

Maladaptive Responses to Relationship Dissolution: The Role of Relationship Contingent Self-Worth

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The present study examined responses to romantic breakup as a function of relationship contingency of self-worth (CSW)—the degree to which individuals base self-worth on being in a romantic relationship. Relationship CSW was hypothesized to be a vulnerability factor, exacerbating affective and behavioral responses to romantic relationship dissolution. Results of structural equation modeling ($N = 312$) revealed that among participants who reported a breakup over the past year, those who more strongly based self-worth on being in a relationship reported greater emotional distress and obsessive pursuit of their ex-partners than did those with lower relationship CSW. Specifically, emotional distress partially mediated the link between relationship CSW and obsessive pursuit. Implications of relationship CSW for interpersonal motivation and well-being are discussed.

Relationships are like crystals: You don't realize how much you
love them until they break.

—Anonymous

One of the most painful events that people can experience in life is the termination of a romantic relationship. As suggested by the anonymous quote, the dissolution of close relationships often leads to distress; a finding that has been well documented in the psychological literature on responses to romantic relationship dissolution (Berscheid, Snyder, & Omoto, 1989; Duck, 1982; Orbach, 1992; Simpson, 1987; Sprecher, 1994; Sprecher, Feinlee, Metts, Fehr, & Vanni, 1998). Individuals vary considerably, however, in the intensity of their responses to romantic breakup. Whereas some individuals recover quickly and move on, others experience significant emotional distress and engage in harassing, stalking-like behaviors toward their ex-partners to cope with the loss (Cupach & Spitzberg, 2004). Because these latter responses are costly to oneself, to one's relationships, and to

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society at large, understanding why some individuals are more vulnerable than others to the aftermath of relationship dissolution is an important question to address.

In the present research, we propose that the degree to which individuals stake their self-worth on being in a romantic relationship—or their relationship contingency of self-worth (relationship CSW; Sanchez & Kwang, 2007)—should uniquely predict responses to romantic breakup. The more an individual derives his or her self-worth from being in a romantic relationship, the more intense his or her reactions to a breakup may be. Specifically, compared to individuals whose self-worth is less invested in being in a romantic relationship, those who strongly base self-worth in this domain may be more susceptible to experiencing emotional distress following a breakup, which, in turn, may predict greater obsessive pursuit behaviors toward their ex-partners. Moreover, if relationship CSW is a unique construct, then this variable should predict the outcomes of interest, even after controlling for variables that may be related to basing self-worth on relationships or responses to breakup.

Relationship Contingency of Self-Worth

Contingencies of self-worth (CSW) represent specific domains on which people stake their self-esteem (Crocker & Wolfe, 2001). Individuals differ in the domains on which they base their self-worth and in the degree to which they derive worth and value from a given domain. For example, whereas some individuals strongly base self-esteem on their physical appearance or on gaining others' approval, other individuals may base self-esteem more on being a virtuous person or being academically competent (Crocker, Luhtanen, Cooper, & Bouvrette, 2003).

Extending beyond the seven domains originally proposed by Crocker et al. (2003), researchers have recently developed and validated additional domains of contingency, such as the degree to which people base their self-worth on being in a romantic relationship (Sanchez & Kwang, 2007). To date, studies have shown that individuals with high relationship CSW show greater appearance concerns (e.g., body shame, bulimic symptoms) and a sense of mate urgency (i.e., wanting to find and attract a mate) than do those who base self-worth less on being in a relationship (Sanchez, Good, Kwang, & Saltzman, 2008; Sanchez & Kwang, 2007). However, no studies to date have examined how basing self-worth on being in a relationship predicts responses to romantic breakups.

CSWs have important implications for goal pursuit and self-regulation (for a review, see Crocker, Brook, Niiya, & Villacorta, 2006). When indivi-

duals invest their self-worth in a given domain, they seek to validate those qualities on which their self-worth is based (Crocker & Park, 2004; Park, Crocker, & Vohs, 2006). Thus, an individual who bases his or her self-worth on being in a romantic relationship is likely to adopt the goal of forming and maintaining a relationship and, therefore, may be more intensely affected by the threat or loss of such a relationship. Indeed, when self-worth is contingent in a domain, successes and failures in the domain are processed more intensely than when self-worth is less invested in the domain (Crocker & Park, 2004). For example, students who strongly based their self-worth on being academically competent experienced lower state self-esteem and more negative affect, depressive symptoms, and negative self-evaluative thoughts when they performed poorly on academic tasks, received lower than expected grades, or were rejected from graduate schools, compared to those whose self-worth was less contingent on academic competence (Crocker, Karpinski, Quinn, & Chase, 2003; Crocker, Sommers, & Luhtanen, 2002; Park, Crocker, & Kiefer, 2007).

Because individuals strive to achieve boosts in self-esteem and to avoid failure in domains on which their self-worth is staked, CSWs can be highly motivating and can facilitate progress toward one's goals (Crocker et al., 2006). However, CSWs can sometimes lead to maladaptive self-regulation, such as when individuals experience setbacks or threats to domains of contingent self-worth. Accordingly, individuals who strongly base their self-worth on being in a romantic relationship may experience self-regulation failure (e.g., obsessive pursuit) following a relationship breakup, in part, because of the emotional distress that is likely to accompany the threat to their relationship CSW.

Applying these ideas to the study of romantic relationships, responses to relationship dissolution may be exacerbated among those who stake their self-worth on having a romantic partner, compared to those whose self-worth is less tied to this domain. Specifically, individuals who strongly base their self-worth on being in a relationship may experience heightened emotional distress following a breakup, which, in turn, may be related to greater likelihood of displaying harassing, obsessive pursuit behaviors toward their ex-partner.

Responses to Breakup

Romantic relationships are an important source of self-esteem, health, and well-being (Baumeister & Leary, 1995; Kamp Dush & Amato, 2005; Reis, Collins, & Berscheid, 2000). Therefore, people may respond to relationship dissolution with obsessive attempts to win back their ex-partners, but

such responses may be maladaptive. Furthermore, the intensity of responses to relationship breakups is likely to vary from person to person, depending on the degree to which individuals base their self-worth on having a romantic partner.

Emotional Distress

Much of the extant literature on relationship dissolution has examined the effects of relationship breakup on feelings of distress and psychological adjustment. Not surprisingly, people feel angry, hurt, frustrated, resentful, lonely, and depressed following a breakup (Frazier & Cook, 1993; Sprecher, 1994). Various theories have been proposed to account for the tendency to experience distress following dissolution. For example, interdependence theory suggests that the more interdependent people are with their partners, the more susceptible they are to distress following relationship dissolution because of the disruption of routine interaction patterns, plans, and goals brought about by the dissolution (Berscheid, 1983; Bowlby, 1980; Simpson, 1987).

According to Rusbult's (1980, 1983) investment model of relationships, factors that contribute to commitment—such as the extent to which resources have been invested into a relationship, or the quality and availability of alternative partners—predict the intensity and duration of distress following relationship dissolution. Consistent with these ideas, Simpson (1987) found that people who felt close to their former partners, who had dated their partners for a long time, and who believed they could not easily find a new partner experienced the most distress following a breakup. In addition, Sprecher and colleagues (1998) found that college students who experienced a recent breakup reported distress at the time of the breakup if there was non-mutuality in alternatives (i.e., the partner had more interest in alternatives) or if they felt “left” by the other (i.e., the partner initiated the breakup).

In addition to these general theories of relationship dissolution, research has shown that certain personality variables predict the intensity of responses to breakup. For example, a prospective study found that experiencing rejection by a romantic partner predicted future depressive symptoms among women with low self-esteem (Katz, Beach, & Joiner, 1998). Research by Murray, Holmes, MacDonald, and Ellsworth (1998) found that people with low self-esteem distanced themselves from romantic partners following self- and relationship threats. In addition, people who are highly rejection sensitive—who anxiously expect, readily perceive, and overreact to rejection—reacted with anger, hostility, and depression in response to rejection from a romantic partner (Ayduk, Downey, & Kim, 2001; Downey, Feldman, & Ayduk, 2000).

Finally, research on attachment styles found that compared to those with a secure attachment style, individuals with an insecure attachment style (e.g., preoccupied or fearful style) had shorter lived romantic relationships and reported greater adjustment problems in response to the loss of an attachment relationship (Davis, Shaver, & Vernon, 2003; Hazan & Shaver, 1987; Sprecher et al., 1998). For example, individuals with attachment insecurities reported feeling more tense, confused, depressed, and attached to their former partners than did those with secure or dismissing attachment styles (Pistole, 1995).

Given the importance of romantic relationships for health and well-being, basing one's self-worth on relationships is expected to be an important predictor of responses to breakup. That is, if one's self-worth is highly invested in having a boyfriend or girlfriend, then the termination of a romantic relationship might predict emotional distress and obsessive pursuit of one's ex-partner. Moreover, if relationship CSW is a unique predictor of distress and obsessive pursuit, then these results should emerge, even after controlling for relevant personality variables, such as self-esteem, attachment styles, rejection sensitivity, and demographic/relationship variables (e.g., relationship length, time elapsed since breakup, gender, who initiated the breakup, who contributed to problems leading up to the breakup).

Obsessive Pursuit Behavior

Each year, an estimated 1 million adult women and 0.4 million adult men are stalked in the United States. In particular, relationship breakup is associated with increased risk of stalking behavior (Tjaden & Thoennes, 1998). The severity of relational behaviors can range from mild pestering or harassment (e.g., calling or e-mailing someone after being asked not to do so), to aggravating intrusions, to more severe cases of vandalism or assault (e.g., breaking into someone's apartment, forcing sexual contact; Cupach & Spitzberg, 2004; Davis, Ace, & Andra, 2000).

Legal definitions of stalking typically focus on the persistence of the stalking behavior, the stalker's intent, and target's level of fear in response to the behavior (Sheridan, Blaauw, & Davies, 2003). Although researchers have used various labels to describe stalking-like behaviors, such as intrusive contact (Haugaard & Seri, 2003), breakup persistence (Williams & Frieze, 2005), and unwanted pursuit behavior (Cupach & Spitzberg, 2004; Dutton & Winstead, 2006), all of these operationalizations imply that the interpersonal behavior is harassing and undesirable. In the present study, we use the term *obsessive pursuit* to be consistent with the scale used to measure stalking-like behaviors (Davis et al., 2000).

Obsessive pursuit may stem from a mixture of anger and desire toward one's ex-partner. Indeed, the bereavement literature suggests that people often respond to relationship loss with feelings of both anger and desire, reflecting resentment over being abandoned and simultaneous yearning for the loved one (Bowlby, 1980). Whereas some researchers have found a link between stalking and anger-jealousy emotions in particular (Davis et al., 2000; Dye & Davis, 2003; Sinclair & Frieze, 2000), other researchers have found a link between stalking and post-dissolution distress in general (Dutton & Winstead, 2006). In the present study, we assessed anger and jealousy in addition to other emotions, and expected that people with high relationship CSW would experience greater emotional distress following a breakup, which, in turn, would relate to increased obsessive pursuit toward their ex-partners.

Previous research examining personality precursors of stalking-like behaviors has focused on the role of attachment insecurity (Davis et al., 2000, 2003; Dutton & Winstead, 2006). For example, a study of over 5,000 Internet respondents found that attachment-related anxiety was associated with greater preoccupation with the lost partner, greater perseveration over the loss, exaggerated attempts to re-establish the relationship, and angry and vengeful behavior (Davis et al., 2003). These results are consistent with the finding that individuals with anxious attachment styles tend to experience significant distress over the loss of a partner and recover less quickly from this experience than do others (Dutton & Winstead, 2006). Although we expected relationship CSW to be related to having an insecure attachment style (i.e., preoccupied style), we expect the degree to which people base self-worth on being in a relationship to account for unique variance in obsessive pursuit.

Method

Overview

We conducted an Internet study² and used structural equation modeling to test whether relationship CSW would predict emotional distress and obsessive pursuit behavior following a romantic breakup. Importantly, we examined whether relationship CSW would uniquely predict the outcomes of interest, after controlling for relevant personality and demographic/relationship variables.

²Empirical studies comparing the representativeness of Internet samples to traditional samples have suggested that Internet studies are just as representative (if not more so) as traditional samples in terms of gender, age, and race (Gosling, Vazire, Srivastava, & John, 2004).

Participants

Study participants were 312 individuals (245 women, 66 men, 1 did not report gender) who reported having experienced a romantic breakup in the last 12 months. The participants (age, $M = 22.1$ years, $SD = 5.4$) were recruited from Rutgers University via class e-mail listserves and various regional and university communities through Yahoo Groups® and Facebook®.

The sample consisted of 217 Caucasians (70%), 31 African Americans/Blacks (10%), 24 Latinos/Hispanics (7%), 21 Asian Americans (7%), 1 Native American (<1%), 17 of multiracial backgrounds (5%), and 1 person who did not indicate race (<1%). The final sample consisted of 291 heterosexual participants, 18 bisexual participants, 2 gay/lesbian participants, and 1 person who did not indicate sexual orientation. Because we did not have enough men in our sample, we did not test for gender differences; instead, we controlled for gender in the analyses.

Measures

Relationship contingency of self-worth. Relationship CSW was measured with four items ($\alpha = .78$) from a scale developed by Sanchez and Kwang (2007). Participants rated their agreement with the statements on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The statements are “When I have a significant other (i.e., a boyfriend or girlfriend), my self-esteem increases”; “I feel worthwhile when I have a significant other (i.e., boyfriend or girlfriend)”; “When I do not have a significant other (i.e., boyfriend or girlfriend), I feel badly about myself”; and “My self-esteem depends on whether or not I have a significant other (i.e., boyfriend or girlfriend).”

Previous research has demonstrated consistently high reliabilities for relationship CSW ($\alpha s = .77-.89$; Sanchez et al., 2008; Sanchez & Kwang, 2007). Relationship CSW has been shown to predict attitudes about romantic relationships and body image above and beyond appearance CSW, social desirability concerns, and relationship satisfaction among coupled individuals (Sanchez et al., 2008; Sanchez & Kwang, 2007). Moreover, experimentally induced increases in relationship CSW do not correspond with changes in other levels of CSWs (e.g., others’ approval), suggesting that relationship CSW is not redundant with other CSWs.

Outcome Variables

Emotional distress. Emotional distress was assessed using a revised short form of the Multiple Adjectives Affect Check List (MAACL-R;

Zuckerman & Lubin, 1985). Participants were given the following instructions: "How did you feel after the breakup? Please use the following scale to rate your emotional response to the breakup. To what extent did you feel. . . ." The instructions were followed by the individual items, which included negative emotions (i.e., *angry, mad, jealous, sad, blue, hopeless, anxious, worried, tense, irritated*) and positive emotions (i.e., *happy, calm*), and were rated on a 7-point scale ranging from 1 (*not at all*) to 7 (*very much*). Reliability for the overall scale (12 items) after reverse-scoring the positive emotion items was .90.

Obsessive pursuit. Obsessive pursuit was measured using an extended version of the Obsessive Pursuit Scale (Davis et al., 2000). Participants indicated how often they engaged in 32 stalking-like behaviors. The items were rated on a 5-point scale, from 1 (*never*) to 3 (*more than twice*) to 5 (*more than 10 times*). These behaviors range from mild stalking-like behaviors (e.g., "Called him/her just to talk about us") to severe behaviors (e.g., "Took him/her someplace against his/her will so that you could talk to him/her"). In addition to these items, we included three items to assess Internet stalking: "Checked his/her Myspace/Facebook page," "Checked his/her e-mail/answering machine," and "Checked his/her diary/blogs." These items were included because websites and blogs may be used to track an ex-partner's behavior online. The composite, 35-item scale was reliable ($\alpha = .93$).

Individual-Difference Control Variables

Self-esteem. We assessed self-esteem by using the Rosenberg (1965) Self-Esteem scale (RSE). Participants rated the 10 items on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Sample items are "I feel I have a number of good qualities," and "All in all, I am inclined to feel that I am a failure" (reverse-scored; $\alpha = .89$ for the 10-item scale). We controlled for self-esteem in examining responses to relationship dissolution because past research has shown that relationship CSW is associated with lower self-esteem (Sanchez & Kwang, 2007).

Rejection sensitivity. We assessed rejection sensitivity using Downey and Feldman's (1996) Rejection Sensitivity Questionnaire (RSQ). The RSQ presents participants with eight scenarios in which they may feel rejected by others (e.g., friends, family, romantic partners). Sample items include "You ask your parents for help in deciding what programs to apply to," and "You approach a close friend to talk to after doing or saying something that seriously upset him/her." Participants rated their anxious concern about the other person's response on a 6-point scale ranging from 1 (*not at all con-*

cerned) to 6 (*very concerned*), and their expectation of acceptance in each scenario on a 6-point scale ranging from 1 (*very unlikely*) to 6 (*very likely*). Whereas rejection sensitivity represents anxious expectations of rejection in general, basing self-worth on relationships reflects whether or not one is currently in a romantic relationship, which may or not be related to being sensitive to rejection overall.

Rejection sensitivity scores were calculated for each situation by multiplying the level of anxious concern by the reverse of the level of acceptance expectancy, and then averaging the product term across all situations. The RSQ has high internal and test–retest reliability (Downey & Feldman, 1996; $\alpha = .84$, in the present sample). We controlled for this variable in our analyses because past research has shown that people who are sensitive to rejection respond with depressive symptoms, anger, and hostility toward rejecting partners (Ayduk et al., 2001; Downey, Freitas, Michaelis, & Khouri, 1998; Downey et al., 2000).

Attachment styles. We assessed attachment styles by having participants rate themselves on each of the four attachment styles conceptualized by Bartholomew (1990). Specifically, participants used a 7-point scale ranging from 1 (*doesn't describe me at all*) to 7 (*describes me very well*) to respond to statements that assess different attachment styles: secure attachment style (e.g., “It is easy for me to become emotionally close to others”; “I am comfortable depending on others and having others depend on me”); preoccupied attachment style (e.g., “I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like”); fearful attachment style (e.g., “I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them”); and avoidant attachment style (e.g., “I am comfortable without close emotional relationships”; “It is very important to me to feel independent and self-sufficient”; and “I prefer not to depend on others or have others depend on me”).

Demographic/Relationship Control Variables

In addition to participants' gender, we measured relationship length by asking participants to indicate how long their previous romantic relationship lasted, on the following 4-point scale: 1 (*a couple weeks*), 2 (*a couple months*), 3 (*a year or less*), or 4 (*over a year*). Previous research has shown that longer relationship length is related to greater distress following a breakup (Frazier & Cook, 1993; Simpson, 1987). The average length of the

past relationship in this study was 3.02 on the 4-point scale ($SD = 0.96$), representing a year or less.³

Time elapsed since breakup. We measured time elapsed since breakup with the question "How long ago was your last breakup?" The item was rated on the following 6-point scale: 1 = *a couple weeks ago*; 2 = *1–5 months ago*; 3 = *6–8 months ago*; 4 = *9–11 months ago*; 5 = *1 year ago*; 6 = *over a year ago*. The mean response on this scale was 3.43 ($SD = 1.98$), suggesting that the average time elapsed was somewhere between 6 and 11 months ago.

Breakup initiator. The initiator of the breakup was represented by two different factors measured with single items developed by Sprecher (1994): *partner initiated* and *partner contributed to breakup*. For partner-initiated, participants responded to the question "Who initiated the breakup?" on a 7-point scale ranging from 1 (*I did*) to 7 (*My partner did*). To measure whether the partner contributed to the breakup, participants responded to the question "Who contributed to the problems leading up to the breakup?" on a 7-point scale ranging from 1 (*I did*) to 7 (*My partner did*). Previous research has suggested that partner-initiated breakups are associated with worse coping with relationship dissolution than self-initiated breakups (Sprecher, 1994).

Procedure

A recruitment message was posted on various Internet websites and e-mail listserves at Rutgers University and at several other universities and colleges. Participants who had experienced a breakup over the past 12 months were recruited to participate in exchange for them being entered in a monetary raffle. Participants who met this criterion were instructed to click on an Internet link that took them to a survey website where they completed an online consent form and the survey. Afterward, participants were presented with a debriefing page and then redirected to a separate webpage if they wanted to be entered in the raffle.

Results

We analyzed the data in two phases. First, we conducted preliminary regression analyses examining the unique contribution of each individual-difference and demographic/relationship variable in predicting emotional

³We did not assess whether participants had re-entered their relationships with their former partners. However, we did ask participants whether or not they were currently in a romantic relationship (Yes, $n = 133$; No, $n = 178$). Even when controlling for this variable, the results remained significant.

Table 1

Results of Preliminary Regression Analyses

| Variable | Predicting emotional distress | Predicting obsessive pursuit |
|---------------------------------|----------------------------------|---------------------------------|
| Relationship CSW | .31*** | .14† |
| Self-esteem | -.04 | -.07 |
| Rejection sensitivity | -.01 | -.08 |
| Dismissive attachment style | -.11 | -.05 |
| Secure attachment style | -.05 | -.05 |
| Preoccupied attachment style | .01 | .05 |
| Fearful attachment style | .01 | .06 |
| Gender | .14* | -.15* |
| Partner-initiated | .34** | .08 |
| Partner contributed to problems | .12* | -.08 |
| Time since breakup | -.01 | .03 |
| Relationship length | .11* | .07 |

Note. CSW = contingency of self-worth. Regression coefficients represent standardized betas. Gender: 1 = male; 2 = female. Partner initiated: higher numbers indicate that the ex-partner was perceived to have greater control than the participant in initiating the breakup. Partner contributed to problems: higher numbers indicate that the ex-partner was perceived to be more responsible than the participant for problems leading up to the breakup.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

distress and obsessive pursuit (see Table 1). Next, we used structural equation modeling (SEM) to test the hypothesized model of relationship CSW predicting emotional distress and obsessive pursuit following the breakup, controlling for individual-difference variables related to responses to breakup. We used SEM because it takes into account measurement error, allows for error terms to covary with one another, and enables multiple paths to be tested simultaneously in one analysis, rather than testing the effect of one variable at a time, as in regression analyses (Klem, 2000).

To prepare for the structural equations analysis, we first divided each of the scale items into indicators using a procedure known as parceling (Bandalos, 2002). Parceling items into indicators improves the goodness of fit and reduces bias in estimations of structural parameters, compared to using individual items. In the present study, items from multiple-item scales were selected at random and averaged together to create two indicators per factor

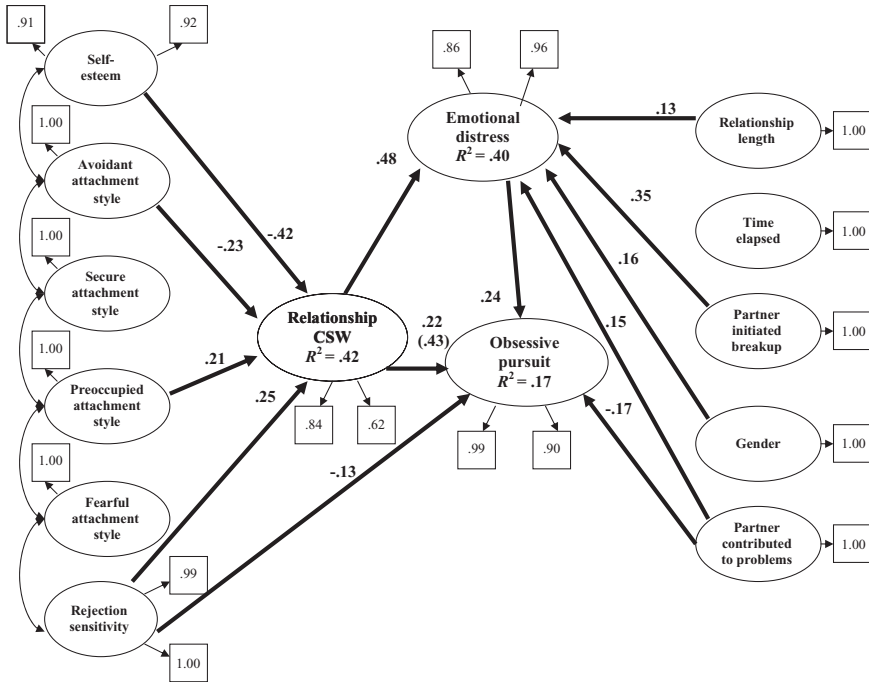


Figure 1. Results for hypothesized full model. Circles represent factors, and squares represent indicators. Standardized beta coefficients are shown. The full model included paths from each individual-difference variable to relationship contingent self-worth (CSW) and the outcome variables, and paths from each demographic or relationship variable to the outcome variables. For parsimony, only significant paths ($p < .05$) are shown. The beta in parentheses between Relationship CSW and obsessive pursuit represent the direct link between these two variables when the path from emotional distress to obsessive pursuit is excluded. Correlations were estimated between all individual-difference control variables (i.e., gender, attachment styles, rejection sensitivity, self-esteem), and the results are shown in Table 3. Time elapsed = time elapsed since the breakup. Partner initiated: higher numbers indicate that the ex-partner was perceived to have greater control than the participant in initiating the breakup. Partner contributed to problems: higher numbers indicate that the partner was perceived to have contributed more to problems leading up to the breakup. Gender: 1 = male; 2 = female.

(see Figure 1). For variables with singular items (e.g., time elapsed since breakup, partner initiated breakup, relationship length), the single item was the indicator of the underlying factor.

To conduct our analyses, we used maximum likelihood estimation with raw data matrices as input. We fixed scaling metrics for the latent variables by setting factor variances equal to 1. To handle missing data, we used expectation–maximization (EM) imputation. There were 54 incomplete

cases, thus 17% of the data were imputed. However, the results were similar when using non-imputed data. Multiple fit indexes were used to assess goodness of fit (Raykov, Tomer, & Nesselroade, 1991). Specifically, the normed fit index (NFI), non-normed fit index (NNFI), and comparative fit index (CFI) are reported. Fit indexes exceeding .90 constitute acceptable model fit, which means that the model accounts for 90% or more of the covariance among the variables (Bentler & Bonett, 1980). In addition, root mean square error of approximation (RMSEA) misfit indexes should be at or below .06 (Hu & Bentler, 1999).

Finally, for chi-square statistics, a nonsignificant chi square represents a close fit between the implied and observed variance-covariance matrices. Although the chi-square statistic is not considered a good index for tests of fit because of its sensitivity to sample size, we report chi square to make comparisons between nested models (Klem, 2000). Consistency across multiple fit indexes also provides a more reliable measure of goodness of fit than any one measure, which is why multiple fit indexes are reported (Boomsma, 2000; Cliff, 1983; McDonald & Moon-Ho, 2002).

SEM Results for Hypothesized Full and Direct-Effects Models

Before testing the fit of our structural equation model, we first ran a measurement model to test how well the indicators related to the latent variables. Measurement models do not include any direct paths between factors but, instead, test a confirmatory factor analysis of all of the latent variables in the model linked by covariances (Kline, 2005). Good fitting measurement models are necessary to proceed with SEM analyses. As shown in Table 2, our measurement model fit the data well; thus, we proceeded to test our hypothesized model.

First, we tested the direct-effects model. This model tests the link between the independent variable (relationship CSW) and dependent variable (obsessive pursuit), before the path between the mediator (emotional distress) and dependent variable is introduced to the model (Baron & Kenny, 1986). We then tested the full hypothesized model, including the path from the mediator to the dependent variable. The hypothesized model should demonstrate a reduced or nonsignificant link between the independent variable and the dependent variable.

In both the direct and full models, we expected links between relationship CSW, emotional distress, and obsessive pursuit to persist, controlling for the individual-difference variables of attachment styles, rejection sensitivity, self-esteem, and demographic/relationship variables. Paths were included from the individual-difference variables to relationship CSW and the outcome

Table 2

Fit Statistics and Chi-Square Comparisons for All Models

| | χ^2 | <i>df</i> | NFI | NNFI | CFI | RMSEA |
|-------------------------|-----------|-----------|------|------|------|-------|
| Measurement model | 137.36*** | 72 | 1.00 | 1.00 | 1.00 | .06 |
| Direct-effects model | 256.18*** | 111 | 1.00 | 1.00 | 1.00 | .06 |
| Hypothesized full model | 247.32*** | 110 | 1.00 | 1.00 | 1.00 | .05 |
| Alternative Model 1 | 306.51*** | 110 | 1.00 | 1.00 | 1.00 | .08 |
| Alternative Model 2 | 251.55*** | 110 | 1.00 | 1.00 | 1.00 | .06 |
| Alternative Model 3 | 251.54*** | 110 | 1.00 | 1.00 | 1.00 | .06 |

Note. Each row represents the structural model performed. Analyses were conducted on the entire sample. NFI = normed fit index; NNFI = non-normed fit index; CFI = comparative fit index; RMSEA = root mean square error of approximation. Hypothesized full model = Relationship CSW → Distress → Obsessive Pursuit. Alternative Model 1 = Distress → Relationship CSW → Obsessive Pursuit. Alternative Model 2 = Obsessive Pursuit → Relationship CSW → Distress. Alternative Model 3 = Obsessive Pursuit → Distress → Relationship CSW.

*** $p < .001$.

variables (see Figure 1). Paths were also included from the demographic/relationship variables to the outcome variables. Correlations were included among all of the individual-difference control variables. For example, we expected self-esteem to covary with attachment styles (Bylsma, Cozzarelli, & Sumer, 1997; Park, Crocker, & Mickelson, 2004). Thus, we specified links between these control variables to account for these covariances when simultaneously testing paths between the control variables, relationship CSW, and the outcome variables.

Table 2 summarizes the results for the direct and full model. As expected, the full model provided a better fit to the data than did the direct-effects model, $\chi^2(1) = 9.00$, $p < .01$. As predicted, the direct-effects model showed a significant path between relationship CSW and obsessive pursuit ($\beta = .43$), controlling for relevant individual-difference variables and demographic/relationship variables. Also, as expected, in the full model, relationship CSW predicted significantly greater emotional distress ($\beta = .48$), controlling for relevant individual-difference variables and demographic/relationship variables. In the full model, we would expect the path between relationship CSW and obsessive pursuit to be nonsignificant to demonstrate full mediation, or less significant than the direct-effects model to demonstrate partial mediation.

The full model provided a good fit to the data (see Table 2). Specifically, relationship CSW predicted significantly greater obsessive pursuit ($\beta = .22$) in

Table 3

Correlations Among Individual-Difference Control Variables Derived From the Hypothesized Full Model

| Variable | 1 | 2 | 3 | 4 | 5 | 6 |
|---------------------------|-------|------|-------|-------|------|-----|
| 1. Self-esteem | — | | | | | |
| 2. Rejection sensitivity | .14* | — | | | | |
| 3. Avoidant attachment | .09 | -.07 | — | | | |
| 4. Secure attachment | .17* | .07 | -.11 | — | | |
| 5. Preoccupied attachment | -.26* | .06 | -.30* | .03 | — | |
| 6. Fearful attachment | -.21* | .01 | .13* | -.38* | .03 | — |
| 7. Gender | .05 | .16* | .05 | .11 | -.03 | .06 |

Note. Gender: 1 = male; 2 = female.

* $p < .05$.

the full model. According to Sobel's t test, emotional distress partially mediated the path between relationship CSW and obsessive pursuit ($z = 2.64$, $p < .01$). Table 3 shows the correlations derived from the full model among the individual-difference variables. For the sake of conciseness, Figure 1 displays only the significant paths and standardized beta coefficients (β s) derived from the hypothesized model.

Notably, having a preoccupied attachment style and having high rejection sensitivity, respectively, were related to basing self-worth more on being in a romantic relationship. Having high self-esteem and having an avoidant attachment style, respectively, were related to lower relationship CSW. Longer relationship length, being a woman, having a partner who initiated the breakup, and perceiving a partner to have contributed more to problems leading up to the breakup were associated with greater emotional distress. Higher rejection sensitivity was associated with less obsessive pursuit, and with perceiving oneself as contributing more to the problems that led to the breakup. The hypothesized model explained 42% of the variance in relationship CSW, 40% of the variance in emotional distress, and 17% of the variance in obsessive pursuit.

SEM Results for Alternative Models

Although we cannot claim causality of effects, given the correlational nature of this study, we tested a series of plausible alternative models to

compare with the hypothesized full model. The results for the alternative models appear in Table 2. In Alternative Model 1, we examined the possibility that participants who experienced greater distress following a breakup may have intuited that they based self-worth more on being in a relationship, which, in turn, predicted greater obsessive pursuit of their ex-partner (i.e., Distress \rightarrow Relationship CSW \rightarrow Obsessive Pursuit). The results show that the originally hypothesized full model provided a better fit to the data. It had a lower RMSEA and the chi square was significantly lower ($\Delta\chi^2 = 59.19$, $p < .001$) than Alternative Model 1.

Alternative Model 2 was identical to the full hypothesized model, except that obsessive pursuit was tested as a predictor of relationship CSW, and relationship CSW was tested as a mediator of the path between obsessive pursuit and emotional distress (i.e., Obsessive Pursuit \rightarrow Relationship CSW \rightarrow Distress). In other words, if participants engaged in obsessive pursuit behavior, they may have inferred that they strongly based their self-worth on being in a relationship. However, the results show that the hypothesized full model provided a better fit to the data. It had a lower RMSEA and the chi square was significantly lower ($\Delta\chi^2 = 4.23$, $p < .05$) than Alternative Model 2.

In Alternative Model 3, we tested whether engaging in obsessive pursuit behaviors predicted greater emotional distress among participants following the breakup, which, in turn, predicted greater investment in being in a relationship (i.e., Obsessive Pursuit \rightarrow Distress \rightarrow Relationship CSW). This model did not provide a better fit to the data. The hypothesized full model had a lower RMSEA and the chi square was significantly lower ($\Delta\chi^2 = 4.22$, $p < .05$) than Alternative Model 3. Overall, then, the original hypothesized full model was a better fit to the data than any of the alternative models that tested different causal paths.

Discussion

Consistent with predictions, basing self-worth on being in a romantic relationship was associated with maladaptive responses to relationship dissolution. Specifically, SEM analyses revealed that relationship CSW predicted heightened emotional distress and obsessive pursuit of ex-partners following a romantic breakup. Moreover, emotional distress partially mediated the link between relationship CSW and obsessive pursuit following a breakup. Thus, the more participants based their self-worth on being in a relationship, the more distressed they felt following the breakup, which, in turn, partially accounted for their increased likelihood of engaging in obsessive pursuit toward their ex-partners.

Contingencies of self-worth theory suggest that following self-threats, people experience a drop in their state self-esteem. Although we did not measure state self-esteem in the present study, we did assess participants' emotional distress, which could be viewed as a close proxy for feelings of self-threat. Indeed, past research has shown that when self-esteem is threatened, people experience a range of negative emotions, including anger and sadness (Brown & Dutton, 1995; Kernis, Brockner, & Frankel, 1989; Park & Crocker, 2008). Given that distress is a common reaction to self-threat, the present finding provides suggestive evidence for why individuals who stake their self-worth on being in a relationship engage in obsessive pursuit behaviors following a breakup. Importantly, these links were demonstrated even after controlling for other relevant variables, such as self-esteem, attachment styles, rejection sensitivity, and demographic/relationship variables in preliminary regression analyses, as well as in SEM analyses.

Indeed, of all the individual-difference variables assessed, only relationship CSW significantly predicted emotional distress following a romantic breakup in the SEM analyses. Whereas the other individual-difference variables reflect personality constructs in general, relationship CSW focuses specifically on romantic relationships. For example, rejection sensitivity is relevant across many different relationship contexts (e.g., with family members, friends, peers), rather than just with romantic partners. Similarly, attachment styles reflect concerns about relationship security versus insecurity, but this individual-difference variable is not limited to romantic partners *per se*. Because relationship CSW is specific to romantic relationships, it makes sense that this variable would be a significant predictor of emotional distress following a romantic breakup.

Several demographic/relationship variables predicted emotional distress in the SEM analyses. As one might expect, the longer participants reported having been in the relationship, and the more participants perceived their ex-partners to be responsible for the breakup, the more distress they felt. In addition, women overall reported more distress following a breakup than did men. However, this finding could be driven by the fact that there was an overrepresentation of women in the present sample.

A key finding was that basing one's self-worth on being in a romantic relationship predicted greater obsessive pursuit of one's ex-partner following a breakup. Specifically, the more participants experienced distress and perceived themselves to have contributed to problems leading to the breakup, the more they reported obsessively pursuing their ex-partner. In contrast, rejection sensitivity was related to less obsessive pursuit of ex-partners, consistent with the idea that people with high rejection sensitivity may seek to avoid those who have rejected them.

Implications for Relationship Motivation

Growing evidence suggests that relationship CSW plays an important role in influencing interpersonal motivation and well-being. For example, individuals with high relationship CSW tend to focus on their physical appearance as a way to attract potential mates (Sanchez et al., 2008). The desire to appear attractive, however, may come at a cost to one's mental and physical health (e.g., increased body shame, risk of eating disorders; Sanchez et al., 2008; Sanchez & Kwang, 2007). Building on these ideas, the present study found that the more individuals based their self-worth on being in a relationship, the more difficult was their adjustment to a breakup.

According to self-determination theory (Deci & Ryan, 1991), motivation lies on a continuum ranging from behaviors that originate from oneself (i.e., self-determined, autonomous behaviors) to behaviors that are motivated by coercion, pressure, or obligation (i.e., controlled behaviors). Along these lines, Rempel, Holmes, and Zanna (1985) identified three categories of motives for romantic involvement: *extrinsic reasons* (e.g., "He/she is someone my parents would approve of," "He/she is well liked by my friends," "People are impressed by my choice"), *intrinsic reasons* (e.g., "We share the same interests and concerns," "We have the same attitudes and values"), and *instrumental reasons* (e.g., "He/she keeps me informed of things I should know about," "He/she is a good source of knowledge"). Applied to romantic relationships, people may place importance on being in a romantic relationship, but the underlying reasons for doing so may vary, with differing consequences for well-being. Although, at times, basing one's self-worth on being in a romantic relationship may have self-esteem benefits, when the relationship itself is threatened (e.g., a breakup), people may experience maladaptive outcomes if they have heavily invested their self-worth in this domain.

Furthermore, because humans have a fundamental need for close relationships (Baumeister & Leary, 1995), the domains in which people stake their self-worth might also represent domains in which people seek acceptance from others (Park & Maner, 2009). According to sociometer theory, self-esteem serves as a psychological monitor of the degree to which a person feels included or excluded by others (Leary, Tambor, Terdal, & Downs, 1995). Thus, a threat to self-esteem, therefore, may pose a threat to one's sense of social belonging. Indeed, because relationship CSW is directly linked to belonging in relationships, the link between self-esteem threat and a threat to belonging may be even stronger for relationship CSW than for other CSWs.

Finally, we note that our conceptual framework is similar to relational goal pursuit theory (Cupach & Spitzberg, 2004). According to this theory, individuals expend energy to develop or reinstate relationships to the extent

that they view the relationship as desirable and attainable. Individuals who persistently pursue a relationship with a nonreciprocating partner are likely to exaggerate the importance and feasibility of their relational goal. In particular, persistent relationship pursuers tend to link the lower order goal of having a relationship with a particular person with higher order goals (e.g., happiness, self-esteem, life satisfaction). By doing so, persistent relationship pursuers exaggerate the importance of the relational goal and believe that there can be no substitute for the desired relationship.

Whereas relational goal pursuit theory focuses on pursuit of a romantic relationship with a specific partner, relationship CSW theory proposes that people are motivated to be in a romantic relationship in general. Although we did not provide direct support for this idea in the present study, previous research by Sanchez et al. (2008) found that individuals with high relationship CSW were worried about being alone and showed a strong sense of mate urgency. Specifically, they were likely to endorse statements such as “Sometimes I feel like I am running out of time to find someone to marry,” “Sometimes I worry that I may never find a romantic partner to settle down with,” and “Sometimes I wonder that I may be running out of time to start a family.” Given that these items were worded in a general sense, rather than tied to a specific partner, we have reason to believe that relationship CSW reflects a desire to be in a romantic relationship in general, rather than being limited to a specific person.

Limitations and Future Directions

Several limitations of this study deserve mention. First, we did not recruit participants who had not experienced a breakup, or tracked individuals when they did or did not break up. Thus, we cannot conclude that relationship CSW moderates the effects of a breakup on emotional distress and obsessive pursuit. However, the present findings do suggest that among individuals who experienced a breakup, basing self-worth on being in a romantic relationship predicted greater emotional distress and self-regulation failure, in the form of obsessive pursuit of ex-partners.

Given the cross-sectional nature of this study, we were not able to determine conclusively the causal direction of effects. Thus, it is plausible that experiencing distress or obsessive pursuit could have led participants to infer that they based their self-worth more on being in a relationship, rather than the other way around. It is important to note, however, that none of the alternative models that we tested fit the data better than our hypothesized full model, suggesting that at least in the present study, relationship CSW might be better viewed as a stable individual-difference variable, rather than as a

state-like variable. Indeed, because we only collected data from individuals who had experienced a breakup, we could not test whether experiencing a breakup or not led people to become more or less contingent on being in a romantic relationship. This remains a question for future research.

Another limitation of the current research is that participants were asked to report retrospectively on their responses to a recent breakup. For example, participants were asked to report on their emotions following the breakup, but interpretation of this question could have differed across participants because we did not give them a specific time frame. Because romantic breakups are naturally occurring events, future studies would benefit from examining links between relationship CSW and responses to breakup using a longitudinal design.

We also note that emotional distress only partially mediated the link between relationship CSW and obsessive pursuit. Future research could examine additional mediators of this link, such as the role that cognitions (e.g., negative thinking, rumination) might play in predicting the obsessive pursuit of ex-partners.

The present findings add to a growing literature on the costs of investing one's self-worth in externally regulated domains: domains that are relatively less under people's personal control than are more internally regulated domains, such as basing one's self-worth on being a virtuous person (Crocker & Wolfe, 2001). On the one hand, relationship CSW may lead individuals to experience boosts in self-esteem and mood following positive relationship events. For example, getting engaged or married might lead high-relationship-CSW individuals to experience a boost to self-esteem or mood than those who care less about being in a romantic relationship. However, as the findings from this and other studies have suggested, basing one's self-worth on external sources of self-worth (e.g., appearance, others' approval, romantic relationships) may reduce autonomy, self-esteem, and satisfaction in romantic relationships (Crocker & Park, 2004; Sanchez & Crocker, 2005; Sanchez, Crocker, & Boike, 2005). Future studies could investigate why relationship CSW, like other external sources of self-esteem, is associated with poor psychological adjustment. Given the costs associated with relationship CSW, researchers could also examine how and why people's self-worth becomes contingent on relationships in the first place.

Romantic breakups can be an emotionally distressing experience and predict obsessive pursuit and stalking-like behaviors toward one's ex-partner. The present study found that basing one's self-worth on being in a romantic relationship exacerbated responses to relationship dissolution. In particular, participants who based their self-worth on being in a relationship experienced greater distress following a breakup, which, in turn, partially accounted for their increased likelihood of engaging in obsessive pursuit toward their

ex-partners. This research, therefore, contributes to a growing body of research that seeks to identify and understand factors that predict vulnerability to the negative aftermath of romantic breakups.

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