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The Association between Compassionate Goals and Relational-Interdependent Self-Constraint

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Abstract

Although research has examined the consequences of relational self-construal, little is known about what psychological factors predict it. Four studies examined the association between compassionate goals and relational self-construal. Study 1 showed that compassionate goals are positively associated with relational self-construal in college students. Study 2 replicated this association among adults in romantic relationships. Studies 3 and 4 showed that compassionate goals predict increased relational self-construals over time in college roommates. Moreover, Studies 2–4 showed that responsiveness to relationship partners statistically mediated the association between compassionate goals and self-construal. These studies suggested that people with compassionate goals have highly relational self-construals and that they also develop higher levels of relational self-construals by being responsive to relationship partners.

Keywords

compassionate goals; relational self-construal; interpersonal relationships; responsiveness

People who define themselves in terms of their close relationships think, feel, and behave differently across a variety of contexts than those whose self-definitions are not shaped by their close relationships (Cross, Hardin, & Gercek-Swing, 2011). Although research has examined the consequences of defining the self in relational terms, little research has examined how relational self-construal develops. In a series of studies, we investigate the hypothesis that relational self-construals (RSCs; Cross, Bacon, & Morris, 2000) are related

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to and shaped by goals in relationships. In particular, we propose that people who want or try to be constructive and supportive toward others in their relationships (i.e., people with compassionate goals) have high RSCs and that they also develop higher levels of RSC by being responsive to their relationship partners.

Relational Self-Construal

People with highly interdependent self-construals define themselves in terms of their social roles, group memberships, and relationships, whereas those with highly independent self-construals define themselves as unique and separate from others (Markus & Kitayama, 1991). Although interdependent and independent self-construals were first proposed as a way to explain differences across cultures (Markus & Kitayama, 1991), researchers have also investigated variation within cultures (e.g., Cross et al., 2000; Cross & Madson, 1997). Whereas people in collectivist cultures define themselves in terms of a range of social roles and group memberships (i.e., collective-interdependent self-construals), Cross et al. (2000) proposes that in Western cultures, people with highly interdependent self-construals tend to define themselves in terms of their close personal relationships, such as friends and family (i.e., relational-interdependent self-construals [RSCs]).

People with high RSCs include close others and relationships in the self (Cross & Morris, 2003; Cross, Morris, & Gore, 2002), and they differ from those with low RSCs in the thoughts, emotions, motivations, and behaviors they experience, both within and outside of relationship contexts (see Cross et al., 2011, for a review). For example, people with high RSCs tend to behave in ways that promote intimacy and harmony in their relationships, which in turn enhance relationship satisfaction (Cross et al., 2000; Cross, Gore, & Morris, 2003; Gore, Cross, & Morris, 2006). In addition, highly relational people pursue goals in the interest of their close relationships, which predicts long-term goal-related efforts (Gore & Cross, 2006; Gore, Cross, & Kanagawa, 2009) and success (Gore, 2013).

Despite these positive relationship and personal outcomes fostered by having a high RSC, little is known about why some people are more relational than others or how people develop high RSC. Research examining predictors of RSC has focused primarily on stable characteristics of individuals, such as gender (e.g., Cross & Madson, 1997). Some studies have manipulated or primed interdependent self-construals by having people do tasks such as circling “we” instead of “I” in text, producing short-term shifts in these self-construals (Gardner, Gabriel, & Lee, 1999; see Oyserman & Lee, 2008, for a review). To date, however, no studies have examined the psychological processes that might account for differences in RSC, what predicts long-term change in this self-construal, or the process by which such a change might occur.

We suggest that RSCs are associated with and shaped by the goals people have in their interpersonal relationships. In particular, we propose that when people have benevolent intentions toward others (i.e., when they have compassionate goals), they will have high RSCs. Moreover, we propose that people with compassionate goals also develop higher levels of RSC over time by being responsive to others.

Ecosystem Motivation and Compassionate Goals

According to the theory of relationships in the ecosystem, goals and intentions toward relationship partners shape how people experience their relationships in general and their interactions with specific relationship partners (Canevello & Crocker, 2015; Crocker & Canevello, 2012, 2015). This theory draws on the biological notion of an ecosystem as a metaphor for a motivational system in which people view themselves as part of a larger whole, a system of separate individuals whose actions nonetheless have consequences for others (Crocker & Canevello, 2008; 2015; Crocker, Olivier, & Nuer, 2009). In the interpersonal ecosystem, the well-being of one depends on the well-being of others and the entire system, and people care about others as well as themselves.

People with an ecosystem motivational orientation tend to have compassionate goals, which “focus on supporting others, not to obtain something for the self, but out of consideration for the well-being of others” (Crocker & Canevello, 2008, p. 557). Compassionate goals are both states and traits. That is, people differ in their general tendency to pursue compassionate goals in their relationships with others, and compassionate goals fluctuate within people over time, depending on their present internal states and the current environment (Crocker & Canevello, 2008; see Crocker & Canevello, 2012, for a review). Empirical evidence has demonstrated that compassionate goals predict how people interact with their relationship partners, which in turn predicts feelings and beliefs about their relationships and themselves. For example, when people have compassionate goals, they are more responsive (i.e., understanding, caring, and validating) to relationship partners¹ and they perceive their partners as more responsive, which in turn predicts increased relationship quality (Canevello & Crocker, 2010). In addition, compassionate goals predict increased self-esteem over several months through increased responsiveness to relationship partners (Canevello & Crocker, 2011). Thus, compassionate goals create positive responsiveness dynamics in close relationships, which influence relationship quality and self-views.

Goals, Responsiveness, and RSC

Although research on compassionate goals has proceeded separately from research on RSC, a number of similarities suggest an association between the two. For example, both RSC and compassionate goals predict perceived responsiveness from others (Canevello & Crocker, 2010; Cross et al., 2000) and nonzero-sum views of relationship conflicts (Crocker, Canevello, & Lewis, in press; Gore & Cross, 2011). Thus, we propose that RSC is associated with compassionate goals. Moreover, people with compassionate goals create upward spirals of responsiveness in their close relationships (Canevello & Crocker, 2010). We propose that these positive relationship dynamics lead to increased tendencies to define oneself through close relationships.

Although compassionate goals predict both responsiveness and perceptions of partner responsiveness (Canevello & Crocker, 2010), we suggest that the association between

¹Theoretically, compassionate goals and responsiveness are two distinct constructs. Compassionate goals refer to the motivations or intentions that lead people to be constructive and caring toward their partners, whereas responsiveness refer to the behaviors or behavioral tendencies that indicate understanding, caring, and validation toward partners.

compassionate goals and RSC works by being responsive to partners rather than perceiving partners as responsive to oneself. In other words, we suggest that responsiveness and perceived partner responsiveness have different psychological effects, with perceived partner responsiveness predicting change in relationship quality, and responsiveness predicting change in self-construals. Relationship researchers generally agree that perceiving partners as responsive predicts increased closeness, intimacy, and relationship quality (Reis, Clark, & Holmes, 2004). Consistent with this idea, perceived partner responsiveness predicts increased relationship quality when controlling for responsiveness to partners (Canevello & Crocker, 2010). Thus, when relationship quality is the outcome, perceived partner responsiveness is a stronger predictor than responsiveness to partners.

In contrast, when self-conceptions are the outcome, we hypothesize that responsiveness to partners is a more powerful predictor than perceived partner responsiveness. Behavior can strengthen certain self-aspects by making relevant memory structures more accessible (see Gore & Cross, 2014 for a review). Therefore, one's own responsive behaviors, rather than perceived partner responsiveness, may activate the relational aspects of the self in memory (e.g., "I am John's girlfriend"), and thus may strengthen the connection between these self-aspects and the general self-concept, increasing the tendencies to define the self in terms of close relationships. Consistent with these ideas, an emerging body of research suggests that being responsive to others changes the self. For example, empathic perspective-taking (i.e., trying to understand others' feelings) activates aspects of self-concept related to social relationships (Uchrowski, Abele, & Bruckmüller, 2013). Moreover, responsiveness to relationship partners predicts increased self-esteem, even controlling for perceptions of partner's responsiveness (Canevello & Crocker, 2011).

Taken together, these theories and findings suggest that perceived partner responsiveness predicts changes in relationship quality, whereas being responsive to others predicts changes in self-views. Thus, we hypothesize that compassionate goals predict increased RSC through responsiveness to relationship partners, rather than through perceived partner responsiveness. In the current studies, we examine whether responsiveness to partners statistically mediates the association between the goals and self-construal controlling for perception of partners' responsiveness.

Alternative Explanations

In the current studies, we begin our investigation by examining the association between compassionate goals and RSC, and test a number of potential alternative explanations for associations between goals and RSC. Specifically, we test general individual differences and relationship-specific tendencies to rule them out as alternative explanations for an association between goals and RSC.

General individual differences

The association between compassionate goals and RSC may emerge because gender predicts both constructs. Gender is assumed to account for individual differences in RSC (Cross & Madson, 1997), and people's level of compassionate goals also differ between genders (Crocker & Canevello, 2008). Therefore, we test whether the association between

compassionate goals and RSC is explained by gender. We also test several other individual difference variables that are related to both compassionate goals and RSC. Specifically, communal orientation, which refers to endorsement of the norm that people should care for each other's needs and feelings (Clark, Oullette, Powell, & Milberg, 1987), is conceptually and empirically related to both compassionate goals and RSC (Crocker & Canevello, 2012; Cross et al., 2000). Moreover, socially desirable responding (Crowne & Marlowe, 1964) may also be associated with both constructs. Thus, we test whether the association between compassionate goals and RSC is explained by communal orientation or social desirability.

Relationship-specific tendencies

Some relationship-specific tendencies could also account for the association between compassionate goals and RSC. First, attachment styles toward specific relationship partners (Mikulincer & Shaver, 2003) may explain the association between compassionate goals and RSC. People with secure attachment styles have a positive model of both the self and their relationship partners, so they view themselves as worthy of care and partners as trustworthy, which may lead them to have higher RSCs than people with insecure attachment styles. Because compassionate goals predict increased relationship security toward relationship partners (Canevello et al., 2013), attachment styles in specific relationships may account for the association.

Additionally, it is possible that feelings of closeness to specific relationship partners may explain the association between compassionate goals and RSC. People include specific others into the self when they feel close to them (Aron & Aron, 1986), which may lead to higher levels of RSC. Compassionate goals are also related to greater feelings of closeness (Crocker & Canevello, 2008), so feeling close to partners may account for the association between compassionate goals and RSC. Furthermore, self-image goals, which refer to the interpersonal goals to construct, maintain, and defend desired images of the self (Crocker & Canevello, 2008), are positively related to compassionate goals. Because people with self-image goals are concerned about their relationships with others, they may also have high RSC. Thus, self-image goals may also account for the association between compassionate goals and RSC. Finally, in close relationships, one person's psychological and behavioral outcomes can be affected by his/her partner's goals and/or behaviors (Rusbult & Van Lange, 2003). People may have high RSCs when their relationship partners have compassionate goals toward them and/or when the partners are responsive to them. Because compassionate goals and responsiveness are contagious between individuals in close relationships (Canevello & Crocker, 2010), relationship partners' compassionate goals and/or responsive behaviors may also account for the association between people's own goals and RSCs. Therefore, in the current studies, we test whether the association between compassionate goals and RSC can be explained by these relationship-specific tendencies, including relationship anxiety and avoidance toward partners, feeling close to partners, self-image goals toward partners, and partners' compassionate goals and responsiveness.

Overview

The current studies examined the association between compassionate goals and RSC. We hypothesized that people with compassionate goals tend to define themselves in terms of their close relationships and they also develop higher levels of RSC over time by being responsive to their relationship partners. In Study 1, we examined the association between general compassionate goals toward others and RSC in college students. In Study 2, we examined the link between compassionate goals toward relationship partners and RSC in romantic couples. In Study 3, we examined whether students' compassionate goals for their college roommates predict change in students' RSCs over 3 weeks. In Study 4, we tested the plausibility of a bi-directional temporal association between compassionate goals and RSC over 10 weeks in a second sample of first-semester college student roommates. Importantly, in Studies 2–4, we tested whether people's responsiveness to their partners statistically mediates the association between their compassionate goals and RSC, after controlling for their perception of partners' responsiveness. Moreover, across studies, we tested alternative explanations for the association between compassionate goals and RSC, including gender (all studies), communal orientation (Study 1), social desirability (Study 1), relationship anxiety and avoidance (Studies 2–4), feeling close to partners (Studies 2–3), self-image goals toward partners (Studies 2–4), and relationship partners' compassionate goals and responsiveness (Studies 2–4). In addition, because men and women differ in how they define themselves (Cross & Madson, 1997), we tested whether the relation between compassionate goals and RSC is moderated by gender (all studies).

Study 1

Study 1 examined the association between compassionate goals and RSC. We predicted that compassionate goals would be associated with greater RSC, and we tested whether this association could be explained or moderated by gender. In Study 1, we also tested whether this association could be explained by communal orientation or socially desirable responding.

Method

Participants—Five hundred seventy-one Introductory Psychology students at a large Midwestern university completed a set of questionnaires in a single setting in partial fulfillment of a course requirement. Fifty-five percent were female; participants ranged in age from 18 to 23 ($M = 18.77$ years, $SD = 1.18$). The sample was 75% White or Caucasian, 12% Asian, 7% Black/African American, less than 1% American Indian or Alaska Native, less than 1% native Hawaiian or other Pacific Islander, and 5% "Other." Four percent of participants were Hispanic/Latino(a).

Measures and procedure—Participants completed measures of general compassionate goals, RSC, communal orientation, and socially desirable responding. They also provided demographic information. Additional measures not germane to the present investigation were also included.

Compassionate goals: We assessed compassionate goals with a modified 11-item measure from Crocker and Canevello (2008). Items began with the phrase “In general, how much do you want or try to” and were rated on a scale ranging from 1 (*not at all*) to 5 (*extremely*). The eleven items included: “have compassion for others’ mistakes and weaknesses,” “be supportive of others,” “avoid being selfish or self-centered,” “understand how your actions affect others,” “make a positive difference in someone else’s life,” “avoid doing anything that would be harmful to others,” “do things that are helpful to both you and others,” “avoid doing things that aren’t helpful to you or others,” “avoid focusing on your own needs to the exclusion of others,” “be constructive in your comments to others,” and “avoid neglecting your relationships with others.” The scale had good internal consistency in this sample ($\alpha = .84$).

RSC: We assessed RSC with the Relational-Interdependent Self-Construal scale (Cross et al., 2000). Participants rated 11 items (e.g., “My close relationships are a close reflection of who I am,” or “When I think of myself, I often think of my close friends or family also.”) on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The RSC scale had good internal consistency in this sample ($\alpha = .84$).

Communal orientation: We assessed communal orientation with the measure developed by Clark and colleagues (Clark et al., 1987). Participants rated 14 items (e.g., “I expect people I know to be responsive to my needs and feelings.”) in terms of how characteristic each item was of them on a scale ranging from 1 (*extremely uncharacteristic*) to 5 (*extremely characteristic*). This scale had adequate internal consistency in this sample ($\alpha = .78$).

Social desirability: We assessed social desirable responding with the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1964). Participants responded to 33 items in a forced-choice format. The scale had adequate internal consistency in this sample ($\alpha = .73$).

Results

Table 1 shows the means, standard deviations, and correlations for all Study 1 variables. As predicted, compassionate goals were positively correlated with RSC, $r = .41$, $p < .001$. We tested whether this association remained when we controlled for gender, communal orientation, and socially desirable responding. When we regressed RSC on compassionate goals in three separate analyses, each controlling for a separate covariate, the association between compassionate goals and RSC remained significant in all analyses (.24 β s .43, all $ps < .001$). This association also remained significant when we entered all three covariates simultaneously as predictors with compassionate goals ($t(566) = 6.10$, $\beta = .27$, $p < .001$). Finally, gender did not moderate the link between compassionate goals and RSC, $R^2 = .00$, *ns*.

Discussion

Study 1 showed that compassionate goals are indeed associated with greater RSC. This association remained after controlling for gender, and did not differ for men and women. Moreover, the association between compassionate goals and RSC was not explained by

communal orientation or social desirability. These findings support the hypothesis that people with compassionate goals tend to define themselves in terms of their close relationships.

Study 2

Although Study 1 supported the link between compassionate goals and RSC, some questions remained. First, Study 1 examined how general compassionate goals toward others was related to RSC, but this association could reflect a broad interpersonal orientation that is not necessary manifested in specific close relationships. Although RSC refers to a tendency to define oneself through close relationships in general, rather than through one specific relationship, compassionate goals can be directed either toward others generally or toward specific relationship partners, such as friends, roommates, or romantic partners. In fact, the consequences of compassionate goals may be more evident in specific relationship contexts (see Crocker & Canevello, 2012, for a review). Thus, in Study 2, we examined whether RSC is associated with compassionate goals in romantic relationships. We also examined whether relationship-specific tendencies, including relationship anxiety and avoidance, feeling close to partners, self-image goals toward partners, and partners' compassionate goals and responsiveness, account for the association between compassionate goals and RSC. Furthermore, we tested whether gender accounts for or moderates this association. In addition, in Study 2, we examined whether responsiveness to partners statistically mediates the association between compassionate goals and RSC, after controlling for perception of partners' responsiveness.

Method

Participants—One hundred fifty-seven people from a Midwestern state who were in heterosexual dating relationships were recruited for a study of relationships and interpersonal goals. Participants included 74 couples ($n = 148$) and nine individuals (six men and three women) without their partners. They were recruited via ads posted throughout surrounding communities. In return for their participation, participants were entered into a raffle for two \$50 gift cards to area businesses.

Participants had known their partners for between 5 months and 9 years ($M = 2.90$ years, $SD = 2.02$) and had been dating partners for between 1.5 months and 5.5 years ($M = 1.62$ years, $SD = 1.25$). Participants ranged in age from 18 years to 34 years ($M_{Male} = 20.64$, $SD_{Male} = 2.69$, $M_{Female} = 19.94$, $SD_{Female} = 1.60$). Eighty-two percent reported their race as White/Caucasian, 12% were Asian, 1% were African American, less than 1% were American Indian/Alaska Native, 5% reported their race as "Other", and 1% did not report race; five percent were Hispanic or Latino(a).

Measures and procedure—Participants completed an online survey, which included measures of compassionate goals for partners, RSC, responsiveness to partners, perception of partners' responsiveness, relationship anxiety and avoidance, feeling of closeness to partners, and self-image goals for partners. Participants were instructed to complete the surveys independent of their partners and to not discuss their responses with partners. Other measures unrelated to the goals of this study were also included in the survey.

Compassionate goals: We assessed compassionate goals for partners with a modified 9-item version of the measure described in Study 1. Items began with the phrase “In my relationship with my significant other, I want/try to:” and were rated on a scale ranging from 1 (*not at all*) to 5 (*extremely*). The nine items included: “be aware of the impact my behavior might have on my partner’s feelings,” “make a positive difference in my partner’s life,” “be constructive in my comments to my partner,” “be supportive of my partner,” “have compassion for my partner’s mistakes and weaknesses,” “avoid doing anything that would be harmful to my partner,” “avoid neglecting my relationship with my partner,” “avoid being selfish or self-centered,” and “avoid doing things that aren’t helpful to me or my partner.” This scale had adequate internal consistency in this sample ($\alpha = .73$).

RSC: We assessed RSC using the RSC scale described in Study 1, which had good internal consistency in this sample ($\alpha = .86$).

Responsiveness to partners and perceptions of partner’s responsiveness: We assessed responsiveness to partners with six items derived from Cutrona and colleagues (Cutrona, Hessling, & Suhr, 1997). Items began with the phrase “In general,” and were rated on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*). The six items included “I behave warmly toward my partner,” “I really listen to my partner when he/she talks,” “I try to make my partner feel comfortable about him/herself and how he/she feels,” “I try to be sensitive to my partner’s feelings,” “I try to make my partner feel valued as a person,” and “I really try to understand my partner’s concerns.” A parallel set of items was used to assess to what extent participants perceived their partners’ responsiveness (e.g., “my partner behaves warmly toward me”). Both scales had good internal consistency in this sample (responsiveness to partners: $\alpha = .83$; perception of partners’ responsiveness: $\alpha = .89$).

Relationship anxiety and avoidance: We assessed anxiety and avoidance in the context of romantic relationships with an abbreviated version of the measure developed by Brennan, Clark, and Shaver (1998). Items began with the phrase “In my relationship with my significant other,” and were rated on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Four items assessed relationship anxiety, including “I need a lot of reassurance that my partner likes me,” “I often want to be close friends with my partner, but this sometimes makes them uncomfortable,” “I worry that my partner will end the relationship because of me,” and “I often wonder if my partner really likes me.” Six items assessed relationship avoidance, including “I don’t feel comfortable opening up to my partner,” “I am very comfortable being close friends with my partner” (reversed), “I prefer not to show my partner my true feelings,” “I try to avoid getting too close to my partner,” “I get uncomfortable when my partner wants to be a close friend,” and “Just when my partner starts to get close to me I find myself pulling away.” Both the anxiety and avoidance subscales had acceptable internal consistency in this sample (anxiety $\alpha = .66$; avoidance $\alpha = .77$).

Closeness: We assessed closeness to partners with the Inclusion of Others in Self (IOS) scale developed by Aron, Aron, and Smollan (1992). Participants responded to one pictorial item, which consists of seven increasingly overlapping pairs of circles (one representing the

self and the other representing the partner). They chose one pair that best described how they perceived themselves in relation to their partners.

Self-image goals: We assessed self-image goals with a modified 6-item version of the measure from Crocker and Canevello (2008), Study 2. Items began with the phrase “In my relationship with my significant other, I want/try to:” and were rated on a scale ranging from 1 (*not at all*) to 5 (*extremely*). The six items included: “avoid being blamed or criticized,” “avoid revealing my shortcomings or vulnerabilities,” “get my partner to do things my way,” “avoid showing my weaknesses,” “convince my partner that I am right,” and “avoid the possibility of being wrong.” This scale had adequate internal consistency in this sample ($\alpha = .79$).

Results

Initial analyses—In these data, individuals were nested within dyads. We structured the data so that each dyad was represented by two lines of data, allowing each participant within a dyad to represent both an actor and a partner. Table 2 shows the means, standard deviations, and intraclass correlations for all primary variables in Study 2. We computed correlations by using the method described by Gonzalez and Griffin (1999) for distinguishable dyads. Because the correlation between compassionate goals and responsiveness to partners was high ($r = .47$), we conducted confirmatory factor analyses on the items to compare the fit of a model specifying two factors (i.e., the items for compassionate goals on one factor and the items for responsiveness on a second factor) with a model specifying one factor in which all items loaded on a single factor. The results showed that the two-factor solution provided a significantly better fit than a single-factor solution, $\chi^2(1, N = 135) = 73.33, p < .01$, demonstrating an empirical distinction between the two constructs.

Tests of hypotheses—To test the associations between compassionate goals and RSC, we used a multilevel analytic strategy and we accounted for the nonindependence of individuals within dyads in these data using the MIXED command in SPSS (Kenny, Kashy, & Cook, 2006). Predictors were grand mean centered. Coefficients were derived from fixed-effects models using restricted maximum-likelihood estimation. As a measure of effect size, we report partial correlations for all associations, which were calculated using the method described by Rosenthal and Rosnow (1991). We first regressed actors' RSC on actors' compassionate goals. Actors' compassionate goals predicted their greater RSC, $t(153.81) = 2.59, pr = .20, p < .05$. Next, we tested whether the association between actors' compassionate goals and RSC could be explained by actors' gender, anxiety and avoidance in the relationship, feeling close to partners, or self-image goals for partners, or partners' compassionate goals or responsiveness toward actors. In seven separate analyses, we regressed actors' RSC on their compassionate goals, controlling for each covariate. None of the covariates accounted for the association between actors' compassionate goals and their RSC. In each analysis, compassionate goals still accounted for significant variance in RSC ($.16 \leq prs \leq .20$, all $ps < .05$). Gender moderated the association between compassionate goals and RSC, $pseudo\ r^2 = .04, p < .01$; the association was significant for men, $t(80.26) = 3.90, pr = .40, p < .001$, but not for women, $t(77.13) = -.11, pr = -.01, ns$.

To test whether responsiveness to partners statistically mediated the association between compassionate goals and RSC, we used structural equation modeling and followed the procedures described in Ledermann, Macho, and Kenny (2011), because this approach is well suited to the assessment of mediation in dyadic data. Based on the procedures for distinguishable dyads, we created a model with the predictor (i.e., compassionate goals), mediator (i.e., responsiveness), and outcome (i.e., RSC) for both members in a couple (i.e., men and women), and we specified the covariance between men and women for the predictor and for the error terms of the mediator and outcome. Based on the recommendation by Ledermann et al., 2011, we used 5,000 bootstrapped samples and reported the bias-corrected bootstrap 95% CI for the unstandardized effects. Because the direct effects of partners' compassionate goals and responsiveness on actors' RSC were not significant for either men or women ($-.21$ effects $.06$, all $ps > 0.20$), we deleted those four paths from the model (See Figure 1 for the final model). We tested the within-person indirect effects of compassionate goals on RSC through responsiveness for both men and women. The results showed a significant indirect effect of men's compassionate goals on their RSC through their responsiveness (effect = $.28$, 95% CI $[.10, .51]$, $p < .01$), but a nonsignificant indirect effect of women's compassionate goals on their RSC through their responsiveness (effect = $.07$, 95% CI $[-.07, .26]$, $p = 0.33$; See Figure 1).² This model fit the data well, $\chi^2(4, N = 74) = 2.57$, $p = 0.63$; $RMSEA = 0.00$. The association between men's responsiveness and RSC remained when we included men's perceptions of partners' responsiveness into the model: men's responsiveness predicted their greater RSC (effect = $.68$, 95% CI $[.31, .97]$, $p < .01$), but men's perception of partners' responsiveness did not (effect = $.02$, 95% CI $[-.18, .24]$, $p = 0.83$). Thus, for men in romantic relationships, their responsiveness statistically mediated the association between their compassionate goals and RSC but their perceived partner responsiveness did not.

In addition, although the direct effect of partners' compassionate goals on actors' RSC was not significant, there was a significant indirect effect of women's compassionate goals on their partners' RSC through their partners' responsiveness (effect = $.22$, 95% CI $[.05, .44]$, $p < .01$), but a nonsignificant indirect effect of men's compassionate goals on their partners' RSC through their partners' responsiveness (effect = $.01$, 95% CI $[-.02, .08]$, $p = 0.47$). Thus, women's compassionate goals predicted their partners' responsiveness, which in turn predicted their partners' RSC.

Discussion

Extending the findings from Study 1, Study 2 demonstrated that compassionate goals toward a specific relationship partner are associated with greater RSC, which refers to the general tendency to define oneself in terms of close relationships. Thus, the association emerged

²Although confirmatory factor analyses show that compassionate goals and responsiveness refer to two distinct constructs, four of the responsiveness items appear to assess goals as well, so overlap between the two measures might explain the mediation findings. To test this possibility, we operationalized responsiveness with the two items in the original measure that clearly reflect behaviors (i.e., "I behave warmly toward my partner," and "I really listen to my partner when he/she talks.") and tested the mediation again. Consistent with results using all responsiveness items, we found a significant indirect effect of men's compassionate goals on their RSC through their responsiveness (effect = $.25$, 95% CI $[.09, .49]$, $p < .01$), and a nonsignificant indirect effect of women's compassionate goals on their RSC through their responsiveness (effect = $.05$, 95% CI $[-.04, .24]$, $p = 0.29$). Thus, overlap between the two measures does not account for our finding that compassionate goals predict RSC through responsiveness toward partners).

despite differences in the breadth of the constructs measured in this study. Moreover, this association was not explained by gender or relationship-specific tendencies, including actors' relationship security, feeling of closeness, and self-image goals, and partners' compassionate goals and responsiveness. In contrast to Study 1, the association between compassionate goals and RSC in Study 2 emerged for men, but not for women. Thus, the link between goals and RSC may depend on gender in this relationship context. In addition, men's responsiveness to their partners mediated the association between their own compassionate goals and RSC. Although there was no direct relationship between men's RSC and their partners' compassionate goals, their partners' goals predicted men's responsiveness, which in turn predicted men's RSC. These findings suggest that men's responsiveness can be affected by their own and their partners' goals, but their RSC is influenced by their own responsive behaviors.

Study 3

Studies 1 and 2 showed that compassionate goals and RSC are positively associated when compassionate goals were measured as a general tendency and in a specific relationship, and that this association cannot be explained by several individual differences or relationship-specific tendencies. Moreover, the results were consistent with the idea that the association is mediated by responsiveness, but not by perceived partner responsiveness, although this finding emerged only for men in Study 2. Due to the cross-sectional nature of those studies, however, we cannot determine whether compassionate goals facilitate the development of RSC over time.

In Study 3, we tested the association between compassionate goals and RSC over time in the context of roommate relationships. New roommate relationships provide a unique opportunity to examine how relationships develop from an early stage (Canevello & Crocker, 2010). We hypothesized that compassionate goals predict increased RSCs over time. Moreover, because responsiveness processes unfold over time in interpersonal interactions between close relationship partners (Reis & Clark, 2013), we examined whether chronic responsiveness statistically mediates the association between compassionate goals and increased RSC, after controlling for chronic perceived partner responsiveness. As in Study 2, we also tested whether the association between compassionate goals and increased RSC was explained by actors' gender, relationship security, feeling of closeness, or self-image goals, or partners' compassionate goals or responsiveness. We also examined whether gender moderated the association between compassionate goals and change in RSC.

Method

Participants—Sixty-five first-semester freshmen roommate dyads at a large Midwestern university were recruited for a study of goals and roommate relationships within the first 6 weeks of the semester.³ Participants ranged in age from 18 to 22 years ($M = 18.2$ years), and 46 pairs (71%) were female. Participants completed a pretest, posttest, and 21 daily surveys.

³Other findings from this study appear in Canevello & Crocker (2010, Study 2; 2011, Study 2), Canevello, Granillo, & Crocker (2013, Study 1) and Crocker & Canevello (2008, Study 2). Note that RSC is not included in any analyses in any of these articles.

Sixty-two pairs (95%) completed all 23 surveys. For detailed information about the sample and procedure, see Canevello and Crocker (2010, Study 2).

Measures and procedure—Participants completed pretest and posttest measures of RSC and daily measures of compassionate and self-image goals, responsiveness to roommates, perception of roommates' responsiveness, and feeling of closeness to roommates, each of which were averaged across the 21 days to create chronic measures. At pretest, they also completed measures of relationship anxiety and avoidance and provided demographic information. Measures not germane to the present investigation were also included.

Compassionate goals: Compassionate goals for roommates were measured daily using the scale reported by Canevello and Crocker (2010, Study 2). Items began with the stem, "Today, in my relationship with my roommate, I wanted/tried to," and were rated on a scale ranging from 1 (*not at all*) to 5 (*extremely*). This measure had good internal reliability across days ($.88 < \alpha < .96$, $M_\alpha = .94$).

RSC: We assessed RSC at pretest and posttest with the RSC scale described in Studies 1 and 2, except that in this study, the format was changed to 7-point Likert scale, from 1 (*strongly disagree*) to 7 (*strongly agree*). These items had good internal consistency in this sample (pretest $\alpha = .89$; posttest $\alpha = .90$).

Responsiveness to roommates and perceptions of roommates' responsiveness: We assessed responsiveness to roommates and perceptions of roommates' responsiveness daily with the two scales reported by Canevello and Crocker (2010, Study 2). Items began with, "Today." Responsiveness to roommates was reliable from day to day ($.89 < \alpha < .95$, $M_\alpha = .93$); as was perception of roommates' responsiveness ($.84 < \alpha < .92$, $M_\alpha = .89$).

Relationship anxiety and avoidance: We assessed anxiety and avoidance in the roommate relationship at pretest with a modified and abbreviated version of the scale developed by Brennan, Clark, and Shaver (1998). All items began with the phrase, "In my relationship with my roommate." Nine items assessed relationship anxiety (e.g., "I need a lot of reassurance that my roommate likes me."); nine items assessed relationship avoidance (e.g., "I don't feel comfortable opening up to my roommate.") All items were rated on a scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Both the anxiety and avoidance subscales had good internal consistency (anxiety $\alpha = .84$; avoidance $\alpha = .85$). For detailed information about the scale, see Canevello, Granillo, & Crocker (2013, Study 1).

Closeness: We assessed closeness to partners daily with a single item: "How close do you feel to your roommate today?" rated on a scale ranging from 1 (*not at all*) to 5 (*extremely*).

Self-image goals: Self-image goals for roommates were measured daily using the scale reported by Canevello and Crocker (2010, Study 2). Items began with the stem, "Today, in my relationship with my roommate, I wanted/tried to," and were rated on a scale ranging from 1 (*not at all*) to 5 (*extremely*). This measure had adequate internal reliability across days ($.75 < \alpha < .87$, $M_\alpha = .83$).

Results

Initial analyses—Table 3 shows the means, standard deviations, and intraclass correlations for all primary variables in Study 3. We computed correlations by using the method described by (Griffin & Gonzalez, 1995) for indistinguishable dyads. In addition, previous analyses of these data showed that compassionate goals and responsiveness to roommates were empirically distinct in each daily test across 21 days. For a detailed description of the results, see Canevello and Crocker (2010), Study 2. Because compassionate goals predict change in responsiveness (Canevello & Crocker, 2010), these two measures become increasingly correlated over time. Therefore, the high correlation between the chronic measures of compassionate goals and responsiveness to roommates reflects a process in which people with compassionate goals become more responsive to their relationship partners, rather than reflecting the interchangeability of these two constructs.

Tests of hypotheses—To test the associations between compassionate goals and increased RSC, we used a multilevel analytic strategy similar to that described in Study 2, with one important difference: Study 3 analyses assess how chronic compassionate goals across the 21 days predict *change in* RSC from pretest to posttest (e.g., Kenny, 1975; West, Biesanz, & Pitts, 2000). To test change in outcomes, we regressed posttest RSC on the relevant predictors including pretest RSC as a covariate. We report partial correlations for all analyses (Rosenthal & Rosnow, 1991). First, to test whether compassionate goals predict increased RSC from pretest to posttest, we regressed actors' posttest RSC on actors' chronic compassionate goals and pretest RSC. Actors' chronic compassionate goals predicted their increased RSC, $t(107.11) = 3.271$, $pr = .30$, $p < .01$. Next, we tested whether the association between actors' chronic compassionate goals and increased RSC from pretest to posttest could be explained by gender, pretest relationship anxiety and avoidance, chronic feeling of closeness, chronic self-image goals, or partners' compassionate goals or responsiveness. In seven separate MIXED analyses, we regressed actors' posttest RSC on their chronic compassionate goals, controlling for each covariate and their pretest RSC. None of the covariates accounted for the association between chronic compassionate goals and their increased RSC. In each analysis, chronic compassionate goals predicted increased RSC across three weeks, independent of the covariates ($.18$ prs $.37$, all ps $.05$). Finally, gender did not moderate the association between chronic compassionate goals and increased RSC, $pseudo\ r^2 = .00$, ns .

To test whether chronic responsiveness to roommates during 3 weeks statistically mediated the association between chronic compassionate goals and increased RSC across that period, we used structural equation modeling following procedures similar to those described in Study 2, with two differences. First, because roommates are indistinguishable dyads, we create a model for both members in a roommate pair (actor and partner), in which we imposed equality constraints on the model parameters for actors and partners based on the recommendation by Ledermann et al., 2011. Thus, the path coefficients are the same for actors and partners. We also specified the covariance between actors and partners for the predictor and for the error terms of the mediator and outcome. Second, to examine change in RSC as the outcome, we included pretest RSC into the model as a covariate, and also

specified the covariance between actors and partners for the covariate. As in Study 2, because the direct effects of partners' (or actors') compassionate goals and responsiveness on actors' (or partners') increased RSC were not significant (effect = .11, $p = .51$, and effect = .02, $p = .94$, respectively), we deleted those four paths from the model (See Figure 2 for the final model). We tested the hypothesized indirect effect of actors' compassionate goals on their RSC through their responsiveness. The results showed a significant indirect effect of actors' chronic compassionate goals on their increased RSC through their chronic responsiveness (effect = .23, 95% CI [-.00, .47], $p = .05$).⁴ This model fit the data well, $\chi^2(6, N = 62) = 5.70$, $p = .54$; $RMSEA = 0.00$ (we adjusted the chi-square value and degrees of freedom for the interchangeable data based on the recommendation by Olsen & Kenny, 2006). The association between actors' responsiveness and increased RSC remained when we included their perceptions of partners' responsiveness into the model: actors' responsiveness predicted their increased RSC (effect = .50, 95% CI [.03, .94], $p < .05$), but actors' perception of partners' responsiveness did not (effect = -.18, 95% CI [-.60, .30], $p = .36$). Thus, responsiveness to partners during 3 weeks statistically mediated the association between compassionate goals and increased RSC, but perceived partner responsiveness did not.

In addition, although the direct effect of partners' compassionate goals on actors' increased RSC was not significant, there was a significant indirect effect of partners' chronic compassionate goals on actors' increased RSC through actors' chronic responsiveness (effect = .04, 95% CI [.00, .12], $p < .05$).

Discussion

Study 3 showed that chronic compassionate goals predict change in RSC over 3 weeks in the context of new college roommate relationships. These are the first data we know of demonstrating predictors of change in RSC over time. Moreover, chronic responsiveness statistically mediated the association between compassionate goals and increased RSC; perceptions of partners' responsiveness did not. The association was not due to relationship security, feeling of closeness, self-image goals, or gender, nor was it moderated by gender. Change in self-construal was also not directly associated with partners' compassionate goals or responsiveness. These results are consistent with our hypothesis that people who have compassionate goals in their relationships tend to be responsive to their roommates, which in turn, increase in their tendency to define themselves in terms of close relationships over time. In addition, partners' compassionate goals also predicted actors' chronic responsiveness, which in turn predicted actors' increased RSC. This suggests that people's chronic responsiveness can be influenced by both their own and partners' compassionate goals, but the development of RSC is fostered by their own chronic responsive behaviors.

The design of Study 3 did not allow us to test the alternative hypothesis that chronic levels of RSC predict change in compassionate goals over time, because self-construal was not

⁴As in Study 2, we operationalized chronic responsiveness with the two items that clearly reflect behaviors and tested the mediation again. Consistent with results using all responsiveness items, we found a significant indirect effect of actors' chronic compassionate goals on their increased RSC through their chronic responsiveness (effect = .25, 95% CI [.05, .45], $p < .05$), which suggests that overlap between the measures cannot account for our findings.

measured in the daily surveys. In Study 4, we tested both directions of the temporal association between compassionate goals and RSC.

Study 4

In Study 4, we first attempted to replicate the findings from Study 3 over a longer time frame (10 weeks instead of 3 weeks). Moreover, we also attempted to replicate whether chronic responsiveness statistically mediates the association between compassionate goals and increased RSC, after controlling for chronic perceived partner responsiveness. To expand upon the findings from Studies 1–3, we also tested the reverse association in which RSC predicts increased compassionate goals over time. People who include others in the self tend to have compassionate motivations toward others (Cialdini, Brown, Lewis, Luce, & Neuberg, 1997; Maner et al., 2002; Maner & Gailliot, 2007). Accordingly, when people define themselves in terms of their relationships, they may increasingly want to be supportive and constructive and not harm others, just as they would want to be supportive and constructive toward themselves. Therefore, we tested the reverse association and support for one temporal direction but not another would be consistent with, but not demonstrate, a causal association.

As in Studies 2 and 3, we also tested whether the association between compassionate goals and increased RSC was explained by actors' gender, relationship security, or self-image goals, or partners' compassionate goals or responsiveness. We also examined whether gender moderated the association between compassionate goals and change in RSC.

Method

Participants—One hundred fifteen first-semester same-sex freshmen roommate dyads at a large Midwestern university who did not know each other prior to college volunteered for a study of goals and roommate relationships during the fall semester.⁵ The sample was mostly female (75%) and ranged in age from 18 years to 21 years ($M = 18.1$, $SD = .36$). For detailed information about the sample and procedure, see Canevello and Crocker (2010; Study 1).

Measures and procedure—Participants completed pretest measures during an introductory laboratory session, online weekly measures for 10 weeks, and online posttest measures 10 weeks later. At the pretest and posttest sessions, participants completed measures of compassionate goals for their roommate and RSC. At pretest, they also completed measures of relationship anxiety and avoidance and self-image goals for their roommates and provided demographic information. Participants also completed weekly measures of responsiveness to roommates and perception of roommates' responsiveness, each of which was averaged across the 10 weeks to create chronic measures. Measures not germane to the present investigation were also included.

⁵Other findings from this study appear in Bahns, Crandall, Canevello & Crocker (2013), Canevello & Crocker (2010, Study 1; 2011), Canevello, Granillo, & Crocker (2013, Study 2), Crocker, Canevello, Breines, & Flynn (2010, Study 2). Note that RSC is not included in any analyses in any of these articles.

Compassionate goals: Compassionate goals for roommates were measured at pretest and posttest with the scale developed by Crocker and colleagues (Crocker, Canevello, Breines, & Flynn, 2010, Study 2). Items began with the phrase “In my relationship with my roommate, I want/try to.” All items were rated on a scale ranging from 1 (*not at all*) to 5 (*extremely*) and were identical to those described in Study 2, but were targeted toward the roommate instead of romantic partners. The scale had good internal consistency (pretest: $\alpha = .78$, posttest: $\alpha = .95$).

RSC: We assessed RSC at pretest and posttest with the RSC scale described in Studies 1–2. These items demonstrated adequate reliability at pretest ($\alpha = .85$) and posttest ($\alpha = .90$).

Responsiveness to roommates and perceptions of roommates’ responsiveness: We assessed weekly responsiveness to roommates and perceptions of roommates’ responsiveness with the two 6-item scales used in Study 2. Items began with the phrase, “This week.” These measures had good reliability (responsiveness to roommates: $94 < \alpha < .98$, $M_\alpha = .97$; perception of roommates’ responsiveness: $94 < \alpha < .98$, $M_\alpha = .97$). We created chronic responsiveness to roommates and perceptions of roommates’ responsiveness by averaging the weekly measures across 10 weeks.

Relationship anxiety and avoidance: We assessed anxiety and avoidance in the roommate relationship at pretest with an abbreviated version of the scale used in Study 3. Five items assessed relationship anxiety (e.g., “I need a lot of reassurance that my roommate likes me.”); five items assessed relationship avoidance (e.g., “I don’t feel comfortable opening up to my roommate.”) All items were rated on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Both the anxiety and avoidance subscales had acceptable internal consistency (anxiety $\alpha = .75$; avoidance $\alpha = .81$).

Self-image goals: We assessed self-image goals for roommates at pretest with the scale developed by Crocker and colleagues (Crocker, Canevello, Breines, & Flynn, 2010, Study 2). Items began with the phrase “In my relationship with my roommate, I want/try to,” and were rated on a scale ranging from 1 (*not at all*) to 5 (*extremely*). Six items were used (e.g., “convince my roommate that I am right.”). The scales had good internal consistency ($\alpha = .79$).

Results

Initial analyses—Table 4 shows the means, standard deviations, and intraclass correlations for all primary variables in Study 4. We computed correlations by using the method described by (Griffin & Gonzalez, 1995) for indistinguishable dyads.

Tests of hypotheses—We conducted Study 4 analyses in two phases. In Phase 1, we tested whether actors’ pretest compassionate goals predict actors’ increased RSC from pretest to posttest. We also tested whether actors’ gender, relationship anxiety and avoidance, or self-image goals for partners, or partners’ compassionate goals or responsiveness toward actors accounted for this association and whether gender moderated it. Moreover, we tested whether chronic responsiveness to partners or perception of partners’

responsiveness statistically mediated the association between compassionate goals and increased RSC. In Phase 2, we examined the reverse model, in which actors' pretest RSC predicted actors' increased compassionate goals from pretest to posttest.

To test the association between compassionate goals and RSC, we used the multilevel analytic strategy described in Study 3. As in Study 3, we tested change in outcome variables, assessing how *pretest* compassionate goals predict change in RSC from pretest to posttest and how pretest RSC predicts change in compassionate goals from pretest to posttest. We report partial correlations for all analyses (Rosenthal & Rosnow, 1991). To test whether chronic responsiveness to partners or perception of partners' responsiveness statistically mediated the association between compassionate goals and increased RSC, we used structural equation modeling and followed the same procedures described in Study 3.

Phase 1: Do pretest compassionate goals predict increased RSC?: We tested whether pretest compassionate goals predict change in RSCs from pretest to posttest. When we regressed actors' posttest RSC on actors' pretest compassionate goals, controlling for actors' pretest RSC, actors' pretest compassionate goals predicted their increased RSC over 10 weeks, $t(214.00) = 2.46$, $pr = .17$, $p < .05$. Next, we tested whether the association between actors' pretest compassionate goals and their increased RSCs could be explained by actors' gender, pretest relationship anxiety and avoidance, or pretest self-image goals, or partners' pretest compassionate goals or chronic responsiveness. In six separate MIXED models, we regressed actors' posttest RSC on their pretest compassionate goals, controlling for each covariate and pretest RSC. None of the covariates accounted for the association between actors' pretest compassionate goals and their increased RSC. Across analyses, actors' pretest compassionate goals predicted their increased RSC, independent of the covariates ($.15$ ps $.17$, all $ps < .05$). In addition, gender did not moderate the association between actors' pretest compassionate goals and increased RSC from pretest to posttest, $pseudo\ r^2 = .00$, ns .

Finally, we tested whether actors' chronic responsiveness to partners during 10 weeks statistically mediated the association between actors' pretest compassionate goals and their increased RSC from pretest to posttest with structural equation modeling. Because one participant had a missing value for RSC, we replaced the missing value with the sample mean. Because the direct effects of partners' (or actors') compassionate goals on actors' (or partners') responsiveness and the direct effects of partners' (or actors') compassionate goals and responsiveness on actors' (partners') RSC were not significant ($-.14$ effects $.08$, all $ps > .09$), we deleted those six paths from the model (See Figure 3 for the final model). The results showed a significant indirect effect of actors' pretest compassionate goals on their increased RSC through their chronic responsiveness (effect = $.15$, 95% CI $[.06, .26]$, $p < .01$).⁶ The fit of this model was acceptable, $\chi^2(7, N = 107) = 10.60$, $p = .16$; $RMSEA = 0.07$ (we adjusted the chi-square value and degree of freedom for the interchangeable data based on the recommendation by Olsen & Kenny, 2006). The association between actors'

⁶As in Studies 2 and 3, we operationalized chronic responsiveness with the two items that clearly assess behaviors and tested the mediation again. Consistent with results using all responsiveness items, we found a significant indirect effect of actors' pretest compassionate goals on their increased RSC through their chronic responsiveness (effect = $.13$, 95% CI $[.05, .23]$, $p < .01$), which further suggests that overlap between the two measures cannot account for our findings.

responsiveness and increased RSC remained when we included their perceptions of partners' responsiveness into the model: actors' responsiveness predicted their increased RSC (effect = .22, 95% CI [.01, .43], $p < .05$), but actors' perception of partners' responsiveness did not (effect = -.01, 95% CI [-.16, .17], $p = .96$). Thus, actors' chronic responsiveness to partners, rather than their chronic perceptions of partners' responsiveness, statistically mediated the association between pretest compassionate goals and increased RSC across 10 weeks.

Phase 2: Do pretest RSCs predict increased compassionate goals over 10 weeks?: In

Phase 2, we tested the reverse association: whether pretest RSCs predicted increased compassionate goals from pretest to posttest. When we regressed actors' posttest compassionate goals on actors' pretest RSC, controlling for actors' pretest compassionate goals, actors' pretest RSC marginally predict change in actors' compassionate goals from pretest to posttest ($t(200.34) = 1.83$, $pr = .13$, $p = .07$).

Discussion

Study 4 tested the direction of the temporal association between compassionate goals and RSC. Although pretest RSC marginally predicted increased compassionate goals, pretest compassionate goals significantly predicted increased RSC 10 weeks later, consistent with the possibility that compassionate goals cause change in RSC. In addition, the association between compassionate goals and increased RSC was not due to actors' gender, relationship security, or self-image goals, or partners' compassionate goals or responsiveness, nor was it moderated by gender. Furthermore, chronic responsiveness to partners during 10 weeks statistically mediated the association between compassionate goals and increased RSC over time; perceptions of partners' responsiveness did not, consistent with our hypothesis that people who have compassionate goals in their relationships tend to be responsive to their partners, which in turn, predict increased tendencies to define themselves in terms of close relationships over time.

General Discussion

Relational self-construal predicts a wide range of psychological processes and outcomes both within and outside of relationship contexts (Cross et al., 2011), but little is known about what psychological factors predict RSC. The present studies examined whether RSC is related to and shaped by compassionate goals. These are the first studies to demonstrate the link between compassionate goals and RSC; they are also the first to demonstrate change in RSC over time. Overall, the results supported our hypotheses that people with compassionate goals tend to define themselves in terms of their close relationships and develop more RSCs over time because they are more responsive to partners.

Across four studies, compassionate goals were associated with RSC in a variety of samples, including college students, adults in romantic relationships, and college roommate pairs. Moreover, the association between the goals and RSC remained significant while controlling for gender, which has been assumed to be predictors of RSC. When we examined other potential alternative explanations for this association, including communal orientation, socially desirable responding, security attachment to partners, feeling close to partners, self-image goals, and partners' compassionate goals and responsiveness, none accounted for the

association between compassionate goals and RSC. Furthermore, this link emerged across both genders, with the only (and unexpected) exception for women in a sample of couples in romantic relationships. Further research is needed to test whether this gender difference replicates, and if so, what explains it.

When we tested the reverse association in Study 4, RSC only marginally predicted change in the goals, consistent with the idea that compassionate goals foster increased RSC. More importantly, the results in Studies 2–4 showed that responsiveness to relationship partners statistically mediated the association between compassionate goals and RSC (only for men in Study 2), consistent with the possibility that compassionate goals facilitate the development of RSC through chronic responsiveness to partners. Also, perception of relationship partners' responsiveness did not account for the association between the goals and self-construal; people's own responsive behaviors to partners are more powerful than perception of partners' responsiveness in developing their RSC. Therefore, the results in Studies 2–4 that people's RSC is influenced by their own responsive behaviors and not by their partners' compassionate goals or responsiveness or their perceptions of partners' responsiveness are consistent with our hypotheses, suggesting that when the outcome is self-construal, the influence of compassionate goal is mainly through intrapersonal processes (i.e., responsive behaviors triggered by compassionate goals activate the relational aspects of the self in memory and facilitate the development of RSC). In addition, the results in Studies 2–3 showed that partners' compassionate goals predicted actors' responsiveness, which in turn predicted actors' RSC. The results that people's responsiveness can be affected by their own and partners' compassionate goals are consistent with previous studies showing that compassionate goals create responsiveness dynamics through both intrapersonal and interpersonal processes (Canevello & Crocker, 2010).

Implications

This research has several theoretical implications. First, the current studies provide new insight into psychological predictors of RSC and what influences the development of this self-construal over time. As a fundamental structure for defining the self, RSC has always been considered a stable characteristic formed primarily as a result of chronic activation in external environments, such as socialization contexts for women (Cross & Madson, 1997; Cross et al., 2011). The present results indicate that when people want or try to support others, they tend to define themselves in terms of their close relationships and become more relational over time by being responsive to relationship partners. These findings suggest that RSC can change over time as a result of one's own motivational system. Driven by ecosystem motivation, people provide understanding, caring, and validation to their relationship partners, which in turn leads them to include close others and relationships in the self. Thus, the goals and intentions people have toward their relationship partners shape the way they interact with their partners, which in turn influences how they define themselves in terms of close relationships.

These findings also have implications for research on other types of self-construal. Cross-cultural research has suggested that people in individualistic cultures tend to have independent self-construals and those in collectivistic cultures tend to have interdependent

self-construals (Cross et al., 2011; Markus & Kitayama, 1991). However, most research has focused on the consequences of these different types of self-construal; few have explored the psychological processes that facilitate the formation of these self-construals in different cultural contexts. It is possible that the different goals people adopt in different cultural contexts might foster their self-construal type. Future studies are needed to explore whether and how psychological factors (e.g., goals and goal-directed behaviors) enhance interdependent or independent self-construal in specific cultural contexts.

Second, the current studies provide more evidence that being responsive in close relationships affects the self, independent of receiving or perceiving others' support or responsiveness. Although perceived partner responsiveness is considered a crucial construct in close relationships (Reis et al., 2004), in the current studies the association between compassionate goals and RSC was not explained by perceived partner responsiveness, when one's own responsiveness is taken into account. Instead, the current studies suggest that being responsive to relationship partners shapes how people define themselves with respect to close relationships over time. These findings are consistent with other evidence that being supportive or responsive in close relationships contributes more than receiving others' support or perceiving others as responsive to people's own self-esteem (Canevello, & Crocker, 2011) and well-being (Brown, Nesse, Vinokur, & Smith, 2003; Crocker et al., 2010; Deci, La Guardia, Moller, Scheiner, & Ryan, 2006). Overall, these findings suggest that people's own behaviors toward others are important for changing the feelings and beliefs about the self, whereas perceiving others' behaviors are important in influencing the feeling and beliefs about their social relationships. More research is needed to examine consequences of giving and receiving and what might account for their different effects.

Third, the temporal direction of the association between compassionate goals and self-construal observed in Study 4 provides a new perspective on previous findings regarding the association between prosocial motivations and self-other overlap. Previous research showed that self-other overlap predicts prosocial motivation, and that prosocial behaviors depend on how close people feel to others (Cialdini, et al., 1997; Maner et al., 2002; Maner & Gailliot, 2007). These findings have led some researchers to conclude that prosocial motivation actually reflects self-interested processes because others are included in the self. Although the results that RSC marginally predicted increased compassionate goals might be in line with those previous findings and ideas, the results that compassionate goals significantly predicted increased RSC strongly suggest a different possibility. They suggest that when people have the goal to be supportive within their relationships, they increasingly define themselves in terms of close relationships. Thus, prosocial motivations are not simply due to including others in the self, but might prompt the development of self-other overlap. Future research should consider this possibility when exploring the association between self-other overlap and prosocial motivations.

Limitations

The correlational nature of the current studies means that we cannot draw conclusions about causation. Although the longitudinal design in Studies 3 and 4 extended beyond the cross-sectional designs in Studies 1 and 2, Studies 3 and 4 only allowed us to examine the

temporal direction of the associations, and thus tested the plausibility of causal pathways, rather than directly testing causality. Moreover, although the current studies controlled for potential confounds that might account for the association between compassionate goals and RSC, there might be other confounds that we did not include, making the results open to alternative interpretations. Thus, although the results of the current studies showed a consistent pattern that compassionate goals predict RSC, only experimental manipulation of the goals can definitively establish a causal association. Furthermore, confidence in our findings, which are based on self-reports, would be strengthened if future research replicates our results with a behavioral measure of responsiveness. In addition, a 3 or 10-week longitudinal design in Studies 3 and 4 is not long enough to fully understand the long-term development of RSCs, so future studies could extend the current work by examining the association between compassionate goals and RSC over a longer time frame.

Conclusion

People with high RSCs tend to experience better quality relationships than others. Prior to our studies, little was known about the psychological processes that might account for individual differences or change in RSC. The current studies indicate that compassionate goals are associated with RSC and forecast change in it over time, and responsiveness to partners accounts for the association. Understanding the interplay of both compassionate goals and the integration of close relationships into one's sense of self is important because both of these constructs consistently predict positive interpersonal outcomes. Motivated by compassionate goals, people's responsiveness may drive the development of RSCs, which leads them to create and maintain strong and healthy relationships.

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Figure 1.

Study 2 mediational model in which responsiveness mediate the association between compassionate goals and RSC. All coefficients represent unstandardized effects; the values in parentheses represent total effects. E indicates an error term. ** $p < .01$. *** $p < .001$

Figure 2.

Study 3 mediational model in which chronic responsiveness mediate the association between chronic compassionate goals and change in RSC from pretest to posttest. All coefficients represent unstandardized effects; the values in parentheses represent total effects. E indicates an error term. $^{+}p < .10$. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$

Table 1

Means, standard deviations, and zero-order correlations for all variables in Study 1

	1.	2.	3.	4.	M(SD)
1. Compassionate Goals	–				3.91 (.55)
2. RSC	.41***	–			3.91 (.60)
3. Communal Orientation	.52***	.44***	–		3.72 (.49)
4. Social desirability	.28***	.04	.20***	–	1.45 (.15)
5. Gender	.23***	.14**	.26***	.09*	

Note. N= 571. All scales were rated on scales from 1 (*not at all/strongly disagree*) to 5 (*extremely/strongly agree*), except the Marlowe-Crowne Social Desirability scale which uses a true/false response format. Gender was coded such that 1 = *male* and 2 = *female*.

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

Table 2

Means, standard deviations, and intraclass correlations for all variables in Study 2.

	1.	2.	3.	4.	5.	6.	7.	8.	<i>M(SD)</i> _{Male}	<i>M(SD)</i> _{Female}
1. Compassionate Goals	.19	.08	.28***	.41***	-.17*	-.22**	.07	-.23**	4.33 (.43)	4.34 (.42)
2. RSC	.23**	.09	.07	.06	-.04	-.05	.06	-.10	3.93 (.64)	3.99 (.50)
3. Responsiveness	.47***	.33***	.28**	.39***	-.12	-.21*	.18*	-.11	4.66 (.43)	4.66 (.36)
4. Perception of Responsiveness	.32***	.24**	.63***	.27*	-.11	-.28***	.14	-.22**	4.49 (.64)	4.49 (.52)
5. Relationship Anxiety	-.23**	-.16	-.35***	-.49***	-.09	.19*	-.11	.03	1.99 (.75)	2.05 (.69)
6. Relationship Avoidance	-.26**	-.24**	-.37***	-.35***	.34***	.02	-.05	-.01	1.60 (.56)	1.43 (.55)
7. Closeness	.19*	.22**	.40***	.18*	-.01	-.35***	.33***	.00	5.10 (1.21)	5.21 (1.15)
8. Self-Image Goals	-.17*	-.07	-.26***	-.20*	.26***	.22**	-.11	.06	2.86 (.70)	2.70 (.66)

Note. Values on and above the diagonal represent within-dyad (i.e., Actor-Partner) correlations; values below the diagonal represent within-person correlations. *N* = 157. All measures were rated on scales from 1 (*not at all/strongly disagree*) to 5 (*extremely/strongly agree*), except the Inclusion of Others in Self scale (closeness) which uses a 1 to 7 scale.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 3

Means, standard deviations, and intraclass correlations for all variables in Study 3.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	<i>M(SD)</i>
1. Pretest RSC	-.05	-.05	-.01	.12	.10	.13	.16	.11	-.06	5.42 (.88)
2. Pretest Relationship Anxiety	-.21 [*]	-.06	.25 [*]	-.03	-.22 [*]	-.22 [*]	-.17	-.20 [*]	-.25 ^{**}	2.33 (.99)
3. Pretest Relationship Avoidance	-.20 [*]	.52 ^{***}	.28 [*]	.14	-.28 ^{**}	-.25 [*]	-.29 ^{**}	-.25 [*]	-.06	2.39 (.95)
4. Posttest RSC	.57 ^{***}	-.21 [*]	-.22 [*]	.17	.26 ^{**}	.27 ^{**}	.30 ^{**}	.13	-.08	5.29 (.94)
5. Chronic Compassionate Goals	.15	-.21 [*]	-.28 ^{**}	.32 ^{***}	.36 ^{***}	.44 ^{***}	.48 ^{***}	.42 ^{***}	-.02	3.33 (.80)
6. Chronic Responsiveness	.15	-.28 ^{**}	-.39 ^{***}	.36 ^{***}	.85 ^{***}	.51 ^{***}	.54 ^{***}	.49 ^{***}	.04	3.58 (.70)
7. Chronic Perception of Responsiveness	.17	-.33 ^{***}	-.44 ^{***}	.33 ^{***}	.80 ^{***}	.93 ^{***}	.55 ^{***}	.50 ^{***}	-.01	3.63 (.73)
8. Chronic Closeness	.17	-.32 ^{***}	-.55 ^{***}	.29 ^{**}	.64 ^{***}	.75 ^{***}	.81 ^{***}	.52 ^{***}	.01	3.55 (.83)
9. Chronic Self-image Goals	-.04	.08	.02	-.13	.27 ^{**}	.15	.03	.10	.18	2.11 (.68)
10. Gender	-.16	.01	.08	-.20	-.26	-.27	-.24	-.10	.02	

Note. Values on and above the diagonal represent within-dyad (i.e., Actor-Partner) correlations; values below the diagonal represent within-person correlations. *N* = 130 at pretest, *N* = 124 at posttest. All measures were rated on scales from 1 (*not at all/strongly disagree*) to 5 (*extremely/strongly agree*), except the RSC scale and the Relationship Anxiety and Avoidance scale, which use a 1 to 7 scale. Gender was coded such that 1 = *male* and 2 = *female*.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 4

Means, standard deviations, and intraclass correlations for all variables in Study 4.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	<i>M(SD)</i>
1. Pretest Compassionate Goals	.24 [*]	.06	-.24 ^{***}	-.21 ^{**}	-.11	.14	.03	.20 [*]	.14	4.11 (.47)
2. Pretest RSC	.24 ^{***}	.00	-.02	-.08	-.03	.00	.13	.09	.08	4.02 (.58)
3. Pretest Relationship Anxiety	-.23 ^{***}	.03	.06	.32 ^{***}	.10	-.21 ^{**}	-.06	-.20 ^{**}	-.18 [*]	1.75 (.64)
4. Pretest Relationship Avoidance	-.47 ^{***}	-.14 [*]	.52 ^{***}	.29 ^{***}	.10	-.16 [*]	-.02	-.18 [*]	-.17 [*]	2.11 (.78)
5. Pretest Self-Image Goals	-.23 ^{***}	.09	.33 ^{***}	.37 ^{***}	.02	-.05	.03	-.13	-.06	2.54 (.69)
6. Posttest Compassionate Goals	.48 ^{***}	.21 ^{***}	-.19 ^{**}	-.37 ^{***}	-.17 [*]	.22 [*]	.06	.24 ^{**}	.23 ^{**}	3.92 (.81)
7. Posttest RSC	.27 ^{***}	.61 ^{***}	.01	-.13	-.02	.38 ^{***}	.21 [*]	.16 [*]	.11	3.95 (.63)
8. Chronic Responsiveness	.52 ^{***}	.21 ^{**}	-.28 ^{***}	-.45 ^{***}	-.28 ^{***}	.75 ^{***}	.37 ^{***}	.33 ^{***}	.35 ^{***}	4.03 (.70)
9. Chronic Perception of Responsiveness	.42 ^{***}	.20 ^{**}	-.26 ^{***}	-.45 ^{***}	-.25 ^{***}	.65 ^{***}	.31 ^{***}	.86 ^{***}	.42 ^{***}	3.93 (.81)
10. Gender	.24 ^{**}	.06	-.19 ^{**}	-.21 ^{**}	-.29 ^{***}	.11	.05	.29 ^{***}	.15 [*]	

Note. Values on and above the diagonal represent within-dyad (i.e., Actor-Partner) correlations; values below the diagonal represent within-person correlations. $N = 230$ at pretest, $N = 218$ at posttest. All measures were rated on scales from 1 (*not at all/strongly disagree*) to 5 (*extremely/strongly agree*). Gender was coded such that 1 = *male* and 2 = *female*.

* $p < .05$.

** $p < .01$.

*** $p < .001$.