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# Who Am I Without You? The Influence of Romantic Breakup on the Self-Concept

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## Abstract

Romantic relationships alter the selves of the individuals within them. Partners develop shared friends and activities and even overlapping self-concepts. This intertwining of selves may leave individuals' self-concepts vulnerable to change if the relationship ends. The current research examines several different types of self-concept change that could occur after a breakup and their relation to emotional distress. Across three studies, using varied methodologies, the authors examined change in both the content (Study 1a and 1b) and the structure of the self-concept, specifically, reduced self-concept clarity (Studies 1 through 3). As predicted, individuals experienced self-concept content change and reduced self-concept clarity post-breakup. Additionally, reduced clarity uniquely predicted post-breakup emotional distress.

## Keywords

self/identity, romantic relationships, breakup, self-concept clarity, emotional distress

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When Jerry Maguire (in the movie of the same name) won back his estranged wife with the phrase “you complete me,” it was the summary of the ways he needed her because she had forever altered who he was. Luckily for Jerry, he “had her at ‘hello,’” and presumably kept her forevermore, thus sidestepping the central question of the current research: What happens to the self when a romantic relationship ends? Previous research has documented that, as in Jerry’s case, romantic partners strongly impact each others’ selves (e.g., Agnew, 2000; Aron, Aron, Tudor, & Nelson, 1991). However, in the imperfect off-screen world, romantic relationships often end. In such circumstances, what happens to the now “incomplete” self?

Understanding the impact of romantic breakup on the self is important, as romantic relationships comprise a crucial part of most adults’ lives (Berscheid & Reis, 1998) and can produce intense emotional distress when they end. Although extensive research documents the detrimental impact of breakup on individuals’ well-being (e.g., Davis, Shaver, & Vernon, 2003; Monroe, Rohde, Seeley, & Lewinsohn, 1999; Sbarra, 2006), little empirical work investigates the specific effects of breakup on individuals’ selves and how these effects might contribute to their emotional suffering after a relationship ends. The current research investigates the impact of breakup on the self and, in turn, how this impact predicts individuals’ emotional well-being post-breakup.

Given the interdependence that characterizes romantic relationships (e.g., Agnew, 2000), we propose that breakup evokes change in the content of individuals’ self-concepts as individuals are forced to redefine who they are in the absence

of their former partner. Additionally, we propose that breakup predicts change in the structure of individuals’ self-concepts: We predict post-breakup subjective confusion of the self, a reduction in the clarity of the self-concept. We further propose that these self-concept changes predict the emotional distress that individuals experience after a relationship ends. Thus, the current studies explore the self-relevant consequences that result when romantic partners no longer “complete” each other.

## Romantic Relationships and the Self

Research defines the self-concept as a person’s sense of “me.” It is comprised of the physical appearance, material belongings, set of roles, prototypes, scripts, attitudes, beliefs, and attributes that individuals think or feel are characteristic of who they are (e.g., James, 1890). The self-concept is also fundamentally social. It has been conceived as a dynamic reflection of both the social world in which individuals are situated (e.g., Baumeister, 1998) and the relationships individuals have with others in that world (e.g., Aron & Aron, 1997; Markus & Wurf, 1987).

Romantic partners, as perhaps the closest of adult relationships, strongly impact the self-concept in a number of ways.

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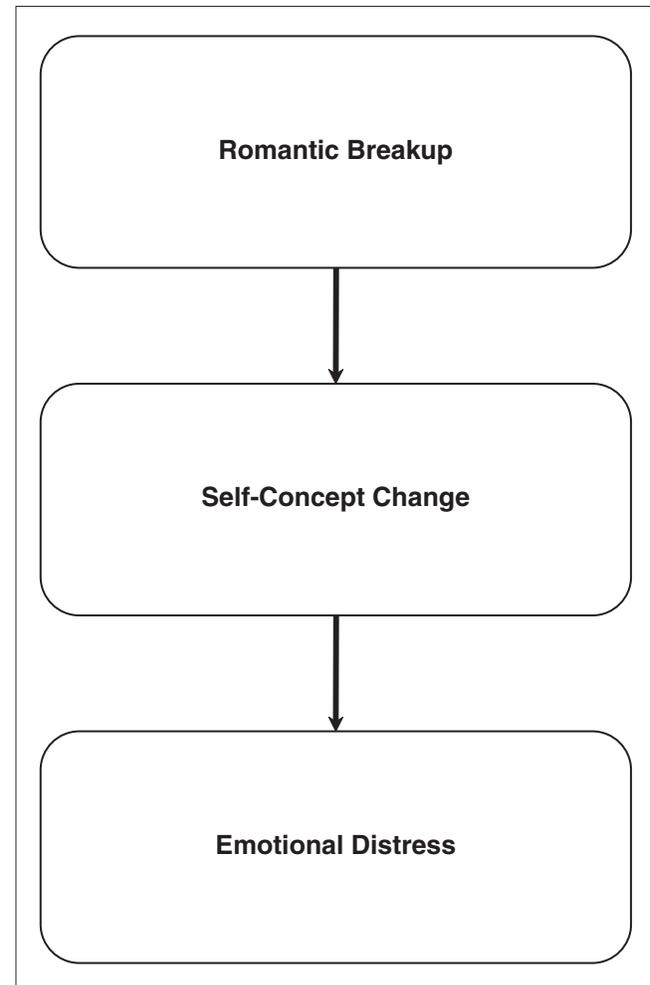
Specifically, the selves of romantic partners often become intertwined, and the lines between the individuals' self-concepts become blurred. Highly committed romantic partners are more likely to spontaneously use first-person-plural pronouns in relationship-specific contexts (i.e., *we, us, our, ours*), report greater centrality of the relationship to their life, and indicate greater overlap between their own self-concept and their partner's self-concept (Agnew, Van Lange, Rusbult, & Langston, 1998). The subjective experience of falling in love with a romantic partner increases the number of aspects that individuals descriptively include as part of their self (Aron, Paris, & Aron, 1995). Perhaps most dramatically, Aron and colleagues (1991) demonstrated that married individuals experienced confusion when attempting to distinguish between the self and the other, showing difficulty in rejecting traits that were uncharacteristic of themselves if they were characteristic of their spouse. Indeed, even individuals' motivation to draw close to a potential romantic partner temporarily alters their self-concept to include aspects of the desired other (Slotter & Gardner, 2009).

### Romantic Breakup and the Self

Given the influence that romantic partners exert on each other, it is unsurprising that the loss of a romantic relationship is one of the most distressing events adults can experience (Monroe et al., 1999; Sbarra, 2006). Romantic breakups in young adulthood increase the risk for a variety of negative mental health outcomes, including the first onset of Major Depressive Disorder (Davis et al., 2003). Although the impact of romantic breakup on individuals' emotional well-being has been well documented, researchers typically examine the consequences of breakup through the lens of relational factors, such as the rejection felt by individuals at the hands of their partner after a breakup or the longing for lost closeness and companionship (Agnew, 2000). There is almost no research examining how changes in the self may contribute to individuals' breakup-related distress (see Lewandowski, Aron, Bassis, & Kunak, 2006, for a notable exception).

In the current research, we propose that one reason that the end of a romantic relationship is distressing to individuals is the impact that the breakup has on their self-concept. When a relationship ends, and the associated interdependence is disrupted, individuals must discard some or all of the self-views that they shared with their now ex-partner (e.g., stopping engaging in shared recreational activities) and may even discard unshared self-views that are linked to the now-defunct relationship (e.g., changing one's appearance after a breakup). Figure 1 outlines our hypotheses.

We propose that one consequence of romantic breakup is the alteration of the content of individuals' self-concept, which we refer to as *self-concept content change*. Past



**Figure 1.** The hypothesized relationship between romantic breakup, self-concept change, and post-breakup emotional distress

theoretical work suggests that aspects of the self that were formerly defined through a romantic partner may subsequently be changed or lost when the relationship ends (Haber, 1990). Individuals may alter their appearance, social circles, activities, goals, or even their values or beliefs—all things that fundamentally comprise individuals' selves (e.g., Baumeister, 1998; James, 1890). This occurs as individuals reconstruct their sense of self without their ex-partner.

In addition to alterations in the content of the self-concept, the structure of the self-concept may change after the end of a romantic relationship. We propose that in the wake of a romantic breakup, self-concept clarity will be reduced. *Self-concept clarity*, defined as the extent to which self-aspects are held with certainty and perceived to be both internally consistent and temporally stable, is an important structural component of the self (Campbell et al., 1996). After breakup, ex-partners must renegotiate their sense of self without the facets defined by the relationship, leaving their self-concepts

less clearly defined (at least temporarily). This proposed reduction in self-concept clarity could impact well-being; individual differences in self-concept clarity predict a variety of positive outcomes in North American samples, including high self-esteem and low levels of neuroticism (Campbell et al., 1996). Individuals with high, versus low, self-concept clarity also score more favorably on multiple measures of psychological adjustment (Bigler, Neimeyer, & Brown, 2001).

Although most often studied as an individual difference, self-concept clarity can be altered situationally. For example, self-concept clarity can temporarily be increased after a self-reflection task, during which individuals write about why certain characteristics are important to them and how these characteristics relate to other aspects of their self (Csank & Conway, 2004). Importantly, life events also impact individuals' momentary experiences of self-concept clarity (Nezlek & Plesko, 2001). No research has directly addressed the impact of breakup on self-concept clarity; however, the end of a romantic relationship certainly marks a significant life event that impacts individuals' self-concepts (e.g., Lewandowski et al., 2006; Monroe et al., 1999; Sbarra, 2006). Therefore, it is plausible that romantic breakup also predicts a reduction in individuals' self-concept clarity, leaving them confused about who they are.

Given that low levels of self-concept clarity predict negative well-being outcomes in other contexts (e.g., Campbell, Assanand, & Paula, 2003), reductions of self-concept clarity due to a romantic breakup should function similarly. As previously discussed, research in the close relationships field traditionally studies the emotional distress that occurs after the end of a romantic relationship as stemming from partner- and relationship-specific factors. With the current research, we explore a novel pathway to emotional distress after a breakup and whether the reduction in self-concept clarity that is hypothesized to coincide with romantic breakup predicts the emotional distress individuals experience.

Finally, we also explore an additional type of change to the structure of the self-concept, the reduction of the size of the self-concept, which we refer to as *self-concept constriction*. Lewandowski and colleagues (2006) recently demonstrated that after remembering the loss of a past relationship, or imagining the end of a current romantic relationship, individuals felt their self-concepts were subjectively smaller and used fewer self-aspects when describing themselves. Therefore, in addition to our primary constructs of interest—self-concept content change and reduced self-concept clarity—we also explore the idea that individuals' subjective sense of the size of their self-concepts is reduced after a romantic breakup, as they are losing some or all of the self-aspects related to their ex-partner.

## Overview of the Current Research

The current research sought to examine self-concept content change and loss of self-concept clarity in the wake of romantic breakup and the link between these changes and emotional distress.

Study 1 examined breakup-induced self-concept change and self-concept clarity. Participants either reflected on a prior romantic breakup (Study 1a) or imagined their current romantic relationships ending (Study 1b) before reporting on remembered or forecasted self-concept change across life domains central to self-definition (e.g., Baumeister, 1998; James, 1890). As outlined in Figure 1, we hypothesized that when remembering a recent romantic breakup, individuals would report self-concept content change and reduced self-concept clarity after the breakup (Study 1a). Additionally, we hypothesized that relationship commitment, given its impact on merged self-concepts between romantic partners (e.g., Agnew et al., 1998), would predict greater forecasted self-concept content change (Study 1b). This would provide initial support for the idea that relationship factors can moderate the effect of breakup on self-relevant processes.

Study 2 expanded on Study 1 by utilizing text analysis of real-world writing samples (Pennebaker, Francis, & Booth, 2001) to observe reduced self-concept clarity in the wake of a romantic breakup, compared to in the wake of other life events. Specifically, Study 2 examined the naturalistic Web diary entries and self-descriptions of individuals writing about a recent romantic breakup, a recent career change, or their general activities and preferences without any indication of a life change. As outlined in Figure 1, we hypothesized that recently undergoing a romantic breakup would lead to decreased self-concept clarity, as coded in the text analysis of these individuals' Web blogs and self-descriptions. In this study we also explored whether we could replicate existing findings showing that romantic breakup predicts constriction in the size of individuals' self-concepts (Lewandowski et al., 2006) in naturalistic writing samples.

Study 3 examined breakup's relation to self-concept clarity via a 6-month longitudinal study of college freshmen in ongoing relationships. As outlined in Figure 1, we hypothesized that individuals whose romantic relationships ended would show reduced self-concept clarity over time relative to individuals whose relationships remained intact. Finally, in Studies 2 and 3, we examined whether the association of romantic breakup with emotional distress was mediated via low levels of self-concept clarity. Neither self-concept content change nor self-concept constriction has been previously linked to emotional well-being; therefore, we make no specific predictions regarding the interplay between these constructs and emotional distress after a romantic breakup, although we do investigate the possibility of these associations.

**Table 1.** Regression Results From Study 1

Regression number	Study	Dependent variable	Independent variable(s)	df	B	SE	t
1	1a	Self-concept clarity	Recalled self-concept content change	71	-0.23	0.09	-2.42*
2	1a	Emotional distress	Recalled self-concept content change	71	0.42	0.61	2.05 <sup>a</sup>
3	1a	Emotional distress	Self-concept clarity	71	-0.45	0.58	-2.85**
4	1a	Emotional distress	Self-concept clarity	70	-0.51	0.69	-2.69**
			Recalled self-concept content change	70	0.22	0.66	0.95
5	1b	Forecasted self-concept content change	Commitment	47	0.48	0.18	2.11*

<sup>a</sup> $p = .05$ .

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

## Study 1

We propose that when a romantic relationship ends, the content of individuals' selves changes as they renegotiate some or all of the self-aspects that they shared with their ex-partner. There are many aspects of the self that may change when a relationship ends, ranging from a post-breakup haircut, to alterations in social activities, to modifications in personal values. Any combination of these changes could contribute to the overall self-confusion that we propose individuals experience when a relationship ends. Thus, our Study 1 goals were threefold. First, in Study 1a, we explored romantically single individuals' recollections of content change across five self-concept domains after their most recent romantic relationship ended and the association of this recollected content change with current levels of self-concept clarity. The five domains encompassed changes that individuals might experience after a breakup in the content of the self-concept: changes in appearance, activities, social circle/activities, future plans, and values/attitudes (e.g., James, 1890). We hypothesized that higher levels of post-breakup self-concept change across the five domains would predict reduced self-concept clarity (Campbell et al., 1996). Second, we explored in Study 1a whether individuals' self-concept clarity would be associated with negative affective consequences.

In Study 1b, we explored romantically involved individuals' forecasts, if their current relationship were to end, of potential changes across the same five self-concept content domains. Our third aim in Study 1 was to examine whether relationship commitment would influence the extent of self-concept content change that individuals forecasted would occur after a breakup. Given that individuals in highly committed relationships show greater cognitive interdependence with romantic partners—reporting greater centrality of the relationship to their lives as well as greater

overlap between their self and their partner's self (Agnew et al., 1998)—imagining losing their relationship should be more disruptive to the content of the selves of more highly committed individuals.

## Study 1a

### Method

**Participants and procedure.** In this study, 72 Northwestern University undergraduates (40 women) participated. None of these participants were currently involved in a romantic relationship, but all had been involved in a dating relationship that ended recently ( $M = 12$  weeks,  $SD = 9.60$  weeks, mode = 6 weeks, range = 3 days to 6 months prior to the study).

**Measures.** To assess our central constructs of interest, participants completed a series of questionnaires, which were embedded within a larger general survey of attitudes and personality. We asked participants to recall the end of their last significant romantic relationship when answering the five domains of self-change items. The domains of self-concept content change measure consisted of five items, each tapping a different domain of the self that romantic breakup could influence: appearance, activities, social circle/activities, future plans, and values. It included items such as "After my last relationship ended, I changed my appearance" and "After my last relationship ended, my values and beliefs changed" (1 = *not at all*, 7 = *extremely*;  $\alpha = .90$ ).

We assessed self-concept clarity using the 12-item scale developed by Campbell et al. (1996), which measures the degree to which individuals feel that they have a strong sense of themselves and that all parts of their self-concept fit together into a cohesive self-unit. Items include "In general, I have a clear sense of who I am and what I am" and "Sometimes I think I know other people better than I know

myself" (reversed; 1 = *strongly disagree*, 7 = *strongly agree*;  $\alpha = .90$ ).

Participants also completed the Beck Depression Inventory (BDI; Beck, Steer, Ball, & Ranieri, 1996), a 20-item measure of the intensity of various possible depressive symptoms ( $\alpha = .80$ ). As the current sample was not drawn from a clinically diagnosed population, higher scores on the BDI indicate greater emotional distress rather than higher levels of clinical depression.

## Results and Discussion

When recalling the end of their most recent romantic relationship, participants reported moderate yet significant amounts of self-concept content change ( $M = 3.45$ ,  $SD = 1.35$ ),  $t(91) = 17.40$ ,  $p < .01$ . We conducted a simple regression analysis to determine the association between remembered self-concept content change and overall self-concept clarity. As predicted, and as reported in Table 1, the more self-concept content change individuals reported experiencing following their recent breakup, the less clear their current perceptions of their self-concept (Regression 1).<sup>1,2</sup>

We next examined whether self-concept content change and/or self-concept clarity would predict higher levels of post-breakup emotional distress. As reported in Table 1, when entered independently into the regression model, both higher levels of self-concept content change (Regression 2) and lower levels of self-concept clarity (Regression 3) predict higher levels of emotional distress. However, when entered simultaneously in the model, only self-concept clarity emerged as a significant predictor (Regression 4). This is perhaps not surprising, given the literature linking self-concept clarity and psychological well-being. Thus, in Studies 2 and 3 we focus on self-concept clarity as a predictor of the emotional distress reported by participants post-breakup.

## Study 1b

### Method

**Participants and procedure.** In this study, 66 Northwestern University undergraduates (35 women) participated. All participants in this study were currently involved in romantic relationships, with a mean length of 13.9 months ( $SD = 11.40$ ).

**Measures.** As in Study 1a, participants completed a series of questionnaires, which were embedded within a larger general survey of attitudes and personality. Participants completed a seven-item measure of their psychological commitment to their romantic relationship, which included items such as "I want my relationship to last a very long time" (1 = *strongly disagree*, 7 = *strongly agree*; Rusbult, Martz, & Agnew, 1998;  $\alpha = .94$ ). We assessed forecasted self-concept content change by asking participants to imagine how they would change if their current relationship were to end in the near

future using the same measure from Study 1a, although this measure was reworded to reflect future rather than past content change ( $\alpha = .76$ ).

## Results and Discussion

As predicted, when individuals currently in relationships imagined how they would respond to their relationship ending, they forecasted that the content of their self-concepts would change ( $M = 3.10$ ,  $SD = 1.35$ ),  $t(65) = 13.02$ ,  $p < .01$ . As predicted, and presented in Table 1, a simple regression analysis demonstrated that higher levels of commitment to their current relationship predicted greater forecasted self-concept content change among participants (Regression 5). This suggests that relationship commitment, which is one relationship factor that has been persuasively linked to greater overlap between romantic partners' self-concepts (Agnew et al., 1998), predicts greater forecasted self-concept content change.

Taken together, Studies 1a and 1b support our hypothesized relations among romantic breakup, self-concept change, and emotional distress. However, though supportive, the measures used in Study 1 are laboratory approximations of individuals' post-breakup experiences; a study based on individuals' real-world experiences could bring extra insight to the present investigation. A further limitation of Study 1b is that individuals' forecasts of self-change may not accurately reflect how they would actually respond to a relational loss (Eastwick, Finkel, Krishnamurti, & Loewenstein, 2008). Therefore, Study 2 examined individuals' naturalistic reports of self-concept change after a recent breakup. Additionally, since all of the measures were collected at the same time, the potential for reverse causality is a limitation of Study 1. Therefore, Study 3 examines individuals' reports of self-concept change longitudinally.

## Study 2

Study 2 furthered our investigation into the impact that romantic breakup has upon individuals' selves. We examined online diary entries, or blogs, collected from individuals writing about a recent romantic breakup. Specifically, we wished to highlight the differences in the amount of self-concept clarity experienced by individuals who wrote about (a) a recent breakup, (b) a recent nonsocial life change (a career change in the current study), or (c) topics reflecting no current life changes. We also explored individuals' level of self-concept constriction as a function of writing topic.

Central to the current thesis, we predicted that individuals who wrote about a recent breakup, relative to individuals who wrote about either of the other two topics, would express less self-concept clarity in their online diary entries. Additionally, we sought to replicate the findings of Lewandowski and colleagues (2006), predicting that individuals who wrote about a

recent breakup, relative to individuals who wrote about either of the other two topics, would exhibit more self-concept constriction, as evidenced by the use of fewer nonredundant self-descriptors in their online diary profiles. Finally, we explored the relations among breakup, self-concept constriction, self-concept clarity, and emotional distress.

## Method

**Participant and diary characteristics.** A total of 76 different Internet diaries (46 written by females) were sampled from various online public sources (e.g., *blogspot.com*). The diaries fell into three separate conditions: 28 individuals wrote about a recent breakup, 26 individuals wrote about a recent nonsocial life change (a career change in this case), and 22 individuals wrote about other topics (e.g., music or movies) that did not reflect any life change. Research assistants selected diaries for each condition by searching the aforementioned sources for key words (i.e., *breakup/romantic breakup, career change/job change, preferences/favorites*). Initially, 28 diaries were selected for each condition; however, upon inspection 2 diaries in the career change condition and 6 diaries in the no life change condition were duplicates. That is, they were contributed by the same author as another selected diary; thus, they were discarded from the final sample. The individuals in each of the conditions were age- and gender-matched to the selected diaries in the breakup condition, such that each breakup-relevant diary entry was yoked with a matched entry from the other two conditions. Participant ages ranged from 18 to 56 years. The mean age for participants was 32.39 in the breakup condition ( $SD = 11.83$ ), 32.58 in the career change condition ( $SD = 11.72$ ), and 32.08 in the control condition ( $SD = 11.07$ ).

We collected two different writing samples from the diaries of each participant. The first was an entry taken from participants' online diaries, or blogs, to assess self-concept clarity. The online diary entries are ideal for assessing self-concept clarity in naturalistic writing samples, as they are designed to allow individuals to articulate, in writing, their self-relevant thoughts. The diary entries of participants in the breakup condition focused on the recent dissolution of a romantic relationship, the diary entries of participants in the career change condition focused on a recent career change, and the diary entries of participants in the control condition focused either on the events of their day or their favorite music and movies. If multiple entries on a particular topic were available, we collected the writing sample from the diary that was closest in time (i.e., posting date) to either the relevant breakup or career change. For the control condition, the most recently written entry was selected for analysis.

The second writing sample was the "About Me" section, located on the profile page of the user's diary, in which participants wrote a short segment describing themselves. We used this self-descriptor section, in which individuals list

their self-aspects for others to see, to examine whether self-concept constriction experienced by participants varied across conditions. These self-descriptor sections are typically completed when the individual's online profile is first filled out, but could be changed at any point in time by the individual. The self-descriptor sections are ideal for assessing self-concept size in naturalistic writing samples, as they are designed for individuals to create a "laundry list" of the number of self-aspects they possess. Although these self-descriptor sections have the drawback that there is no record of when the section was last updated, their ability to be altered makes them useful (albeit imperfect) for assessing self-concept constriction, as they can be changed to reflect individuals' current state of self.

**Linguistic analysis strategy.** We analyzed each writing sample in multiple steps. First, we analyzed each participant's selected diary entry for the amount of self-concept clarity evidenced using two independent coders. Coders examined each diary entry for words relevant to low levels of self-concept clarity. Specifically, they marked 10 synonyms for confusion: *confuse, uncertain, disorganize, bewilder, conflict, contradict, unsure, turmoil, turbulent*, and the phrase *I don't know*. Coders searched the diary entries for the root of each of the words; thus, *confuse, confusion, confused*, and so forth would all be marked as indicative of the construct of interest. Coders then rated the identified words with regard to the self-concept relevance of the confusion (1 = *not at all* to 7 = *extremely*). For example, the phrase "I don't know who I am anymore," would be coded as more self-concept relevant than "I don't know my way around my new office yet." The more self-concept relevant the confusion words rated by the coders, the lower the level of self-concept clarity exhibited in the participant's diary entry. The coders exhibited strong interrater reliability ( $\alpha = .89$ ), so their individual ratings were averaged to create a mean self-concept clarity score for each participant.

Next, we separately determined the overall word count for each participant's self-descriptor, "About Me," section and diary entry. Then, two independent coders rated the self-concept constriction present in each of the "About Me" sections, using Lewandowski and colleagues' (2006) procedure. Specifically, they counted the number of nonredundant self-descriptors used in each participant's "About Me" section (e.g., *friendly* and *sociable* would be counted as one descriptor, whereas *friendly* and *smart* would be counted as two). The coders exhibited excellent interrater reliability ( $\alpha = .92$ ), so their individual counts were averaged to create the final count of nonredundant self-descriptors.

Finally, we analyzed each participant's selected diary entry for the amount of emotional distress present using the Linguistic Inquiry and Word Count program (LIWC; Pennebaker et al., 2001). This program analyzes text files on various dimensions and reports the percentage of words, which we converted to proportions, out of the total word count for each text file that fits into each specified dimension. Entries for

**Table 2.** ANOVA Results From Study 2

Dependent variable	Independent variable	Covariates	df	F
Self-concept clarity	Condition	None	2, 73	52.80***
		Diary entry word count	2, 72	55.66***
Self-concept constriction	Condition	None	2, 73	5.11**
		Self-descriptor word count	2, 72	6.04**

\*\* $p < .01$ . \*\*\* $p < .001$ .

the current analyses were copied directly from their Internet source and pasted into a text file where they were checked for spelling and grammatical mistakes before being submitted to LIWC for analysis. LIWC provides a default dictionary for coding emotional distress, including root words such as *sad*, *angry*, *anxious*, and so on. We ran this specific dictionary to calculate the amount of emotional distress evidenced in the participants' diary entries. LIWC has the advantage of being unbiased, unlike a human coder, but is insensitive to context. For this reason, we only used the program to code emotional distress rather than our context-dependent self-relevant variables.

## Results and Discussion

**Self-concept clarity analysis.** We first analyzed the coded self-concept clarity expressed in the participants' diary entries. All omnibus ANOVA tests are presented in Table 2. As predicted, the overall effect of condition was significant and remained so when controlling for the overall word count of the diary entries. Specifically, when controlling for overall word count of the diary entries, planned contrasts showed that individuals in the breakup condition expressed less self-concept clarity ( $M = 2.51$ ,  $SD = 0.32$ ) than the participants in either the career change condition ( $M = 6.88$ ,  $SD = 0.34$ ),  $t(73) = -8.91$ ,  $p < .001$ , or the control condition ( $M = 6.68$ ,  $SD = 0.36$ ),  $t(73) = -8.65$ ,  $p < .001$ , whereas the amount of self-concept clarity expressed by participants in the career change condition and the control condition did not differ,  $t(73) = -0.14$ ,  $p = .89$ .

**Self-concept constriction analysis.** We next analyzed the self-descriptor, "About Me" sections provided by each participant as a function of condition.<sup>3</sup> All omnibus ANOVA tests are presented in Table 2. As predicted, the overall effect of condition emerged as significant and remained so when controlling for the overall word count of the self-descriptor sections. Specifically, when controlling for overall word count, individuals who wrote about a recent breakup used fewer nonredundant terms to describe themselves ( $M = 4.64$ ,  $SD = 3.28$ ) than did individuals in either the career change ( $M = 7.31$ ,

$SD = 5.51$ ),  $t(75) = 2.94$ ,  $p < .01$ , or control conditions ( $M = 9.18$ ,  $SD = 6.23$ ),  $t(75) = 3.24$ ,  $p < .01$ , whereas the number of nonredundant self-descriptors used by individuals in the career change condition and the control condition did not differ significantly,  $t(75) = 1.70$ ,  $p = .23$ . These results conceptually replicate the laboratory results of Lewandowski et al. (2006), even in "messy" real-world context of individuals' self-descriptions on the Internet, by demonstrating that the experience of a romantic breakup predicts fewer descriptors being used to express the self-concept.

**Emotional distress analyses.** Finally, we explored the link between self-concept change and emotional distress; we present these analyses in Table 3. We first explored whether self-concept constriction predicted elevated emotional distress as coded by LIWC. Self-concept constriction did not significantly predict participants' emotional distress (Regression 1). Given that past research has not established a link between self-concept constriction and emotional distress, this is perhaps not surprising (Lewandowski et al., 2006).

We next turned our attention to the well-established link between self-concept clarity and emotional distress by examining whether self-concept clarity mediated any relationship between romantic breakup and emotional distress as coded by LIWC (Baron & Kenny, 1986). Condition was effect coded throughout ( $breakup = 2$ ,  $career\ change = -1$ ,  $control = -1$ ). We regressed emotional distress upon condition and found that individuals in the breakup condition expressed more distress than individuals in the other two conditions (Regression 2). We next regressed self-concept clarity upon condition and found, as in our previously reported ANOVA, that individuals in the breakup condition expressed lower levels of clarity than individuals in the other two conditions (Regression 3). Finally, we regressed emotional distress upon self-concept clarity and found that lower levels of self-concept clarity also predicted higher levels of emotional distress (Regression 4). As predicted, when included simultaneously in the regression (Regression 5), self-concept clarity remained a significant predictor of emotional distress, but breakup condition fell to nonsignificance. Preacher and Hayes's (2004) SPSS macro for testing mediation using bootstrapping techniques, as advocated by Shrout and Bolger (2002), revealed a total indirect effect of condition with a point estimate of  $-0.52$  and a 95% BCa (bias corrected and accelerated) bootstrap confidence interval of  $-0.9215$  to  $-0.1844$  (based on 5,000 resamples). Zero falls outside of this confidence interval, indicating significant mediation at the  $p = .05$  level.<sup>4</sup> Thus, a substantial portion of the emotional distress reported by participants who wrote about a recent breakup was predicted by the reduced levels of self-concept clarity that these individuals were experiencing.

Taken together, the results from Study 2 indicate that after a romantic breakup, individuals write about themselves in a way that is both smaller and less clear. These findings replicate and extend previous work by Lewandowski and

**Table 3.** Emotional Distress Regression and Mediation Results From Study 2

Regression number	Dependent variable	Independent variable(s)	df	B	SE	t
1	Emotional distress	Self-concept constriction	74	-0.07	0.03	-0.59
2	Emotional distress	Condition	74	0.51	0.18	2.85**
3	Self-concept clarity	Condition	74	-2.12	0.28	-7.78***
4	Emotional distress	Self-concept clarity	74	-0.24	0.05	-3.46***
5	Emotional distress	Self-concept clarity	73	-0.23	0.07	-3.46***
		Condition	73	0.01	0.22	0.05

\*\* $p < .01$ . \*\*\* $p < .001$ .

colleagues (2006) by demonstrating that individuals who have recently experienced the end of a romantic relationship exhibit self-concept constriction. Individuals who wrote about a recent breakup also expressed lower levels of self-concept clarity compared to participants in the other conditions. Lack of self-concept clarity predicted greater emotional distress, mediating its association with breakup. These findings suggest that individuals often suffer an unclear sense of who they are after experiencing the loss of a romantic relationship and that this lack of self-concept clarity contributes to their experience of post-breakup distress.

The current study's emphasis on naturalistic reports of the breakup provides the distinct strength of capturing individuals' actual reactions to the dissolution of real relationships in a naturalistic setting untainted by any awareness that they were involved in a research study. Thus, our data show that both self-concept constriction and reduced self-concept clarity appear to characterize the post-breakup experience to such an extent that these constructs are observable in the text analysis of even a relatively small sampling of online diaries. These methods also have limitations. Specifically, in naturalistic writing samples, we cannot (a) know with certainty that the individuals from whom we sampled diaries in the control condition had not experienced recent life changes that they did not report, (b) know any other characteristics of the individuals from whom we sampled diaries that they did not report, (c) allow for random assignment of participants to specific conditions, or (d) know with certainty that alternate patterns of relations among our variables are not a possibility, as in Study 1. We sought to address these issues in Study 3 by examining individuals' levels of self-concept clarity and emotional distress over a 6-month period as a function of whether or not they experienced a romantic breakup during that time.

### Study 3

Study 3 assessed the longitudinal association between romantic breakup and self-concept clarity. We hypothesized that (a) the self-concept clarity of individuals who broke up would decline over time relative to the self-concept clarity of individuals whose relationship remained intact, (b)

self-concept clarity post-breakup would mediate the link between breakup and subsequent emotional distress, and (c) this mediation would emerge beyond the effects of other traditionally examined factors that predict emotional distress after a breakup, specifically, felt rejection at the hands of the ex-partner.

### Method

**Participants and recruitment.** In Study 3, 69 Northwestern University freshmen (35 women) participated in a 6-month study of dating processes. Eligibility criteria for the study required that each participant be (a) a 1st-year undergraduate at Northwestern University, (b) involved in a dating relationship of at least 2 months in duration, (c) 17 to 19 years old, (d) a native English speaker, and (e) the only member of a given couple to participate in the study. All 69 participants completed the study. At study intake, participants had been dating their dating partners for an average of 13.05 ( $SD = 9.76$ ) months. During the study, 26 participants' relationships ended.

**Procedure and materials.** The present study was part of a larger investigation of dating processes that consisted of multiple parts. Relevant to the current study, participants completed (a) an initial intake session, (b) a 10- to 15-minute online questionnaire every other week for 6 months (14 total), and (c) a final session at the end of the 6-month period. As participants responded to nearly identical online questionnaires 14 times in 6 months (Part b), we streamlined the study by assessing our constructs of interest with brief, one-item measures (potentially diminishing the likelihood of detecting significant effects) to bolster participant retention.

**Measures.** At study intake (before the 14 waves of online data collection), we assessed participants' self-concept clarity using the 12-item scale from Study 1b (Campbell et al., 1996;  $\alpha = .90$ ) and emotional distress using the Center for Epidemiological Studies Depression measure (CES-D; Radloff, 1977). The CES-D is a 20-item measure of the amount of distress an individual has experienced in the past few weeks. Items such as "I was bothered by things that don't usually bother me" and "I thought my life had been a failure" assessed how frequently an individual had experienced a given

depressive thought or feeling (0 = rarely or none of the time, 3 = most or all of the time;  $\alpha = .91$ ). Higher scores on the CES-D indicated higher levels of depressive symptomology; however, like the BDI scores in Study 1a, the scores obtained on the CES-D measure from the current study's sample should be interpreted as greater emotional distress.

Participants reported their relationship status on each of the 14 biweekly assessment waves. Over the course of the study, 26 participants reported that their relationship ended. The mean assessment wave at which the breakups occurred was Wave 7.46 ( $SD = 3.29$ , mode = Wave 6, range = Wave 3 through Wave 11).

Participants also completed a one-item measure of time-varying self-concept clarity ("In general, I have a clear sense of who and what I am;" 1 = disagree strongly, 7 = agree strongly). This item was taken verbatim from the single-factor, 12-item scale and was a brief, face-valid measure that allowed us to assess changes in the construct over time. Individuals' mean scores across the 14 waves of data collection on the time-varying measure of self-concept clarity exhibited a strong positive correlation with their scores on the full-length, 12-item scale from study intake ( $r = .53$ ,  $p < .05$ ). Participants also completed a one-item measure of felt rejection by their partner ("I felt rejected by my partner;" 1 = disagree strongly, 7 = agree strongly) as part of the biweekly assessment waves. This item allowed us to assess whether any effects of self-concept clarity on emotional distress post-breakup in our meditational analyses would emerge beyond traditional factors associated with distress post-breakup.

At the end of the 6 months, participants returned for their final session and once again completed the 20-item CES-D. In sum, we assessed (a) self-concept clarity and the CES-D at study intake to enable us to control for these baseline factors in our analyses, (b) time-varying self-concept clarity and relationship status at each of the biweekly online assessments over the course of 6 months to assess participants' levels of self-concept clarity over time as a function of relationship dissolution, and (c) the CES-D during the final session of the study to assess participants' levels of emotional distress as a function of previous self-concept clarity and relationship dissolution.

**Analytic strategy.** To analyze the impact of romantic breakup on self-concept clarity, we employed individual growth curve modeling (Singer & Willett, 2003). We examined whether breakup predicted immediate decrements in self-concept clarity, decrements in self-concept clarity over time, or both.

Our desire to assess self-concept clarity as a function of breakup (an event that occurred midstudy and one that only some individuals in our sample experienced) necessitated the specification of a *discontinuous* individual growth curve model for predicting change in self-concept clarity (Singer & Willett, 2003, chap. 6). We specified a Level-1 model that permitted two different types of discontinuity in self-concept clarity. There could be (a) a shift or disruption in the *elevation*

of the individual's self-concept clarity immediately after a romantic breakup (called the *intercept* in this model) or (b) an alteration in rate of change of the individual's *trajectory* of self-concept clarity over time following the romantic breakup (called the *slope*).

To represent these discontinuities in self-concept clarity, we included three different predictors in the Level-1 statistical model for individual change. Our first temporal predictor was a continuous measure of time (TIME) that captured the linear change in self-concept clarity over the entire study. Our second Level-1 predictor was a time-varying dichotomous predictor (BREAKUP) that distinguished the pre-breakup epoch from the post-breakup epoch, enabling us to examine whether self-concept clarity was immediately disrupted at breakup. Our third Level-1 predictor was a second continuous variable (TIMESINCEBREAKUP) that measured the passage of time following breakup, enabling us to examine whether self-concept clarity took on a different rate of change post-breakup. Our Level-1 individual growth model, adapted directly from Singer and Willett's (2003, p. 198) Equation 6.4, was:

$$SCC_{it} = \pi_{0i} + \pi_{1i}(TIME_{it}) + \pi_{2i}(BREAKUP_{it}) + \pi_{3i}(TIMESINCEBREAKUP_{it}) + \epsilon_{it} \quad (1)$$

In Equation 1,  $SCC_{it}$  is the time-varying self-concept clarity score for individual  $i$  at time  $t$  (1 of the 14 waves of online data collection).  $TIME_{it}$  denotes the number of assessment waves since study intake and increases by a value of 1 for each assessment wave (0 to 13). Thus,  $\pi_{1i}$  is the rate of change in self-concept clarity per 2-week increment in time for all participants.  $BREAKUP_{it}$  denotes whether or not individual  $i$ 's breakup status at time  $t$  was intact (0) or broken up (1). It has a value of 0 at every wave until a breakup occurs. Starting at the next assessment wave,  $BREAKUP_{it}$  attains a value of 1. Thus,  $\pi_{2i}$  is the magnitude of the immediate "vertical" disruption or difference in elevation of the individual's level of self-concept clarity directly after their relationship ends.

$TIMESINCEBREAKUP_{it}$  has a value of 0 at every wave until a breakup occurs. Then, starting at the next assessment wave—the assessment immediately following report of the breakup—it begins to increase in lockstep with the primary temporal predictor,  $TIME_{it}$ . Thus,  $TIMESINCEBREAKUP_{it}$  clocks the amount of time (measured in biweekly assessment waves) that has passed since an individual romantic relationship ended. For example, if Sarah broke up with her partner at Wave 6, her  $TIME_{it}$  score would start at 0 (Wave 1) and extend to 13 (Wave 14), whereas her  $TIMESINCEBREAKUP_{it}$  score would be 0 for Waves 1 through 6, 1 for Wave 7, 2 for Wave 8, . . . and 8 for Wave 14. If a participant does not experience a breakup during the course of the study, that individual's  $TIMESINCEBREAKUP_{it}$  value remains 0 for all waves. Thus,  $\pi_{3i}$  is the magnitude of the difference in the rate of change of the individuals' trajectory of self-concept clarity

**Table 4.** Equation 1: Fitted Level-1 Discontinuous Individual Growth Model of Self-Concept Clarity From Study 3

Parameter	Independent variable	df	B	SE	t
$\pi_{1i}$	TIME <sub>it</sub>	867	0.04	0.21	6.12**
$\pi_{2i}$	BREAKUP <sub>it</sub>	867	-0.44	0.01	-2.12*
$\pi_{3i}$	TIMESINCEBREAKUP <sub>it</sub>	867	-0.05	0.02	-3.02***

Note: The Akaike's Information Criterion fit statistic for our fitted Equation 1 equaled 2,180.60.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

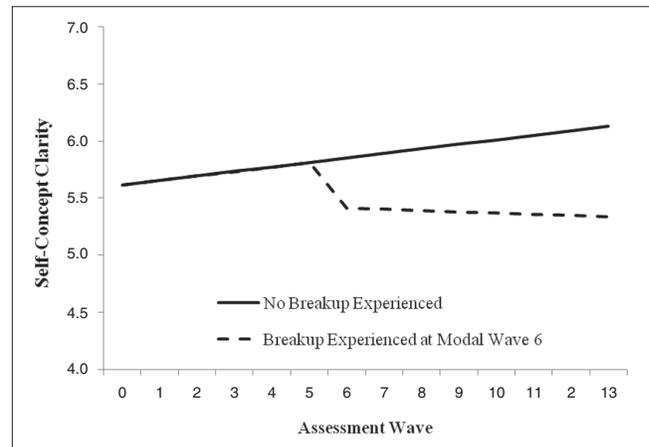
between pre-breakup and post-breakup. An individual's overall rate of change in self-concept clarity after a breakup is the sum of  $\pi_{1i}$  (the parameter associated with TIME<sub>it</sub>) and  $\pi_{3i}$  (Singer & Willett, 2003, see pp. 198-200). Given our results from Studies 1 and 2, any change in immediate level or trajectory of self-concept clarity over time after a breakup should be negative, indicating a decrement in immediate elevation ( $\pi_{2i}$ ), in rate of change ( $\pi_{3i}$ ), or in both. Finally,  $\epsilon_{it}$  is a Level-1 residual in self-concept clarity.

In addition to the results from Equation 1, we also report an auxiliary analysis. In this analysis, we added the Level-2 variable of INTAKE SCC<sub>p</sub>, which is the study intake score of self-concept clarity for individual *i*, to Equation 1. In this analysis, we examined both the main effect of this Level-2 predictor and its interactions with our Level-1 predictors. This analysis allows us to examine our central effects, outlined previously, when controlling for participants' intake level of self-concept clarity.

## Results and Discussion

**Primary analysis.** The results from Equation 1 are presented in Table 4. This analysis revealed a significant, positive effect of TIME<sub>it</sub> ( $\pi_{1i}$ ) indicating that in general, participants' self-concept clarity increased over the course of the study. Our sample of participants consisted mainly of college freshmen, so perhaps it is not surprising that they gained an increasingly clear view of themselves over time.<sup>5</sup>

We next examined the effects of breakup on individuals' self-concept clarity, both immediately after the breakup and over the following weeks. BREAKUP<sub>it</sub> ( $\pi_{2i}$ ) predicted an immediate change in self-concept clarity, such that individuals whose relationships ended experienced a significant drop in self-concept clarity at the assessment wave when the breakup occurred. Additionally, TIMESINCEBREAKUP<sub>it</sub> ( $\pi_{3i}$ ) predicted a significant decrement to individuals' slopes of self-concept clarity in the weeks following romantic breakup. This effect suggests that while freshmen generally experience an increase in self-concept clarity during the first 6 months of college, experiencing a romantic breakup during this time significantly diminishes this increasingly clear sense of who and what they are.<sup>6</sup>



**Figure 2.** Study 3: The model-implied self-concept clarity trajectories for two hypothetical individuals: one whose relationship remained intact throughout the study (solid line) and one whose relationship dissolved at Wave 6 (the modal breakup wave; dashed line)

We illustrate the effects of Equation 1 in Figure 2, which presents model-implied self-concept clarity trajectories for two hypothetical individuals: one whose relationship remained intact throughout the study (see solid line) and one whose relationship dissolved at Wave 6 (the modal breakup wave; see dashed line). Whereas the former individual's trajectory increased over time, the latter individual's trajectory exhibited both a marked decrement at the breakup wave and a negative-leaning trajectory over time; as noted previously, this alteration in trajectory over time was a significant, negative deviation from the trajectory of the individual whose relationship remained intact.

**Auxiliary analysis.** In an auxiliary analysis, we added the main effect and all interactions of the Level-2 predictor of INTAKE SCC<sub>p</sub>, which we first mean centered, to Equation 1. This variable significantly and positively predicted time-varying levels of self-concept clarity,  $B = 0.32$ ,  $t(865) = 3.29$ ,  $p < .01$ . When including INTAKE SCC<sub>i</sub> in our model, the immediate effect of BREAKUP<sub>it</sub> was reduced to nonsignificance,  $\pi_{2i} = -0.20$ ,  $t(865) = -1.26$ ,  $p = .20$ . The effects of TIME<sub>it</sub>,  $\pi_{1i} = 0.04$ ,  $t(865) = 6.05$ ,  $p < .001$ , and TIMESINCEBREAKUP<sub>it</sub>,  $\pi_{3i} = -0.05$ ,  $t(865) = -2.68$ ,  $p < .01$ , remained robust in this rigorous analysis. None of the interactions between INTAKE SCC<sub>i</sub> and our Level-1 predictors were significant. These results suggest that the effect of breakup on individuals' self-concept clarity may largely emerge over time—in the weeks following the breakup—rather than right away, as the immediate effect of breakup appears to be accounted for by differences in participants' initial levels of self-concept clarity. However, future research is necessary before definitive claims can be made.

**Table 5.** Emotional Distress Regression and Mediation Results From Study 3

Regression number	Dependent variable	Independent variable(s)	df	B	SE	t
1	Emotional distress	Breakup	68	1.49	0.75	2.00 <sup>a</sup>
2	Slope of self-concept clarity	Breakup	68	-0.12	0.01	-6.68**
3	Emotional distress	Slope of self-concept clarity	68	-3.34	0.86	-2.90*
4	Emotional distress	Slope of self-concept clarity	66	-2.86	0.50	-2.69*
		Breakup	66	0.03	0.62	0.05

Note: All regression equations in Table 5 control for participants' intake levels of emotional distress on the Center for Epidemiological Studies Depression measure.

a.  $p = .05$ .

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

**Mediation analyses.** To test whether the decrement to self-concept clarity that individuals experience over time after a breakup significantly mediates the relation between breakup and emotional distress (Baron & Kenny, 1986), we completed a series of regressions on our variables of interest: relationship status, trajectory of self-concept clarity, and emotional distress. We present the results for all of our regressions in Table 5. All analyses reported control for participants' study intake levels of emotional distress, as reported on the CES-D. Unsurprisingly, participants' emotional distress at study intake was positively correlated with their emotional distress at the final session of the study ( $r = .56, p < .01$ ).

Our mediation analyses required that each participant have a single score for his or her trajectory of self-concept clarity during the study. Thus, we calculated the slope of each participant's trajectory of self-concept clarity from participants' biweekly reports of  $SCC_{it}$ . Participants who did not experience a breakup during the study were randomly yoked to one of the participants who did experience a breakup. The calculated slopes for individuals whose relationships ended during the study included only the assessment waves recorded after the breakup occurred, and each participant who experienced a breakup ( $N = 26$ ) had either one or two non-breakup participants ( $N = 43$ ) randomly yoked to him or her. Thus, each non-breakup-experiencing participant's self-concept clarity slope was also calculated including only the assessment waves recorded after breakup of their yoked breakup-experiencing participant. For example, if Joe's relationship ended at the modal Wave 6, his slope of self-concept clarity would be calculated for Waves 6 through 14. If Sam was yoked to Joe but did not experience a romantic breakup himself, his slope of self-concept clarity would also be calculated from Waves 6 through 14. This yoking procedure was used to ensure that the breakup and non-breakup groups did not differ systematically in how many waves of data (or which waves of data in particular) they contributed to the slope calculation.

We then predicted whether the association between breakup and emotional distress would be mediated through more negative trajectories of self-concept clarity. As predicted, romantic breakup significantly predicted participants'

emotional distress at the end of the study, such that individuals who had experienced a romantic breakup during the study were more emotionally distressed at the conclusion of the study than were those who had not (Regression 1). As in the discontinuous growth curve analysis, participants' trajectories of self-concept clarity were more negative if their relationship ended than if it had not (Regression 2). In addition, increasingly negative trajectories of self-concept clarity predicted greater emotional distress at the conclusion of the study (Regression 3). As predicted, when breakup and self-concept clarity slope were included simultaneously in the model, the association between self-concept clarity slope and emotional distress remained significant, while the association between romantic breakup and emotional distress was reduced to nonsignificance (Regression 4). Importantly, Preacher and Hayes's (2004) SAS macro for testing mediation using bootstrapping techniques revealed a total indirect effect of breakup with a point estimate of 0.39 and a 95% BCa bootstrap confidence interval of 0.2249 to 0.6236 (based on 5,000 resamples). Zero falls outside of this confidence interval, indicating significant mediation at the  $p = .05$  level.<sup>7</sup> These results are consistent with our hypothesis that one key reason why breakup leads to emotional distress is that breakup predicts reduced self-concept clarity, which in turn predicts emotional distress.

**Auxiliary mediational analysis.** To examine whether our mediational analyses emerged beyond the relational factors traditionally found to predict emotional distress after a breakup, we added participants' average score on the measure of partner-specific felt rejection taken at each of the biweekly assessment waves to our primary mediational analyses. We calculated the average score of participants' felt rejection using the same strategy used to calculate slopes reported previously with regard to the assessment waves included and yoking strategy. Greater felt rejection, when entered simultaneously into the mediation, significantly predicted participants' greater emotional distress,  $B = 1.13, t(65) = 4.55, p < .001$ . However, the effect of participants' slope of self-concept clarity on emotional distress, as well as the bootstrapping analysis, remained robust. This suggests that a significant amount of the distress experienced by individuals

whose relationship ended was predicted by the self-concept confusion they experienced after the breakup—beyond the distress caused by other aspects of the breakup, such as felt rejection.

## General Discussion

The loss of a romantic relationship has multiple psychological consequences—including, as the current data suggest, various types of self-change. After a romantic breakup, individuals changed the content of their selves (Study 1), felt their selves are subjectively less clear (Studies 1 through 3), and felt their selves are subjectively smaller (Study 2). This loss of self-concept clarity was robust enough to appear in naturalistic writing samples (Study 2) and on validated measures of self-concept clarity (Studies 1a and 3). Individuals both remembered (Study 1a) and forecasted (Study 1b) change across a wide variety of domains that are known to impact the self-concept after an important romantic relationship ends. Moreover, aspects of the relationship that encourage cognitive interdependence magnified the confusion felt after relational loss. Specifically, individuals in more committed relationships were more vulnerable to self-change when imagining separating from their partners (Study 1b).<sup>8</sup>

As hypothesized, reduced self-concept clarity predicted the emotional distress suffered in the wake of romantic breakup. We are not suggesting that this is the only source of distress following the end of a romantic relationship; factors such as individuals' feelings of rejection are powerful sources of sadness. However, the current research is the first to demonstrate the important, unique contribution of reduced self-concept clarity to the emotional distress that individuals experience post-breakup.

Of course, most individuals become less distressed over time after a relationship ends. We conceptualize the self-concept change evidenced in the current research as part of a restructuring of the self. Our data suggest that the process of self-restructuring takes time, as reduced self-concept clarity and emotional consequences could still be seen in our samples weeks after the breakup. Our survey and linguistic data (Studies 1a and 2) were taken at a single time point, however, and even our longitudinal data only followed participants for a few months (Study 3), meaning that we did not have the ability to track individuals through the redefining of the self that we believe transpires as individuals regain a sense of who they are without their partners. The amount of time and the processes, conscious or otherwise, that individuals go through to rebuild their sense of themselves would be a fascinating avenue for future research.

Whether a loss of self-concept clarity is a standard, perhaps even adaptive, reaction to breakup is another avenue for future research. Self-concept change, including reduced self-concept clarity, may be necessary for individuals to recover from a breakup. Maintaining self-representations implicated

in a defunct relationship may represent rigidity that would reduce well-being outcomes over time.

Investigating other ways in which individuals' selves become implicated in romantic relationships would also contribute valuable information to the study of the self in a relational context. Given Andersen, Chen, and Miranda's (2002) theory of transference of the relational self—that individuals carry relational prototypes and scripts with them throughout their lives—future work should endeavor to investigate whether old self-in-relationship representations from former relationships can be merely transferred onto new partners. If so, it may be reasonable to hypothesize that this transference would lessen the impact of breakup upon individuals' selves, as they never have to truly discard their self-in-relationship representation. This could also have interesting implications for relationship functioning to the degree that individuals' cognitive interdependence with a romantic partner is not tailored to that specific partner but is the result of a general self-in-relationship model that is applied to all romantic partners.

## Conclusions

Romantic relationships can provide some of the richest emotional rewards of adulthood, but they can also leave us achingly vulnerable. Romantic partners merge activities, social networks, goals, and even aspects of their self-concepts. Couples may not only come to complete each others' sentences, they may actually come to complete each others' selves. When these relationships end, individuals experience not only pain over the loss of the partner, but also changes in their selves, which uniquely contribute to their post-breakup distress. Our findings that a variety of types of self-change appear to be a prevalent experience for individuals when a romantic relationship ends provide additional testament to the power of close others to impact one's sense of self.

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## Notes

1. Gender did not contribute significantly in any analyses in Studies 1a or 1b.
2. In Studies 1a and 1b, participants also reported on their dispositional level of self-esteem (Rosenberg, 1965). In all cases,

self-esteem did not significantly predict or moderate any of our key effects.

3. Coders also noted participant gender in Study 2, which did not contribute significantly in any analyses.
4. A Sobel's  $z$  test revealed similar conclusions ( $z = -3.21, p < .01$ ).
5. While participant gender did not contribute significantly to our analysis as a main effect, it did moderate the overall effect of  $\text{TIME}_{it}$ .  $\text{Gender} \times \pi_{1i} = .03, t(66) = 2.29, p < .05$ . Specifically, the effect of  $\text{TIME}_{it}$  on time-varying self-concept clarity was somewhat stronger for women than for men, although it remained significant and positive for both,  $\pi_{1i \text{ women}} = .05, t(31) = 5.52, p < .001$ ;  $\pi_{1i \text{ men}} = .02, t(30) = 2.81, p < .01$ . Gender did not significantly moderate any other effects in the model, and all central effects remained robust after controlling for all gender effects.
6. An alternate way of specifying Equation 1 would be to predict self-concept clarity from  $\text{BREAKUP}_{it}$ ,  $\text{TIME}_{it}$ , and their interaction term. This alternate approach changes the meaning of the  $\pi_{2i}$  parameter from the magnitude of the effect of romantic breakup on self-concept clarity at the time of breakup to the magnitude of the effect of romantic breakup on self-concept clarity at study entry (Singer & Willett, 2003, see pp. 198-201). Although the latter is less relevant to our theoretical analysis, we did run this alternate analysis and found (a) no significant effect of  $\text{BREAKUP}_{it}$  on individuals' self-concept clarity at study entry,  $\pi_{2i} = -.17, t(867) = -0.96, p = .34$ , and (b) a significant effect of the  $\text{BREAKUP}_{it}$  by  $\text{TIME}_{it}$  interaction effect,  $\pi_{2i} = -.02, t(867) = -2.14, p < .05$ . The interaction effect in this alternate model is analogous to the  $\text{TIMESINCEBREAKUP}_{it}$  parameter in Equation 1.
7. A Sobel's  $z$  test revealed similar conclusions ( $z = 2.65, p < .01$ ).
8. Unfortunately, we were unable to look at other relationship factors, such as relationship length, that could impact self-concept clarity and emotional distress, as we did not have that data in Studies 1 or 2 and were underpowered—with only 26 breakups—to examine such factors in Study 3. Based on the current studies, we would suggest that any factor that increases cognitive interdependence during the relationship would predict greater self-change, including reduced self-concept clarity, post-breakup.

## References

- Agnew, C. R. (2000). Cognitive interdependence and the experience of relationship loss. In J. H. Harvey & E. D. Miller (Eds.), *Loss and trauma: General and close relationship perspectives* (pp. 385-398). Philadelphia: Brunner-Routledge.
- Agnew, C. R., Van Lange, P. A. M., Rusbult, C. E., & Langston, C. A. (1998). Cognitive interdependence: Commitment and the mental representation of close relationships. *Journal of Personality and Social Psychology, 74*, 939-954.
- Andersen, S. M., Chen, S., & Miranda, R. (2002). Significant others and the self. *Self and Identity, 1*, 159-168.
- Aron, A., & Aron, E. N. (1997). Self-expansion motivation as including the other in the self. In S. Duck (Ed.), *Handbook of personal relationships: Theory, research, and interventions* (2nd ed., pp. 251-270). New York: John Wiley.
- Aron, A., Aron, E., Tudor, M., & Nelson, G. (1991). Close relationship as including other in the self. *Journal of Personality and Social Psychology, 60*, 241-253.
- Aron, A., Paris, M., & Aron, E. (1995). Falling in love: Prospective studies of self-concept change. *Journal of Personality and Social Psychology, 69*, 1102-1112.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.
- Baumeister, R. F. (1998). The self. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *Handbook of social psychology* (4th ed., pp. 680-740). New York: McGraw-Hill.
- Beck, A. T., Steer, R. A., Ball, R., & Ranieri, W. F. (1996). Comparison of Beck Depression Inventories-IA and -II in psychiatric outpatients. *Journal of Personality Assessment, 67*, 588-597.
- Berscheid, E., & Reis, H. T. (1998). Attraction and close relationships. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (4th ed., pp. 193-281). New York: McGraw-Hill.
- Bigler, M., Neimeyer, G. J., & Brown, E. (2001). The divided self revisited: Effects of self-concept clarity and self-concept differentiation on psychological adjustment. *Journal of Social and Clinical Psychology, 20*, 396-415.
- Campbell, J. D., Assanand, S., & Paula, A. D. (2003). The structure of the self-concept and its relations to psychological adjustment. *Journal of Personality, 71*, 115-140.
- Campbell, J. D., Trapnell, P. D., Heine, S. J., Katz, I. M., Lavallee, L. F., & Lehman, D. R. (1996). Self-concept clarity: Measurement, personality correlates, and cultural boundaries. *Journal of Personality and Social Psychology, 70*, 141-156.
- Csank, P. A. R., & Conway, M. (2004). Engaging in self-reflection changes self-concept clarity: On differences between women and men, and low- and high-clarity individuals. *Sex Roles: A Journal of Research, 50*, 469-480.
- Davis, D., Shaver, P. R., & Vernon, M. L. (2003). Physical, emotional, and behavioral reactions to breaking up: The roles of gender, age, emotional involvement, and attachment style. *Personality and Social Psychology Bulletin, 29*, 871-884.
- Eastwick, P. W., Finkel, E. J., Krishnamurti, T., & Loewenstein, G. (2008). Mispredicting distress following romantic breakup: Revealing the time course of the affective forecasting error. *Journal of Experimental Social Psychology, 44*, 800-807.
- Haber, J. (1990). A family systems model for divorce and the loss of self. *Archives of Psychiatric Nursing, 4*, 228-234.
- James, W. (1890). *The principles of psychology*. Cambridge, MA: Harvard University Press.
- Lewandowski, G. W., Aron, A., Bassis, S., & Kunak, J. (2006). Losing a self-expanding relationship: Implications for the self-concept. *Personal Relationships, 13*, 317-331.
- Markus, H., & Wurf, E. (1987). The dynamic self concept: Social psychological perspective. *Annual Reviews of Psychology, 38*, 299-337.
- Monroe, S. M., Rohde, P., Seeley, J. R., & Lewinsohn, P. M. (1999). Life events and depression in adolescence: Relationship loss as

- a prospective risk factor for first onset of major depressive disorder. *Journal of Abnormal Psychology*, 108, 606-614.
- Nezlek, J. B., & Plesko, R. M. (2001). Day-to-day relationships among self-concept clarity, self-esteem, daily events, and mood. *Personality and Social Psychology Bulletin*, 27, 201-211.
- Pennebaker, J. W., Francis, M. E., & Booth, R. J. (2001). *Linguistic inquiry and word count (LIWC): A computerized text analysis program*. Mahwah, NJ: Lawrence Erlbaum.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, and Computers*, 36, 717-731.
- Radloff, L. S. (1977). The CES-D scale: A self report depression scale for research in the general population. *Applied Psychological Measurement*, 1, 385-401.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The Investment Model Scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships*, 5, 357-387.
- Sbarra, D. A. (2006). Predicting the onset of emotional recovery following nonmarital relationship dissolution: Survival analyses of sadness and anger. *Personality and Social Psychology Bulletin*, 32, 298-312.
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, 7, 422-445.
- Singer, J. D., & Willett, J. B. (2003). *Applied longitudinal data analysis*. New York: Oxford University Press.
- Slotter, E. B., & Gardner, W. L. (2009). Where do "you" end and "I" begin? Pre-emptive self-other inclusion as a motivated process. *Journal of Personality and Social Psychology*, 96, 1137-1151.