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Participating in Research on Romantic Breakups Promotes Emotional Recovery via Changes in Self-Concept Clarity

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Abstract

Romantic breakups are a significant source of stress and associated with a range of poor outcomes. This report investigated whether participating in a measurement-intensive study of coping alters the course of breakup-related recovery. Recently separated young adults ($N = 210$) were assigned to complete either four visits involving multimethod assessments over 9 weeks (measurement-intensive condition, $n = 120$) or only intake and exit assessments during the same period (pre–post condition, $n = 90$). Participants in the measurement-intensive condition reported larger decreases in self-concept disturbance over time; no other main effects were observed based on condition. Improvement in self-concept clarity (for people in the measurement-intensive condition) explained decreases in breakup-related emotional intrusion, loneliness, and the use of first-person plural words when describing the separation. This study highlights the importance of self-concept reorganization following a breakup and suggests that research assessing coping can effect change without creating explicit expectations of doing so.

Keywords

romantic breakups, stress, self-concept clarity, coping, measurement reactivity

> The scientific method . . . changes and transforms its object; the procedure can no longer keep its distance from the object.
>
> —Werner Heisenberg (1960, p. 231)

Can we study psychological responses to negative life events without substantially altering those responses? Tentative evidence suggests that the answer is no: Participating in studies about psychological well-being often appears to impact subsequent reports of well-being. Several studies, for example, demonstrate declining scores on measures of depression, anxiety, and negative mood within no-treatment groups upon repeat administrations of these measures (e.g., Longwell & Truax, 2005; Sharpe & Gilbert, 1998).

It may be that typical methods of studying distress, such as self-reports or interviews, have therapeutic effects (Henderson, Byrne, & Duncan-Jones, 1981; Sharpe & Gilbert, 1998), and thus that decreases in distress scores reflect meaningful psychological change. For instance, Sharpe and Gilbert (1998) suggest that when people are asked to reflect on their distress, as is the case when completing a self-report measure of mental health, this cues them to cope with these feelings. Alternatively, some scholars have speculated that asking participants to report on their coping or well-being can remind them of the ways in which they are in fact doing well (Broderick & Vikingstad, 2008). Consistent with this explanation, an experience-sampling study found that reporting on one's happiness on more occasions per day was associated with greater happiness for those who were initially low in depressive symptoms and neuroticism, whereas the reverse was true for those who were initially higher in depressive symptoms and neuroticism (Conner & Reid, 2012).

These findings suggest that researchers can effect change in a person's psychological well-being without explicitly activating expectations for improvement. Recently, Boot, Simons, Stothart, and Stutts (2013) argued that experimental intervention effects can only be trusted when researchers match treatment and control conditions on the expectations they create for symptom improvement. Although countless studies have shown that well-being can improve as a result of paradigms explicitly designed to produce improvement (in which participants are led to believe their participation will improve their well-being), there is only suggestive evidence that participating in studies designed to measure, rather than alter, well-being can produce such improvement. One way to match experimental and control conditions on expectations for change is to remove

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this explicit, experimenter-driven expectation entirely from both conditions. This was our goal for the present study.

Self-Concept Clarity: A Plausible Mechanism of Change

If simply participating in a multi-session, prospective study of coping improves well-being, what types of changes might drive this improvement? For people who have experienced a recent breakup, one way research participation may improve adjustment is by promoting a reorganization of their sense of self. In romantic relationships, self-identity—one's understanding of who he or she is as a person—is often dramatically shaped by one's romantic partner, and partners typically experience intertwinement of their identities (Agnew, Van Lange, Rusbult, & Langston, 1998). Romantic breakups are associated with immediate and persistent decreases in self-concept clarity (Slotter, Gardner, & Finkel, 2010), and recovery of an independent sense of self prospectively predicts increased psychological well-being following a breakup (Mason, Law, Bryan, Portley, & Sbarra, 2011).

To date, however, no studies have explicitly tested whether self-concept reorganization formally mediates improvements in psychological well-being over time. To the extent that participating in research prompts participants to reflect on how they are doing without their ex-partner (via self-report or repeated interviews about the relationship and breakup experience), it would be reasonable to expect reductions in self-concept disturbance. As people repeatedly talk about their breakup and recovery, we may also expect them to rebuild and clarify a sense of identity that is separate from their ex-partner. This improved sense of self, in turn, would explain improvements in their overall psychological well-being over time.

The Present Study

Despite indications that participating in studies of emotional distress may lead to decreases in reported distress, there is little research on how this process translates to breakup recovery, or the mechanisms that might drive this effect. Participating in a detailed study of breakup recovery may facilitate reorganization of participants' self-concept, which, in turn, may promote improved emotional adjustment to the breakup (see Mason et al., 2011; Slotter et al., 2010).

The present study was designed to address this possibility experimentally using data from a prospective, measurement-intensive investigation of psychological adjustment to a nonmarital romantic breakup. Romantic separations can be highly stressful and are associated with a wide range of emotional distress (Asarnow et al., 2008; Baumeister & Wotman, 1992; Monroe, Rohde, Seeley, & Lewinsohn, 1999). Here we ask the question of whether the study of emotional recovery (after a stressful breakup) actually aids that recovery by promoting self-concept clarity.

Given the literature on the potential benefits of self-monitoring, we first hypothesized that participants who participated in a measurement-intensive, four-wave longitudinal study condition would show greater emotional recovery to the separation compared to peers who completed a questionnaire-only, two-session version of this study. Specifically, we expected the measurement-intensive protocol would cause greater declines in scores on measures of breakup-related emotional intrusion and loneliness between initial (T1) and final (T4) assessments, as well as declines in breakup-related self-concept disturbance. We also compared participants' language use during a breakup-related interview at the T4 assessment. Language use is an increasingly viable means of tracking observable behavior (Pennebaker, 2011) and variability in psychological states following a romantic separation (e.g., Borelli & Sbarra, 2011; Lee, Sbarra, Mason, & Law, 2011). In this study, we focused on the following five language use categories: cognitive mechanism words, positive emotion words, negative emotion words, first-person singular (I, me, and my), and first-person plural (we, us, and ours) pronouns.

Increases in cognitive mechanism words while engaging in expressive writing (EW) appear to mediate some of the benefits resulting from the EW protocol (Boals, 2012; Knowles, Wearing, & Campos, 2011; Pennebaker, Mayne, & Francis, 1997; Ullrich & Lutgendorf, 2002). Similarly, the people who experience the best outcomes from EW protocols tend to use a high proportion of positive emotion words and a moderate proportion of negative emotion words (Pennebaker et al., 1997). Using greater proportions of first-person singular pronouns is commonly associated with poorer recovery from romantic breakup and divorce (Blackburn, Brody, & LeFebvre, 2014; Boals & Klein, 2005; Lee et al., 2011). Finally, first-person plural pronoun use may reflect that a person experiencing a breakup has not moved past thinking of himself or herself as a unit with the ex-partner (Blackburn et al., 2014). Indeed, people use more first-person plural pronouns to describe the period before rather than after a breakup (Boals & Klein, 2005), and greater first-person plural pronoun use is associated with poorer breakup adjustment (Blackburn et al., 2014).

Given the literature on language and well-being, we expected that participants in the measurement-intensive condition would use fewer first-person singular and first-person plural, fewer negative emotion words, and more cognitive mechanism and positive emotion words when talking about their separation experience.

Finally, we expected that changes in self-concept disturbance would explain changes in the two primary self-reported outcomes (emotional intrusion and loneliness), as well as the expected group differences in the language outcomes at the final (T4) assessment.

Method

Participants and Procedures

Participants were 210 young adults (46 men; mean age = 19.3 years, $SD = 1.4$ years, range = 17–29) who had experienced a nonmarital romantic breakup within the past 6 months (average relationship length prior to the separation = 20 months, $SD =$

Table 1. Demographic and Outcome Variables for the Completer Only Sample by Experimental Condition.

	Measurement-Intensive Condition ($n = 52$)		Pre-post Condition ($n = 67$)	
	T1 Assessment	T4 Assessment	T1 Assessment	T4 Assessment
Age	19.46 ($SD = 1.64$)		19.03 ($SD = 1.47$)	
Sex, percentage of women	69%		81%	
Relationship length, months	20.94 ($SD = 12.55$)		17.27 ($SD = 11.38$)	
Time since separation, months	3.07 ($SD = 2.16$)		3.41 ($SD = 2.19$)	
IES-R	1.69 ($SD = .89$)	.80 ($SD = .73$)	1.39 ($SD = .94$)	.82 ($SD = .74$)
LONE	2.74 ($SD = .64$)	2.33 ($SD = .81$)	2.51 ($SD = .72$)	2.30 ($SD = .70$)
SCD	3.37 ($SD = 1.20$)	2.64 ($SD = 1.03$)	3.40 ($SD = 1.27$)	3.25 ($SD = 1.16$)
First-singular		6.33 ($SD = 1.42$)		6.04 ($SD = 1.57$)
First-plural		2.26 ($SD = 1.18$)		2.58 ($SD = 1.25$)
POS		1.51 ($SD = .61$)		1.51 ($SD = .66$)
NEG		1.34 ($SD = .74$)		1.37 ($SD = .79$)
COGMECH		9.11 ($SD = 1.63$)		8.83 ($SD = 1.61$)

Note. IES-R = Impact of Event Scale–Revised, combined Hyperarousal-Intrusion subscales; LONE = Three-Item Loneliness Scale; SCD = Loss of Self Scale. The following Linguistic Inquiry and Word Count terms represent the number of words per 100 falling in each category: First-singular = first-person singular pronouns; First-plural = first-person plural pronouns; POS = positive emotion words; NEG = negative emotion words; COGMECH = cognitive mechanism words.

13.28 months; average time since separation = 3.63 months, $SD = 2.48$ months). Participants were predominately White (64% White, 23% Hispanic, 7% Asian, 2% Black, 2% Native American, and 2% other). We did not collect information about participants' socioeconomic status. Participants were randomly assigned to either a measurement-intensive ($n = 120$) or pre–post ($n = 90$) study condition. Although participants were assigned with equivalent random probability of being in either group, the difference in sample sizes between groups is statistically significant.[1]

During their first visit, participants in the measurement-intensive condition completed self-report measures of breakup-specific distress and several additional tasks, including a 4-min stream of consciousness (SOC) speaking exercise probing their thoughts and feelings regarding their breakup (during which their autonomic nervous system responses were recorded), a basic color-naming Stroop task, and a serial subtraction math task. These participants completed follow-up visits 3 (T2), 6 (T3), and 9 (T4) weeks after their initial visit, each time completing a condensed version of the initial surveys, the SOC speaking task, and the Stroop and math tasks. Participants in the pre–post condition completed self-report measures of breakup-specific distress at the initial study visit (T1) and again 9 weeks later (T4), with each study session lasting approximately 45 min. At the T4 visit, participants in the pre–post condition also completed, after their questionnaires, the SOC task for the first and only time.

By the beginning of the fourth visit, participants in the measurement-intensive condition had spent roughly 3.5 hr involved in study-related tasks; this was compared to 45 min of study involvement for those in the pre–post condition. Table 1 displays the sample sizes at T1 and T4, and the means and *SD*s for the main study variables by experimental group for participants who completed all study visits. With one exception, there were no group differences on these variables at the baseline (T1) visit; participants assigned to the measurement-intensive group reported significantly more breakup-related emotional distress (on the Impact of Event Scale–Revised [IES-R] scale) at the T1 assessment, $t(208) = 3.00$, $p = .003$.

The majority (56%) of the participants completed the T4 assessment. With one exception, there was no differential attrition over time based on any of the variables reported in Table 1. Relative to the participants who completed the T4 assessment, those who did not reported having ended the relationship 4 weeks earlier at the T1 assessment, $t(208) = -2.53$, $p = .012$. We also observed significant attrition as a function of experimental group, with people in the pre–post group retained at a greater rate than expected by chance and people in the measurement-intensive group lost to follow-up at a greater rate than expected by chance, $\chi^2(1) = 18.03, p < .001$. It may be that the greater number of visits and intensity of involvement required of participants in the measurement-intensive condition (between the initial and final visits) led to greater drop out compared to the pre–post condition. To correct for any potential bias introduced by the differential attrition, we conducted a multiple imputation analysis that estimated T4 outcome scores as a function of T1 scores, including time since the breakup.

Measures

Self-report measures. Breakup-related distress was assessed across three domains, that is, (1) breakup-related cognitive and emotional intrusion and avoidance (IES-R; Weiss & Marmar, 1997), (2) loneliness (Three-Item Loneliness Scale [LONE]; Hughes, Waite, Hawkley, & Cacioppo, 2004), and (3) breakup-related self-concept disturbance (Loss of Self Scale [SCD]; Lewandowski & Bizzoco, 2007). This scale includes items probing both loss of clarity and recovery of clarity regarding the self, for example, "I do not feel like myself anymore" and "I have regained my identity." Each of these scales is widely used to assess psychological adjustment to a romantic separation. The scales were all internally reliable (IES-R $\alpha = .91$, LONE $\alpha = .83$, and SCD $\alpha = .88$).

Language use variables. Participants completed the 4-min SOC task privately while speaking into a digital audio recorder. In the SOC tasks, participants responded to four prompts related to their breakup experience; each prompt was displayed on a computer screen at the rate of one per min. Thus, the task was standardized across people, but each participant was asked to speak freely in their response to each prompt and to speak continuously for each 1-min prompt period. The prompts were as follows: (1) When did you first realize you and your partner were headed towards breaking up? (2) What do you remember about the separation itself, the actual time when you and your former partner separated? (3) How much contact have you had with your former partner? What kind/s of contact? and (4) How has the breakup affected your thoughts and feelings regarding romantic relationships?

Participants' SOC responses were transcribed and processed using the Linguistic Inquiry and Word Count software (LIWC; Pennebaker, Booth, & Francis, 2007). The LIWC program is widely used in social and clinical psychology (e.g., Pennebaker, 2011) to quantify variability in language use in a variety of contexts. The program identifies the proportion of total words in a sample that fall into 74 grammatical and content categories. In this study, we focused on the following categories: first-person singular pronouns (I and me), first-person plural pronouns (we and us), positive emotion words (nice and sweet), negative emotion words (hurt and ugly), and cognitive mechanism words (cause and know).

Data Analysis

The data were analyzed in accord with the study hypotheses in two primary ways. First, we evaluated the main effect of group participation and the hypothesized mediational model among people with complete data at both occasions. The mediational analyses were conducted using the PROCESS computational tool in SPSS 20.0 (Hayes, 2012). Second, to address participant attrition, we used multiple imputation (Rubin, 1987; Schafer, 1997) to conduct a full intent-to-treat (ITT; Little & Yau, 1996) analysis. We created five imputed data sets with complete data on the self-report and language outcomes at T4. To correct for group differences in T1 IES-R scores, every analysis in each data set included this variable as a covariate (see Miller & Chapman, 2001).

Results

Completer Only Sample

Table 2 displays the results of linear regression analyses predicting T4 scores on the primary outcome variables for the 119 participants who completed the T4 visit. For the self-reported outcomes, we controlled for initial and T1 scores on outcome variable. As shown, there was only one main effect of interest. People assigned to the measurement-intensive group reported significantly less self-concept disturbance at the T4 assessment. The effect constitutes roughly half an *SD* in T4 self-concept disturbance scores between participants in the two conditions.

The next set of analyses evaluated the mediational hypothesis that changes in the outcomes of interest would be explained by the indirect effect linking group assignment to the T4 outcomes via changes in self-concept disturbance. Because indirect effects may operate absent a total effect (see O'Rourke & MacKinnon, 2014), the mediational hypotheses remain tenable despite the general absence of group main effects. For each analysis, we accounted for the T1 outcome of interest (for the self-reported variables only) and the T1 SCD scale scores; thus, the mediational analyses represent how changes in self-concept disturbance across the study period may explain the outcomes. As shown in the lower portion of Table 2, the bias corrected bootstrapped confidence intervals (1,000 resamples) revealed nonzero indirect effects linking group assignment to emotional intrusion, loneliness, and first-person plural language via self-concept disturbance. (Table 2 also includes, for each outcome, unstandardized parameter estimates from the regression models predicting the outcomes of interest from SCD at T4; the information is provided under the "Path B Models" section of the table.)

The nonzero indirect effect suggests that participants in the measurement-intensive group show decreases in self-concept disturbance over time and this effect, in turn, explains decreases in breakup-related emotional distress, as well as decreases in self-reported loneliness and fewer first-person plural words during the T4 SOC. Because the main effect of group was limited to self-concept disturbance, reversing the mediator and outcome in any of these models did not yield a significant indirect effect.

Given that the time since breakup and the proportion of men were different between the measurement-intensive and pre–post groups, we conducted both sets of analyses detailed earlier (assessing the direct effect of condition on outcomes, as well as the indirect effect of condition via SCD) including gender, time since breakup, and the interaction of each with condition as predictors. Neither gender nor time since breakup was responsible for the differences across groups, and they did not moderate the direct or indirect effects of condition on the outcomes.

ITT Sample

Having established the basic pattern of effects in the completer only sample, we next conducted the same main effect and mediational analyses across the five imputed data sets with the full ITT sample ($N = 210$). Across all five imputed data sets, the pooled main effect analyses revealed the same pattern of main effects: The only group difference to emerge was for the SCD outcome (pooled result, accounting for T1-SCD and T1-IES-R scores), $b = -.55$, $SE = .24$, $t = -2.32$, $p = .042$. None of the other analyses yielded effects reliably different from zero for experimental group assignment. Because we used the PROCESS computational tool to conduct the mediational analyses, pooled results were not available. Figure 1 summarizes the results of the mediational analyses in each imputed data set

Table 2. Main and Indirect Effect Statistics for Self-Reported and Language Outcomes.

	IES-R-T4			LONE-T4			SCD-T4		
Self-Reported Outcomes	*b*	*SE*	CI	*b*	*SE*	CI	*b*	*SE*	CI
COND	−.11	.13	[−.37, .14]	−.09	.13	[−.34, .16]	−.62	.19	[−1.00, −.24]
IES-R-T1	.30	.07	[.17, .44]	.10	.07	[−.05, .24]	.08	.11	[−.14, .30]
LONE-T1				.46	.10	[.27, .65]			
SCD-T1							.33	.08	[.17, .49]

	First-singular			First-plural			POS			NEG			COGMECH		
Language Outcomes	*b*	*SE*	CI	*b*	*SE*	CI	*b*	*SE*	CI	*b*	*SE*	CI	*b*	*SE*	CI
COND	.28	.29	[−.29, .84]	−.33	.23	[−.78, .13]	.004	.12	[−.24, .24]	−.09	.14	[−.37, .19]	.30	.31	[−.30, .91]
IES-R-T1	.06	.15	[−.24, .36]	−.004	.12	[−.25, .24]	−.03	.07	[−.16, .10]	.18	.08	[.03, .33]	−.08	.16	[−.41, .24]

	Indirect Effects			Path B Models (Predicting Outcomes From SCD)[a]		
Outcomes	*b*	*SE*	CI	*b*	*SE*	CI
IES-R-T4	−.12	.06	[−.26, −.03]	.19	.06	[.07, .31]
LONE-T4	−.10	.06	[−.26, −.02]	.16	.06	[.04, .27]
First-singular	.10	.13	[−.08, .45]	−.16	.14	[−.44, .11]
First-plural	−.11	.08	[−.32, −.01]	.18	.11	[−.04, .40]
POS	−.02	.04	[−.11, .06]	.03	.06	[−.09, .15]
NEG	−.01	.05	[−.13, .09]	.01	.15	[−.38, .21]
COGMECH	.05	.09	[−.27, .10]	.08	.15	[−.22, .38]

Note. IES-R = Impact of Event Scale–Revised, combined Hyperarousal-Intrusion subscales; LONE = Three-Item Loneliness Scale; SCD = Loss of Self Scale. The following Linguistic Inquiry and Word Count terms represent the number of words per hundred falling in each category: First-singular = first-person singular pronouns; First-plural = first-person plural pronouns; POS = positive emotion words; NEG = negative emotion words; COGMECH = cognitive mechanism words; COND = condition. [a]Results from regression analysis predicting the outcomes of interest from SCD-T4 with SCD-T1 and IES-R-T1 also in the model (for LONE-T4, LONE-T1 was also included); these analyses constitute the *b* pathway for calculating the *ab* indirect effect in a simple mediational model (see Hayes, 2012).

Outcome	Imputed Sample 1	Imputed Sample 2	Imputed Sample 3	Imputed Sample 4	Imputed Sample 5
IES-R-T4	X	X	X	X	X
LONE-T4	X	X	X	X	X
First-singular		X	X	X	
First-plural		X	X	X	X
POS					
NEG					
COGMECH					

Figure 1. Pattern of nonzero indirect effects linking experimental condition to the outcome of interest via changes in self-concept disturbance across the five fully-imputed samples (each with $N = 210$). An "X" in a given cell represents a nonzero indirect effect in that sample. *Note*. IES-R = Impact of Event Scale–Revised; LONE = Three-Item Loneliness Scale; POS = positive emotion words; NEG = negative emotion words; COGMECH = cognitive mechanism words; First-singular = first-person plural pronouns; First-plural = first-person plural pronouns.

with the full ITT sample. As shown, the indirect effect from experimental group to the T4 self-reported emotional distress and loneliness outcomes through changes in self-concept disturbance replicated in all five of the imputed samples. This is entirely consistent with the completer only analyses. In four of the five imputed samples, we also observed a nonzero indirect effect for first-person plural (we-talk) words. In three of the five imputed samples, the indirect effect for first-person singular words was also significant.

Discussion

This study examined whether participating in research about how people cope with romantic breakups can improve young adults' psychological well-being without first creating an explicit expectation for improvement. We randomly assigned participants to one of two experimental conditions. In the first, measurement-intensive condition, participants spent about 3.5 hr completing self-report questionnaires and discussing their separation across the 9 weeks before the fourth and final study visit. In a second (pre–post) condition, participants completed an initial (T1) set of self-report questionnaires, then returned to the lab for a repeated assessment at the final (T4) assessment, which again involved questionnaires and the breakup interview; people in the pre–post condition spent roughly 45 min in the study before their second, final visit at 9 weeks. We expected that participants in the measurement-intensive group would report greater decreases in psychological distress across the study period and speak about their separation at the T4 assessment in a manner that reflected greater emotional improvement. In addition, we expected that because participants in the measurement-intensive group repeatedly spoke about their adjustment (over four occasions, relative to just one occasion for the pre–post group) and completed additional questionnaires asking them to reflect over their experience, doing so would lead to greater reductions in self-concept disturbance, which, in turn, would mediate the observed main effects.

The findings provided partial support for the main hypotheses. Contrary to expectations, we observed only a single main effect for changes in self-concept disturbance, with participants in the measurement-intensive group reporting a greater improvement in their sense of self and rediscovery of their self-identity independent of the relationship. Consistent with our hypothesis, we observed that reductions in self-concept disturbance mediated the group changes in self-reported loneliness and breakup-related emotional intrusion, as well as the amount of first-person plural words at the T4 breakup interview. Using an ITT approach, the self-reported indirect effects were observed in each sample, and we also, across four of the five imputed samples, observed that decreases in self-concept disturbance explained the observation of less use of first-person plural (we-talk) words among people in the measurement-intensive condition. Overall, the results suggest that reductions in self-concept disturbance, triggered by the measurement-intensive condition, enabled reductions in self-reported loneliness, breakup-related emotional intrusion, and first-person plural words.

The lack of significant main effects between study condition and the main outcomes does not invalidate the observed indirect effects. In many cases, it is easier to detect a significant indirect effect than the corresponding total effect, especially in longitudinal designs (O'Rourke & MacKinnon, 2014; Shrout & Bolger, 2002). A total effect can be diminished as it travels through a causal chain, at which point countervailing factors and random noise may also influence the outcome variable. This phenomenon is particularly salient for more distal causal processes (like those measured in longitudinal designs). Thus, Shrout and Bolger (2002), among others, suggest that the requirement of a significant total effect is not necessary to establish mediation.

This study provides the first evidence that reductions in self-concept disturbance can mediate prospective improvements in psychological distress following a breakup. It is unclear what factors drive the main effect of condition on self-concept change. It is plausible that intensive measurement promotes self-monitoring, perhaps leading participants to pay greater attention to ways in which they have rebuilt an independent sense of self, resulting in an improved sense of self. Prior research demonstrates that improvements in self-concept clarity can lead (in a time-lagged manner) to improvements in overall psychological well-being following a breakup (Mason et al., 2011); the current work extends the findings in this area to demonstrate that merely asking people to reflect over their experience—without an explicit expectation that this will improve their adjustment to the breakup—is enough to promote these types of changes and, in turn, cause improvements in well-being. Future research may wish to develop small-scale interventions that focus on improving self-concept clarity after a breakup.

One of the more interesting aspects of this study is evidence that changes in SCD may also explain group differences in

first-person plural words. We note that, in the completer sample, the upper estimate for the 95% confidence interval of the indirect effect is only slightly below zero, and the confidence interval for the effect from SCD to first-person plural words includes zero. These observations suggest the indirect effect for SCD predicting first-person plural words is small. Substantively, unlike instances in which we-talk may reflect communal coping (Rohrbaugh, Mehl, Shoham, Reilly, & Ewy, 2008), greater use of first-person plural words after a breakup can also reflect a prolonged attachment to one's ex-partner. Without an inferential context to explain group differences in we-talk, though, this idea would remain largely conjecture. However, this study provides this type of contextual information: Improvements in participants self-identify after the separation explained group differences in we-talk, bolstering the contention that people using a high level of first-person plural words when asked to describe their breakup may be having a difficult time separating from their ex-partner and the relationship. However, it is important to remember that the effect from SCD to first-person plural word use is small. It will be important for future work to replicate this effect before placing confidence in these explanations.

These results should be considered in the context of several limitations. First, the study did not include a no-measurement (i.e., posttest only) control group. Second, generalizability of the findings remains unclear. We do not know whether these effects extend to marital dissolution, to traumatic events more generally, or whether they are limited to coping following relatively common life stressors such as a romantic separation. Furthermore, males were substantially underrepresented in our sample. Tests of moderation by gender for all main and indirect effects did not reveal any significant interactions between gender and condition. However, the low number of men in the sample meant that this study was underpowered to detect differences in these processes for men and women. Finally, it would be ideal if assignment to condition in this study was completely balanced and the proportion of completers in each condition was even.

Conclusion

Romantic breakups are a significant source of psychological stress and associated with elevated risk for the onset of a depressive episode (Monroe et al., 1999). Results from this study suggest that completing repeated assessments of one's psychological adjustment to a breakup acts causally to facilitate the reconstruction of a clear, independent sense of self, and these changes occurred without the explicit expectation that participating in this research would lead to improved adjustment to one's breakup. These improvements, in turn, are associated with decreases in self-reported loneliness and breakup-related emotional intrusion, as well as fewer first-person plural words during an interview about the breakup. These findings should encourage those who study stress and recovery to consider the ways in which their study procedures may impact their participants' well-being, and, indeed, to include direct experimental tests of those possibilities.

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Note

1. This difference may be due to the differences in overall compensation between the two paradigms; participants could receive US$60 across four visits in the measurement-intensive condition or US$20 across two visits in the pre–post condition. Differential drop out occurred after participants had been assigned to condition and then informed of compensation and other study details.

Supplemental Material

The online supplemental material is available at http://spps.sagepub.com/supplemental.

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