (Barclay, 1996; Ryan, 1990). Although eudaimonia is often thought of as a stable experience, it can nonetheless be encouraged for brief periods by introducing behaviors known to impact it, for example, expressions of gratitude (Emmons & McCullough, 2003; McCullough, Pargament, & Thoresen, 2000).

Indicators of Integrating Past Characteristics and Events

In the present research on integration of identities, we focus on people's past characteristics and their salient life events as exemplars of identity.

Integration of Past Characteristics

One indicator of integration is attributing *relevance* of a past identity to the present self-concept. In fact, effective autobiographical reasoning relies on understanding relevance of the past to make connections to the present (e.g., McLean & Fournier, 2008). Accordingly, to the extent that individuals can accept negative past characteristics, they are expected to acknowledge that these characteristics, whether respectable or shameful, have relevance to the present.

Yet another index of integration of past identities is a person's feelings of connection to these characteristics. A past characteristic is a unique entity (Gebauer et al., 2008; Schwarz & Bless, 1992), and we propose that connectedness to this unique entity reflects acceptance and integration of it. Positive characteristics from the past are easier to accept and can give one a considerable emotional boost, but negative ones can be painful. Distancing from these negative past characteristics protects people's present sense of self but at the cost of not feeling connection to their past.

Integration of Central Life Events

When personal events are threatening as opposed to ego-bolstering, people may dissociate them from their present self-representation, for example, by viewing them with distance (Ross & Wilson, 2000). Perceived closeness or distance from past life events can be assessed by examining the *perspective* taken when thinking back to them; an actor's perspective reflects closeness to past events and associated emotional experiences (McIsaac & Elch, 2004; Ross & Wilson, 2002).

A final indicator of integration of an identity is *acceptance* of a past event. Positive past events are easily accepted or acknowledged as fair and deserved. Negative events, which challenge fairness and safety beliefs, as well as desires to be liked by others and to like oneself are much more difficult to accept. Thus, acceptance is an important concept for integration, in that it reflects a capacity to acknowledge past events regardless of the level of threat.

Defense Against Negative Identity Experiences

Certain indicators may signal defenses against negative identities and feelings. One such indicator is the low usage of *personalizing terms* (e.g., I, my, we, our), relative to other-focused pronouns that function to defend oneself from the topic under discussion (e.g., you, it). Consider two statements: the first, "people feel so lonely on their own"; the second, "I feel so lonely on my own." Clinical experience suggests that the first of these permits individuals to express feelings without the threat associated with fully processing lonely feelings (e.g., Hadar, 1993). Conversely, statements referencing positive affect are easier to accept as one's own, so people are less likely to state positive affect from a third-person perspective (e.g., people feel so happy). Research has demonstrated that use of personalizing pronouns can be indicative of self-honesty about one's experiences (Campbell & Pennebaker, 2003) and an absence of dissociation or defense (Dulaney, 1982; Newman, Pennebaker, Berry, & Richards, 2003). Additional supporting research showed that people high in self-deception utilize personal terms less when telling personal stories (Barrett, Williams, & Fong, 2002). Moreover, experimental work has shown that both individual-difference and primed autonomy lead to increased use of personalizing pronouns and that the use of these, in turn, mediates the relation between autonomy and fuller processing of emotionally challenging events in one's current situation (Weinstein & Hodgins, 2009). Personalizing pronouns can thus reflect an absence of defensiveness in response to emotionally challenging material, such as painful memories of the past.

Along with examining pronouns, defensive processes can also be tapped by directly collecting subjective reports of people's desire to escape or avoid the challenging situation (Hodgins, Yacko, & Gottlieb, 2006). To do so, the Escape Motives scale (Anderson, 1999) can also be used, which asks participants to report on their present desire to escape or avoid, rather than to confront or pursue, a negative experience.

The Present Studies

Recognizing that people differentially integrate unpleasant past experiences, we examined whether autonomous versus

controlled motivation would affect the degree of integration of positive versus negative past identities. These included personality characteristics that were central at some prior time in people's lives and also self-defining, or emotionally important, events from the past (McLean & Thorne, 2003; Singer & Salovey, 1993). More specifically, *characteristics* represent central attributes of oneself that may be either displeasing or admirable, whereas *events* are emotionally laden encounters, often with implications for one's self-valuing. In five studies, we examined individual-difference and primed motivations as predictors of people's integration of past identity experiences and their defense against them.

We hypothesized an interaction such that autonomous individuals and those primed to be autonomous would show greater integration of past characteristics and events and less defense against negative ones. In contrast, controlled individuals and those primed to be controlled were expected to respond more defensively and, as a result, were expected to integrate positive but not negative past identities. To examine negative life events, we asked people to think of those that were most shaming or regretful. Consistent with previous research suggesting that these are best retained (Thorne & McLean, 2003), we believed that control-motivated individuals might still have memory for the events but distance themselves from these memories.

In two initial studies, we used self-reported differences in autonomy and control motivational orientations to predict people's degree of approaching past aspects of their lives in an integrative manner. In three subsequent studies, we primed participants to be in autonomous or controlled states, testing for responses that paralleled those found with individual differences. Using primes allowed exploration of causal relations between motivation and integrative processes.

Several studies have shown that individuals who perceive more similarity with others or with past identities experience more closeness and acceptance (e.g., Chen, Bond, & Fung, 2006; Madia & Lutz, 2004; Pleban & Tesser, 1981). It is possible, then, that perceived similarity is responsible for the link between motivation and integration—that is, autonomous rather than controlled participants might perceive more similarity with their past selves and thus better integrate them. To account for this, Study 2 assessed perceived similarity.

To test whether defense was responsible for differences in integration, later studies also tested mediations by using two indicators of defense—fewer personalizing pronouns and higher escape motives. Individuals high in control were expected to respond defensively, indicated by lower use of personalizing pronouns and higher desire for escape, whereas those high in autonomy were expected to be low in defense (Weinstein & Hodgins, 2009). Further, to examine whether the defending against negative events associated with controlled motivation stemmed from people's aversion to negative events in general or their defensiveness toward just their own negative events, some participants reported about their own negative past events and some about the past negative events of a close friend. In the final study, we examined whether the interaction of motivation and valence on integration would affect well-being, including vitality, life meaning, and relatedness satisfaction.

Study 1

Study 1 explored the interacting effects of motivation (autonomy vs. control) and valence (positive vs. negative) on evaluations of past identities, operationalized as both (a) personal characteristics and (b) central life events. Individual differences in motivation were used to predict integrative processing when thinking about positive or negative past identities, which was assessed using (a) felt connection to personal characteristics, (b) acceptance of life events, and (c) taking actor-versus-other perspectives on central life events.

Method

Participants. Participants were 98 university students (57 women, 41 men) who were offered extra course credits for participating. Participation in one of many unrelated experiments and course-specific extra-credit assignments were offered as alternatives. This approach was also used in Studies 2–5. Ages ranged from 18 to 27 years ($M = 21$ years).

Procedure. All participants reported on both personal characteristics and central life events from their pasts. We examined the relation of autonomy (relative to control) to perceptions of these past characteristics and past life events. Before arriving at the laboratory, each participant was randomly assigned to report on a positive or negative “characteristic” and then, independently, on a positive or negative “event.” As such, a participant might be in either the same or a different valence condition when characteristics data were analyzed from when events data were analyzed.

Participants first completed the General Causality Orientations Scale (GCOS; Deci & Ryan, 1985a) as well as a number of filler items assessing personality traits unrelated to the present project. Following this, we introduced two tasks: The first was to reflect on a past characteristic; the second was to reflect on a past life event. The order in which these were presented alternated, and between the two tasks participants completed a number of filler surveys assessing characteristics of attention and concentration. Depending on assignment to a “valence of characteristic” condition, participants were asked to think about themselves 3 years ago, focusing either on positive characteristics or negative characteristics they attributed to themselves at that age. Asking participants to think back to 16 years of age is commonly used in examining past identities (Broemer, Grabowski, Gebauer, Ermel, & Diehl, 2008), but we selected thinking back 3 years to approximate that procedure while keeping the temporal distance from the present constant across participants, regardless of age. In response to this task, everyone was asked to report on felt connection to their past identity. Additionally, they recalled a life event that had a strong impact on them around this period. Depending on assignment to a “valence of event” condition, participants reflected on a major life event that was either “shaming or regretful” or “happy and contented.” All participants reported on their acceptance of this event and the perspective taken when imagining it.

Measures.

Trait autonomy. Individual differences in motivational orientations were measured using the GCOS (Deci & Ryan, 1985a), composed of 17 vignettes of interpersonal situations followed by three items, reflecting autonomous, controlled, and impersonal styles of responding (7-point scale). For this research, we consid-

ered only the autonomous and controlled motivations. Autonomous motivation reflects a tendency to be interested and self-initiating and to interpret social contexts as autonomy supportive; controlled motivation refers to the tendency to feel compelled by external contingencies and internally imposed imperatives. In the present study, the target GCOS subscales had good internal reliabilities (α s: control = .83, autonomy = .89). To construct a continuous score reflecting dispositional autonomy relative to dispositional control, we computed a composite subtracting control from autonomy scores; higher scores reflect more autonomous motivation. See Table 1 for descriptive statistics (means, standard deviations, kurtosis, and skewness averaged across studies) for this and other study variables.

Characteristics integration: Connection. Felt connection to personal characteristics from one’s past was measured using five items, constructed to assess a sense of felt closeness to these parts of oneself. Paired with a 5-point scale ranging from 1 (*not at all true*) to 5 (*extremely true*), items included “I feel connected to my past identity,” and “I feel distant from my past identity (r).” This scale showed high internal reliability ($\alpha = .90$).

Events integration: Acceptance. Four items assessed acceptance of a central past life event (e.g., “I accept the experience I had,” and “I embrace that this event is a part of my past”). These were rated on a 5-point scale ranging from 1 (*not at all true*) to 5 (*extremely true*). Reliability was $\alpha = .86$.

Events integration: Perspective. The perspective measure was taken from Pronin and Ross (2006) and is based on the assumption that individuals may view memories from the perspective of either actor or observer. To the extent that participants psychologically distance themselves from the memory, they are expected to view it from an observer’s perspective. Participants reported on a scale of 1 (A) or 7 (B) to what degree each was true for them when reflecting on the past event in which:

Table 1
Descriptive Statistics (Means, Standard Deviations, Kurtosis, Skewness) Averaged Across Studies for Major Study Variables

Variable	<i>M</i>	<i>SD</i>	Kurtosis	Skew
Independent				
Motivation ¹⁻²	1.14	0.89	-.15	.19
Dependent				
Connection ¹⁻⁵	3.17	0.65	.55	-.61
Relevance ²⁻⁵	2.48	0.71	.09	.22
Acceptance ¹⁻⁵	3.06	0.69	-.48	-.28
Perspective ¹⁻⁵	4.01	1.10	-.19	-.72
Mediators				
Pronouns ²⁻⁴	7.20	2.06	-.60	-.99
Escape motives ⁴⁻⁵	2.25	0.74	.53	.17
Covariates				
Similarity ²	3.01	0.97	-.15	-.20
Self-esteem ²⁻⁵	3.25	0.83	.12	-.37
Positive affect ²⁻⁵	3.42	0.78	-.32	-.60
Negative affect ²⁻⁵	2.16	0.72	-.49	.85
Well-Being				
Vitality ⁵	4.00	0.59	.29	-.30
Meaning ⁵	3.23	1.01	.58	.46
Connection ⁵	3.49	0.94	.05	.13

Note. Superscripts attached to the variable numbers on the top row of the table identify the study/studies in which each variable was measured. For example, the superscript numbers “1–5” indicate that the corresponding variable was measured in Studies 1–5.

A was the actor's perspective: I saw the scene from my original point of view (not as an external observer would see it). I did not see myself in the image, since it was as though I was looking at the event through my own eyes.

B was the observer's perspective. I saw the scene as an observer might see it (not from my original point of view). I saw myself in the image, since it was as though I was looking at the event through the eyes of an observer.

Central life events composite. The variables of acceptance and perspective were standardized and averaged to compute a composite reflecting integration of life events ($r = .55$).

Results

Data analytic strategy. We hypothesized that people high in controlled motivation would devalue negative but not positive past identities, whereas people high in autonomous motivation would integrate both. Multiple regression analyses tested this hypothesis, predicting connection, acceptance, and perspective from the motivation by valence interaction. In these analyses, motivation and valence (coded 1 for positive, -1 for negative) were entered at Step 1, and their interaction was entered in Step 2. Connection to past characteristics was regressed onto the valence condition for characteristics, and the integration composite for life events was regressed onto the valence condition for life events. This strategy was also utilized in Study 2. Correlations between variables of interest, averaged across all studies in which each appeared, are presented in Table 2.

Primary analyses.

Characteristics integration. Analyses showed a direct effect of motivation, such that the more autonomous an individual the more he or she felt connected to past identity characteristics, $\beta = .29$, $t(95) = 2.92$, $p < .01$. A two-way interaction showed that motivation was moderated by the valence of past characteristics, $\beta = -.32$, $t(94) = -3.26$, $p < .01$ (see first half of Figure 1). Simple effects split by motivation showed that dispositionally autonomous participants did not differ in connection to positive and negative characteristics ($\beta = .07$, $p > .05$), but those high in control were more connected to positive, compared with negative, past characteristics ($\beta = .25$, $p < .05$).

Events integration. The events integration composite was regressed onto motivation, valence, and their interaction. Analyses showed that autonomous individuals better integrated their past life events, $\beta = .41$, $t(95) = 4.30$, $p < .01$.¹ The two-way interaction showed that motivation was moderated by the valence of life events, $\beta = -.35$, $t(94) = -3.56$, $p < .01$. Participants higher in dispositional autonomy did not differ in their acceptance of positive and negative events ($\beta = -.02$, $p > .05$), but those high in control were more accepting of positive than negative events from their past ($\beta = .48$, $p < .01$; see second half of Figure 1).

Discussion

Study 1 showed that on the whole, autonomous individuals felt more connected to negative past characteristics, were more inclined to accept negative central life events, and took an actor's perspective when thinking back to these unpleasant events. Results thus provide initial evidence that autonomously oriented individ-

uals better integrated these unfavorable past identity characteristics and regrettable or shaming life events, whereas those high in control integrated positive characteristics and events but were less likely to do so with negative events.

Study 2

Study 2 elaborated on the first study in four ways. First, it controlled for self-esteem and positive affect to account for their impact on past identities (e.g., Gebauer et al., 2008). Second, perceived relevance of past characteristics to the present was added as a second measure of characteristics integration. In addition, because studies (Chen et al., 2006; Madia & Lutz, 2004; Pleban & Tesser, 1981) have shown that people who perceive their present self to be similar to others or to their own past identities experience more closeness to and acceptance of them, we controlled for this potential confound.

Finally, Study 2 tested mediation for the Motivation \times Valence interaction by the number of personalizing pronouns relative to nonpersonal pronouns used. Personalizing pronouns in reflecting on a past identity is believed to convey nondefense in response to that identity.

Method

Participants and procedure. Participants were 112 university students (70 women, 42 men), 18–24 years of age ($M = 20$ years), who completed a single laboratory session. The procedure was similar to that of Study 1, except that when asked to reflect on past characteristics (either positive or negative) and past events (positive or negative), participants were also instructed to provide a short narrative of each past identity.

Measures. Motivation (Study 2 α s = .76 and .77), connection to past characteristics ($\alpha = .85$), acceptance ($\alpha = .84$), and perspective were used as in Study 1, with an events-integration composite for past life events being formed from acceptance and perspective.

Characteristics integration: Relevance to present identity. Seven items ($\alpha = .85$) assessed the relevance of past personal characteristics to present identity, using a 5-point scale ranging from *not at all true* to *extremely true*. Items included "My past characteristics are a part of who I am today," and "Those past characteristics are an important part of me." A robust but moderate correlation ($r = .51$) with *connection* to past characteristics led us to standardize and combine the two as a composite measure of integration of past personal characteristics.

Personalizing pronouns. The use of nonpersonal pronouns indicates defense in one's personal narratives. We measured personalizing pronouns by subtracting the number of second- and third-person pronouns (e.g., him, her, they) from the number of first-person pronouns (e.g., I, we, our). Higher scores reflected higher self-honesty or lower defensiveness. Words were counted using Linguistic Inquiry and Word Count (LIWC), a text analytic

¹ Analyses conducted regressing each outcome (acceptance and perspective) separately onto motivation, condition, and their interaction demonstrated patterns consistent with those found for the composite (main effect of condition, $p < .05$; moderation by valence, $p < .01$).

Table 2
Correlations for Major Study Variables Averaged Across Studies

Variable	1 ¹⁻²	2 ³⁻⁵	3 ¹⁻⁵	4 ²⁻⁵	5 ¹⁻⁵	6 ¹⁻⁵	7 ²⁻⁴	8 ⁴⁻⁵	9 ²	10 ²⁻⁵	11 ²⁻⁵	12 ⁵	13 ⁵	14 ⁵
Independent														
1. Individual motivation														
2. Motivation prime														
Dependent														
3. Connection	.24**	.28**												
4. Relevance	.41**	.29**	.58**											
5. Acceptance	.31**	.26**	.52**	.51**										
6. Perspective	.35**	.38**	.53**	.50**	.59**									
Mediators														
7. Pronouns	.36**	.33**	.27**	.22*	.29**	.32**								
8. Escape motives		-.35**	-.30**	-.26**	-.25**	-.38**	-.61**							
Covariates														
9. Similarity	-.04		.08	.15	.20*	.07	.00							
10. Self-esteem	.32**	.15	.11	.07	.21*	.19*	-.09	-.03	-.23*					
11. Positive affect	.44**	.21*	.24	.13	.17	.22*	.05	.14	-.06	.29**				
12. Negative affect	-.22*	-.11	-.01	-.04	-.10	-.00	.13	.03	.02	-.17	-.32**			
Well-being														
13. Vitality ^a		.32**	.44**	.31**	.20*	.39**		-.26**		.26**	.02	-.13		
14. Meaning ^a		.20*	.36**	.20*	.41**	.22*		-.22*		.23*	.09	.04	.39**	
15. Relatedness satisfaction ^a		.24**	.43**	.28**	.24**	.30**		-.23*		.20*	.15	-.12	.56**	.50**

Note. Pearson correlations are averaged across the studies in which they were measured. Significance is based on sample size averaged across the five studies: $n = 125$. Superscripts attached to the variable numbers on the top row of the table identify the study/studies in which each variable was measured. For example, the superscript numbers “1–5” indicate that the corresponding variable was measured in Studies 1–5.

^a Scores reflect change scores computed from Vitality Time 2 – Vitality Time 1.

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

strategy that counts selected words or groups of words in a text (Pennebaker, Francis, & Booth, 2001).

Similarity. Two items measured perceived similarity of one’s past characteristics to one’s current identity. Items were paired with a scale ranging from 1 (*not at all true*) to 5 (*very true*). These items were “Presently, I have similar characteristics to myself three years ago,” and “Presently, I am the same as I was three years ago.” The items were correlated ($r = .81$).

Self-esteem. Trait self-esteem was evaluated using the Rosenberg Self-Esteem Scale (Blascovich & Tomaka, 1991; Rosenberg, 1965). Participants responded to 10 items including “I feel that I have a number of good qualities” using a scale ranging from 1 (*strongly agree*) to 4 (*strongly disagree*). Items were computed

such that higher scores reflected higher self-esteem. The reliability of this widely used measure in the current study was $\alpha = .78$.

Trait positive affect. Positive affect and negative affect were assessed using the nine-item Emmons Mood Indicator (Diener & Emmons, 1984). Participants reported on how much of each mood they felt in general using a Likert-type scale ranging from 1 (*not at all*) to 7 (*extremely*). Negative affect (e.g., worried/anxious, depressed; $\alpha = .86$) and positive affect (e.g., joyful, happy; $\alpha = .85$) were considered separately.

Results

Data analytic strategy. Multiple regression analyses tested main and interacting effects. Analyses controlled for trait self-esteem, negative affect, and positive affect at Step 1 (see Table 3 for effects of covariates for this and following studies). To test mediation by personalizing pronouns for the moderated relations observed in Study 1, mediated moderation analyses were conducted according to the recommendations outlined by Muller, Judd, and Yzerbyt (2005) on the basis of Baron and Kenny’s (1986) initial procedure. Separate analyses were conducted predicting past characteristics and central events² (see Figure 2 for the general model). Mediation analyses required that a Motivation \times Valence interaction on characteristics and life events be demonstrated (Path c). Second, the moderation effects must be demonstrated predicting personalizing pronouns (Path a), and personal-

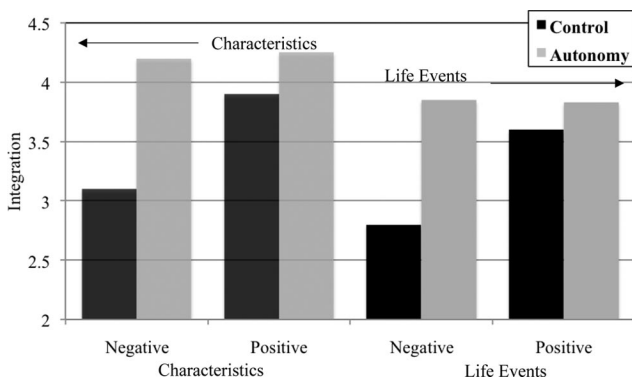


Figure 1. Study 1 Motivation \times Valence interaction predicting past identity characteristics (connection) and central life events.

² In this and future study results, analyses conducted on each of the outcomes (connection, relevance, acceptance, and perspective) separately showed patterns consistent with those found for their composites (highest order interactions, $ps < .05$).

Table 3
Effects of Covariates From Full Hierarchical Linear Models
(Trait Self-Esteem, Trait Positive Affect, and Initial Well-Being)

Covariate	Self-esteem	Positive affect	Negative affect	Initial WB
Study 2 ^a				
Characteristics	1.20	0.19	-1.18	
Central life events	2.17*	0.58	-1.82	
Similarity	-1.92	-0.97	1.84	
Study 3 ^b				
Characteristics	1.39	0.84	-1.45	
Central life events	2.14*	0.45	-1.99*	
Study 4 ^c				
Characteristics	0.83	0.31	-1.00	
Central life events	1.49	0.62	-1.29	
Study 5 ^d				
Integration	1.38	1.10	-1.23	3.01**
Well-being	2.42*	2.81**	1.99*	4.92**

Note. Initial WB reflects well-being (composite of vitality, meaning, and relatedness satisfaction) after the motivation prime.

^a $df = 106$. ^b $df = 131$. ^c $df = 121$. ^d $df = 144$.

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

izing pronouns must be shown to predict outcomes (Path b') when controlling for the moderation effect. Finally, the interaction effect must no longer predict outcomes (Path c') when accounting for personalizing pronouns.

Primary analyses.

Characteristics integration. Connection and relevance ($r = .48$) were combined to create an integration of personal characteristic composite. Results from the full model showed no effects of covariates ($ps > .05$) on the integration composite. A main effect was present for personal characteristics, $\beta = .32$, $t(106) = 3.29$, $p < .01$, which was moderated by valence, $\beta = -.25$, $t(105) = -2.52$, $p < .01$. As in the prior study, autonomy predicted integration of all aspects of the past identity ($\beta = -.06$, $p > .05$), whereas control predicted more integration of positive than negative characteristics ($\beta = .43$, $p < .01$).

Events integration. Though positive and negative affect did not predict the composite measure of integration of life events ($ps > .05$), self-esteem led to more integration ($p < .05$; see Table 3 for details). Autonomous individuals showed more integration of past life events, $\beta = .27$, $t(106) = 2.58$, $p < .05$, and this effect was moderated by valence, $\beta = -.32$, $t(105) = -3.22$, $p < .01$. The interaction showed that those higher in dispositional autonomy integrated both positive and negative life events similarly ($\beta = -.10$, $p > .05$), whereas those higher in dispositional control integrated past positive events ($\beta = .41$, $p < .01$).

Similarity. The only effect that emerged indicated that all individuals tended to feel more similar to positive past identities than to negative past identities, $\beta = .23$, $t(106) = 2.05$, $p < .05$; all other effects were nonsignificant ($ps > .05$).

Mediations. Mediation analyses were conducted for the two-way interaction effects (Motivation \times Valence) presented above, testing personalizing pronoun use as the proposed mediator.

Defense and integration of characteristics. Autonomous motivation predicted less defense as indexed by more personalizing pronouns used in descriptions, $\beta = .37$, $t(106) = 3.41$, $p < .01$, as did the two-way interaction between motivation and valence, $\beta =$

$-.30$, $t(105) = -3.10$, $p < .01$. When people high in controlled motivation thought about positive past characteristics, they used more personalized pronouns than when thinking about negative past characteristics ($\beta = .41$, $p < .01$), whereas people high in autonomy used a similarly high number of personalizing pronouns for positive and negative characteristics ($\beta = -.10$, $p > .05$). Personalizing pronouns in turn predicted integration of personal characteristics, $\beta = .25$, $t(105) = 2.61$, $p < .05$. Moreover, when holding constant the effects of personalizing pronouns, the Motivation \times Valence interaction no longer predicted integration, $\beta = -.09$, $t(104) = -1.16$, $p > .05$, indicating full mediation. Sobel's (1982) test showed a significant indirect effect ($z = 2.01$, $p < .05$).

Defense and integration of life events. Autonomous motivation also predicted a higher number of personalizing pronouns used in descriptions of past events than did control motivation, $\beta = .31$, $t(106) = 3.00$, $p < .01$, and interacted with valence, $\beta = -.30$, $t(105) = -2.93$, $p < .01$. People high in controlled motivation were low in defense toward positive events ($\beta = .38$, $p < .01$), whereas autonomy-oriented individuals were low in defense toward both positive and negative events ($\beta = -.05$, $p > .05$). As was the case with personal characteristics, personalizing pronouns predicted integration of past life events, $\beta = .28$, $t(105) = 2.71$, $p < .01$. Moreover, when controlling for personalizing terms indicative of defense, the interaction effect on integrations of life events dropped to nonsignificance, $\beta = -.11$, $t(104) = -1.41$, $p > .05$. A marginally significant indirect effect was present ($z = 1.96$, $p = .05$).

Discussion

Study 2 demonstrated expected relations of autonomy to integration of past personal characteristics (feelings of connection and perceived relevance of the past) and central life events (taking an actor's perspective and accepting these events). Both types of identities were accepted regardless of their valence. However, for those high in control, valence had a powerful effect that encouraged distancing from negative past events. Control-oriented individuals were more likely to relate to, accept, find relevant, and take a first person perspective with respect to positive past characteristics than negative ones. Interestingly, despite integrating past identities, individuals high in autonomy did not see themselves as more similar to their positive or negative past identities than did

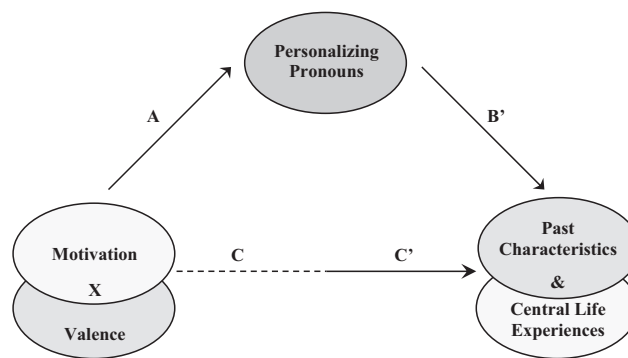


Figure 2. Study 2 Motivation \times Valence interaction predicting past identity characteristics and central life events.

controlled individuals, suggesting that integration, but not similarity, was affected by defensive processes. Presumably, people can integrate past identities despite changing their views of themselves.

Mediation analyses showed that less defense, indicated by higher use of personalizing pronouns, mediated the effects on integration of both characteristics and events. These analyses supported the notion that nondefense was important for integrating challenging past identities.

Study 3

Autonomy and control can be explored as individual differences reflecting general response tendencies (e.g., Deci & Ryan, 1985a), as we have seen in the first two studies, or by presenting primes designed to make salient a short-term autonomous or controlled motivational approach (e.g., Hodgins et al., 2006). Priming impacts behavior in comparable ways with those of stable orientations by making orientations temporarily salient in accordance with the prime (Wheeler, DeMarree, & Petty, 2007). Thus, previous experiences with autonomy or control motivation become active and operative, influencing reactions to presently occurring experiences. Study 3 sought to test effects on integration of the past, replicating moderation and mediated moderation effects using a motivation prime manipulation to elicit autonomy or control. Primed motivation conditions were compared with a neutral prime to explore whether autonomy facilitates integration, control thwarts it, or both occur. Because there were no effects for similarity in the previous study, this variable was not used in Study 3.

Method

Participants and procedure. Participants were 138 students (75 women, 63 men), ages ranging from 18 to 26 years ($M = 21$ years). They first completed surveys assessing trait characteristics and filler items, followed by a second packet that started with a motivational priming task. They were then asked to reflect on either a past positive characteristic and central life event or a past negative characteristic and central life event. Thus, in this and the next two studies, there was only one random assignment for each participant, so the valence of the two events was the same for each. This study therefore involved a 3 (Motivation: autonomy, neutral, control) \times 2 (Valence: positive, negative) design.

Measures. Trait self-esteem ($\alpha = .78$), trait positive affect ($\alpha = .81$), connection ($\alpha = .86$), relevance ($\alpha = .86$), acceptance ($\alpha = .89$), and perspective were used as in previous studies. The LIWC was again used to count personalizing and nonpersonalizing pronouns as a defense score.

Autonomy and control prime. We assessed effects of motivation using autonomy, control, and neutral primes. Participants were primed by exposure to key concepts embedded in a simple sentence restructuring task. Similar tasks have been used to influence stereotype formation (Bargh, Chen, & Burrows, 1996), perceived temperature (DeWall & Bushman, 2009), and other constructs. Also, in previous studies, primed motivation using the sentence scramble task has elicited changes in defensiveness (Hodgins et al., 2006), implicit self-esteem (Hodgins et al., 2007), and effective emotion regulation (Weinstein & Hodgins, 2009).

The sentence scramble task consisted of 30 items (15 were intended to prime motivation) and directed participants to rear-

range four out of five words into grammatically correct sentences. Autonomy words including “choiceful,” “opportunity,” and “autonomous,” were embedded in groups of words such as “feel are choiceful I usually.” Control words including “must,” “should,” and “restrict” were embedded in word combinations such as “so behavior my they restrict.” The comparison condition consisted of all neutral words.

Prime manipulation check. A state version of the Autonomous Orientation Scale (Weinstein, Przybylski, & Ryan, 2010) was used as a manipulation check. Participants indicated how true four statements were for them on a scale ranging from 1 (*not at all true*) to 5 (*completely true*). Items included “I am strongly identifying with the things I do,” and “I am doing things to avoid feeling ashamed (r).” Higher scores meant higher state autonomy relative to control ($\alpha = .92$).

Results

Analytic strategy and manipulation check.

Analytic strategy. Regression analyses tested direct, interacting, and mediation effects. Motivation primes were coded for comparison with the neutral prime: autonomy (1) with neutral (−1), and control (1) with neutral (−1). At the second step, the autonomy contrast was interacted with valence, as was the control contrast. Figure 3 summarizes moderation results for both personal characteristics and central life events, each analyzed separately. Analyses predicted integration of personal characteristics and of central life events from motivation and valence, controlling for trait self-esteem, negative affect, and positive affect (see Table 3 for control-variable effects). Mediation analyses held constant personalizing pronouns to test whether defense was responsible for the interaction effects.

Manipulation check. The manipulation check confirmed that autonomy-primed participants felt more autonomous than those who were neutral-primed, $\beta = .29$, $t(133) = 2.99$, $p < .01$, whereas control-primed participants felt less so, $\beta = -.23$, $t(133) = -2.35$, $p < .05$.

Primary analyses.

Characteristics integration. No effects for covariates were found ($ps > .05$). Consistent with the individual difference findings in prior studies, a main effect predicted integration of personal characteristics from autonomy, $\beta = .25$, $t(130) = 2.32$, $p < .05$,

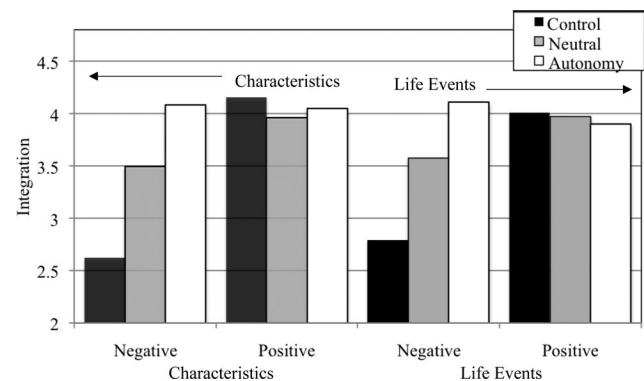


Figure 3. Study 3 Motivation Prime \times Valence interaction predicting past identity characteristics and central life events.

such that autonomy-primed individuals better integrated their past personal characteristics than did neutral-primed people. Control-primed participants more poorly integrated than those who received a neutral prime, $\beta = -.27$, $t(130) = -2.70$, $p < .01$. Notably, the two-way interactions with valence were both significant: Autonomy \times Valence, $\beta = -.32$, $t(129) = -3.20$, $p < .01$; Control \times Valence, $\beta = .40$, $t(129) = 3.97$, $p < .01$. Simple effects demonstrated that autonomy-primed participants integrated all past identity characteristics ($\beta = -.08$, $p > .05$), whereas neutral-primed participants integrated positive characteristics from their past ($\beta = .23$, $p < .05$); furthermore, control-primed participants were even more biased in that direction than neutral primed participants ($\beta = .54$, $p < .01$).

Events integration. Self-esteem predicted integration of central life events ($p < .05$), though positive and negative affect did not ($ps > .05$). Consistent with results using individual differences, those primed with autonomy integrated central life events, $\beta = .29$, $t(130) = 2.89$, $p < .01$, relative to those neutrally primed. Furthermore, those primed with control were less likely to do so than those given the neutral prime, $\beta = -.34$, $t(130) = -3.23$, $p < .01$. Two significant interaction effects, $\beta = -.32$, $t(129) = -3.15$, $p < .01$, and $\beta = .24$, $t(129) = 2.49$, $p < .01$, indicated that participants primed with autonomy equally integrated all past life events ($\beta = .03$, $p > .05$), that those neutrally primed more poorly integrated negative central life events ($\beta = .23$, $p < .05$), and that those primed with control integrated the negative events even less than those neutrally primed ($\beta = .45$, $p < .01$).

Mediations. Mediation analyses were conducted for both interaction effects (Valence \times Autonomy vs. Neutral; and Valence \times Neutral vs. Control) predicting integration of characteristics and events, as mediating by personalizing pronouns.

Defense and integration of characteristics. Similar to the results we obtained with individual differences, primed motivation interacted with valence in predicting defense as indexed by the use of personalizing pronouns, $\beta = -.21$, $t(129) = -2.24$, $p < .05$. When neutral-primed participants thought about positive characteristics of past identities, they used more self-pronouns than when thinking about negative past characteristics ($\beta = .20$, $p < .05$). No such effect was present when individuals were primed with autonomy ($\beta = .04$, $p > .05$). Control priming also interacted with valence, $\beta = .32$, $t(129) = 3.06$, $p < .01$, indicating that control increased the contrast between positive and negative characteristics ($\beta = .38$, $p < .01$) compared with neutral primed individuals. As in Study 2, personalizing pronouns in turn predicted integration of characteristics, $\beta = .27$, $t(129) = 2.79$, $p < .01$. Moreover, when controlling for use of personalizing pronouns, the Motivation \times Valence interactions no longer predicted integration, $\beta = -.14$, $t(128) = -1.39$, $p > .05$, and $\beta = .07$, $t(129) = 0.75$, $p > .05$. Sobel's (1982) test showed both predictors had marginal or significant indirect effects through personalizing pronouns ($z = 1.95$, $p = .05$; $z = 2.06$, $p < .05$).

Defense and integration of events. Past events were experienced similarly to past characteristics. Valence moderated the effects of autonomy priming, $\beta = -.33$, $t(129) = -3.41$, $p < .01$, such that neutral primed participants used more personalizing pronouns when speaking of positive than negative events ($\beta = .26$, $p < .05$), whereas those primed with autonomy did not ($\beta = -.05$, $p > .05$). Control priming, relative to neutral priming, also interacted with valence, $\beta = .29$, $t(129) = 2.97$, $p < .01$, with the use

of personalizing pronouns being reduced in response to a negative (compared with a positive) past event among control-primed people relative to those neutrally primed ($\beta = .34$, $p < .01$). In turn, personalizing pronouns predicted integration of past events, $\beta = .39$, $t(129) = 4.01$, $p < .01$. When controlling for personalizing pronoun use, the interaction effects was no longer significant, $\beta = -.04$, $t(128) = -0.62$, $p > .05$, and $\beta = .09$, $t(128) = 1.23$, $p > .05$. An indirect effect was present for both ($z = 2.60$, $p < .01$; $z = 2.39$, $p < .05$).

Discussion

Study 3 showed that results obtained using motivational primes were consistent with those obtained using individual differences in motivation. When primed with autonomy, individuals reflecting on the past felt connected to and found relevance in both their positive and negative personal characteristics, but control-primed people were less willing to integrate negative than positive personal characteristics. Additionally, when recalling positive and negative central life events, autonomy priming facilitated more acceptance and use of an actor's perspective, but the control prime did so only for the positive ones. Indeed, integration of negative personal characteristics and life events was enhanced by autonomy priming and diminished by control priming. Mediation analyses showed that defense (reflected in personalizing pronouns) was responsible for the motivational priming effects on past identities.

Study 4

Painful memories should be threatening when the negative affect is centrally related to one's self. As memories increase in their self-relevance, they have more power to induce present feelings of shame and regret or to otherwise lower one's self-regard. Presumably, thinking about painful characteristics or events peripherally related to one's self should be more easily integrated, as they do not present the same level of threat. Study 4 therefore explored whether defensive responses of controlled individuals result from thinking back to negative events in general, or are elicited only by reflection on one's personal negative past. To this end, responses to past experiences were examined in two ways: first, by assessing reports of one's own past characteristics and events; second, by assessing reactions to a close friend's past identities. Because Study 3 showed that autonomy facilitated and control thwarted integration compared with a neutral prime, here we just compare autonomy with control directly. Therefore, Study 4 used a $2 \times 2 \times 2$ factorial design, testing the hypothesis that control-primed people will better integrate their own positive identities and others' positive and negative identities than their own negative identities, whereas autonomy-primed people will respond similarly when thinking of all past identities (their own and others').

Method

Participants and procedure. Participants were 127 students (70 women, 57 men), 18–24 years of age ($M = 20$ years), who engaged in a procedure similar to that of Study 3, except that half the participants were asked to reflect on another's past characteristics and central life events rather than their own. Participants in this "other target" condition were asked to recall a personal char-

acteristic and an affectively laden event from 3 years ago for a close friend who is still important in their life. In the other-negative condition, participants focused on the friend's negative characteristics and a "shaming or regretful" life event, whereas in the other-positive condition, participants recalled the friend's positive past characteristic and a "happy and contented" event. The present study therefore involves a 2 (Motivation: autonomy, control) \times 2 (Valence: positive, negative) \times 2 (Target: self, other) design. As in Study 3, motivation was a function of the priming condition to which participants were randomly assigned. The prime was implemented at the start of the study.

Measures. Trait self-esteem ($\alpha = .75$), trait positive affect ($\alpha = .82$), connection ($\alpha = .84$), relevance ($\alpha = .87$), acceptance ($\alpha = .86$), perspective, state autonomy manipulation check ($\alpha = .94$), and personalizing pronouns coded using the LIWC were used essentially as in previous studies. Connection, acceptance, and perspective were assessed as in past studies, although for participants who were asked to think about another's characteristics and events, the scales referred to "when you were thinking about ___'s past characteristics/event, how true was this for you?"

Characteristics integration: Relevance. In this study, we provided participants with one of two versions of the relevance survey given in the previous studies. The first version was used for participants who thought about their own past characteristics, and it was identical to that provided in the previous studies. The second version was provided to participants who thought about a friend's characteristics, and it assessed perceived relevance of the other's past characteristics for his or her present-day identity. That is, the focus of relevance varied between the two "target" conditions.

Escape Motives scale. In this study, we used the Escape Motives scale (Anderson, 1999) rather than personalizing pronouns as the primary assessment of defense because (a) using the first person pronoun to talk about a friend means something different from using it to talk about oneself and (b) using a different measure increases validity for the broader concept of defense. However, we did also assess pronoun use for participants who were in the self condition to correlate it with the escape motive and to replicate the mediation by pronouns within the self conditions as a supplemental analysis. The Escape Motives scale assesses present orientations toward avoidance rather than interest and involvement, for example, as might be expected after encountering threatening or overwhelming self-relevant emotions. The scale has been used in previous research to show the effects of physical discomfort (Anderson, Anderson, Dorr, DeNeve, & Flanagan, 2000) and as a reflection of anxiety (Richman, Wislar, Flaherty, Fendrich, & Rospenda, 2004). Thirty-two verbs (e.g., abandon, explore, disappear, approach) reflecting escape behaviors were presented to participants, and they were asked to report how much they wish to do each in the present using a 1 (*very slightly or not at all*) to 5 (*extremely*) scale. Higher scores on the total scale reflected more escape desires, reflecting defense ($\alpha = .78$).

Results

Analytic strategy and manipulation check. We hypothesized a three-way interaction for Motivation Prime \times Valence \times Target, specifying that control-primed participants would have difficulty integrating their own negative identities but not others'

negative identities or their own positive ones, whereas autonomy-primed participants would integrate their own as well as others' positive and negative identities. Multiple regressions predicted outcomes from the three-way interaction, controlling for self-esteem, negative affect, and positive affect (see Table 3). Conditions were coded as follows: Prime (1 = autonomy, -1 = control), Valence (1 = positive, -1 = negative), and Target (1 = other, -1 = self). Figure 4 summarizes moderation findings for characteristics and events. Mediation analyses were done as in previous studies using the motives-to-escape scale rather than personalizing pronouns.

As a manipulation check, analyses showed that autonomy-primed participants functioned more autonomously than did those who were control-primed, $\beta = .41$, $t(117) = 4.25$, $p < .01$.

Primary analyses.

Characteristics integration. No effects were found for covariates ($ps > .05$). As expected, a three-way interaction was present for Motivation \times Valence \times Target, $\beta = .22$, $t(117) = 2.64$, $p < .01$. To explore this, simple two-way interactions were conducted for each motivation group separately. For control-primed participants, a two-way interaction was present, $\beta = -.38$, $t(56) = -3.61$, $p < .01$. Simple effects showed that memories of one's own negatively valenced past characteristics thwarted integration compared with positive past characteristics ($\beta = .36$, $p < .01$), whereas memories of others' past negative and positive characteristics elicited high levels of integration comparable with those for self-positive ($\beta = .07$, $p > .05$). For autonomy-primed people, there was no two-way interaction ($p > .10$), although a main effect showed that these individuals integrated their own characteristics better than those of others, $\beta = -.19$, $t(56) = -2.01$, $p < .05$.

Events integration. None of the control variables predicted integration ($p > .05$), but the three-way interaction did, $\beta = .21$, $t(117) = 3.03$, $p < .01$. Further, a two-way interaction was present for control-primed participants, $\beta = -.22$, $t(56) = -2.46$, $p < .05$, indicating that those thinking about their own central life events integrated negative ones much less than positive ones ($\beta = .35$, $p < .05$), but when thinking about others' events, participants integrated both negative and positive life events, with the negative actually being a bit higher than the positive ($\beta = -.20$, $p < .05$). For autonomy-primed individuals, however, there was no two-way interaction, so participants comparably integrated all events regardless of valence or target ($\beta s = .01-.15$, $ps > .05$).

Mediations. Mediation analyses were conducted for the three-way interactions (Motivation \times Valence \times Target), with escape motives as the mediator. The correlation for escape and personalizing pronoun use (assessed only for the group that reflected on themselves) was $r = -.61$, suggesting that these measures did indeed tap closely related defensive concepts.³

Defense and integration of characteristics. A three-way interaction predicted escape motives from the interaction of Motivation \times Valence \times Target, $\beta = .31$, $t(117) = 4.30$, $p < .01$. Analyses predicting escape motives for autonomy primed participants showed that they felt similarly nondefensive for all charac-

³ We conducted additional analyses predicting integration from Valence \times Target mediated by personalizing pronouns. Findings replicated Study 3 and showed results consistent with those for the escape motive in this study (namely, a full mediation effect; $z = 1.90$, $p < .06$).

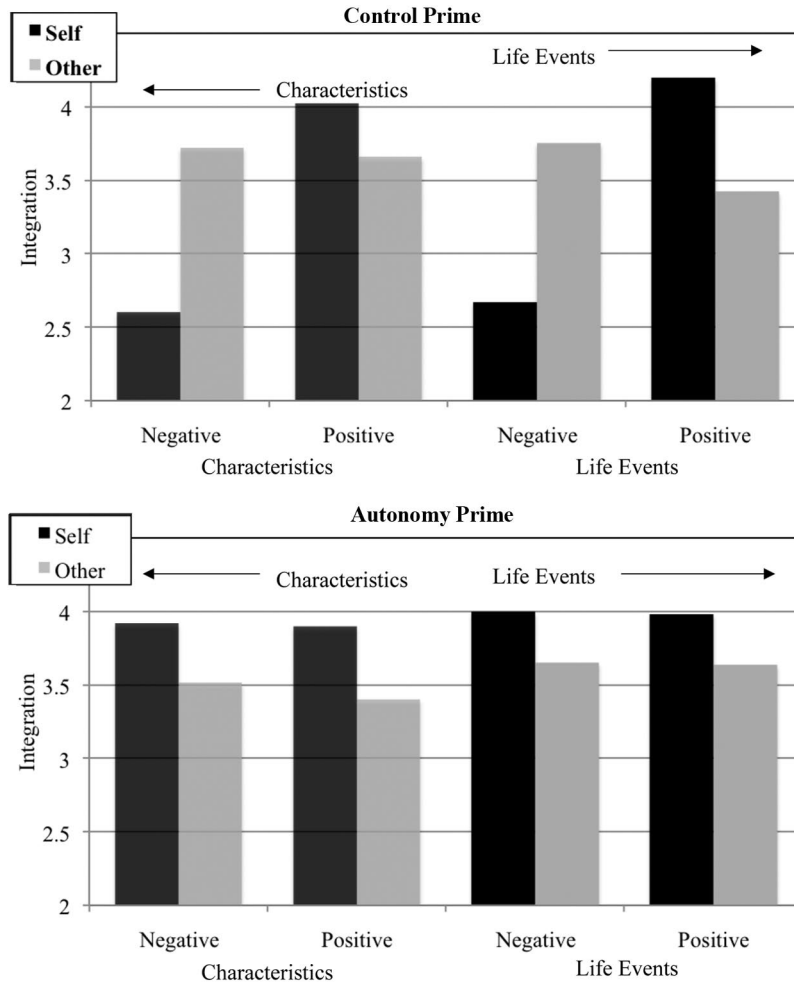


Figure 4. Study 4 Motivation Prime \times Valence \times Target interaction predicting past identity characteristics and central life events.

teristics (β s = .00–.07, p s > .05). On the other hand, control-primed participants showed that escape was influenced by valence and target, $\beta = -.23$, $t(55) = -2.45$, $p < .05$. When thinking about others' past characteristics, control-primed individuals responded similarly regardless of valence ($\beta = -.05$, $p > .05$), although when thinking about their own past characteristics, they were higher in escape motives in response to negative than to positive ones ($\beta = .29$, $p < .05$). Complementing results for personalizing pronouns in Study 4, escape motives in this study predicted lower integration of characteristics, $\beta = -.33$, $t(119) = -3.27$, $p < .01$. Moreover, when controlling for escape motives, the three-way interaction was no longer significant, $\beta = .16$, $t(118) = 1.51$, $p > .05$ (the two-way interaction for control was also not significant, $p > .05$). Sobel's (1982) test showed a significant indirect effect ($z = 2.60$, $p < .01$).

Defense and integration of events. The three-way interaction of Motivation \times Valence \times Target predicted the defensive escape motives, $\beta = .21$, $t(117) = 3.22$, $p < .01$. As was the case for characteristics, autonomy-primed participants did not differ in escape motives (β s = .03–.16, p s > .05). Control primed participants were influenced by both valence and target, $\beta = -.26$,

$t(55) = -2.41$, $p < .05$. When thinking about others' past events, these individuals did not differ in their escape motives ($\beta = -.08$, $p > .05$), although when thinking about their own events, they were lower on desire for escape (i.e., less defensive) concerning positive than negative events ($\beta = -.29$, $p < .05$). Individuals who reported less escape also reported more integration of past events, $\beta = -.27$, $t(119) = -2.80$, $p < .01$. When controlling for level of defense, the three-way interaction was no longer significant, $\beta = .16$, $t(116) = 1.51$, $p > .05$, and the two-way interaction for control was also no longer significant ($p > .05$). A significant indirect effect was present ($z = 2.11$, $p < .05$).

Discussion

Study 4 supported prior findings, showing that motivational priming interacted with valence such that negative past-identity material was less acceptable to control-primed participants, as opposed to those primed with autonomy. Study 4 elaborated on this pattern by showing that control-primed participants were highly accepting of both negative and positive past identities of their friends, and in fact were slightly more accepting of the

friends' negative life events than of positive ones. It seems that if negative events are not of one's own history they are not threatening even to control-primed people. Mediational analyses showed that the defensive escape motives mediated the three-way interaction of motivation, valence, and target. This suggests that autonomy-primed participants, being less defensive, tended to integrate all past memories, whereas control-primed participants, being more defensive about negative memories, were less likely to integrate their own but were a bit more accepting of others'.

Study 5

Study 4 used motivational priming to predict integration of characteristics and events from Motivation \times Valence \times Target. Study 5 aimed to replicate the moderating effects of target and to explore whether integration of both positive and negative identities would facilitate well-being. In other words, whereas Study 4 showed that target interacted with motivation and valence in the prediction of identity integration, here we examine whether such integration, in turn, predicts well-being. We selected qualities of well-being thought to reflect living in a fully functioning way (e.g., Ryan & Deci, 2001), specifically vitality (Ryan & Frederick, 1997), life meaning (e.g., Barclay, 1993), and relatedness satisfaction (Ryan, 1990). To assess the directional effects of autonomy and control primes on integration and wellness, a neutral prime was again used.

Method

Participants and procedure. Participants were 152 students (90 women, 62 men), 18–24 years of age ($M = 20$ years). The procedure was similar to Study 4's, except participants also reported on indicators of well-being before and after reflecting on past identities. The present study involved a 3 (Motivation: autonomy, neutral, control) \times 2 (Valence: positive, negative) \times 2 (Target: self, other) factorial design.

Measures. Connection to past identities ($\alpha = .81$), acceptance ($\alpha = .87$), trait self-esteem ($\alpha = .81$), trait positive affect ($\alpha = .82$), relevance ($\alpha = .91$), and perspective were used here as in previous studies, as was a motivation manipulation check for the prime ($\alpha = .89$).

State subjective vitality. Vitality is considered a eudaimonic well-being indicator referring to the experience of feeling alive and vital and reflecting full and integrated functioning (Ryan & Frederick, 1997; Weinstein & Ryan, 2009). Before and after engaging past identities, participants rated the seven Subjective Vitality Scale (Ryan & Frederick, 2007) items ($\alpha s = .84-.87$) on a scale ranging from 1 (*not at all*) to 7 (*very true*) concerning their feelings at that time. Items include "I have energy and spirit."

State meaning. Meaning in life was assessed with the Presence subscale of the Meaning in Life Questionnaire (Steger, Frazier, Oishi, & Kaler, 2006). Items include "my life has a clear sense of purpose" and "I have a good sense of what makes my life meaningful." Before and after reflecting on past identities, participants reported on the extent to which these statements were true for them in the present on a scale ranging from 1 (*absolutely untrue*) to 7 (*absolutely true*). Past reliabilities were high ($\alpha s = .86$; Steger et al., 2006) as were present study reliabilities ($\alpha s = .85-.87$).

State relatedness satisfaction. Satisfaction with relatedness to others was also measured twice using an adapted version of the Relatedness subscale of the 21-item Basic Psychological Needs scale (Hardi, Leone, Kasser, & Ryan, 1993). Items include "I really like the people I interact with," paired with a 7-point scale ranging from 1 (*not at all true*) to 7 (*very much true*) to assess current feelings of connection to others ($\alpha s = .82-.85$).

Results

Analytic strategy and manipulation check. We hypothesized a three-way interaction for Motivation Prime \times Valence \times Target predicting both integration and well-being (vitality, meaning, relatedness satisfaction) and that integration would mediate the effect of the interaction on well-being. Regression analyses were conducted to predict outcomes from two three-way interactions, controlling for well-being prior to the manipulation. At the first step, trait self-esteem, trait negative and positive affect, and initial state well-being were entered (their effects are presented in Table 3), along with an autonomy code (autonomy: 1, neutral: 0, controlled: 0) and a control code (controlled: 1, neutral: 0, autonomy: 0), valence (positive: 1, negative: -1), and target (self: -1, other: 1). At the second step, four two-way interactions were entered to reflect motivation interactions of the autonomy and control effect codes with valence and target. At the third step, two three-way interactions were entered to reflect Motivation \times Valence \times Target separately for each motivation effect code. We expected that integration would mediate the interactions on well-being outcomes. Mediation analyses were conducted as in previous studies, with integration as the mediating factor.

As a manipulation check, the state motivation scale confirmed that autonomy-primed participants felt more autonomous than did those who were neutral-primed, $\beta = .31$, $t(145) = 3.20$, $p < .01$, whereas controlled participants felt less so than neutrals, $\beta = -.26$, $t(145) = -2.73$, $p < .01$.

Primary analyses.

Characteristics and events integration. For parsimony, connection, perspective, acceptance, and relevance were combined to create a single construct reflecting integration of identities ($\alpha = .60$). Integration was predicted by initial well-being ($p < .01$), although no effects of self-esteem or affect were found ($ps > .05$). The three-way interaction for autonomy prime was significant, $\beta = .22$, $t(137) = 2.78$, $p < .01$. Simple two-way interactions tested effects of Valence \times Target, split by motivation prime. The two-way interaction was significant for neutral prime, $\beta = -.23$, $t(45) = -2.22$, $p < .05$, showing that neutral-primed participants thinking about their own past identities better integrated positive than negative ones ($\beta = .25$, $p < .05$), but when thinking about others' past identities, they were more accepting of negative than positive ones ($\beta = -.20$, $p < .05$). No effect was present for autonomy-primed participants ($\beta s = .07-.13$, $ps > .05$), except that they reported more integration of their own as opposed to the others' past identities ($\beta = -.21$, $p < .05$).

For the controlled motivation prime/neutral prime contrast, controlled participants displayed an interacting effects of valence and target, $\beta = -.33$, $t(137) = -4.31$, $p < .01$. Simple two-way interactions were found to be significant for both neutral prime and controlled prime. Neutral-primed people thinking about their own past identities showed higher integration for positive than negative

past identities, but when thinking about others' past identities, they reported higher integration for negative than positive past identities ($\beta = -.23$). For controlled participants, these effects were similar but more robust. For them, the two-way interaction was significant, $\beta = .31$, $t(44) = 3.27$, $p < .01$, indicating that controlled people who were asked to think about their own past identities were more integrated for positive than negative past identities ($\beta = .46$, $p < .01$), but they responded similarly for both valences when thinking of others ($\beta = -.08$, $p > .05$).

Well-being. For parsimony, vitality, meaning, and relatedness satisfaction were combined to create a well-being composite ($\alpha = .62$).⁴ As was the case for integration, results of the full model showed no effects of self-esteem or affect ($ps > .05$), although initial well-being predicted well-being when thinking of past events ($p < .01$). Both three-way interactions were significant (see Figure 5): autonomy prime, $\beta = .18$, $t(137) = 2.23$, $p < .05$; control prime, $\beta = -.22$, $t(137) = -3.02$, $p < .01$.

The simple two-way interaction was significant for the neutral-primed participants, $\beta = -.33$, $t(44) = -3.49$, $p < .01$, showing that neutral-primed participants reported lower well-being when thinking about their negative than their positive past identities ($\beta = .21$, $p < .05$), but they reported higher well-being when thinking about others' negative than positive past identities ($\beta = -.23$, $p < .05$). On the other hand, no effects were present for autonomy-primed participants ($\beta s = .01-.08$, $ps > .05$), although peripheral analyses showed that they experienced higher well-being when thinking about their own past as opposed to another's past ($\beta = -.20$, $p < .05$). The simple two-way (Valence \times Target) interaction was also significant for participants primed to be controlled, $\beta = -.46$, $t(44) = -4.93$, $p < .01$, and showed that these participants, when asked to think about their own past identities, experienced substantially poorer well-being in response to negative than positive events ($\beta = .42$, $p < .01$) but higher well-being when thinking about others' negative rather than positive past identities ($\beta = -.22$, $p < .05$).

Mediations.

Autonomous defense and integration. As described above, autonomous/neutral Prime \times Valence \times Target predicted integration, $\beta = .19$, $t(137) = 2.78$, $p < .01$, and well-being, $\beta = .18$, $t(137) = 2.23$, $p < .05$. Additionally, integration predicted well-being, $\beta = .56$, $t(142) = 4.49$, $p < .01$, when controlling for the

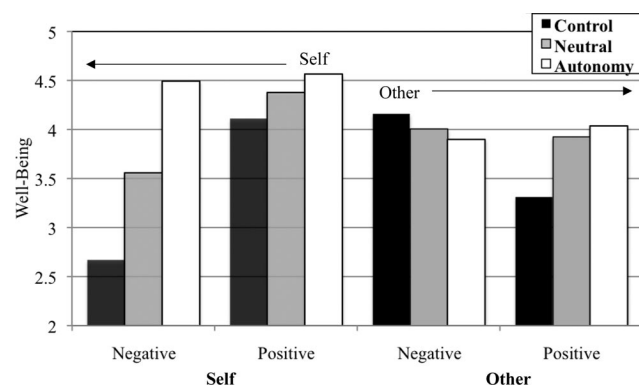


Figure 5. Study 5 Motivation Prime \times Valence \times Target interaction predicting well-being.

three-way interaction. Moreover, when controlling for integration, the three-way interaction no longer predicted well-being, showing full mediation, $\beta = .09$, $t(136) = 1.14$, $p > .05$. A significant indirect effect was present ($z = 2.36$, $p < .05$).

Controlled defense and integration. The controlled/neutral Prime \times Valence \times Target interaction predicted levels of integration, $\beta = -.30$, $t(137) = -4.32$, $p < .01$, and well-being, $\beta = -.22$, $t(137) = -3.02$, $p < .01$, and as described above, integration also predicted well-being. Moreover, when controlling for integration, the three-way interaction involving the neutral prime and controlled prime no longer predicted well-being, $\beta = -.02$, $t(136) = -0.67$, $p > .05$. A significant indirect effect was present ($z = 3.11$, $p < .01$).

Discussion

Study 5 further supported the hypothesis that thinking about one's negative past identities was more threatening than thinking about one's positive past identities or thinking about either negative or positive past identities of a friend. It also demonstrated that autonomy-primed participants responded less defensively than controlled-primed or neutral-primed participants. We also found that autonomous participants' well-being was not affected by valence when thinking about their own, or another's, past identities; however, neutral participants, and to a greater extent those control-primed, experienced lower well-being when thinking of their own negative past but higher well-being when thinking about others' past. Mediation analyses showed that integration was responsible for the Motivation \times Valence \times Target interactions predicting well-being outcomes.

General Discussion

Five studies examined the effects of autonomous and controlled motivations on the integration of positive and negative past identities. Two aspects of identities were explored: personal characteristics and central life events. On the basis of research by Routledge et al. (2008) as well as others, we assumed and found that reflecting on positive past identities (both characteristics and events) would not elicit defensive responses because positive self-memories are easy to accept. Negative past identities are more threatening and difficult to integrate, so we expected them to elicit higher defense.

On the basis of SDT, we expected people who were higher in autonomy (whether by disposition or priming) to respond less defensively when thinking about their past negative identities. We further expected those who were higher in control (again via disposition or induction) to be more defensive regarding past negative identities. Results confirm these hypotheses across studies.

Importantly, both past characteristics and central life events were predicted by motivation even after controlling for each of three potential confounds: positive affect, negative affect, and self-esteem. These findings were important for a number of rea-

⁴ As was the case for integration, analyses conducted on separate well-being outcomes showed patterns consistent with those found for the composite. All three outcomes showed three-way interactions on well-being ($ps < .05$).

sons. First, literature demonstrates that self-esteem is an important predictor of defending against positive and negative past events, for example, by encouraging a self-serving bias in which internal attributions are made for positive outcomes and external attributions are made for negative outcomes (Blaine & Crocker, 1993; Park, Bauer, & Arbuckle, 2009). Second, the present studies demonstrate an effect of negative affect on primary outcomes, supporting the relevance of this construct for identity integration. Third, previous work demonstrates relations between autonomy (relative to control) and higher positive affect as well as self-esteem (Deci & Ryan, 1985b). Thus, an important conclusion of the current article is that autonomy facilitates integration, and control thwarts it, independently of other immediate psychological benefits provided by these motivational states.

Studies 3–5 used motivational primes to experimentally induce autonomous and controlled motivation. This priming was expected to influence responses to memories of past identities by making salient potential tendencies toward self-pressure (i.e., controlled motivation), as opposed to choice and interest (i.e., autonomous motivation; Hodgins et al., 2010; Wheeler et al., 2007). From these results, it appears that enhanced autonomous motivation facilitates integration of negative and positive past identity experiences, allowing a perception of higher congruence over time, whereas those that encourage control disallow integration of negative past identities. Besides providing evidence of causality, findings from motivational priming demonstrated that benefits attained by dispositional autonomy might be achieved to some extent by contexts that enhance autonomy and disadvantages incurred when proximal environments are controlling.

To explore whether defense was indeed the operative process responsible for differences in integration, we tested mediation by personalizing pronouns in two studies and by escape motives in one study. Personalizing pronouns are especially important indicators of defensiveness regarding a negative emotional experience (Weinstein & Hodgins, 2009), and they were negatively correlated with reported desire to escape. Results of mediation analyses are consistent in demonstrating that defense was an operative process undermining controlled participants' capacities for tolerating threatening past identities.

In two studies, we examined whether thinking back to negative past experiences in general was inherently threatening or the threat was elicited specifically by memories of one's *own* experiences of regret or shame. To test the expectation that personal life stories would have a greater impact than general memories of the past, participants were asked either to reflect on their own characteristics and central events or on a friend's. Results show that autonomously primed individuals embraced negative past identities, whereas control-primed individuals dissociated from them. On the other hand, an unexpected finding was that the negative past experiences of others were embraced by control-primed participants even more than the others' positive experiences, perhaps to bolster the controlled individuals' self-worth by focusing on others' bad experiences (autonomous participants responded equally to others' positive and negative past experiences).

The present findings may be tentatively applied to work on self-verification of self-concepts or more broadly on stability of the self. Self-verification theory suggests that, although some individuals might orient toward growth, individuals are largely focused on maintaining stability of the self-concept, even in the

face of contradictory evidence (Markus & Kunda, 1986; Swann, 1997). To this end, individuals are even willing to ignore accounts of their behavior if these challenge their preexisting notions of their selves, particularly if these behaviors are central to the self (Markus, 1977; Tesser & Campbell, 1983). Though there is not yet evidence for this point, findings that integration of challenging self-relevant information from the past is facilitated by autonomy and thwarted by control suggest that similar processes might occur with respect to new self-relevant information. In other words, we might expect that autonomy motivated individuals will be more open to incorporating new self-relevant material, even when it threatens to disrupt present self-concepts, than will people high in control. Thus, autonomous individuals might have more dynamic and changing self-concepts that adapt effectively to the present.

More generally, the capacity of people high in autonomy to tolerate and connect to negative past experiences indicated that over time, these individuals would be more likely to continue developing insight and meaning, furthering their personal development and growth (Pasupathi, 2001). From this assumption, we can construct a model similar to one proposed by McLean et al. (2007), who offered that mature personality processes facilitate integrative processes (described by McLean et al., 2007, as complex and mature narratives), which in turn shape future personality. Results of the present studies suggest that a cyclical developmental process occurs in which autonomous motivation encourages integration, which in turn facilitates continuing autonomy. That is, perhaps autonomy-facilitated integration, which allows individuals to "know thyself," will, over time, also allow them to become even more autonomous.

Present findings that autonomous motivation, whether an individual difference or primed, predicts nondefensive processes leading to integration are parallel to research showing that personality constructs reflective of ego resilience encourage integration. Several such constructs have been identified—namely, growth goals (in relation to self-serving bias in response to positive and negative past experiences; Park et al., 2009), openness to experience (in relation to more complex narratives; McAdams et al., 2004), and ego development (King, Scollon, Ramsey, & Williams, 2000). The relation of these constructs to autonomy and controlled motivations is worth investigating. Perhaps autonomous motivation encourages growth goals, openness, or ego development, which in turn mediates its relation with integration. Further studies might consider these questions.

In Study 5 we explored whether experiencing integration of past identities was in fact beneficial for well-being, focusing specifically on vitality, life meaning, and relatedness—outcomes often associated with eudaimonia, optimal psychological functioning, and a stable sense of wellness (Ryan & Deci, 2001). Preliminary results indicate that autonomy-primed participants experienced high well-being regardless of the valence of their memory but that negative memories of past identities did indeed diminish well-being of control-primed participants. In other words, control-primed individuals tended to distance from their negative past experiences, and doing so was associated with their feeling of lower well-being. Conversely, control-primed participants reported higher well-being when thinking of a friend's negative past, although autonomy-primed individuals did not benefit in this way. It appears that for control-primed participants, others' negative past identities

elicited a downward social comparison response in which the participants felt better about themselves when thinking of friends' negative experiences, consistent with other work demonstrating such social comparison responses (Wills, 1981; Wood & Taylor, 1991). Considering this research, it is interesting that in the present study, autonomously primed individuals did not demonstrate this social-comparison effect.

Results for well-being are interesting in light of studies by Showers and colleagues on integration and well-being. Work by Showers (1992) showed that integration may lower self-esteem and increase depressive symptoms. Although those results appear inconsistent with the present results, additional work by Showers (e.g., Showers & Zeigler-Hill, 2003) has suggested that integration is often essential for achieving healthy self-organization in the present and that flexibility in self-image is very important, which is consistent with our position.

In separate studies, we asked participants to think back (Study 1) and to write (Studies 2–5) about their positive and negative past experiences. Research suggests that these methods elicit different affect; specifically, that thinking back (vs. writing or talking) increases negative affect in response to negative events and positive affect when thinking of positive events (Lyubomirsky, Sousa, & Dickerhoof, 2006). If so, thinking back may induce higher defensiveness and more challenges to integration, whereas talking or writing might facilitate some integration. Although in the present research comparable effects were found across methods, it would be useful to directly compare modes of reflection to examine their effects on defense and integration, and to explore reactions by autonomous and controlled individuals to each method.

The present studies were limited in a number of ways. First, conclusions were based on self-reported data, which are subject to biased responses, among other restrictions (Jobe, 2003). This line of research would benefit from explorations into affective responding to past identities using physiological and behavioral indicators. Additionally, samples were composed of college students and may not generalize to other age groups. It would be interesting, for example, to note whether motivation has similar influences on older adults, who have been shown to respond differently to reflections on temporally distant identities (e.g., Ryff, 1991).

Despite these limitations, the current results have potentially broad implications for understanding the role of motivation in contexts that facilitate integration, such as psychotherapy. One of the psychotherapist's most important roles is to help clients develop a sense of continuity throughout time, integrating negative as well as positive past experiences, in the service of helping to develop a more coherent self and more flexible, adaptive functioning (Freedman & Combs, 1996). Current findings suggesting the importance of autonomy support in psychotherapy are consistent with recent evidence suggesting that autonomy support is a facilitating factor across treatments, perhaps in part through enabling less defense and more integration in experience and behavior (e.g., Ryan & Deci, 2008; Zuroff et al., 2007). This research also potentially contributes to research on personality and wellness and to the important role of integrative processes in facilitating more optimal functioning.

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