Published in final edited form as:
J Pers Soc Psychol. 2010 July ; 99(1): 78–106. doi:10.1037/a0018186.

Creating Good Relationships: Responsiveness, Relationship Quality, and Interpersonal Goals

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Abstract

Perceived partner responsiveness is a core feature of close, satisfying relationships. But how does responsiveness originate? Can people create relationships characterized by high responsiveness, and consequently, higher quality relationships? We suggest that goals contribute to cycles of responsiveness between people, improving both people's relationship quality. The present studies examine 1) how interpersonal goals initiate responsiveness processes in close relationships, 2) the self-perpetuating nature of these processes, and 3) how responsiveness evolves dynamically over time through both intrapersonal projection and reciprocal interpersonal relationship processes. In a semester-long study of 115 roommate dyads, actors' compassionate and self-image goals predicted a cycle of responsiveness between roommates, occurring within weeks and across the semester. In a 3-week study of 65 roommate dyads, actors' goals again predicted cycles of responsiveness between roommates, which then contributed to both actors' and partners' relationship quality. Results suggest that both projection and reciprocation of responsiveness associated with compassionate goals create upward spirals of responsiveness that ultimately enhance relationship quality for both people.

Creating Good Relationships: Responsiveness, Relationship Quality, and Interpersonal Goals

High quality close relationships contribute to mental and physical well-being; poor quality close relationships create stress and undermine health and well-being (e.g., Baumeister & Leary, 1995; Uchino, Cacioppo, & Kiecolt-Glaser, 1996). Relationship quality depends on beliefs about a relationship partner's responsiveness--that is, on the perception that a partner understands, values, and supports important aspects of the self. People who perceive their relationship partners as responsive feel close, satisfied, and committed to those relationships (Reis, Clark, & Holmes, 2004).

The present studies focus on the dynamic of responsiveness in dyadic relationships -- relationship processes that promote or undermine reciprocation of responsiveness between relationship partners, affecting both partners' relationship quality over time. We suggest that

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people's interpersonal goals for their relationships, that is their compassionate goals to support others and their self-image goals to create and maintain desired self-images (Crocker & Canevello, 2008), predict positive and negative responsiveness dynamics respectively, changing both people's relationship quality. In this way, people can create responsive, high-quality relationships for themselves and others.

Responsiveness in Relationships

Responsive relationship partners convey understanding, validation, and caring (Gable & Reis, 2006). They are warm, sensitive to their partners' feelings, and want to make their partners feel comfortable, valued, listened to, and understood.

Existing theory and research on responsiveness suggests that people's responsiveness to partners contributes to both their own and partners' perceptions of responsiveness in the relationship. Lemay and colleagues (Lemay & Clark, 2008; Lemay, Clark, & Feeney, 2007) found that people contribute to their own experiences of responsiveness in close relationships; when people report being responsive to relationship partners, they project their responsiveness onto partners and perceive partners as more responsive. Other researchers characterize responsiveness as a transactional process between relationship partners. Reis and Shaver (1988) hypothesize that close relationships develop through an interpersonal process in which actors' reactions to partners influence partners' perceptions of actors' responsiveness. Importantly, Reis and Shaver speculate that goals, motives, needs, and fears of both relationship partners contribute to and result from responsiveness in the relationship. That is, goals and motives predict people's relationship behaviors and how they interpret partners' behaviors, which in turn, feed back to predict goals and motives.

The present studies examine both intrapersonal and interpersonal processes of responsiveness and contribute to the responsiveness literature in three important ways. First, as suggested by Reis and Shaver (1988), interpersonal goals should predict responsiveness processes in close relationships. However, no research that we know of explicitly examines the motivational underpinnings of responsiveness, whether based on projection or reciprocation. We propose that actors' compassionate goals to support others and self-image goals to construct and maintain desired self-images shape their responsiveness to relationship partners. Through projection, actors' responsiveness affects their perceptions of their partners' responsiveness, and hence their own relationship experiences. Through partners' perceptions and reciprocation of actors' responsiveness, actors' responsiveness affects both actors' and partners' relationship experiences. We suggest that because projection is an intrapersonal processes and the exchange of responsiveness between relationship partners is an interpersonal process, both can occur simultaneously. That is, people can project their responsiveness onto others, affecting their own relationship experiences, and at the same time, convey responsiveness to relationship partners, affecting partners' relationship experiences.

Second, projected and reciprocated responsiveness can become self-perpetuating: relationship goals promote or undermine projection and reciprocation of responsiveness, which reinforce both people's subsequent relationship goals. Thus, through their interpersonal goals, people can create responsive, high-quality relationships for themselves and others and contribute to both people's goals for the relationship.

Third, to our knowledge, the present studies are the first to examine both immediate and long-term intra- and interpersonal responsiveness dynamics and resulting relationship outcomes as they evolve over time. Previous research suggests that these processes should occur quickly within relationships, guiding people's relationship experiences and goals *in the moment* (e.g., Laurenceau, Barrett, & Pietromonaco, 1998; Lemay et al., 2007). We hypothesize that the effects of compassionate and self-image goals and responsiveness extend over time, predicting

change in people's relationship experiences and goals from day to day and week to week, and that chronic interpersonal goals predict long-term changes in relationship experiences and interpersonal goals over weeks and months. Thus, we propose that projection of responsiveness and reciprocation of responsiveness dynamically affect short-term fluctuations and long-term changes in relationship outcomes.

Figure 1 illustrates our general model in a relationship between an actor (A) and a relationship partner (P). We highlight intra- and interpersonal aspects of the model and detail them below.

Intrapersonal Process: A's Compassionate and Self-Image Goals and Responsiveness Predict A's Relationship Experience

We hypothesize an intrapersonal model examining how people's goals contribute to their own experiences of responsiveness and resulting relationship goals and quality. Our model extends the intrapersonal projection of responsiveness described by Lemay and colleagues (Lemay & Clark, 2008; Lemay et al., 2007), by showing how actors' goals can be the starting point for change in their responsiveness to partners, which is projected onto partners and leads to change in actors' goals and relationship outcomes. Paths A–E in Figure 1 show our hypothesized intrapersonal model of goals and responsiveness: A's interpersonal goals predict change in A's responsiveness (Path A), which predicts change in A's perceptions of P's responsiveness (Path B), with consequences for change in A's subsequent responsiveness (Path C), goals (Path D), and relationship quality (Path E).

Paths G–K of Figure 1 are a mirror image of the intrapersonal processes in paths A–E, but for partners rather than actors: P's compassionate goals predict P's increased and self-image goals predict P's decreased responsiveness to A (Path G). P's responsiveness to A predicts P's increased perceptions of A's responsiveness (Path H), which then leads to P's increased responsiveness (Path I), increased compassionate and decreased self-image goals (Path J), and increased relationship quality (Path K).

Below, we present the rationale for each path in the intrapersonal model.

Path A: A's compassionate and self-image goals predict change in A's responsiveness—We propose that two types of relationship goals shape responsiveness to relationship partners. Self-image goals focus on constructing, maintaining, and defending desired public and private images of the self (Crocker & Canevello, 2008). When people have self-image goals, they care about what others think of them, but not what others need; consequently they should be less responsive. Compassionate goals focus on supporting others, not to obtain something for the self, but out of concern for others' well-being (Crocker & Canevello, 2008). When people have compassionate goals, they want to be a constructive force in their interactions with others, and avoid harming them. We suggest that when people have compassionate goals they are more responsive, because they care about others' well-being.[1]

People with chronically high compassionate goals report greater private self-consciousness, lower psychological entitlement, believe that it is possible for both people in a relationship to have their needs met, and believe that it is important that people look out for one another; they trust in and feel closer to others and report both giving and receiving more social support (Crocker & Canevello, 2008). These findings suggest that when people have compassionate goals they understand and trust that when they are responsive to others, they create an environment in which others will respond to them. In contrast, people with chronically high self-image goals report higher psychological entitlement, believe that good outcomes for one person come at the expense of others, and feel that it is important to look out for themselves, even at the expense of others; they report higher loneliness, more conflict with others, and lower interpersonal trust (Crocker & Canevello, 2008). These findings suggest that when

people have self-image goals they feel a sense of scarcity and fear that their needs will not be met in collaboration with others. Based on these findings, we propose Path A: When A has the goal to care for and support P, A will become more responsive to P, whereas when A has the goal to create and maintain desired self-images, A will become less responsive to P.

Path B: A's responsiveness to P predicts A's increased perceptions of P's responsiveness—When actors believe they are responsive to partners, they project their own responsiveness onto partners and perceive partners as more responsive (Kenny & Acitelli, 2001; Lemay & Clark, 2008; Lemay et al., 2007). Several factors might moderate this association. For example, actors who have low self-esteem might feel their partners do not value them and perceive their partners as unresponsive (Murray, Griffin, Rose, & Bellavia, 2003). Also, because of their over-involvement with others and self-neglect, actors high in unmitigated communion might want to see themselves as self-sacrificing and see their partners as unresponsive (Helgeson & Fritz, 1998). However, despite these specific circumstances, in general we expect a strong association between responsiveness and perceptions of partners' responsiveness. These considerations lead us to propose Path B: A's responsiveness to P predicts A's increased perceptions of P's responsiveness.

Path C: A's perception of P's responsiveness predicts A's increased responsiveness to P—When actors perceive their partners as responsive, they are more responsive in return; when they perceive their partners as unresponsive, actors are less responsive in return (Fruzzetti, Jacobson, & Blechman, 1990; Gable & Reis, 2006; Patterson, 1976; Plickert, Côté, & Wellman, 2007). This may happen for several reasons. People may reciprocate responsiveness out of caring. Actors' responsiveness strengthens partners' social bonds to actors, including feelings of caring, connection, and trust, leading partners to want to be responsive to actors (e.g., Brown & Brown, 2006; Clark, Fitness, & Brissette, 2004). In established communal relationships, partners experience more positive mood and less negative mood when they reciprocate support to actors, compared to when they do not (Gleason, Iida, Bolger, & Shrout, 2003). Even in new relationships, reciprocity of responsiveness may be the result of social exchange norms in which both partners focus on an equal exchange of responsiveness (Clark & Mills, 1993; Mills & Clark, 1982). Given this evidence, we propose Path C: A's perception of P's responsiveness predicts A's increased responsiveness to P.

Path D: A's perception of P's responsiveness predicts change in A's compassionate and self-image goals—Actors' perceptions of partners' responsiveness should shape actors' compassionate and self-image goals toward the partner. Actors who perceive partners as responsive feel validated, understood, and cared for (Reis et al., 2004),

[1]Although they are related, compassionate goals and responsiveness to others are theoretically distinct. Compassionate goals are self-guides; they serve as a compass pointing the self in the direction of being constructive and caring toward others. When people have compassionate goals, they ask themselves, "how can *I* be constructive?" Responsiveness, in contrast, involves tuning into and acting in response to *others*' states (i.e., their feelings, desires, and needs). That is, when people are responsive, they direct their attention toward others' needs at that moment. Typically, compassionate goals and responsiveness work together; having compassionate goals leads people to be responsive, as we hypothesize in Path A. However, compassionate goals and responsiveness are not identical; compassionate goals do not lead to responsiveness in all circumstances. For example, consider the hypothetical situation of Betty, who is an alcoholic. Ann, her sister, participates in an intervention with Betty. Ann may have compassionate goals for Betty during the intervention – she may want to be supportive of Betty, have compassion for Betty's mistakes and weaknesses, and make a positive difference in Betty's life. Ann's compassionate goals may lead her not to be responsive to Betty (i.e., make her feel comfortable about herself and her feelings), but instead to have a painful conversation with her, including telling Betty how much she has hurt her friends and family. Although this will likely benefit Betty in the long run, in the moment Ann may be unresponsive to Betty's feelings, and Betty might perceive Ann as unresponsive. Similarly, being responsive does not necessitate having compassionate goals. People may be responsive to others without intending to be caring or compassionate. For example, Cathy may be responsive to Dan, not because she has compassionate goals, but because she wants Dan to like her. She may make Dan feel comfortable about himself and valued as a person, be sensitive to his feelings, and understand his concerns, but Cathy may not have compassionate goals to make a positive difference in Dan's life or avoid being selfish or self-centered. Although compassionate goals are distinguishable from responsiveness, we hypothesize that when people have compassionate goals, they typically are responsive.

which fosters a sense of security and permits a shift in focus from protecting the self to supporting others (Mikulincer, Shaver, Gillath, & Nitzberg, 2005; Murray, Holmes, & Collins, 2006). In other words, actors' feelings that partners are responsive to them should foster compassionate goals for partners. Unresponsiveness, on the other hand, conveys a partners' lack of interest in or concern for actors. Perceptions of partners' unresponsiveness may signal to actors that they should protect themselves from uncaring partners (Clark & Monin, 2006; Murray et al., 2003; Murray, Rose, Bellavia, Holmes, & Kusche, 2002) and, as a result, actors should increase in self-image goals. These considerations lead us to propose Path D: A's perception of P's responsiveness predicts A's increased compassionate and decreased self-image goals.

Path E: A's perception of P's responsiveness predicts A's increased relationship quality—Perceived partner responsiveness is crucial to relationship quality (Clark & Mills, 1993; Laurenceau et al., 2004; see Reis et al., 2004 for a review). Actors who believe that partners are responsive feel closer, more intimate, and more satisfied with their relationships (Berg & Archer, 1982; Collins & Feeney, 2000; Cutrona, Shaffer, Wesner, & Gardner, 2007; Davis, 1982; Laurenceau et al., 1998; Lemay et al., 2007). When actors perceive partners as unresponsive, they experience decreased satisfaction, commitment, and closeness in those relationships (Fincham & Beach, 1999; Gottman & Levenson, 1992). Consequently, we predict Path E: A's perception of P's responsiveness predicts A's increased relationship quality.

Interpersonal Process: A's compassionate and self-image goals and responsiveness lead to P's relationship experience and goals

In addition to this purely intrapersonal process, we hypothesize an interpersonal model in which people's goals and responsiveness contribute to relationship partners' experience of actors' responsiveness, leading to reciprocation of responsiveness and resulting relationship goals and quality. We draw from previous theory and research suggesting that responsiveness is a dyadic process whereby partners perceive actors' responsiveness and respond in turn (e.g., Collins & Feeney, 2000; Reis & Shaver, 1988). We hypothesize that actors' goals can also be the starting point for creating responsiveness dynamics between relationship partners, with consequences for partners' responsiveness to actors, goals, and relationship quality. Paths A, F, I, J, and K in Figure 1 depict our interpersonal model, in which A's goals predict change in A's responsiveness to partners (Path A), which predicts change in P's perceptions of A's responsiveness (Path F), with consequences for change in P's subsequent responsiveness (Path I), goals (Path J), and relationship quality (Path K).

Paths G, L, C, D, and E of Figure 1 are a mirror image of the interpersonal processes in Paths A, F, I, J, and K, but show effects of partners' goals and responsiveness on change in actors' relationship experiences: P's compassionate and self-image goals predict change in P's responsiveness to A (Path G). P's responsiveness to A predicts A's increased perceptions of P's responsiveness (Path L), which then leads to A's increased responsiveness, increased compassionate and decreased self-image goals, and increased relationship quality (Paths C, D, and E).

Path A: A's compassionate and self-image goals predict change in A's responsiveness—As described previously in our rationale for the intrapersonal model, we propose Path A: that A's interpersonal goals predict change in A's responsiveness to P.

Path F: A's responsiveness predicts P's increased perceptions of A's responsiveness—Relationship researchers assume that partners' perceptions of actors have some basis in actors' behaviors (Kelley et al., 1983). Most theories of interpersonal

relationships assume that actors' responsiveness to partners predicts partners' perceptions of actors' responsiveness (e.g. Bowlby, 1969; Gable & Reis, 2006; Kelley & Thibaut, 1978; I. G. Sarason, Pierce, & Sarason, 1990); empirical research supports this prediction (Abbey, Andrews, & Halman, 1995; Bolger, Zuckerman, & Kessler, 2000; Collins & Feeney, 2000; Feeney & Collins, 2003; Lemay & Clark, 2008; Vinokur, Schul, & Caplan, 1987). For example, in romantic couples when actors disclosed a stressful problem to partners, partners' reports of their own responsiveness (i.e., responsiveness, listening, understanding, not criticizing, giving support, and expressing concern) positively predicted actors' perceptions of partners' responsiveness (Collins & Feeney, 2000). Consequently, we propose Path F: A's responsiveness to P predicts P's increased perceptions of A's responsiveness.

Paths I, J, and K: P's perceptions of A's responsiveness and change in P's relationship experience—Using the same rationale to describe Paths C, D, and E previously, we propose Paths I, J, and K, respectively: P's perceptions of A's responsiveness has consequences for P's increased responsiveness (Path I), increased compassionate and decreased self-image goals (Path J) and increased relationship quality (Path K).

Overview of Present Studies

In two studies of first-semester college freshman roommates, we tested 1) how interpersonal goals initiate projection and reciprocal responsiveness in close relationships, 2) the self-perpetuating nature of these processes, and 3) how responsiveness evolves dynamically over time through both intrapersonal projection and reciprocal interpersonal relationship processes. First semester college students provide an interesting population for examining these processes. Roommates in these samples did not know each other before living together, so their relationships are relatively unbiased by relationship history and past interactions. Unlike most close relationships, previously unacquainted roommates do not self-select into the relationship. At the same time, many first-year students experience significant disruption of their social lives. When they move away from home to attend college, they must build a social network. Their roommates are often the first people they meet and with whom they spend significant time.

Study 1 tested whether students' compassionate and self-image goals predict a cycle of projected and reciprocal responsiveness between roommates with implications for both people's relationship goals. Study 2 reports previously unpublished data from the Roommate Goals Study (Crocker & Canevello, 2008, Study 2), examining the implications of these processes for both roommates' relationship quality.

STUDY 1

College roommates completed pretest, posttest, and 10 weekly questionnaires, each including measures of compassionate and self-image goals, responsiveness to roommates, and perceived roommates' responsiveness. We tested associations between students' goals and 1) the intrapersonal process predicting their own experiences of responsiveness, and 2) the interpersonal process predicting their roommates' experiences of responsiveness.

We tested a number of alternative explanations and moderators of these processes in Study 1. First, self-disclosure elicits responsiveness from others (e.g., Greene, Derlega, Mathews, Vangelisti, & Perlman, 2006; Reis & Patrick, 1996; Reis & Shaver, 1988). Associations between goals and responsiveness to roommates could be due to perceptions of roommates' disclosure, and associations between responsiveness to roommates and perceptions of roommates' responsiveness could be due to disclosure to roommates.

Second, we sought to distinguish responsiveness from social support. Previous research shows that compassionate and self-image goals predict change in perceived available support and supportive behaviors (Crocker & Canevello, 2008). The present studies focus on responsiveness, which we hypothesize is a specific type of support. Support is often broadly defined, including perceptions of support availability and frequency of supportive behaviors (B. R. Sarason, Shearin, Pierce, & Sarason, 1987) and includes structural (e.g., group membership or family relationships) and functional components (e.g., providing tangible or emotional support) (Uchino, 2004). Responsiveness refers to people's sensitivity to partners and desires that partners feel valued, listened to, and understood. Researchers differ in how they view the relation between responsiveness and support; some argue that support is a component of responsiveness (e.g., Reis et al., 2004); others conceptualize responsiveness as a subset of social support, distinguishing between responsive and unresponsive support (e.g., Collins & Feeney, in press). Regardless, researchers agree that responsiveness and support are distinct but related constructs; support providers may not be perceived as responsive. We tested whether support made available to roommates and perceived available social support from roommates explained the effects of responsiveness to roommates and perceptions of roommates' responsiveness, respectively.

Third, we examined whether negative mood accounts for or moderates the hypothesized associations. For example, the association between interpersonal goals and responsiveness to others might be spurious, if both are associated with anxious or depressed feelings. Feeling anxious or depressed might also moderate these associations. For example, the relation between responsiveness to roommates and perceptions of roommates' responsiveness may be particularly strong when people do not feel anxious or depressed.

We controlled for students' self-disclosure to their roommates and their perceptions of their roommates' disclosure, social support made available to and perceived available support from roommates, and anxiety and depression to rule them out as alternative explanations.

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. Via advertisements in the campus newspaper and flyers, we offered each roommate $60 for completing 12 surveys over 10 weeks ($10 for each the pretest and posttest and $4 for each weekly survey) plus a $40 bonus for completing all 12 surveys. One hundred nine pairs (95%) completed the pretest, posttest, and at least 8 weekly surveys. Although 6 pairs completed fewer parts of the study, we retained all data for analyses where possible.[2] Eighty-six pairs (75%) were female. Seventy-five percent of participants reported their race as White or European-American, 2% as Black or African-American, 15% as Asian or Asian-American, and 8% selected other. The racial composition of the sample closely approximated the racial composition of the incoming freshman class. Participants ranged in age from 18 to 21 years (M = 18.1 years, SD = .36).

Procedure—In groups of 1 to 8, roommate pairs attended a 1.5 hour session to learn about the study, give their consent, complete the pretest survey, and receive instructions for completing the remaining 11 surveys. All surveys were administered using UM Lessons software. After completing the pretest survey, participants were instructed to complete the 10 weekly online surveys in privacy and not to discuss their responses with each other. The weekly surveys took about 30 minutes to complete and roommates were required to complete weekly

[2]Of the remaining five percent of respondents, one pair completed the pretest and 9 weekly surveys; two pairs completed the pretest, posttest, and 5 weekly surveys; and three pairs completed the pretest and less than 6 weekly surveys.

surveys within no less than 48 hours of each other. To retain as many participants as possible in the study, participants were given up to 11 weeks to complete the 10 weekly surveys.[3] Once roommates had completed 10 weekly surveys, they completed the posttest survey and were paid for their participation.

Measures—Participants completed measures of compassionate and self-image goals, responsiveness to roommates, perceptions of roommates' responsiveness, disclosure to and from roommates, support made available to roommates, available support from roommates, anxiety, and depression at pretest, posttest, and weekly. At pretest, participants completed questions about demographics (gender, race/ethnicity, age, parental income). Additional measures not germane to the goals of the present investigation were also included.

Self-image and compassionate goals for participants' relationships with their roommates were measured using a modified measure from Crocker & Canevello (2008). Pretest and posttest items began with the phrase, "In my relationship with my roommate, I want/try to." Weekly items began with "This week, in my relationship with my roommate, I wanted/tried to." All items were rated on a scale ranging from 1 (*not at all*) to 5 (*extremely*). Eight items assessed compassionate goals: "be supportive of my roommate;" "have compassion for my roommate's mistakes and weaknesses;" "be aware of the impact my behavior might have on my roommate's feelings;" "make a positive difference in my roommate's life;" "avoid neglecting my relationship with my roommate;" "avoid being selfish or self-centered;" "be constructive in my comments to my roommate;" and "avoid doing things that aren't helpful to me or my roommate." Six items reflected self-image goals, including "avoid showing my weaknesses;" "avoid revealing my shortcomings or vulnerabilities;" "avoid the possibility of being wrong;" "convince my roommate that I am right;" "get my roommate to do things my way;" and "avoid being blamed or criticized." Both scales had high internal consistency at pretest (self-image $\alpha = .79$; compassionate $\alpha = .75$), posttest (self-image $\alpha = .87$; compassionate $\alpha = .94$), and across participants and weeks (self-image goals: $.83 < \alpha < .91$, $M_\alpha = .88$; compassionate goals: $.85 < \alpha < .94$, $M_\alpha = .91$).

Responsiveness to roommates and perceptions of roommates' responsiveness were measured with a 6-item modified version of a responsiveness measure used in previous research (Cutrona, Hessling, & Suhr, 1997; Gore, Cross, & Morris, 2006). Participants indicated how they acted toward their roommate in general at pretest and posttest. All items were rated on a scale from 1 (*not at all*) to 5 (*very much*). Items included "I try to make my roommate feel comfortable about him/herself and how he/she feels;" "I try to make my roommate feel valued as a person;" "I try to be sensitive to my roommate's feelings;" "I really try to understand my roommate's concerns;" "I really listen to my roommate when he/she talks;" and "I behave warmly toward my roommate." We measured weekly responsiveness using the same items, asking how participants acted toward their roommate that week. Responsiveness was reliable at pretest ($\alpha = .93$), posttest ($\alpha = .97$) and in each weekly survey ($.94 < \alpha < .98$, $M_\alpha = .97$).

A parallel set of items assessed the extent to which participants believed their roommates responded to them. Pretest and posttest items asked about roommates' general responsiveness. Sample items included "my roommate tries to make me feel comfortable about myself and how I feel;" and "my roommate tries to make me feel valued as a person." We measured weekly

[3]Participants reported that completing the weekly surveys did not strongly affect their reports or their roommate relationships during Study 1. In the posttest measure, students rated the influence of the weekly records on scales ranging from 1 (*not at all*) to 7 (*very much*). Although we do not have a control group for comparison, participants did not report that it was particularly difficult to complete the weekly surveys ($M = 3.58$) and felt that their weekly surveys were accurate ($M = 5.33$). Completing the records did increase how much they thought about their roommates and relationships ($M = 4.34$) and positive thoughts about the relationships ($M = 3.35$). However, they did not report that completing the surveys affected their behavior ($M = 2.61$) or the occurrence of negative ($M = 1.94$) or positive ($M = 2.67$) events between roommates.

roommate responsiveness with the same items, referring to how roommates acted toward participants that week. Perceptions of roommates' responsiveness was reliable at pretest (α = .95), posttest (α =.98), and in the weekly surveys (.94 < α < .98, M_α = .97).

Disclosure to the roommate and perceptions of roommates' disclosure were measured with a 5-item modified version of a disclosure measure used by Gore and colleagues (Gore et al., 2006a; Miller, Berg, & Archer, 1983). Participants were instructed to indicate the extent to which they discussed each topic with their roommates; pretest and posttest items began with the phrase, "In general, I discuss:." All items were rated on a scale from 1 (*discussed not at all*) to 5 (*discussed fully and completely*) and included "my deepest feelings;" "my worst fears;" "what I like and dislike about myself;" "my close relationships with other people;" and "things I have done which I am proud of." We measured weekly disclosure using the same instructions and items, beginning with the phrase "This week, I discussed:." Disclosure to roommates was reliable at pretest (α =.85), posttest (α = .94) and from week to week (.85 < α < .95, M_α = .92).

A parallel set of items assessed the extent to which participants believed their roommates self-disclosed. Pretest and posttest items began with the phrase, "In general, my roommate discusses:." Sample items included "his/her deepest feelings;" "his/her worst fears;" and "what he/she likes and dislikes about him/herself." We measured weekly roommate disclosure with the same items, referring to the extent to which roommates self-disclosed that week. Roommate disclosure was reliable at pretest (α = .89), posttest (α =.94), and in weekly surveys (.89 < α < .95, M_α = .93).

Perceived social support availability from roommates and support made available to roommates were measured with the Multidimensional Survey of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988). Perceived availability pretest and posttest items were preceded with the stem "In general, I feel that." Weekly items were preceded with the stem "This past week, I felt that." Sample items included "My roommate really tried to help me" and "I could count on my roommate if things went wrong." Perceived social support availability was reliable at pretest (α =.93), posttest (α = .96) and from week to week (.93 < α < .97, M_α = .96).

Social support made available to roommates was also measured at pretest, posttest and weekly using a parallel set of items. Sample items included "I really tried to help my roommate" and "my roommate can count on me when things go wrong." Social support made available to roommates was reliable at pretest (α = .92), posttest (α =.95), and in weekly surveys (.86 < α < .96, M_α = .94).

Anxiety was assessed with the Speilberger State Anxiety Scale (Spielberger, Vagg, Barker, Donham, & Westberry, 1980). At pretest and posttest, participants rated their anxiety in general on a scale ranging from 1 (never) to 5 (always); in the weekly surveys, they rated their anxiety over the past week on the same scale. Anxiety had high internal consistency at pretest (α =.91), posttest (α =.94), and in each of the weekly surveys (.94 < α < .95, Mα = .94).

Depression was assessed at pretest, posttest, and weekly using the Center for Epidemiological Studies Depression Inventory (CES-D; Radloff, 1997). The CES-D was developed to measure depressive symptoms in community samples and consists of 20 depression-related symptom items rated on a 4 point scale (0–3) based on the amount of time during the past week the respondent has experienced each symptom. Scores can range from 0 to 60. The CES-D had high internal consistency at pretest (α =.86), posttest (α =.89) and each of the weekly surveys (.90 < α < .92, Mα = .91).

Results

Factor Analyses—Table 1 shows the means, standard deviations, and intrapersonal (i.e., within-person) intraclass correlations, which adjust for the degree of nonindependence between dyad members (Griffin & Gonzalez, 1995) for all primary variables in Study 1. Because correlations between compassionate goals and responsiveness to roommates and perceptions of roommates' responsiveness were high, we conducted exploratory factor analyses (EFA) on these items at pretest and confirmatory factor analyses (CFA) on items at posttest and each week, comparing the fit of a model specifying 2 factors with a model specifying 1 factor.

Compassionate goals and responsiveness to roommates: Compassionate goals and responsiveness to roommates, though correlated, are empirically distinct. EFAs on the pretest items suggested that 2 factors accounted for 48% of the variance: all responsiveness items loaded on the first factor, with loadings ranging between .64 and .99; all compassionate goal items loaded on the second factor, with loadings ranging between .38 and .66. Importantly, no secondary loading exceeded |.28|. We conducted CFAs on items at posttest and each of the 10 weeks (yielding 11 separate sets of CFAs), testing two-factor, $136.84 < \chi^2 (76, 218 < N < 230) < 232.48$, $M\chi^2(76, 218 < N < 230) = 183.77$, and single-factor solutions, $336.77 < \chi^2(77, 218 < N < 230) < 726.72$, $M\chi^2(77, 218 < N < 230) = 586.71$. For all analyses, two-factor solutions provided significantly better fit, $194.33 < \Delta\chi^2(1, 218 < N < 230) < 554.95$, $M\Delta\chi^2(1, 218 < N < 230) = 402.94$.

Compassionate goals and perceptions of roommates' responsiveness: Compassionate goals and perceptions of roommates' responsiveness, though correlated, are also empirically distinct. EFAs on the pretest items suggested that 2 factors accounted for 51% of the variance: all responsiveness items loaded on the first factor, with loadings ranging between .74 and .93; all compassionate goal items loaded on the second factor, with loadings ranging between .39 and .63. Importantly, no secondary loading exceeded |.23|. We conducted CFAs on items at posttest and each of the 10 weeks (again, yielding 11 separate sets of CFAs), testing two-factor, $110.55 < \chi^2(76, 218 < N < 230) < 247.82$, $M\chi^2(76, 218 < N < 230) = 166.94$, and single-factor solutions, $448.56 < \chi^2(76, 218 < N < 230) < 948.77$, $M\chi^2(76, 218 < N < 230) = 753.14$. For all analyses, two-factor solutions provided significantly better fit, $338.01 < \Delta\chi^2(1, 218 < N < 230) < 747.22$, $M\Delta\chi^2(1, 218 < N < 230) = 586.20$.

Overview of Primary Analyses—We conducted data analyses in two phases. In Phase 1 we focused on the *intrapersonal* associations between goals and responsiveness. We hypothesized that students' goals would predict change in their responsiveness to roommates (Path A; Figure 1), which would predict change in their perceptions of their roommates' responsiveness (Path B), which would in turn, predict change in their compassionate and self-image goals (Path D). In Phase 2 we focused on the *interpersonal* associations among these variables to examine how actors' goals predict change in their responsiveness to partners (Path A), which predicts change in partners' perceptions of actors' responsiveness (Path F), which predicts change in partners' subsequent responsiveness to actors (Path I) and goals (Path J). We tested both the intra- and interpersonal associations 1) within weeks, 2) from week to week using lagged analyses, and 3) across the semester from pretest to posttest.

Importantly, all intra- and interpersonal analyses assess change. For example, in weekly analyses we test whether fluctuations in goals (i.e., the difference between goals that week and that person's average goals across 10 weeks) predict responsiveness that week; in lagged analyses, we test whether Week 1 goals predict change in responsiveness from Weeks 1 to 2; and in pretest and posttest analyses, we test whether chronic goals predict change in responsiveness from pretest to posttest. Thus, these analyses test the dynamic intra- and

interpersonal associations between goals, responsiveness, and perceptions of others' responsiveness.

General Analytic Strategy—In these data, individuals were nested within dyads and dyads were crossed with weeks (Kashy, Donnellan, Burt, & McGue, 2008). Thus, we controlled for the nonindependence of individuals within dyads in all analyses using the MIXED command in SPSS (Campbell & Kashy, 2002; Campbell, Simpson, Boldry, & Kashy, 2005; Kenny, Kashy, & Cook, 2006), and because individuals within dyads were indistinguishable, we specified compound symmetry so that intercept variances between dyad members were equal. For all analyses, 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 (see Campbell & Kashy, 2002, for a sample arrangement of data). Path models were tested sequentially, with a separate regression equation for each path. For each path, we regressed the criterion on the predictor(s), controlling for all variables preceding that path in the model. All Study 1 path analyses are illustrated in Figure 2 and Figure 3. Estimates outside of brackets indicate the partial correlation for that association, controlling for previous paths in the model; estimates inside brackets indicate tests of the individual path, not controlling for previous paths in the model. Partial correlations for all analyses were calculated using the method described by Rosenthal and Rosnow (1991).

Table 1 shows the means, standard deviations, and intrapersonal (i.e., within-person) intraclass correlations (Griffin & Gonzalez, 1995), for all primary pretest, posttest, and chronic weekly variables. We created measures of chronic compassionate and self-image goals by averaging each measure across the 10 weeks. In general, compassionate goals, responsiveness, and perceptions of roommates' responsiveness were strongly correlated at pretest and posttest, and across weeks. Self-image goals were less strongly associated with responsiveness and perceptions of roommates' responsiveness. Because compassionate and self-image goals were significantly correlated, we regressed all outcome variables on compassionate and self-image goals simultaneously. Table 2 shows the interpersonal (i.e. actor-partner) intraclass correlations for all primary variables. Roommates' compassionate goals, responsiveness and perceptions of roommates' responsiveness were moderately correlated across time-points; self-image goals predicted fewer partner variables.

Intrapersonal Processes: Students' Goals Predicting Their Own Responsiveness and Subsequent Goals—Phase 1 analyses test an intrapersonal model in which students' compassionate and self-image goals predict change in their responsiveness to roommates (Path A; Figure 1), which predicts change in their perceptions of roommates' responsiveness (Path B), which in turn predicts change in students' subsequent compassionate and self-image goals (Path D). Thus, all Phase 1 analyses use only actor variables as predictors and outcomes. Note that, because the data are structured so that actors and partners are interchangeable, these analyses simultaneously test the process by which partners' goals lead to partners' own responsiveness and goals (i.e., Paths G, H, and J).

Weekly associations: First, we examined our hypothesized model within weeks, testing whether weekly interpersonal goals predicted responsiveness to roommates that same week, which then predicted perceptions of roommates' responsiveness that week. Coefficients for weekly analyses were derived from random-coefficients models using restricted maximum-likelihood estimation, and models included fixed and random effects for the intercept and each predictor. In weekly analyses we person-centered all predictors so that scores represent differences from each individual's own average across 10 weeks (e.g., Enders & Tofighi, 2007; Kreft & de Leeuw, 1998; Raudenbush & Bryk, 2002).

Path analyses supported our hypothesized model within weeks (see the top of Figure 2). Weekly compassionate goals predicted higher and self-image goals predicted lower weekly responsiveness to roommates. Responsiveness to roommates, in turn, positively predicted higher perceptions of roommates' responsiveness.

Lagged-week analyses: Next, we tested the lagged-week associations between interpersonal goals, responsiveness to roommates, and perceptions of roommates' responsiveness. Examination of the temporal sequence of effects across weeks does not demonstrate causality but can shed light on the plausibility or implausibility of causal pathways (Kenny, 1975; Leary, 1995; Rogosa, 1980; West, Biesanz, & Pitts, 2000). For example, evidence that compassionate goals on Week 1 predict responsiveness in Week 2, controlling for responsiveness on Weeks 1 (i.e., testing whether goals one week predict residual change in responsiveness the following week) would be consistent with the hypothesis that compassionate goals cause responsiveness. No association would rule out a causal effect over this time period. Thus, unlike within-week analyses, lagged analyses test the plausibility of causal associations for each hypothesized pathway in our intrapersonal model.

Coefficients for lagged-week analyses were derived from random-coefficients models using restricted maximum-likelihood estimation, with models including fixed and random effects for the intercept and each predictor. We used a residual change strategy to test changes from week to week, regressing the Week N + 1 dependent variable on relevant Week N predictors, controlling for the Week N dependent variable. When change in a variable was a predictor, we entered the Week N and Week N + 1 predictors into the model and interpreted the week N + 1 variable.

We grand mean centered predictors in tests of lagged-week hypotheses because our prediction concerned change in the outcome from week to week. Lagged analyses examine whether change in the outcome from one week to the next is related to levels of the goal (or other predictor), regardless of the source – individual differences or weekly fluctuations around those individual differences. For example, we hypothesize that As' goals one week predict their responsiveness the following week, controlling for that week's responsiveness. Person centering predictors tests whether fluctuations in As' goals from As' own average goals predict outcomes. Consequently, in our example person-centering predictors in lagged analyses tests whether *within-person departures* from As' average goals one week predict As' responsiveness the following week, *controlling for within-person departures* from As' average responsiveness that week. This does not test our lagged hypothesis. Thus, centering on the grand mean for that week is justified and appropriate in these analyses (e.g., Enders & Tofighi, 2007).[4]

In the lagged-week data, we tested a path model in which goals at Week 1 predict change in responsiveness to roommates from Weeks 1 to 2, which predict simultaneous change in perceptions of roommates' responsiveness from Weeks 1 to 2, which in turn predict change in compassionate and self-image goals from Weeks 1 to 3. We expected that, in the case of projection, associations between changes in responsiveness to roommates and changes in perceptions of roommates' responsiveness would be relatively immediate because they occur as a function of perceptions – we expect that when actors become more responsive to roommates, they simultaneously increase their perceptions of roommates' responsiveness. Accordingly, we hypothesized that change in responsiveness to roommates from Weeks 1 to 2 predicted simultaneous change in perceptions of roommates' responsiveness.

[4]Although several authors provide guidelines for centering in multilevel models (e.g., Kreft & de Leeuw, 1998; Raudenbush & Bryk, 2002), they also discourage "thoughtless application" of these guidelines (Enders & Tofighi, 2007, p. 136) and, instead, encourage centering strategies based on specific substantive research questions.

For each path, we regressed the criterion on the predictor(s), controlling for all variables preceding that path in the model. We tested this path model (i.e., actors' Week N compassionate and self-image goals predict change in actors' responsiveness to roommates from Weeks N to N + 1, which predicts change in actors' perceptions of roommates' responsiveness from Weeks N to N + 1, which predicts change in actors compassionate and self-image goals from weeks N to N + 2; see the middle of Figure 2) in 4 regression equations (except when goals were entered as predictors: because we tested them simultaneously, we were able to test two paths in one equation). Lagged analyses were conducted on all 10 weeks. For simplicity, we refer to Week N as "Week 1," Week N+1 as "Week 2," and Week N+2 as "Week 3."

Lagged-week path analyses supported our hypotheses (see middle of Figure 2). Week 1 compassionate goals predicted increased and Week 1 self-image goals predicted decreased responsiveness to roommates from Weeks 1 to 2, which predicted increased perceptions of roommates' responsiveness from Weeks 1 to 2, which predicted increased compassionate goals and decreased self-image goals from Weeks 1 to 3.

Change across the semester: To test whether and how students' chronic compassionate and self-image goals contribute to long-term changes in their responsiveness, perceptions of roommates' responsiveness and goals, we examined a path model in which chronic goals averaged across 10 weeks predicted change in responsiveness to roommates across the semester, which then predicted change in perceptions of the roommates' responsiveness, which in turn predicted changes in goals from pretest to posttest.

Coefficients for testing change from pretest to posttest were derived from fixed-effects models using restricted maximum-likelihood estimation. We grand mean centered predictors in tests of pretest and posttest hypotheses because we were interested in chronic goals and responsiveness as individual differences. We used a residual change strategy, similar to that used in lagged-week analyses, to test changes from pretest to posttest.

Results partially support our path model (see bottom of Figure 2). Chronic compassionate goals predicted increased and chronic self-image goals predicted decreased responsiveness to roommates from pretest to posttest, which predicted change in perceptions of roommates' responsiveness from pretest to posttest, but perceptions of roommates' responsiveness did not predict changes in students' own compassionate and self-image goals from pretest to posttest.

Next, we tested several alternative explanations for and moderators of the associations tested in Figure 2. We tested whether perceptions of roommates' responsiveness, disclosure, support, anxiety and depression explained associations in our models by adding the appropriate variables to the path models tested above. Specific analyses for each covariate are described below. Note that our main concern was not whether these covariates were related to each outcome, but whether they could explain or offer an alternative explanation for our findings. Thus we do not report the association between each covariate and outcome variable. Instead, we report associations between our main predictors and outcome variables, controlling for covariates. We also test whether associations in Figure 2 are moderated by anxiety, depression or gender by adding the appropriate main effect and product terms, as described below. Simple slopes for interactions were computed at 1 standard deviation above and below the means of the moderators (Aiken & West, 1991). Because of space considerations, we do not report individual statistics for each covariate test. Instead, we report a summary of results for each covariate; tables of results can be obtained from the first author.

Do perceptions of roommates' responsiveness explain associations between goals and change in responsiveness to roommates?: Associations between students' interpersonal goals and changes in their responsiveness to roommates might be attributed to perceptions of

roommates' responsiveness: students' goals may lead them to be more or less responsiveness to roommates because goals are also associated with perceiving roommates as more or less responsive. We retested the links between compassionate and self-image goals and responsiveness to roommates in all models in Figure 2, controlling for weekly perceptions of roommates' responsiveness in weekly analyses, Week 1 perceptions of roommates' responsiveness in lagged analyses, and chronic perceptions of roommates' responsiveness in the pretest and posttest analyses. Across all three sets of analyses, all associations between compassionate goals and higher or increased responsiveness remained significant, $.17 < pr\text{s} < .46$, all $p\text{s} < .001$, although perceptions of roommates' responsiveness predicted higher or increased responsiveness to roommates, $.37 < pr\text{s} < .40$, all $p\text{s} < .001$, across analyses. Thus, students' perceptions of roommates as more or less responsive do not explain the association between compassionate goals and increased responsiveness to roommates.

On the other hand, 2 of the 3 analyses suggested that associations between students' self-image goals and lower or decreased responsiveness to roommates could be explained by perceptions of roommates' responsiveness. Weekly self-image goals no longer predicted weekly responsiveness to roommates, $pr = -.03$, ns, and chronic self-image goals no longer predicted change in responsiveness from pretest to posttest, $pr = -.09$, ns. In lagged analyses, Week 1 self-image goals still predicted decreased responsiveness to roommates from Weeks 1 to 2, $pr = -.25$, $p < .001$. Thus, students' self-image goals led to their decreased responsiveness to the extent that they perceived their roommates as less responsive.

Does disclosure explain these associations?: Because others' disclosure elicits responsiveness and perceptions of roommates' responsiveness may be a function of people's own disclosure (Reis & Shaver, 1988), we examined the possibility that associations between responsiveness to roommates and perceptions of roommates' responsiveness could be explained by perceptions of roommates' disclosure or disclosure to roommates. We reanalyzed paths in the weekly, lagged-week, and change from pretest to posttest analyses, controlling for the appropriate disclosure variable (i.e., we regressed responsiveness to roommates on goals controlling for perceptions of roommates' disclosure and we regressed perceptions of roommates' responsiveness on responsiveness to roommates controlling for disclosure to roommates). In lagged-week analyses we controlled for Week 1 disclosure, or Weeks 1 and 2 disclosure, depending on the specific path we tested. In testing change from pretest to posttest, we controlled for the appropriate chronic or pretest and posttest disclosure variables, again depending on the specific path we tested.

Interpersonal goals predicted responsiveness and responsiveness predicted perceptions of roommates' responsiveness, independent of disclosure. In 9 of 10 analyses, results remained unchanged when we retested these paths controlling for the appropriate disclosure variables; in the weekly model, the association between weekly self-image goals and responsiveness to roommates became marginally significant when we controlled for perceptions of roommates' disclosure that week, $pr = -.07$, $p < .06$. Thus, people's interpersonal goals offer an alternative to disclosure in creating responsive close relationships.

Does support availability explain these associations?: These paths might be explained by perceived available support from roommates and support made available to roommates. We reanalyzed all paths, controlling for the appropriate support variable (i.e., when responsiveness to roommates was the criterion, we controlled for support made available to roommates; when perceptions of roommates' responsiveness or goals were the criterion, we controlled for perceived available support from roommates), using the strategy described above (e.g., in lagged-week analyses we controlled for change in support on the weeks responsiveness variables were included in analyses).

Results remained unchanged when we retested individual paths controlling for the appropriate support variables in 8 of 10 analyses (we did not retest nonsignificant links between perceptions of roommates' responsiveness and goals). In the weekly model, the association between self-image goals and responsiveness to roommates became nonsignificant when we controlled for perceived available support, $pr = -.05$, ns, and in the pretest to posttest model, the association between chronic self-image goals and change in responsiveness to roommates became nonsignificant when we controlled for chronic perceived available support, $pr = -.09$, ns. Thus, self-image goals do not predict change in responsiveness beyond available support: that is, self-image goals may contribute to change in responsiveness because of available support. However, available support cannot explain associations between compassionate goals and change in responsiveness, and support made available to roommates cannot explain the association between students' responsiveness and their perceptions of roommates' responsiveness, nor can it explain why students' perceptions of roommates' responsiveness predict change in their compassionate goals in the lagged analyses.

Does anxiety or depression explain associations in these models?: We also tested whether the associations in Figure 2 were explained by feeling anxious or depressed. We reanalyzed all paths in weekly, lagged-week, and change from pretest to posttest analyses, controlling for anxiety and depression in separate analyses, using the strategy for testing covariates described above. Results did not change when we controlled for anxiety and depression in 18 of 20 analyses. In the pretest and posttest model, the link between chronic self-image goals and change in responsiveness to roommates became nonsignificant when we controlled for chronic anxiety, $pr = -.13$, ns, and marginal when we controlled for chronic depression, $pr = -.14$, $p = .07$. Thus, anxiety and depression appear to explain why self-image goals lead to longer-term decreases in responsiveness, but they cannot explain why self-image goals lead to decreased responsiveness in weekly and lagged-week analyses, or why compassionate goals lead to higher and increased responsiveness. Anxiety and depression also cannot explain projection of responsiveness or why it leads to increased compassionate goals in the lagged model.

Do associations in these models differ by levels of anxiety or depression?: Because links in the intrapersonal model might depend on negative mood, we tested whether anxiety or depression moderated the simple associations in Figure 2 (i.e., not controlling for other variables in the model), testing 26 separate product terms. Only one was significant: in the weekly model (top of Figure 2) anxiety moderated the relation between weekly compassionate goals and weekly responsiveness to roommates, $pr = .07$, $p < .05$, such that this association was stronger for those who reported higher anxiety, $pr = .33$, $p < .001$, compared to those reporting lower anxiety, $pr = .20$, $p < .001$. Results suggested that compassionate goals are beneficial for responsiveness, particularly when anxiety is higher. No other links in the intrapersonal models were moderated by anxiety or depression (all other *pr*s < |.13|, ns). Thus, results strongly suggest that the processes described by the intrapersonal model do not operate differently depending on negative mood.

Do these associations differ by gender?: Because the intrapersonal process from goals to perceptions of roommates' responsiveness and change in goals might differ for men and women, we tested whether gender moderated each individual path (i.e., not controlling for other variables in the models) in all models in Figure 2. In all analyses, gender was treated as a fixed effect (i.e., no random effects were specified in weekly and lagged-week models) and coded such that 1 = men and 2 = women. Gender moderated just 2 of the 13 associations tested (all other *pr*s < |.07|, ns). First, in the lagged model (the middle of Figure 2), gender moderated the association between change in responsiveness to roommates and change in perceptions of roommates' responsiveness, $pr = .25$, $p < .001$, such that the relation was stronger for women, $pr = .75$, $p < .001$, than men, $pr = .48$, $p < .001$. Second, in tests of pretest to posttest change (the bottom of Figure 2), gender moderated the association between change in perceptions of

roommates' responsiveness and change in self-image goals, *pr* = −.16, *p* < .05, such that perceptions of roommates' responsiveness predicted decreased self-image goals for women, *pr* = −.20, *p* < .01, but not men, *pr* = .04, *ns*.

Summary of intrapersonal processes: These data support our hypothesis that interpersonal goals predict change in responsiveness, which leads to projection of responsiveness: compassionate goals predict increased and self-image goals predict decreased responsiveness to roommates, which predicts increased perceptions of roommates' responsiveness. This process operates within weeks, from week to week, and across 10 weeks, supporting our hypothesis about the dynamic associations between goals and projection of responsiveness.[5]. Covariates did not consistently account for any of these associations, nor were associations moderated by negative mood or gender.[6]

Results were mixed with respect to our hypothesis that the relation between goals and projection is self-perpetuating. Lagged-week analyses supported our hypothesis - increased perceptions of roommates' responsiveness from Weeks 1 to 2 predicted changes in interpersonal goals from Weeks 1 to 3. However, analyses of change from pretest to posttest did not support this hypothesis – changes in perceptions of roommates' responsiveness from pretest to posttest did not predict changes in goals from pretest to posttest.

Interpersonal Processes: Actors' Goals and Responsiveness Predicting Partners' Goals and Responsiveness: The goal of Phase 2 analyses was to test our interpersonal model whereby actors' compassionate goals predict their increased and self-image goals predict their decreased responsiveness to partners (Path A; Figure 1). Actors' responsiveness to partners then predicts partners' increased perceptions of actors' responsiveness (Path F), which then predicts partners' increased responsiveness to actors (Path I) and increased compassionate and decreased self-image goals (Path J). Again, note that, because the data are structured so that actors and partners are interchangeable, these analyses simultaneously the process by which partners' goals predict actors' responsiveness and goals (i.e., Paths G, L, C, and D). We examined this general model within weeks, from week to week using lagged analyses, and the across the semester using the same analytic strategies described to test our projection (i.e., intrapersonal) hypotheses.

Weekly Associations: We examined our hypothesized interpersonal model within weeks, testing whether actors' weekly interpersonal goals predicted their responsiveness to roommates that same week, which then predicted partners' perceptions of actors' responsiveness that week, which then predicted partners' interpersonal goals and responsiveness to actors.

Within-week analyses support our hypotheses (see the top of Figure 3). On weeks when actors had higher compassionate goals they reported being more responsive to partners, and on weeks

[5]We examined whether compassionate and self-image goals interacted to predict responsiveness to roommates. Weekly goals did not interact to predict weekly responsiveness or change in responsiveness to the following week, both *pr*s < |.04|, ns. Chronic goals did interact to predict change in responsiveness to roommates from pretest to posttest, *pr* = .15, *p* < .05, such that the association between chronic compassionate goals and increased responsiveness to roommates was stronger with lower self-image goals, *pr* = .59, *p* < .001, compared to higher self-image goals *pr* = .58, *p* < .001.

[6]Previous data from our lab suggests that social desirability positively predicts chronic compassionate goals and negatively predicts chronic self-image goals (Crocker & Canevello, 2008, Study 1). In Study 1, pretest social desirability positively correlated with chronic self-image goals, *r* = .23, *p* < .01, and negatively correlated with chronic compassionate goals, *r* = −.22, *p* < .01. Importantly, when we regressed posttest outcomes on pretest social desirability and pretest outcome variables, social desirability did not predict change in responsiveness to roommates (*pr* = .09, ns), nor did it predict change in perceptions of roommates' responsiveness (*pr* = .05, ns). Thus, although social desirability is associated with interpersonal goals, it cannot account for associations between goals and changes in outcomes from pretest to posttest. Social desirability also cannot account for within week analyses because person centered predictors remove the influence of individual differences. Finally, lagged analyses test whether goals on a particular week predict changes in outcomes the following week. Because social desirability is a stable personality factor, we see no reason why it would explain the lagged associations between goals and outcomes.

when actors had higher self-image goals they reported being less responsive to partners. Actors' responsiveness to partners predicted partners' higher perceptions of actors' responsiveness, which predicts partners' higher responsiveness to actors and partners' compassionate goals. Partners' weekly perceptions of actors' responsiveness did not predict their own self-image goals that same week.

Lagged-week analyses: Again, because lagged analyses provide information about the plausibility of causal pathways, we tested whether actors' compassionate and self-image goals at Week 1 predicted change in their responsiveness from Weeks 1 to 2, which predicted simultaneous change in partners' perceptions of actors' responsiveness from Weeks 1 to 2, which then predicted change in partners' interpersonal goals and responsiveness to actors from Weeks 1 to 3. We predicted that change in actors' responsiveness to roommates from Weeks 1 to 2 predicted simultaneous change in partners' perceptions of actors' responsiveness from Weeks 1 to 2 because responsiveness transactions between roommates should occur simultaneously (i.e., partners should perceive change in actors' responsiveness as actors report change in their own responsiveness).

Lagged-week analyses did not support our interpersonal hypotheses (see middle of Figure 3). Actors' Week 1 compassionate goals predicted increased responsiveness and Week 1 self-image goals predicted decreased responsiveness to partners from Weeks 1 to 2, but change in actors' responsiveness to partners from Weeks 1 to 2 did not predict simultaneous change in partners' perceptions of actors' responsiveness from Weeks 1 to 2. Change in partners' perceptions of actors' responsiveness from Weeks 1 to 2 positively predicted change in partners' responsiveness to actors and compassionate goals from Weeks 1 to 3, but did not predict change in partners' self-image goals from Weeks 1 to 3.

These results do not support the plausibility of causal effects of change in actors' responsiveness to partners on change in partners' perceptions of actors' responsiveness. However, changes in partners' perceptions of actor's responsiveness led to their increased responsiveness to actors and compassionate goals the following week.

Change from pretest to posttest: To test whether and how actors' chronic compassionate and self-image goals contribute to long-term changes in their own responsiveness, and partners' perceptions of actors' responsiveness, responsiveness to actors, and goals, we examined a path model in which actors' chronic goals predicted change in actors' responsiveness to partners across the semester, which predicted change in partners' perceptions of actors' responsiveness, which in turn predicted changes in partners' goals and responsiveness to actors from pretest to posttest.

Results support our interpersonal model (see bottom of Figure 3). Actors' chronic compassionate goals predict increased and chronic self-image goals predict decreased responsiveness to partners. Change in actors' responsiveness to partners positively predicted change in partners' perceptions of actors' responsiveness from pretest to posttest, which positively predicted change in partners' responsiveness to actors and compassionate goals and marginally negatively predicted change in partners' self-image goals across the semester.

Next, we tested several alternative explanations for and moderators of the associations tested in Figure 3. We tested whether disclosure, available support, anxiety or depression explained associations between actors' responsiveness to partners and partners' perceptions of actors' responsiveness by adding the appropriate variables to the interpersonal path models tested above. Details of these analyses are provided below. Note that, as in tests of covariates in the intrapersonal models, the critical test was whether covariates altered the results of our path models, and not whether the covariates were related to each outcome. Because of this, we do

not report the association between each covariate and outcome variable. We also tested whether associations between actors' responsiveness and partners' perceptions of actors' responsiveness were moderated by partners' own goals, and whether associations unique to the interpersonal models were moderated by anxiety, depression or gender using the strategy described above. Again, because of space considerations, we do not report individual statistics for each covariate test, but instead report a summary of results for each covariate; tables of results can be obtained from the first author.

Do partners' goals influence how they perceive actors' responsiveness?: We tested the possibility that the links between actors' responsiveness and partners' increased perceptions of actors' responsiveness were dependent on partners' goals. For all models in Figure 3, we tested whether partners' goals moderated the individual paths (i.e., not controlling for other variables in the models) between actors' responsiveness to partners and partners' perceptions of actors' responsiveness, testing the moderating effect of each goal separately. In the weekly model we tested whether partners' weekly goals moderated this association; in the lagged analyses we tested whether partners' Week 2 goals moderated the link between change in actors' responsiveness to partners from Weeks 1 to 2 and change in partners' perceptions of actors' responsiveness from Weeks 1 to 2; in the pretest to posttest analyses we tested whether partners' posttest goals moderated the link between change in actors' responsiveness to partners from pretest to posttest and change in partners' perceptions of actors' responsiveness from pretest to posttest. Across analyses, partners' goals did not moderate this association, compassionate goals: $-.07 < pr < .02$, all ns; self-image goals: all *pr*s < .02, all ns. Actors' and partners' agreement about actors' responsiveness to partners does not depend on partners' compassionate or self-image goals.

Does disclosure, available support, anxiety, or depression explain associations between actors' responsiveness to partners and partners' perceptions of actors' responsiveness?[7]: We tested associations between actors' responsiveness to partners and partners' perceptions of actors' responsiveness in weekly and change from pretest to posttest models in Figure 3, separately controlling for partners' perceptions of actors' disclosure, partners' social support available from actors, and partners' anxiety and depression using a strategy similar to that described for the intrapersonal models. We did not test covariates in the lagged model because there was no association between change in actors' responsiveness and change in partners' perceptions of actors' responsiveness. Results remained unchanged in 7 of 8 tests. Change in actors' responsiveness to partners from pretest to posttest no longer predicted change in partners' perceptions of actors' responsiveness from pretest to posttest when we controlled for change in partners' support available from actors. Overall, results suggest that actors' and partners' agreement about actors' responsiveness cannot be accounted for by partners' perceptions of disclosure, anxiety, or depression. However, changes in actors' responsiveness to partners leads to changes in partners' perceptions of actors' responsiveness because actors' responsiveness is supportive.

Does disclosure, available support, anxiety or depression explain associations between changes in partners' perceptions of actors' responsiveness and change in partners' responsiveness or compassionate goals?: We tested the link from partners' perceptions of actors' responsiveness to partners' responsiveness and compassionate goals, controlling for partners' perceptions of actors' disclosure, support available from roommates, anxiety, and depression (in 24 separate analyses). We did not retest nonsignificant links between partners' perceptions of actors' responsiveness and partners' self-image goals. All results remained

[7]*We tested alternative explanations for associations unique to the interpersonal models in Figure 3. Results for other paths are redundant with test of covariates in the intrapersonal models in Figure 2.*

unchanged, suggesting that partners' responsiveness reciprocity (i.e., the link between partners' perceptions of responsiveness and responsiveness to actors) and compassionate goals could not be accounted for by their perceptions of actors' disclosure, support available from roommates, anxiety, or depression.

Do these associations differ by partners' levels of anxiety or depression?: We tested whether partners' anxiety or depression moderated links between actors' responsiveness and partners' perceptions of actors' responsiveness in all models in Figure 3. We also tested whether partner's anxiety or depression moderated associations between partners' perceptions of actors' responsiveness and partners' responsiveness to actors in lagged and pretest and posttest models. Partners' anxiety and depression did not moderate these associations in 9 of 10 tests (all *pr*s < |.11|, ns). However, in pretest and posttest analyses, depression moderated the link between change in partners' perceptions of actors' responsiveness and partners' responsiveness, $pr = -.20$, $p < .01$, such that this association was stronger when partners also reported lower depression (lower depression: $pr = .70$, $p < .001$; higher depression: $pr = .63$, $p < .001$). Thus, when partners become more depressed, they are less likely to reciprocate increased perceptions of actors' responsiveness.

Do these associations differ by gender?: We tested whether gender moderated associations unique to the interpersonal models (e.g., links between actors' responsiveness to partners and partners' perceptions of actors' responsiveness in weekly, lagged-week, and change from pretest to posttest analyses; links between partners' perceptions of actors' responsiveness and partners' goals in weekly analyses; and links between partners' perceptions of actors' responsiveness and partners' responsiveness to actors in lagged-week, and change from pretest to posttest analyses), using the same strategy reported for testing whether gender moderated intrapersonal associations. Gender did not moderate any of the 7 paths tested (all *pr*s < |.13|, all ns).

Discussion—Study 1 examined intra- and interpersonal models of responsiveness in first-semester college roommates. Results were generally consistent with our hypotheses: students' compassionate and self-image goals lead to change in their responsiveness to roommates, with consequences for change in both people's perceptions of responsiveness in the relationship and interpersonal goals. Thus, people's goals can create their own and others' responsiveness and goals. In general, these associations were not due to disclosure, available support, anxiety, or depression.

Students' goals predict their own experiences of responsiveness - their compassionate and self-image goals predict change in their responsiveness to partners, which then predicts projection of their responsiveness onto partners. We also predicted a self-perpetuating cycle between goals and responsiveness in relationships: actors' perceptions of roommates' responsiveness in turn predict change in their own compassionate and self-image goals. We found support for this hypothesis in the lagged-week data, but these effects did not appear to have any cumulative effect from pretest to posttest, suggesting projection processes have relatively short-term consequences for people's goals, but do not affect their goals over the longer-term.

Tests of the interpersonal associations were partially consistent with our hypothesis. We expected agreement between actors and partners on actors' responsiveness to partners, which should have predicted change in partners' responsiveness to actors and goals. We found strong evidence for this hypothesis within weeks and over the semester - when actors reported increased responsiveness to partners, partners perceived increased responsiveness from actors, which then led to partners' increased responsiveness to actors and increased compassionate goals. However, we did not find these associations in the lagged-week analyses – changes in actors' responsiveness to partners from Weeks 1 to 2 did not predict partners' perceptions of

actors' responsiveness over that same period, perhaps due to measurement timing; when students were asked to think about their and their roommates' behaviors over the past week, the two roommates may have simply recalled or drew their responses from different events. More precise measurements of daily goals and responsiveness might show greater agreement between actors' and partners' reports. In study 2, we examined these associations in daily measures across three weeks to investigate this possibility.

Study 1 also did not address the implications of being responsive to others for the relationship itself. We predicted that this process of building (or undermining) projected and actual responsiveness between roommates has implications for both people's perceived relationship quality. We included a measure of relationship quality in Study 2 to address this issue.

Study 1 ruled out self-disclosure, anxiety, and depression as alternative explanations for these processes. Study 1 also ruled out available support as an alternative explanation for associations between change in partners' perceptions of actors' responsiveness and change in partner's responsiveness and compassionate goals and in 2 of 3 analyses, change in available support also could not account for associations between change in actors' responsiveness to partners to change in partners' perceptions of actors' responsiveness. However, self-esteem or esteem for roommates might also account for these associations. For example, if high self-esteem predicts compassionate goals, responsiveness to roommates, and perceived responsiveness of roommates, the associations observed in Study 1 could be spurious. Esteem for roommates might also produce spurious associations if associations with perceptions of responsiveness are simply due to positive evaluations of roommates. Additionally, esteem for roommates may also produce spurious findings if students who hold their roommates in high esteem have more compassionate goals, are more responsive, and perceive their roommates as more responsive.

Alternatively, self-esteem may moderate associations tested in Study 1. Previous research shows that self-esteem moderates associations between perceptions of partners' regard and relationship behavior and satisfaction (Murray, Bellavia, Rose, & Griffin, 2003; Murray, Griffin, Rose, and Bellavia, 2003). In the present context, associations between actors' compassionate goals and responsiveness to partners, and between perceptions of roommates' responsiveness and relationship quality might be stronger when actors' self-esteem is high. We tested self-esteem and esteem for roommates as covariates and self-esteem as a moderator in Study 2.

STUDY 2

Study 2 used data from the Roommate Goals Study (Crocker & Canevello, Study 2) to examine how students' goals predict projected and reciprocal responsiveness between roommates that ultimately influences both peoples' relationship quality. The general design was similar to Study 1, but over a different time frame; same-sex freshmen roommate dyads completed a series of pretest, posttest, and 21 daily questionnaires, each including measures of compassionate and self-image goals, responsiveness to roommates, perceived roommates' responsiveness, relationship quality, and self-esteem and esteem for roommates.

Again, we expected both intrapersonal and interpersonal consequences of compassionate and self-image goals. The design of Study 2 allowed us to more closely examine interactions between roommates by assessing students daily instead of weekly. Also, we followed roommate pairs over a shorter time period to examine whether these processes occur in daily interactions. Finally, we included measures of self-esteem and esteem for roommates to rule out these variables as alternative explanations for our hypotheses.

Method

Participants: Sixty-five first-semester 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. Students completed a pretest survey, 21 daily surveys, and a posttest survey. Sixty-two pairs (95%) completed all 23 surveys; 46 pairs (71%) were female, and 19 (29%) were male. Sixty-eight percent of participants reported their race as White or European-American, 4% as Black or African-American, 16% as Asian or Asian-American, 5% were Latino(a), and 6% selected other. The racial composition of the sample closely approximates the racial composition of the incoming freshman class. Participants ranged in age from 18 to 22 years (M = 18.2 years).

Procedure: Roommate pairs attended an initial lab session to learn about the study, give their informed consent, complete the pretest survey, and receive instructions for completing the remaining 22 online surveys. The daily surveys took about 10 min. to complete and roommates were required to complete daily surveys on the same day. Participants were instructed to complete the surveys in privacy and not to discuss their responses with each other. To retain as many participants as possible in the study, participants were given up to 28 days to complete the 21 daily surveys.[8] Once roommates had completed 21 daily surveys, they completed the posttest survey and were paid for their participation. For a detailed description of the procedure see Crocker and Canevello (2008), Study 2.

Measures: Participants completed measures of their compassionate and self-image goals, perceptions of roommates' responsiveness, responsiveness to the roommate, relationship quality, self-esteem, and esteem for roommates at pretest, posttest, and daily. The pretest measure also included questions about demographics (gender, race/ethnicity, age, parental income). Additional measures not germane to the goals of the present investigation were also included.

Compassionate and self-image goals for participants' relationships with their roommates were measured at pretest, posttest, and daily, using the measure described in Study 1.[9] Based on exploratory factor analyses, we modified the scales in the following ways: for the compassionate goals scale we dropped "be supportive of my roommate" and "make a positive difference in my roommate's life" and added "be aware of the impact my behavior might have on my roommate's feelings" and "avoid doing anything that would be harmful to my roommate." For the self-image goals scale we dropped "avoid revealing my shortcomings and vulnerabilities" and added "avoid coming across as unintelligent or incompetent" and "demonstrate my intelligence." Both scales had high internal consistency at pretest (self-image α = .80; compassionate α = .84), posttest (self-image α = .87; compassionate α = .93), and across days (self-image goals: .75 < α < .87, M_α = .83; compassionate goals: .88 < α < .96, M_α = .94).

[8]Participants reported that completing daily surveys did not strongly affect their reports or their roommate relationships during Study 2. As in Study 1, students rated the influence of the daily records on scales ranging from 1 (*not at all*) to 7 (*very much*) in the Study 2 posttest measure. Again, we do not have a control group for comparison, but participants did not report that it was particularly difficult to complete the weekly surveys (M = 3.62) and felt that their weekly surveys were accurate (M = 5.16). Completing the records did increase how much they thought about their roommates and relationships (M = 4.88) and positive thoughts about the relationships (M = 3.72). However, although they reported that that completing the surveys affected their behavior somewhat (M = 3.19), they did not affect the occurrence of negative (M = 2.01) or positive (M = 2.95) relationship events.

[9]Compassionate goal items differ between studies because Study 2 preliminary factor analyses suggested that we include "be aware of the impact my behavior might have on my roommates' feelings," and "avoid doing anything that would be harmful to my roommate." We included "be supportive of my roommate" and "make a positive difference in my roommates' life" in the compassionate goals measure in Study 1 because in factor analyses, it loaded strongly with other compassionate goal items and did not load with responsiveness items. Because factor analyses in Study 2 suggested that it loaded equally with compassionate goal and responsiveness items, we removed this item in Study 2 to reduce overlap between measures. Self-image goal items differ between studies because preliminary factor analyses suggested different solutions. Importantly, although the goals measures differ slightly between studies, they provide consistent results.

Responsiveness to the roommate and perceptions of roommates' responsiveness were measured using a 12-item version of the scale used in Study 1. Additional items included "I do things to show my roommate that I care about him/her;" "I try to see things from his/her point of view;" "I am uncaring toward my roommate" (reverse); "I try to show respect for my roommate's capabilities and talents;" "I don't really take my roommate's concerns seriously" (reverse); and "I am sincere when I interact with my roommate." We measured daily responsiveness with 8 items from the pretest and posttest measure asking how participants acted toward their roommate that day. Responsiveness was reliable at pretest (α =.93), posttest (α = .95) and from day to day (.89 < α < .95, M_α = .93).

A parallel set of 12 items assessed the extent to which participants believed their roommates responded to them at pretest and posttest. Sample items included "My roommate seems sensitive to my feelings" and "My roommate is sincere when he/she interacts with me." We removed "My roommate seems uncaring" and "My roommate makes me feel comfortable about myself and my feelings" because in factor analyses, they overlapped with relationship quality. We measured daily roommate responsiveness with 7 items from the pretest and posttest measure asking how roommates acted toward participants that day. Roommate responsiveness was reliable at pretest (α = .96), posttest (α =.94), and from day to day (.84 < α < .92, M_α = .89).

Relationship quality included measures of satisfaction, commitment and closeness. Because all scales were highly correlated at each time point (all *r*s > .67), and we had the same predictions for these indicators of relationship quality, we standardized and averaged these scales to create pretest, posttest, and daily composite relationship quality scores.

In the pretest and posttest, we measured *relationship satisfaction* with 6 questions: "In general, how satisfied are you with your relationship with your roommate?" "How well does your roommate meet your needs?" "How good is your relationship with your roommate compared to most?" "How many problems are there in your relationship with your roommate?" (reverse scored) "How often do you wish you hadn't moved in with your roommate?" (reverse scored) and "To what extent has your relationship with your roommate met your original expectations?" Students responded on a scale from 1 (*poorly/not at all/never*) to 5 (*extremely well/completely/often*). We measured *commitment* using an abbreviated version of the measure developed by Rusbult and colleagues (Rusbult, Verette, Whitney, Slovik, & Lipkus, 1991): "To what extent are you committed to your relationship with your roommate?" "For what length of time would you like your relationship with your roommate to last?" "To what extent are you attached to your roommate?" and "How likely is it that you will end your relationship with your roommate in the near future?" (reverse scored). Students rated items on a 9-point scale (0 = *Not at all/< 1 month*, 8 = *Extremely/ 5+ years*). Two items assessed closeness (e.g., Gore et al, 2006): "Relative to all other relationships, how would you characterize your relationship with your roommate?" and "Relative to what you know about other people's roommate relationships, how would you characterize your relationship with your roommate?" and were rated on a 1 (*not as close as others*) to 5 (*much closer than others*) scale. The relationship quality composite measures had high internal consistency at pretest (α =.90) and posttest (α =.92)

We measured daily *relationship satisfaction* with 3 questions from the pretest/posttest measure: "How well does your roommate meet your needs today?" "How good is your relationship with your roommate today, compared to most?" and "Today, to what extent do you wish you hadn't moved in with your roommate?" (reversed). Students responded on a scale from 1 (*poorly/not at all/never*) to 5 (*extremely well/completely/often*). We measured *commitment* using the four commitment items from the pretest measure, with each item referring to how they felt that day. A single item assessed closeness: "How close do you feel to your roommate today?" and was

rated on a 1 (*not at all*) to 5 (*extremely*) scale. The daily relationship quality composite measure had high internal consistency each day of the study ($.82 < \alpha < .88$, $M_\alpha = .86$).

Self-esteem. The Rosenberg Self-Esteem Inventory (Rosenberg, 1965) was used to assess global self-esteem. In the pretest and posttest surveys, self-esteem was measured using the original 10-item measure. We used an abbreviated version of this measure in the daily surveys, with the stem "Today, to what extent did you feel:" followed by 4 questions: "that you are a person of worth," "that you are a failure," (reverse scored) "satisfied with yourself," and "that you are no good at all," (reverse scored). Self-esteem had adequate internal consistency at pretest ($\alpha = .89$), posttest ($\alpha = .90$), and each day of the study ($.83 < \alpha < .93$, $M_\alpha = .90$).

Esteem for roommates was measured at pretest, posttest, and in each of the daily surveys. In the pretest and posttest, esteem for roommates was measured with 10 questions, adapted from the Rosenberg self-esteem measure (Rosenberg, 1965), with items assessing evaluation of roommates (not perceptions of roommates' self-esteem). Sample items included: "I certainly feel my roommate is useless at times," (reverse scored) "I feel that my roommate has a number of good qualities," and "I feel that my roommate is a person of worth, at least on an equal basis with others." Students responded on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*). In the daily surveys, we measured esteem for roommates with the stem "Right now, to what extent do you feel that:" followed by 4 questions: "your roommate is a person of worth," "your roommate is a failure," (reverse scored) "you are satisfied with your roommate," and "your roommate is no good at all," (reverse scored). Esteem for roommates had adequate internal consistency at pretest ($\alpha = .88$), posttest ($\alpha = .89$), and across days ($.78 < \alpha < .91$, $M_\alpha = .86$).

Results

Factor Analyses: Table 3 shows the intrapersonal (i.e., within-person) intraclass correlations, which adjust for the degree of nonindependence between dyad members (Griffin & Gonzalez, 1995), means, and standard deviations for all of the main variables in Study 2. As in Study 1, compassionate goals correlated strongly with responsiveness to roommates and perceptions of roommates' responsiveness. Also, perceptions of roommates' responsiveness correlated strongly with relationship quality. Following Study 1, we conducted a series of factor analyses to determine whether these measures were empirically distinct.

Perceptions of roommates' responsiveness and relationship quality: Perceptions of roommates' responsiveness and relationship quality are empirically distinct. We conducted EFAs on pretest relationship quality and perceptions of roommates' responsiveness items. In an initial EFA on pretest items, all but two perceptions of roommates' responsiveness items ("my roommate makes me feel comfortable about myself and my feelings" and "my roommate seems uncaring") loaded on the two factors as predicted. After removing those items, a 2-factor solution accounted for 57% of the variance: all perceptions of roommate's responsiveness items loaded on the first factor, with loadings ranging between |.49| and |.87|; all relationship quality items loaded on the second factor, with loadings ranging between |.49| and |.86|. Importantly, the highest loading on a secondary factor was |.22|. We conducted CFAs on items for each day of the study and at posttest, excluding the two items removed from the EFA above (for a total of 22 separate sets of analyses), testing 2-factor, $120.46 < \chi^2(df = 89 \text{ and } 208, 124 < N < 130) < 553.274$, $M\chi^2(df = 89 \text{ and } 208, 124 < N < 130) = 232.09$, and single-factor solutions, $188.97 < \chi^2(df = 90 \text{ and } 209, 124 < N < 130) < 860.03$, $M\chi^2(df = 90 \text{ and } 209, 124 < N < 130) = 371.45$. For all sets of analyses, 2-factor solutions fit significantly better, $63.54 < \Delta\chi^2(1, 124 < N < 130) < 306.752$, $M\Delta\chi^2(1, 124 < N < 130) = 139.36$. Because of their overlap with relationship quality, we did not include the two cross-loading items in our final scoring of perceptions of roommates' responsiveness, nor did we include them in future factor analyses of perceptions of roommates' responsiveness items.

Compassionate goals and responsiveness to roommates: As in Study 1, the items used to assess compassionate goals and responsiveness to roommates were empirically distinct. We conducted EFAs on pretest compassionate goals and responsiveness to roommate items and CFAs on these items at posttest and each day, comparing the fit of a 2-factor model with that of a single-factor model. In an initial EFA on pretest items, a 2-factor solution accounted for 50% of the variance: all responsiveness items loaded on the first factor, with loadings ranging between |.41| and |.88|; all compassionate goal items loaded on the second factor, with loadings ranging between .50 and .74. No secondary loading exceeded |.17|. We conducted CFAs on items at posttest and across the 21 days, testing 2-factor, $133.52 < \chi^2(df = 89 \text{ and } 151, 124 < N < 130) < 350.19$, $M_{\chi 2}(df = 89 \text{ and } 151, 124 < N < 130) = 198.89$, and single-factor solutions, $252.81 < \chi^2(df = 90 \text{ and } 152, 124 < N < 130) < 500.52$, $M_{\chi 2}(df = 90 \text{ and } 152, 124 < N < 130) = 394.18$. For all sets of analyses, the 2-factor solution fit significantly better, $104.41 < \Delta\chi^2(1, 124 < N < 130) < 308.15$, $M_{\Delta\chi 2}(1, 124 < N < 130) = 195.29$.

Compassionate goals and perceptions of roommates' responsiveness: The items used to assess compassionate goals and perceptions of roommates' responsiveness are also empirically distinct. We conducted EFAs on pretest compassionate goals and perceptions of roommates' responsiveness items and CFAs on these items at posttest and each day, comparing the fit of a 2-factor model with that of a single-factor model. An EFA on pretest items showed that a 2-factor solution accounted for 53% of the variance: all perceptions of roommates' responsiveness items loaded on the first factor, with loadings ranging between |.58| and |.88|; all compassionate goal items loaded on the second factor, with loadings ranging between .44 and .78. No secondary loading exceeded |.27|. We conducted CFAs on items at posttest and across the 21 days, testing 2-factor, $111.09 < \chi^2(df = 76 \text{ and } 118, 124 < N < 130) < 234.48$, $M_{\chi 2}(df = 76 \text{ and } 118, 124 < N < 130) = 150.34$, and single-factor solutions, $241.75 < \chi^2(df = 77 \text{ and } 119, 124 < N < 130) < 531.71$, $M_{\chi 2}(df = 77 \text{ and } 119, 124 < N < 130) = 395.46$. For all sets of analyses, the 2-factor solution fit significantly better, $102.44 < \Delta\chi^2(1, 124 < N < 130) < 376.90$, $M_{\Delta\chi 2}(1, 124 < N < 130) = 245.12$.

Overview of Analyses: Data analyses proceeded in two phases. Phase 1 focused on intrapersonal associations and included only actor variables: we tested a model in which students' goals predict their responsiveness to roommates (Path A), which predicts their perceptions of roommates' responsiveness (Path B), which then predicts students' own goals (Path D) and relationship quality (Path E). Phase 2 focused on interpersonal associations, and included actor and partner variables: we tested a model in which actors' goals predict their responsiveness to partners (Path A), which predicts partners' perceptions of actors' responsiveness (Path F), which predicts partners' goals (Path J) and relationship quality (Path K). As in Study 1, we tested associations in each phase within a given day, from day to day using lagged analyses, and across three weeks (i.e., from pretest to posttest). As in Study 1, all intra- and interpersonal analyses assess change.

General Analytic Strategy: Because the structure of the data was similar to Study 1 (persons within dyads and dyads crossed with days; Kashy et al., 2008), we arranged the data and conducted analyses using the same strategy as in Study 1, controlling for the appropriate levels of nonindependence using the MIXED command in SPSS, specifying compound symmetry so that intercept variances between dyad members were equal, and testing change using residuals. Again, path models were tested sequentially; for each path, we regressed the criterion on the predictor, controlling for all variables preceding that path in the model. Partial correlations are reported for all analyses (Rosenthal & Rosnow, 1991).

Table 3 shows the means, standard deviations, and intrapersonal (i.e., within-persons) intraclass correlations for all pretest, posttest, and mean daily variables. We created measures of chronic compassionate and self-image goals by averaging each measure across the 21 days.

Compassionate goals, responsiveness, and perceptions of roommates' responsiveness were strongly correlated at pretest and posttest, and across days. Self-image goals were less strongly correlated with responsiveness and perceptions of roommates' responsiveness, particularly at posttest and in the chronic measures. As in Study 1, compassionate and self-image goals were significantly correlated. To test the independent effects of goals on outcomes, we regressed all outcome variables on compassionate and self-image goals simultaneously. Table 4 shows the interpersonal (i.e. actor-partner) intraclass correlations for all variables. Roommates' reported compassionate goals, responsiveness and perceptions of roommates' responsiveness were moderately correlated across time-points; actors' self-image goals predicted fewer partner variables.

Intrapersonal Processes: Students' Goals Predicting Their Own Responsiveness, Perceptions of Roommates' Responsiveness and Subsequent Goals and Relationship Quality—Phase 1 analyses test an intrapersonal model in which students' compassionate and self-image goals predict their responsiveness to roommates (Path A; Figure 1), which predicts their perceptions of roommates' responsiveness (Path B), which in turn predict their subsequent compassionate and self-image goals (Path D) and relationship quality (Path E). All Phase 1 analyses use only actor variables as predictors and outcomes. As in Study 1, because actors and partners are interchangeable, these analyses simultaneously test the process by which partners' goals lead to partners' own goals and relationship quality (i.e., Paths G, H, J and K).

Same Day Associations: First, we examined our hypothesized model within days, testing whether daily interpersonal goals predicted daily responsiveness to roommates, which predicted daily perceptions of roommates' responsiveness, which then predicted daily relationship quality. Following Study 1, coefficients for daily analyses were derived from random-coefficients models using restricted maximum-likelihood estimation, where models included fixed and random effects for the intercept and each predictor. Also, following the rationale for centering described in Study 1 within-week analyses, we person-centered all predictors.

Within-day analyses supported our hypothesized intrapersonal model (see top of Figure 4). Daily compassionate goals predicted higher responsiveness to roommates; daily self-image goals did not predict responsiveness to roommates. Responsiveness to roommates predicted higher perceptions of roommates' responsiveness on that day, which then positively predicted relationship quality on that day.

Lagged-Day Analyses: We next examined our intrapersonal model using lagged-day analyses to test the plausibility of causal paths in our model. Using the strategy described in Study 1 lagged analyses, i.e., random-coefficients models using restricted maximum-likelihood estimation with all predictors grand mean centered, we constructed MIXED models that regressed one day's criterion on the previous day's predictor and criterion.

Using the logic from Study 1's intrapersonal lagged-week path model, we hypothesized a lagged-day path model in which goals at Day 1 predict change in responsiveness to roommates from Days 1 to 2, which predict simultaneous change in perceptions of roommates' responsiveness from Days 1 to 2, which in turn predict change in compassionate and self-image goals and relationship quality from Days 1 to 3.

Results supported the intrapersonal model (see middle of Figure 4). Day 1 compassionate goals predicted increased responsiveness to roommates and Day 1 self-image goals predicted decreased responsiveness to roommates from Days 1 to 2. Change in responsiveness to roommates from Days 1 to 2 positively predicted change in perceptions of roommates'

responsiveness from Days 1 to 2, which in turn, positively predicted change in relationship quality and compassionate goals and but did not predict change in self-image goals from Days 1 to 3.

These analyses support the plausibility of a causal chain from goals to responsiveness to roommates and perceptions of roommates' responsiveness to relationship quality. Compassionate goals predict increased responsiveness and perceptions of roommates' responsiveness across days, which results in increased relationship quality and compassionate goals and decreased self-image goals, while self-image goals predict decreased responsiveness and perceptions of roommates' responsiveness across days, which results in decreased relationship quality and compassionate goals and increased self-image goals.

Change from pretest to posttest: To test whether and how students' chronic compassionate and self-image goals contribute to changes in their responsiveness, perceptions of roommates' responsiveness, goals, and relationship quality over time, we tested a path model in which chronic goals averaged across 21 days predicted change in responsiveness to roommates from pretest to posttest, which then predicted change in perceptions of the roommates' responsiveness, which in turn predicted changes in goals and relationship quality from pretest to posttest. Again, following Study 1, coefficients for testing change from pretest to posttest were derived from fixed-effects models using restricted maximum-likelihood estimation and we grand mean centered all predictors.

Results testing change across 3 weeks supported our intrapersonal model (see bottom of Figure 4) and suggest that effects of goals accumulate over time, resulting in longer-term changes in compassionate and self-image goals and relationship quality. Chronic compassionate goals predict increased and chronic self-image goals predict decreased responsiveness to roommates from pretest to posttest, which predicted increased perceptions of roommates' responsiveness from pretest to posttest, which predicted increased relationship quality and compassionate goals, and decreased self-image goals.

As in Study 1, we tested several alternative explanations for and moderators of these associations, using the same statistical strategies described in Study 1. We tested whether perceptions of roommates' responsiveness, self-esteem, or esteem for roommates explained associations in Figure 4. We also test whether these associations were moderated by self-esteem or gender. Finally, we also tested an alternative model suggesting that perceptions of roommates' responsiveness result from relationship quality (as compared to our hypothesis that relationship quality results from perceptions of roommates' responsiveness). As in Study 1, we used the procedure recommended by Aiken and West (1991) to examine simple slopes. Specific analyses for each covariate are described below. As in Study 1, our main concern was whether these covariates offered an alternative explanation for our findings. Thus, we report the associations between our predictor and outcome variables, controlling for covariates, but do not report whether covariates were related to each outcome, not controlling for our predictors. Again, tables of these analyses including covariates can be obtained from the first author.

Do perceptions of roommates' responsiveness explain associations between goals and change in responsiveness to roommates?: We tested whether associations between students' interpersonal goals and changes in their responsiveness to roommates could be explained by reciprocity of perceptions of roommates' responsiveness by retesting the links between compassionate and self-image goals and responsiveness to roommates (all models in Figure 4), controlling for daily perceptions of roommates' responsiveness in daily analyses, Day 1 perceptions of roommates' responsiveness in lagged analyses, and chronic perceptions of roommates' responsiveness in the pretest and posttest analyses. As in Study 1, perceptions of

roommates responsiveness predicted higher or increased responsiveness to roommates across all three sets of analyses, .19 < *pr*s < .60, all *p*s < .001. Associations between compassionate goals and higher and increased responsiveness remained significant in daily and lagged analyses, daily: *pr* = .26, *p* < .001; lagged: *pr* = .33, *p* < .001. In pretest and posttest analyses, chronic compassionate goals no longer predicted change in responsiveness to roommates when we controlled for chronic perceptions of roommates' responsiveness, *pr* = .10, ns.

The associations between students' self-image goals and decreased responsiveness to roommates were not explained by perceptions of roommates' responsiveness. In lagged analyses and analyses of change from pretest to posttest, self-image goals predicted decreased responsiveness to roommates, when we controlled for perceptions of roommates' responsiveness, both *pr*s = −.21, both *p*s < .05. The association between daily self-image goals and responsiveness to roommates was not significant in the original model. Overall, these results suggest that students' interpersonal goals predict change in their responsiveness to roommates, but not because they also perceive roommates as more or less responsive.

Does self-esteem or esteem for roommates explain these associations?: We tested whether the hypothesized processes were due simply to students' esteem for themselves or their roommates. We reanalyzed all models in the daily, lagged-day, and change from pretest to posttest data, controlling for these covariates separately, using the analytic strategy from Study 1. Results remained unchanged in 31of 32 analyses. In the pretest to posttest model (bottom of Figure 4) the association between change in perceptions of roommates' responsiveness and change in self-image goals became marginal when we controlled for change in esteem for roommates, *pr* = −.21, *p* < .08, however change in esteem for roommates did not significantly predict change in self-image goals, *pr* = −.10, ns. Thus, the associations tested here cannot be accounted for by self-esteem or esteem for roommates.

Does self-esteem moderate these associations?: We also tested whether each individual path in the models in Figure 4 was moderated by self-esteem (not controlling for other variables in the model). Overall, the intrapersonal process did not depend on self-esteem. Only 2 of 16 interactions were significant; self-esteem moderated the association between self-image goals and decreased responsiveness so that it was *stronger* with lower self-esteem in the lagged day analyses, *pr* = .14, *p* < .05 (low self-esteem, *pr* = −.21, *p* < .001, high self-esteem, *pr* = −.02, ns), but *weaker* with lower self-esteem in pretest to posttest analyses, *pr* = −.20, *p* < .05, (low self-esteem, *pr* = −.19, *p* < .05, high self-esteem, *pr* = −.36, *p* < .001). For all other moderation analyses *pr*s < |.12|, ns.

Do these associations differ by gender?: As in Study 1, responsiveness dynamics may differ by gender. We tested whether gender moderated each individual path (i.e., not controlling for other variables in the models) in each intrapersonal model, using the strategy described in Study 1. Gender did not moderate any of the 16 associations in Figure 4, all *pr*s < |.17|, ns.

Does relationship quality lead to perceptions of roommates' responsiveness?: It is possible that students' relationship quality leads to changes in their perceptions of roommates' responsiveness. To address this, we tested alternative orders of perceptions of roommate's responsiveness and relationship quality in lagged-day and change from pretest to posttest analyses. (We did not test this alternative order in the daily data because the cross-sectional nature of those data do not speak to the plausibility of causal associations and either order would provide virtually the same result.) Change in relationship quality from Days 1 to 2 did not predict change in perceptions of roommates' responsiveness from Days 1 to 3, *pr* = .06, ns. Chronic perceptions of roommates' responsiveness averaged across 21 days predicted increased relationship quality, *pr* = .23, *p* < .05; chronic relationship quality averaged across 21 days did not predict change in perceptions of roommates' responsiveness, *pr* = .10, ns. (We

did not test whether change in relationship quality from pretest to posttest would predict change in perceptions of roommates' responsiveness from pretest to posttest because this test of simultaneous change would provide the same result for either ordering.) Thus, these analyses do not support the idea that perceptions of roommates' responsiveness are simply a function of relationship quality.

Summary of intrapersonal processes: These results replicate and extend the intrapersonal process found in Study 1: goals predict change in responsiveness to roommates, which predicts increased projection of responsiveness, which predicts changes in goals and relationship quality.[10] Self-esteem and esteem for roommates did not account for these associations and they were not moderated by self-esteem.[11]

Thus, goals have immediate implications for responsiveness, projection of responsiveness, goals, and relationship quality. These effects held in lagged day analyses and predicted change in goals and relationship quality across three weeks. However, these analyses do not address whether students' goals predict their roommates' experiences. The second phase of analyses addresses this issue.

Interpersonal Processes: Actors' Goals and Responsiveness Predicting Partners' Responsiveness and Relationship Quality—Phase 2 analyses test whether partners perceive actors' responsiveness and whether these perceptions predict partners' own goals and relationship quality. We tested an interpersonal model in which actors' goals predict actors' responsiveness to partners (Path A), which predicts partners' perceptions of actors' responsiveness (Path F), which predicts partners' goals and relationship quality (Paths J and K, respectively). These analyses simultaneously examine the process by which partners' goals predict actors' goals and relationship quality (i.e., Paths G, L, D, and E). We examined evidence supporting this model within days, from day to day, and across three weeks, using the same analytic strategy described in Study 1 interpersonal analyses.

Same Day Associations: Within-day analyses support our hypotheses (see top of Figure 5). On days actors had higher compassionate goals, they reported being more responsive to partners; actors' daily self-image goals were unrelated to their daily responsiveness to partners. Actors' daily responsiveness to partners predicted partners' higher perceptions of actors' responsiveness, which then predicted partners' higher relationship quality and compassionate goals, but did not predict self-image goals.

Lagged-Day Analyses: Following the logic from Study 1's interpersonal lagged-week path model, we hypothesized an interpersonal lagged-day path model in which actors' goals at Day 1 predict change in their responsiveness to roommates from Days 1 to 2, which predict simultaneous change in partners' perceptions of actors' responsiveness from Days 1 to 2, which in turn predict change in partners' compassionate and self-image goals and relationship quality from Days 1 to 3.

Lagged-day tests of the path model support the plausibility of causal effects in our hypothesized interpersonal model (see middle of Figure 5). Actors' compassionate goals on Day 1 predicted

[10]We examined whether compassionate and self-image goals interacted to predict responsiveness to roommates. Goals did not interact to predict responsiveness or change in responsiveness in daily, lagged, or pretest to posttest analyses, all *pr*s < |.10|, ns.

[11]In Study 2, pretest social desirability does not predict chronic self-image ($r = .13$, ns) or compassionate goals ($r = -.05$, ns). Importantly, when we regress posttest outcomes on pretest social desirability and pretest outcome variables, social desirability does not predict change in responsiveness to roommates, perceptions of roommates' responsiveness, relationship quality, compassionate goals, or self-image goals, $-.05 < prs < = .05$, all ns. Again, social desirability also cannot account for within week analyses because person centered predictors remove the influence of individual differences, and because social desirability is a stable personality factor, we see no reason why it would explain the lagged associations between goals and outcomes.

increased responsiveness to partners from Days 1 to 2; actors' self-image goals on Day 1 predicted decreased responsiveness to partners from Days 1 to 2. Change in actors' responsiveness to partners from Days 1 to 2 positively predicted simultaneous change in partners' perceptions of actors' responsiveness from Days 1 to 2, which positively predicted change in partners' relationship quality and compassionate goals from Days 1 to 3. Change in partners' perceptions of actors' responsiveness from Days 1 to 2 did not predict change in partners' self-image goals from Days 1 to 3.

Changes Across 3 Weeks: The interpersonal effects of actors' goals accumulated over time, indirectly predicting change in partners' relationship quality and goals over three weeks (see bottom of Figure 5). Actors' chronic compassionate goals predicted increased responsiveness and actors' chronic self-image goals predicted decreased responsiveness to partners from pretest to posttest. Change in actors' responsiveness to partners positively predicted change in partners' perceptions of actors' responsiveness, which positively predicted change in partners' relationship quality and compassionate goals from pretest to posttest, but did not predict change in partners' self-image goals.

As in Study 1, we tested whether partners' goals moderate their perceptions of actors' responsiveness, whether self-esteem or esteem for roommates explain associations unique to the interpersonal model, and whether those associations are moderated by self-esteem or gender, using the same analytic strategies described in Study 1.

Do partners' goals influence how they perceive actors' responsiveness?: As in Study 1, we tested the possibility that the links between actors' responsiveness and partners' perceptions of actors' responsiveness were dependent on partners' goals. For all models in Figure 5, we tested whether partners' goals moderated the individual paths (i.e., not controlling for other variables in the models) between actors' responsiveness to partners and partners' perceptions of actors' responsiveness, using the strategy described in Study 1. Across daily, lagged, and pretest and posttest analyses, partners' goals did not moderate this association, compassionate goals: $-.09 < pr < .02$, all ns; self-image goals: $-.04 < pr < .02$, all ns. Again, actors' and partners' agreement about actors' responsiveness does not depend on partners' compassionate or self-image goals.

Does self-esteem or esteem for roommates explain these associations?: To rule out the possibility that esteem for roommates or self-esteem explained associations unique to the interpersonal model, we retested the links between actors' responsiveness to partners and partners' perceptions of actors' responsiveness, controlling for partners' self-esteem or esteem for roommates in separate analyses. We tested these links in all models in Figure 5 using the analytic strategy described previously. In the weekly data, we also tested whether partners' self-esteem or esteem for roommates accounted for associations between partners' daily perceptions of actors' responsiveness and partners' compassionate and self-image goals. Results remained unchanged in all 5 analyses.

Does self-esteem moderate these associations?: We also tested whether self-esteem moderated associations between actors' responsiveness and partners' perceptions of actors' responsiveness in all models and associations between partners' perceptions of actors' responsiveness and partners' compassionate and self-image goals in the weekly model. None of the 5 product terms tested were significant (all $prs < |.15|$, ns).

Do these associations differ by gender?: We tested whether gender moderated associations unique to the interpersonal models (i.e., paths from actors' responsiveness to partners to partners' perceptions of actors' responsiveness in daily, lagged-day, and change from pretest to posttest analyses; and paths from perceptions of actors' responsiveness to partners'

compassionate and self-image goals in daily analyses); gender did not moderate any of the 5 paths tested (all *pr*s < |.13|, ns).

Discussion

Study 2 results strongly support our overall hypothesis that people's goals can create their own and others' responsiveness and relationship quality. First, we replicated and extended the intrapersonal associations found in Study 1. Again, students' goals predicted their responsiveness to roommates, led them to project their responsiveness onto roommates, which then contributed to their goals and relationship quality. We found evidence for this process within days, from day to day, and across the study. Second, interpersonal results supported our hypothesis that students' goals predict their responsiveness to their roommates, which lead roommates' to feel responded to, which in turn lead to roommates' relationship quality and goals. In contrast to Study 1, interpersonal effects in Study 2 were quite clear, suggesting that these processes occur in a more immediate time frame (daily rather than weekly), possibly because in daily reports actors and partners are more likely to base their reports on the same events.

GENERAL DISCUSSION

People who perceive others as responsive become responsive themselves and perceive their partners as more responsive, leading to high quality relationships for both the partner and the self. But what creates perceived partner responsiveness in relationships? The studies reported here explore the processes that promote or undermine responsiveness over time. We incorporate and build on two models in the responsiveness literature: an intrapersonal projection model in which responsiveness predicts perceptions of others' responsiveness and one's own relationship outcomes (e.g., Lemay & Clark, 2008), and an interactive dyadic model in which actors' responsiveness to partners predicts partners' perceptions of actors' responsiveness (e.g., Reis & Shaver, 1988).

Indeed, our data are consistent with the hypothesis that students project their responsiveness onto their roommates. Across data sets, results consistently show that responsiveness to roommates strongly predicts perceptions of roommates' responsiveness (i.e., projection).[12] However, they also support the hypothesis that responsiveness is a dyadic process, as suggested by Reis and Shaver (1988) – in 5 of 6 models tested, actors' responsiveness to partners predicted partners' increased perceptions of actors' responsiveness. Approximately one-third of the total variance in responsiveness to roommates occurred at the dyad level (30% in Study 1 and 39% in Study 2). Just over one-third of the total variance in perceptions of roommates' responsiveness occurred at the dyad level (34% in Study 1 and 38% in Study 2). If responsiveness was strictly an individual projection phenomenon, then we should not find variance in responsiveness and perceptions of roommates' responsiveness at the dyad level. Because a portion of variance in responsiveness and perceptions of roommates' responsiveness occurs at the dyad level, and these roommates did not have a long relationship history or self-select into their roommate relationships, the portion of variance that occurs at the dyad level likely indicates dyadic processes. Given inconsistent findings in the literature regarding whether responsiveness is a real behavioral phenomenon, our data are important because they

[12]We also tested whether compassionate goals moderate projection (i.e., the relation between A's responsiveness and A's perceptions of Ps' responsiveness). In Study 1 weekly analyses, A's compassionate goals moderated this association, $pr = -.07$, $p < .05$, such that the association was stronger for lower compassionate goals, $pr = .38$, $p < .001$, than higher compassionate goals, $pr = .28$, $p < .001$. In Study 2 daily analyses, the product between A's compassionate goals and A's responsiveness was marginal, $pr = -.09$, $p < .07$. Again, the association was stronger for lower compassionate goals, $pr = .63$, $p < .001$, than higher compassionate goals, $pr = .55$, $p < .001$. Thus, these data are consistent with the hypothesis that goals moderate projection, such that projection is stronger when people have lower compassionate goals. However, they do not suggest that people never project when they have compassionate goals. They simply project less.

consistently support the hypothesis that responsiveness is a dyadic process, in addition to a process of projection.

Results from the current studies also suggest that interpersonal goals provide one avenue for creating responsiveness in relationships, initiating a self-perpetuating relation between goals and responsiveness projection and reciprocation, and demonstrate that these processes are dynamic and extend over time. We consider each of these contributions in turn.

Compassionate and Self-Image Goals Predict Responsiveness in Relationships

Although Reis and Shaver (1988) speculate that actors' goals and motives play a role in responsiveness processes, no research that we know of has examined these associations. Our data indicate that interpersonal goals can create or undermine responsiveness in close relationships. Across two studies, when people had compassionate goals, they became more responsive to relationship partners. When people had self-image goals, they became less responsive.

Our data show that interpersonal goals, particularly compassionate goals, predict responsiveness. Reis and Shaver's theorizing focused mainly on disclosure as the mechanism by which responsiveness is created -- actors reveal personally relevant thoughts and feelings to partners and when partners are responsive, actors perceive that responsiveness. Although empirical research supports the Reis and Shaver hypothesis that self-disclosures lead to perceptions of partners' responsiveness (Laurenceau et al., 1998; Laurenceau, Barrett, & Rovine, 2005; Manne et al., 2004), disclosure cannot explain associations between compassionate goals, responsiveness to roommates, and perceptions of roommates' responsiveness in these data. In Study 1, disclosure did not account for 10 of the 11 associations leading to responsiveness or perceptions of roommate's responsiveness. Thus, these data suggest that responding to partners is an alternative route to creating responsive partners, and that actors' goals to support partners out of concern for their well-being (versus trying to control what partners think of them) can begin this process. Through their compassionate and self-image goals, people create their own relationship experiences; when they are responsive to others, people project their responsiveness onto others, perceiving them as more responsive, with consequences for people's own relationship quality. Through their goals, people also create others' experiences; when, because of their interpersonal goals, people are responsive to partners, partners perceive their responsiveness, which has consequences for partners' relationship quality.

Perceptions of roommates' responsiveness did not explain why compassionate goals predict responsiveness to roommates. In only 1 of 6 analyses across both samples did the association between compassionate goals and responsiveness drop to nonsignificance when we controlled for perceptions of roommates' responsiveness. Thus, people with compassionate goals are not responsive simply because they reciprocate perceived responsiveness in their partners. Perceptions of roommates' responsiveness may, however, explain why self-image goals predict lower responsiveness. Perceptions of roommates' responsiveness accounted for the link between weekly self-image goals and responsiveness and between chronic self-image goals and change in responsiveness from pretest to posttest in Study 1. Thus, people with self-image goals are less responsive, apparently, because they perceive others as less responsive.

The association between compassionate goals and responsiveness to roommates was remarkably robust. We examined whether several potential confounds could explain the effects of compassionate goals on responsiveness to roommates. Neither support availability nor negative affect (i.e., anxiety and depression; Study 1) or self-esteem (Study 2) consistently accounted for associations between actors' compassionate goals, responsiveness, and perceptions of roommates' responsiveness, nor did they account for associations between

actors' responsiveness, partners' perceptions of actors' responsiveness, partners' responsiveness, and partners' goals.[13] We also examined whether negative affect in Study 1, or self-esteem in Study 2 moderated the effects of compassionate goals; they did not. The processes we describe – compassionate goals lead to increased responsiveness, which leads to both people's increased perceptions of the others responsiveness, which then leads to changes in both people's goals and partners' increased reciprocated responsiveness -- cannot be attributed to, nor do they depend on, affect or feeling that support is available. Compassionate goals appear to have unique implications for, responsiveness, perceptions of others' responsiveness, and change in people's own and partners' interpersonal goals and relationship quality.

In contrast, the effects of self-image goals on responsiveness to roommates were explained by perceived available support, anxiety, and depression in several analyses, although the effects were inconsistent across weekly, lagged, and pretest to posttest analyses (Study 1). These results suggest that self-image and compassionate goals relate to responsiveness to others through different processes. Self-image goals predict responsiveness through affect and feeling that support is available; compassionate goals predict responsiveness through some other process, unrelated to affect and available support.

Self-Perpetuating Associations between Goals and Responsiveness in Relationships

These studies provide strong evidence for a powerful self-perpetuating virtuous cycle from compassionate goals to responsiveness to relationship quality and subsequent goals. Across all analyses, compassionate goals predicted increased responsiveness and perceptions of roommates' responsiveness predicted increased compassionate goals in 10 of 12 analyses. Only two findings did not support an effect of perceptions of responsiveness on compassionate goals: first, in Study 1, change in perceptions of partners' responsiveness from pretest to posttest did not predict change in compassionate goals from pretest to posttest; second, in Study 2, change in perceptions of partners' responsiveness from Days 1 to 2 only marginally predicted increased compassionate goals from Days 1 to 3. Both of these exceptions occurred in intrapersonal models, suggesting that projection of responsiveness alone may not always be sufficient to create this mutually reinforcing process; it may depend on partners' responses or behaviors. Overall, these data support our hypothesis that compassionate goals perpetuate future compassionate goals in the self and others.

Of course, upward spirals of compassionate goals and responsiveness cannot continue indefinitely. Future research should address the conditions or situations that cause responsiveness dynamics to asymptote or reverse. We speculate that responsiveness uses attentional resources. Even when people want to support others, they may not always have the attentional capacity to be sensitive to others' emotional states. Thus, attentional demands may interrupt the upward spiral of compassionate goals and responsiveness. Furthermore, demands on partners' attention and partners' lack of motivation to be supportive may interrupt the interpersonal aspects of this upward spiral.

The present studies provide weaker evidence for a vicious cycle from self-image goals to responsiveness. Self-image goals predicted decreased responsiveness to roommates, but perceptions of responsiveness did not predict subsequent self-image goals. However, self-image goals may indirectly have consequences for future compassionate goals; self-image goals contribute to decreased responsiveness, which ultimately leads to decreased

[13]It is important to note that support accounts for the association between change in actors' responsiveness to partners and change in partners' perceptions of actors' responsiveness from pretest to posttest. This result may indicate that partners detect responsiveness through supportive behavior. However, we hesitate to overstate or over-interpret this finding because 1) it did not replicate in within-week or lagged-week analyses and 2) we did not specifically test mediation.

compassionate goals for both partners. Thus, the present studies more strongly indicate the benefits of one person's compassionate goals for both people's relationship quality than the detriments of self-image goals.

Responsiveness Processes are Dynamic and Extend over Time

The present studies demonstrate the dynamic nature of associations among goals, responsiveness reciprocation, and relationship quality over time. Perceptions of partners' responsiveness vary from interaction to interaction (e.g., Laurenceau et al., 1998), but little research has investigated whether and how these discrete interactions influence long-term relationship experiences. Both the intrapersonal and the interpersonal responsiveness processes in the present studies occurred within a day, and had lingering consequences over several days, suggesting the power of interpersonal goals to create lasting effects on responsiveness. Goals and responsiveness also have cumulative consequences over a semester. Roommates' chronic goals over weeks and months predicted long-term changes in both people's responsiveness and perceptions of the others' responsiveness, with consequences for both people's goals and relationship quality. Because they operate over the long-term, compassionate goals may create a foundation for enduring, sustainable high-quality relationships.

Examining these processes over different time periods also allowed us to rule out alternative explanations. Within-day and -week analyses suggest that these processes fluctuate within people and are not due to individual differences. For example, on days and weeks when people have higher compassionate goals, they are more responsive to roommates; on days and weeks when those same people have higher self-image goals they are less responsive to roommates. Individual differences (e.g., chronic goals, gender, or social desirability) cannot account for daily and weekly within-person fluctuations in these processes. The lagged analyses and tests of change from pretest to posttest indicate the plausibility of causal paths in these models. Overall, these data do not allow us to rule out causal paths from interpersonal goals to responsiveness to both people's perceptions of partners' responsiveness to both people's compassionate goals and relationship quality in daily assessment across 3 weeks. Tests of change across three weeks and a semester also speak to the cumulative effect of these processes over time. Students' chronic compassionate goals accumulate to predict long-term changes in responsiveness between roommates. Taken together, these data suggest that interpersonal goals may provide a potential point of intervention – changing people's daily and weekly goals toward others can change both people's experiences that day or week, and the following days and weeks, with potential consequences for long-term goal and relationship change.

As a methodological note, results of these studies suggest that the interpersonal processes captured by diary methods may depend on the length of diary intervals. Our data show that the links between actors' responsiveness to partners and partners' perceptions of actors' responsiveness differ depending on whether diaries were completed daily or weekly. In daily and lagged-day analyses (Study 2), roommates showed strong agreement on actors' responsiveness, suggesting that roommates were drawing from similar events in recalling and reporting their daily relationship experiences. However, we did not find strong actor-partner agreement in weekly assessments (Study 1). Specifically, in lagged-week analyses actors' Week 1 self-reported responsiveness did not predict change in partners' perceptions of actors' responsiveness from Weeks 1 to 2. Further, in pretest to posttest change analyses, the association between actors' responsiveness and partners' perceptions of actors' responsiveness became nonsignificant when we controlled for change in partners' perceived available support. These data suggest that participants report on similar events and experiences in daily reports, however there may be a disconnect between what actors report and what partners perceive when reporting their experiences over longer periods of time (in this case 1 week). Actors may recall their own intentions to be responsive to partners, but these may be independent of

partners' accounts, which may be based on roommates' supportive behaviors rather than perceptions of roommates' responsiveness. Thus, daily measures may capture each person's experiences, but weekly measures may capture each person's most salient or personally relevant experiences, which may differ for each relationship partner.

Responsiveness and Social Support

Responsiveness and support are theoretically distinct constructs; responsiveness involves tuning into and reacting to others' states, whereas support involves providing help, information, and assistance, but not necessarily attending to others' emotional and psychological needs. In the current data, only 2 of 17 significant associations in Figure 2 and Figure 3 could be explained by support, providing empirical evidence that support and responsiveness, although related, are distinct constructs. Previous work also suggests a distinction between support and responsiveness. For example, Collins and colleagues (Collins, Guichard, Ford, & Feeney, 2006) propose that effective caregiving (i.e., support) involves both responsiveness and sensitivity to partners' signals. Caregiving lacking either responsiveness or sensitivity to partners' signals is ineffective, consistent with our distinction between responsiveness and support. Whereas effective caregiving predicts improved perceived relationship quality, mood, and self-esteem for recipients, ineffective caregiving does not (Feeney, 2004;Feeney & Collins, 2003).

The distinction between support and responsiveness raises many questions about the nature and functions of support versus responsiveness. For example, is responsiveness a subset of support or vice versa? What consequences does each have for relationship outcomes and functioning, and for both relationship partners' mental and physical health? Theoretical and empirical distinctions between responsiveness and support may clarify their different effects and perhaps resolve issues such as why support is sometimes unhelpful.

Caveats

These studies are consistent with the hypotheses that interpersonal goals can promote or undermine reciprocal responsiveness between relationship partners and that process can lead to both partners' relationship quality and interpersonal goals. However, the generalizability of these findings to other types of relationships has yet to be established. The close relationships in these studies were relatively new and the processes shown here were relatively unaffected by relationship history or self-selection into relationships, making them ideally suited for examining relationship processes because they rule out several alternative explanations. We expect that these responsiveness dynamics apply to other types of relationships, for example, between romantic, family, or work dyads. Factors such as relationship history or being in a high-stakes relationship may attenuate or amplify the effects of goals. For example, in relationships with long histories, responsiveness may be affected more strongly by past events rather than by current goals or perceptions of partners' responsiveness. In high-stakes relationships, for example between firefighters whose lives depend on coworkers, the effects of goals may be amplified because the responsiveness of others to current needs may have life or death consequences. Of course, these are empirical questions to be addressed in future studies.

The nature of the samples may also limit the generalizability of the findings. Both samples were largely female (75% in Study 1 and 71% in Study 2). Despite the relatively small number of men, we tested whether gender moderated the associations found in both studies. Few associations differed by gender relative to the number of tests conducted -- only 2 of 40 product terms between the two samples were significant. Furthermore, results of these moderation analyses were inconsistent between samples – the two paths that were moderated by gender in Study 1 were not consistent between models and did not replicate in Study 2. Additional

research with larger samples involving more males would clarify the generalizability of the findings across genders.

Because goals and responsiveness were not manipulated, these studies do not enable us to specify causal relationships among variables. However, several aspects of the results are consistent with causal associations among the variables. Temporal associations among variables in the lagged-week and lagged-day analyses and tests of change from pretest to posttest are consistent with causal links in our path models. Although these effects could be due to unmeasured variables, we ruled out disclosure, social support, self-esteem, and esteem for roommates as alternative explanations. Both studies also provided evidence of an interpersonal process in which actors' goals and responsiveness lead to changes in partners' perceptions, behaviors, and goals. Overall, these results support the plausibility of a causal effect of interpersonal goals on responsiveness to roommates, reciprocal associations between people's responsiveness, and causal effects of perceived partners' responsiveness on relationship quality and interpersonal goals.

Finally, although exploratory and confirmatory factor analyses across samples suggest that compassionate goals, responsiveness to roommates, perceptions of roommates' responsiveness, and relationship quality are separate constructs, examination of zero-order correlations in Table 1 and Table 3 suggest a relatively high degree of overlap between these variables. This may lead some to question our findings. However, it is important to remember that our analyses assess *change in these constructs over time*. If our goals, responsiveness, and relationship quality measures did, in fact, tap the same construct, tests of change would not be as strong or consistent across analyses and samples. At best, we would expect instability in our effects (e.g., compassionate goals would carry significant variance in some cases, but not others).

That said, we acknowledge this limitation and suggest that future research include more specific measures of responsiveness to others and perceptions of others' responsiveness. In this research, we used standard measures of responsiveness, which included items assessing both participants' intentions (i.e., what they were trying to do) and behaviors (i.e., what they actually did). Given that our goals measure captures intentions, it is not surprising that these scales were strongly correlated. Future research should distinguish between enacted responsiveness and responsive intentions.

Additional Theoretical Mechanisms

Overall, results from these two studies support our argument that interpersonal goals lead to both people's relationship quality through the projection of responsiveness and responsiveness dynamics between relationship partners. However, these results generate additional questions, including how interpersonal goals lead to responsiveness and how responsiveness is communicated between partners. We suggest that goals translate to responsiveness through affect and constructive and destructive beliefs about relationship problems.

When people have self-image goals, they report feeling afraid and confused when interacting with their roommates (e.g., Crocker & Canevello, 2008) and endorse unconstructive beliefs about relationships (e.g,. believing that people should take care of themselves, even at the expense of others and blaming the other person for relationship problems; Canevello & Crocker, 2009; Crocker & Canevello, 2008). We suggest that when people have compassionate goals, fear, confusion, and unconstructive beliefs about relationship problems render them insensitive to partners' needs, resulting in decreased responsiveness.

When people have compassionate goals, they report feeling caring and connected when they interact with their roommates, (e.g., Crocker & Canevello, 2008) and they endorse constructive

beliefs about relationship problems (e.g., believing that people should take care of each other and sharing responsibility for relationship problems; Canevello & Crocker, 2009; Crocker & Canevello, 2008). We suggest that when people have compassionate goals, caring, connection, and constructive beliefs about relationship problems lead to a heightened sensitivity to partners' needs, resulting in increased responsiveness.

We also suggest that responsiveness is communicated to relationship partners through responsive support behaviors (e.g., Collins & Feeney, in press). That is, partners' perceptions of actors' responsiveness should depend on the match between actors' behaviors and partners' needs. When actors' responsive behaviors attend to partners' needs, partners should report higher perceptions of actors' responsiveness. When actors' responsive behaviors do not address supports sought by partners, partners should report lower perceptions of actors' responsiveness.

Conclusion

Perceived partner responsiveness is a core feature of close, satisfying relationships and can be created in at least two ways: through an intrapersonal process of projecting own responsiveness onto others or through an interpersonal process whereby people's reported responsiveness is perceived by partners. But how does responsiveness originate? Our findings suggest that people's interpersonal goals (to either support others or construct and maintain desired images of the self) can initiate or inhibit responsiveness and its projection and reciprocation in relationships, which predicts relationship quality and reinforces interpersonal goals for both relationship partners. In light of these data, we suggest that people not only can create the types of relationships that they want - those characterized by high responsiveness, and consequently, higher quality, but they also can create responsive, high quality relationships for others.

Acknowledgments

The project described was supported by Grant Number R01MH058869 from the National Institute of Mental Health. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute of Mental Health or the National Institutes of Health.

We are grateful to Samir Adhia, Laura Diskin, George Payapilly, Cristina Popa, Robby Uppal, Megan Villwock, and Claire Woodward for their assistance with data collection and to Riia Luhtanen, Kate Oddi, Juliana G. Breines, Dominik Mischkowski, and Mary Liu for their invaluable assistance in both of these studies. We are also grateful to our friends at Learning as Leadership for inspiring our research on self-image and compassionate goals.

References

Abbey A, Andrews FM, Halman LJ. Provision and receipt of social support and disregard: What is their impact on the marital life quality of infertile and fertile couples? Journal of Personality and Social Psychology 1995;68:455–469. [PubMed: 7714725]

Aiken, LS.; West, SG. Multiple Regression: Testing and Interpreting Interactions. Newbury Park: Sage; 1991.

Baumeister RF, Leary MR. The need to belong: Desire for interpersonal attachments as a fundamental human motivation. Psychological Bulletin 1995;117:497–529. [PubMed: 7777651]

Berg JH, Archer RL. Responses to self-disclosure and interaction goals. Journal of Experimental Social Psychology 1982;18:501–512.

Bolger N, Zuckerman A, Kessler RC. Invisible support and adjustment to stress. Journal of Personality and Social Psychology 2000;79:953–961. [PubMed: 11138764]

Bowlby, J. Attachment and loss: Vol. 1. Attachment. New York: Basic Books; 1969.

Brown SL, Brown RM. Selective investment theory: Recasting the functional significance of close relationships. Psychological Inquiry 2006;17:1–29.

Campbell L, Kashy DA. Estimating actor, partner, and interaction effects for dyadic data using PROC MIXED and HLM: A user-friendly guide. Personal Relationships 2002;9:327–342.

Campbell L, Simpson JA, Boldry J, Kashy DA. Perceptions of conflict and support in romantic relationships: The role of attachment anxiety. Journal of Personality and Social Psychology 2005;88:510–531. [PubMed: 15740443]

Canevello, A.; Crocker, J. University of Michigan; 2009. Interpersonal goals predict constructive beliefs about relationships.

Clark, MS.; Fitness, J.; Brissette, I. Understanding people's perceptions of relationships is crucial to understanding their emotional lives. In: Brewer, MB.; Hewstone, M., editors. Emotion and motivation. Malden, MA: US: Blackwell Publishing; 2004. p. 21-46.

Clark MS, Mills J. The difference between communal and exchange relationships: What it is and is not. Personality and Social Psychology Bulletin 1993;19:684–691.

Clark, MS.; Monin, JK. Giving and receiving communal responsiveness as love. In: Sternberg, RJ.; Weis, K., editors. The new psychology of love. New Haven, CT: US: Yale University Press; 2006. p. 200-221.

Collins NL, Feeney BC. A safe haven: An attachment theory perspective on support seeking and caregiving in intimate relationships. Journal of Personality and Social Psychology 2000;78:1053–1073. [PubMed: 10870908]

Collins, NL.; Feeney, BC. An attachment theoretical perspective on social support dynamics in couples: Normative processes and individual differences. In: Sullivan, K.; Davila, J., editors. Support Processes in Intimate Relationships. Oxford: University Press; (in press)

Collins, NL.; Guichard, AC.; Ford, MiB; Feeney, BC. Responding to need in intimate relationships: Normative processes and individual differences. In: Mikulincer, M.; Goodman, GS., editors. Dynamics of romantic love: Attachment, caregiving, and sex. New York, NY: US: Guilford Press; 2006. p. 149-189.

Crocker J, Canevello A. Creating and undermining social support in communal relationships: The roles of compassionate and self-image goals. Journal of Personality and Social Psychology 2008;95:555–575. [PubMed: 18729694]

Cutrona CE, Hessling RM, Suhr JA. The influence of husband and wife personality on marital social support interactions. Personal Relationships 1997;4:379–393.

Cutrona CE, Shaffer PA, Wesner KA, Gardner KA. Optimally matching support and perceived spousal sensitivity. Journal of Family Psychology 2007;21:754–758. [PubMed: 18179347]

Davis, D. Determinants of responsiveness in dyadic interaction. In: Ickes, W.; Knowles, ES., editors. Personality, Roles, and Social Behavior. New York: Springer-Verlag; 1982.

Enders CK, Tofighi D. Centering predictor variables in cross-sectional multilevel models: A new look at an old issue. Psychological Methods 2007;12:121–138. [PubMed: 17563168]

Feeney BC. A secure base: Responsive support of goal strivings and exploration in adult intimate relationships. Journal of Personality and Social Psychology 2004;87:631–648. [PubMed: 15535776]

Feeney BC, Collins NL. Motivations for caregiving in adult intimate relationships: Influences on caregiving behavior and relationship functioning. Personality and Social Psychology Bulletin 2003;29:950–968. [PubMed: 15189615]

Fincham FD, Beach SRH. Marriage in the new millennium: Is there a place for social cognition in marital research? Journal of Social and Personal Relationships 1999;16:685–704.

Fruzzetti, AE.; Jacobson, NS.; Blechman, EA. Emotions and the family: For better or for worse. Hillsdale, NJ, England: Lawrence Erlbaum Associates, Inc; 1990. Toward a behavioral conceptualization of adult intimacy: Implications for marital therapy; p. 117-135.

Gable, SL.; Reis, HT. Intimacy and the self: An iterative model of the self and close relationships. In: Noller, P.; Feeney, JA., editors. Close relationships: Functions, forms and processes. Hove, England: Psychology Press/Taylor & Francis (UK); 2006. p. 211-225.

Gleason MEJ, Iida M, Bolger N, Shrout PE. Daily supportive equity in close relationships. Personality and Social Psychology Bulletin 2003;29:1036–1045. [PubMed: 15189621]

Gore JS, Cross SE, Morris ML. Let's be friends: Relational self-construal and the development of intimacy. Personal Relationships 2006;13:83–102.

Gottman JM, Levenson RW. Marital processes predictive of later dissolution: Behavior, physiology, and health. Journal of Personality and Social Psychology 1992;63:221–233. [PubMed: 1403613]

Greene, K.; Derlega, VJ.; Mathews, A.; Vangelisti, AL.; Perlman, D. The Cambridge handbook of personal relationships. New York, NY: US: Cambridge University Press; 2006. Self-disclosure in personal relationships; p. 409-427.

Griffin D, Gonzalez R. Correlational analysis of dyad-level data in the exchangeable case. Psychological Bulletin 1995;118:430–439.

Helgeson VS, Fritz HL. A theory of unmitigated communion. Personality and Social Psychology Review 1998;2:173–183. [PubMed: 15647153]

Kashy DA, Donnellan MB, Burt SA, McGue M. Growth curve models for indistinguishable dyads using multilevel modeling and structural equation modeling: The case of adolescent twins' conflict with their mothers. Developmental Psychology 2008;44:316–329. [PubMed: 18331125]

Kelley, HH.; Berscheid, E.; Christensen, A.; Harvey, JH.; Huston, TL.; Levinger, G., et al. Analyzing close relationships. In: Kelley, HH.; Berscheid, E.; Christensen, A.; Harvey, JH.; Huston, TL.; Levinger, G.; McClintock, E.; Peplau, LA.; Peterson, DR., editors. Close Relationships. New York: Freeman; 1983. p. 20-67.

Kelley, HH.; Thibaut, JW. Interpersonal relations : A theory of interdependence. New York: Wiley; 1978.

Kenny DA. Cross-lagged panel correlation: A test for spuriousness. Psychological Bulletin 1975;82:887–903.

Kenny DA, Acitelli LK. Accuracy and bias in the perception of the partner in a close relationship. Journal of Personality and Social Psychology 2001;80:439–448. [PubMed: 11300577]

Kenny, DA.; Kashy, DA.; Cook, WL. Dyadic data analysis. New York, NY: US: Guilford Press; 2006.

Kreft, I.; de Leeuw, J. Introducing Multilevel Modeling. London: Sage; 1998.

Laurenceau J-P, Barrett LF, Pietromonaco PR. Intimacy as an interpersonal process: The importance of self-disclosure, partner disclosure, and perceived partner responsiveness in interpersonal exchanges. Journal of Personality and Social Psychology 1998;74:1238–1251. [PubMed: 9599440]

Laurenceau J-P, Barrett LF, Rovine MJ. The interpersonal process model of intimacy in marriage: A daily-diary and multilevel modeling approach. Journal of Family Psychology 2005;19:314–323. [PubMed: 15982109]

Laurenceau, J-P.; Rivera, LM.; Schaffer, AR.; Pietromonaco, PR.; Mashek, DJ.; Aron, AP. Handbook of closeness and intimacy. Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers; 2004. Intimacy as an interpersonal process: Current status and future directions; p. 61-78.

Leary, MR. Self-presentation: Impression management and interpersonal behavior. Madison, WI: US: Brown & Benchmark Publishers; 1995.

Lemay EP Jr, Clark MS. How the head liberates the heart: Projection of communal responsiveness guides relationship promotion. Journal of Personality and Social Psychology 2008;94:647–671. [PubMed: 18361677]

Lemay EP Jr, Clark MS, Feeney BC. Projection of responsiveness to needs and the construction of satisfying communal relationships. Journal of Personality and Social Psychology 2007;92:834–853. [PubMed: 17484608]

Manne S, Ostroff J, Rini C, Fox K, Goldstein L, Grana G. The interpersonal process model of intimacy: The role of self-disclosure, partner disclosure, and partner responsiveness in interactions between breast cancer patients and their partners. Journal of Family Psychology 2004;18:589–599. [PubMed: 15598164]

Mikulincer M, Shaver PR, Gillath O, Nitzberg RA. Attachment, Caregiving, and Altruism: Boosting Attachment Security Increases Compassion and Helping. Journal of Personality and Social Psychology 2005;89(5):817–839. [PubMed: 16351370]

Miller LC, Berg JH, Archer RL. Openers: Individuals who elicit intimate self-disclosure. Journal of Personality and Social Psychology 1983;44:1234–1244.

Mills, J.; Clark, MS. Exchange and communal relationships. In: Wheeler, L., editor. Review of personality and social psychology. Vol. Vol. 3. Beverly Hills, CA: Sage; 1982. p. 121-144.

Murray SL, Griffin DW, Rose P, Bellavia GM. Calibrating the sociometer: The relational contingencies of self-esteem. Journal of Personality and Social Psychology 2003;85:63–84. [PubMed: 12872885]

Murray SL, Holmes JG, Collins NL. Optimizing assurance: The risk regulation system in relationships. Psychological Bulletin 2006;132:641–666. [PubMed: 16910746]

Murray SL, Rose P, Bellavia GM, Holmes JG, Kusche AG. When rejection stings: How self-esteem constrains relationship-enhancement processes. Journal of Personality and Social Psychology 2002;83:556–573. [PubMed: 12219854]

Patterson ML. An arousal model of interpersonal intimacy. Psychological Review 1976;83:235–245.

Plickert G, Côté RR, Wellman B. It's not who you know, it's how you know them: Who exchanges what with whom? Social Networks 2007;29:405–429.

Raudenbush, SW.; Bryk, AS. Hierarchical linear models: Applications and data analysis methods. (Second ed.). Thousand Oaks: Sage; 2002.

Reis, HT.; Clark, MS.; Holmes, JG. Perceived partner responsiveness as an organizing construct in the study of intimacy and closeness. In: Mashek, DJ.; Aron, AP., editors. Handbook of closeness and intimacy. Mahwah, NJ: US: Lawrence Erlbaum Associates Publishers; 2004. p. 201-225.

Reis, HT.; Patrick, BC. Attachment and intimacy: Component processes. In: Higgins, ET.; Kruglanski, AW., editors. Social psychology: Handbook of basic principles. New York, NY: US: Guilford Press; 1996. p. 523-563.

Reis, HT.; Shaver, P. Intimacy as an interpersonal process. In: Duck, S.; Hay, DF.; Hobfoll, SE.; Ickes, W.; Montgomery, BM., editors. Handbook of personal relationships: Theory, research and interventions. Oxford, England: John Wiley & Sons; 1988. p. 367-389.

Rogosa D. A critique of cross-lagged correlation. Psychological Bulletin 1980;88:245–258.

Rosenberg, M. Society and the adolescent self-image. Princeton, NJ: Princeton University Press; 1965.

Rosenthal, R.; Rosnow, R. Essentials of behavioral reserach: Methods and data analysis. (2nd ed.). New York: McGraw-Hill; 1991.

Rusbult CE, Verette J, Whitney GA, Slovik LF, Lipkus I. Accommodation processes in close relationships: Theory and preliminary empirical evidence. Journal of Personality and Social Psychology 1991;60:53–78.

Sarason BR, Shearin EN, Pierce GR, Sarason IG. Interrelations of social support measures: Theoretical and practical implications. Journal of Personality and Social Psychology 1987;52:813–832.

Sarason IG, Pierce GR, Sarason BR. Social support and interactional processes: A triadic hypothesis. Journal of Social and Personal Relationships 1990;7:495–506.

Spielberger, CD.; Vagg, PR.; Barker, LR.; Donham, GW.; Westberry, LG., editors. The factor structure of the state-trait anxiety inventory. Vol. Vol. 7. Washington, D. C: Hemisphere; 1980.

Uchino, BN. Social support and physical health: Understanding the health consequences of relationships. New Haven, CT: US: Yale University Press; 2004.

Uchino BN, Cacioppo JT, Kiecolt-Glaser JK. The relationship between social support and physiological processes: A review with emphasis on underlying mechanisms and implications for health. Psychological Bulletin 1996;119:488–531. [PubMed: 8668748]

Vinokur A, Schul Y, Caplan RD. Determinants of perceived social support: Interpersonal transactions, personal outlook, and transient affective states. Journal of Personality and Social Psychology 1987;53:1137–1145. [PubMed: 3694453]

West, SG.; Biesanz, JC.; Pitts, SC., editors. Causal inference and generalization in field settings: Experimental and quasi-experimental designs. Cambridge University Press; 2000.

Zimet GD, Dahlem NW, Zimet SG, Farley GK. The multidimensional scale of perceived social support. Journal of Personality Assessment 1988;52:30–41.

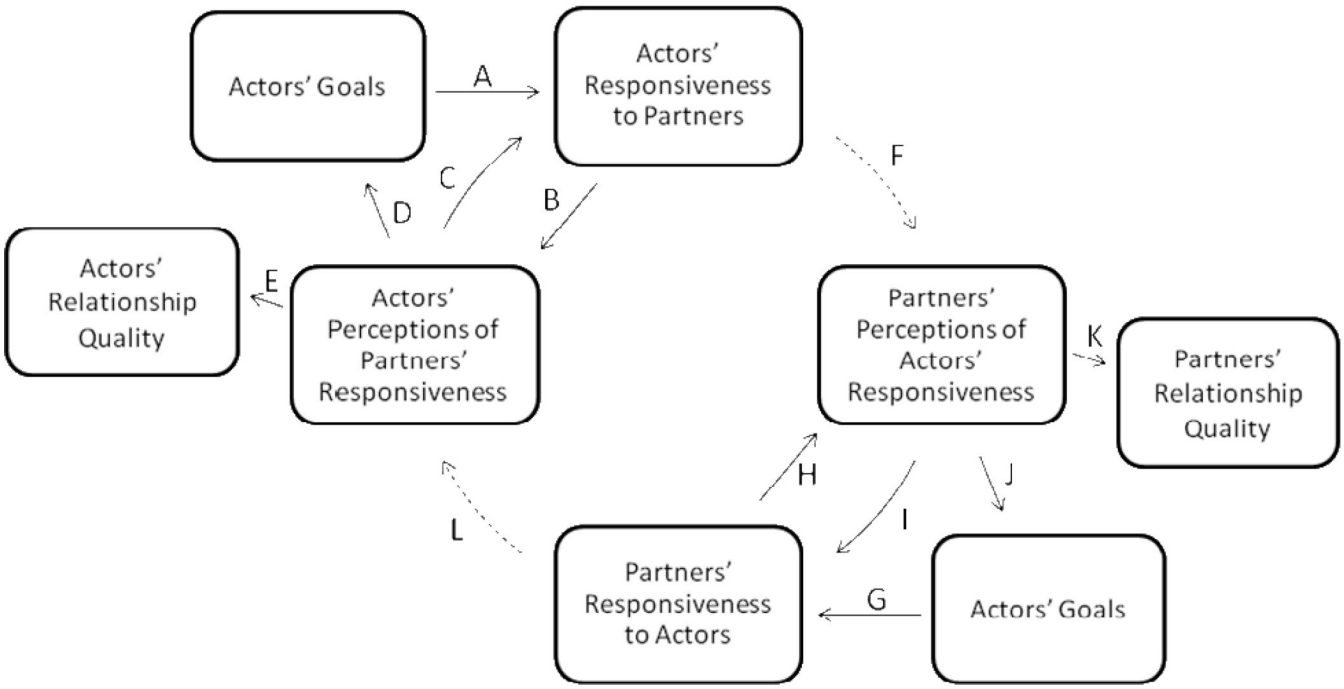

Figure 1.
Hypothesized theoretical model of interpersonal goals, responsiveness, and relationship quality.

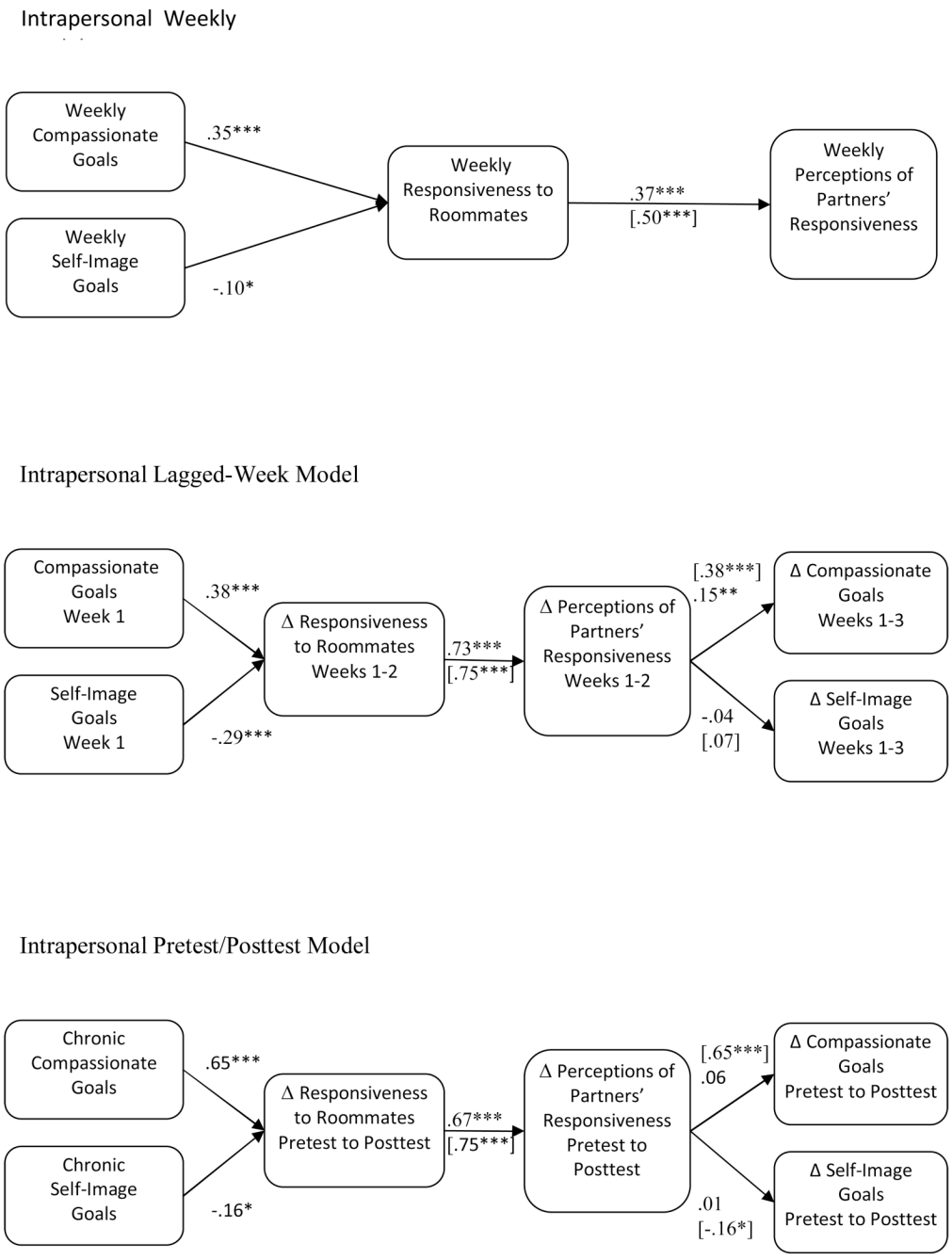

Figure 2.

Study 1: Intrapersonal (within-person) path analyses of weekly, lagged-week, and pretest and posttest data. NOTE: All estimates are partial correlations; estimates in brackets indicate test of the individual path, not controlling for previous paths in the model. *** $p < .001$, ** $p < .01$, * $p < .05$.

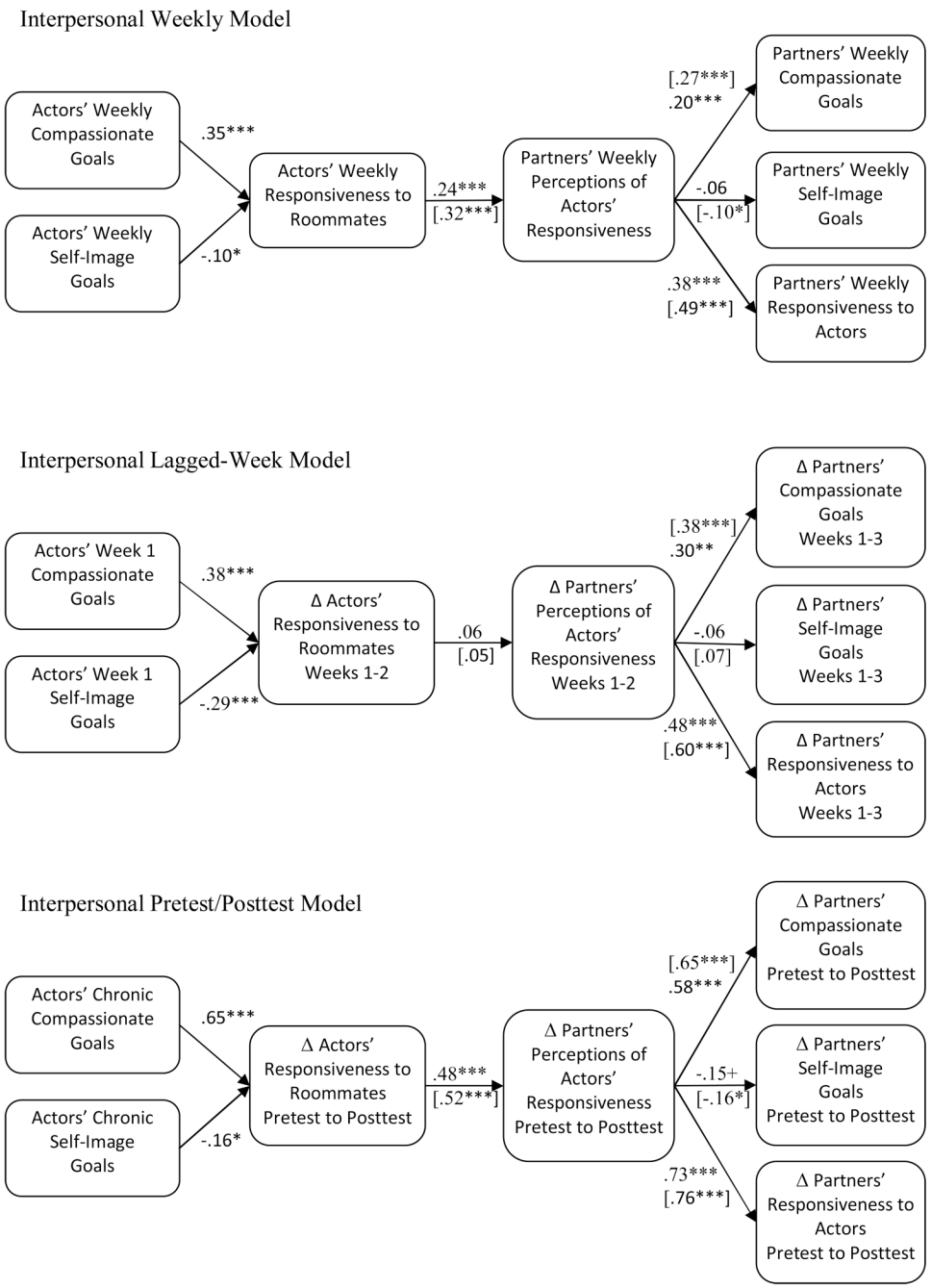

Figure 3.

Study 1: Interpersonal (between-person) path analyses of weekly, lagged-week, and pretest and posttest data. NOTE: All estimates are partial correlations; estimates in brackets indicate test of the individual path, not controlling for previous paths in the model. *** $p < .001$, ** $p < .01$, * $p < .05$.

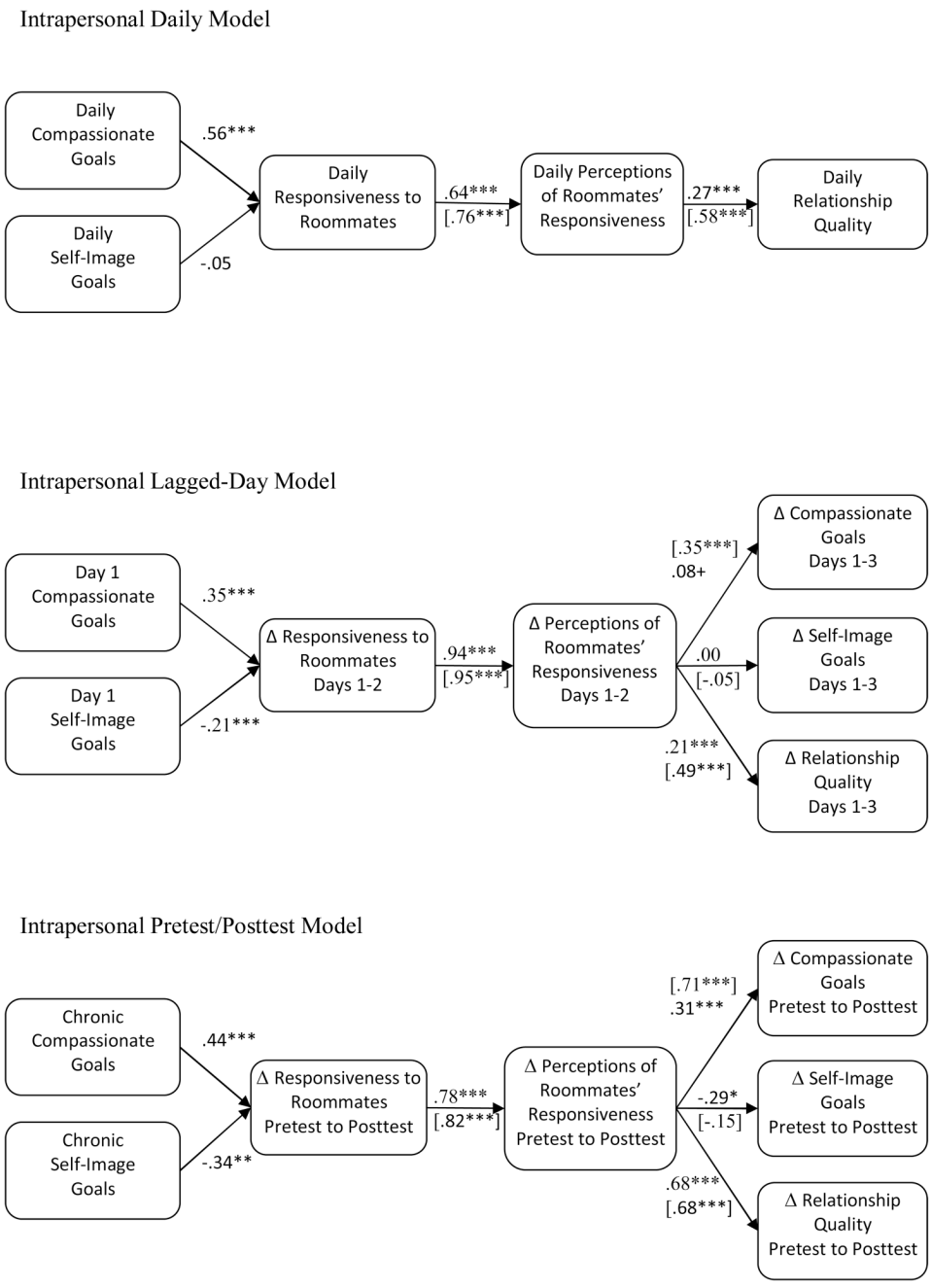

Figure 4.

Study 2: Intrapersonal (within-person) path analyses of daily, lagged-day, and pretest and posttest data. NOTE: All estimates are partial correlations; estimates in brackets indicate test of the individual path, not controlling for previous paths in the model. *** $p < .001$, ** $p < .01$, * $p < .05$.

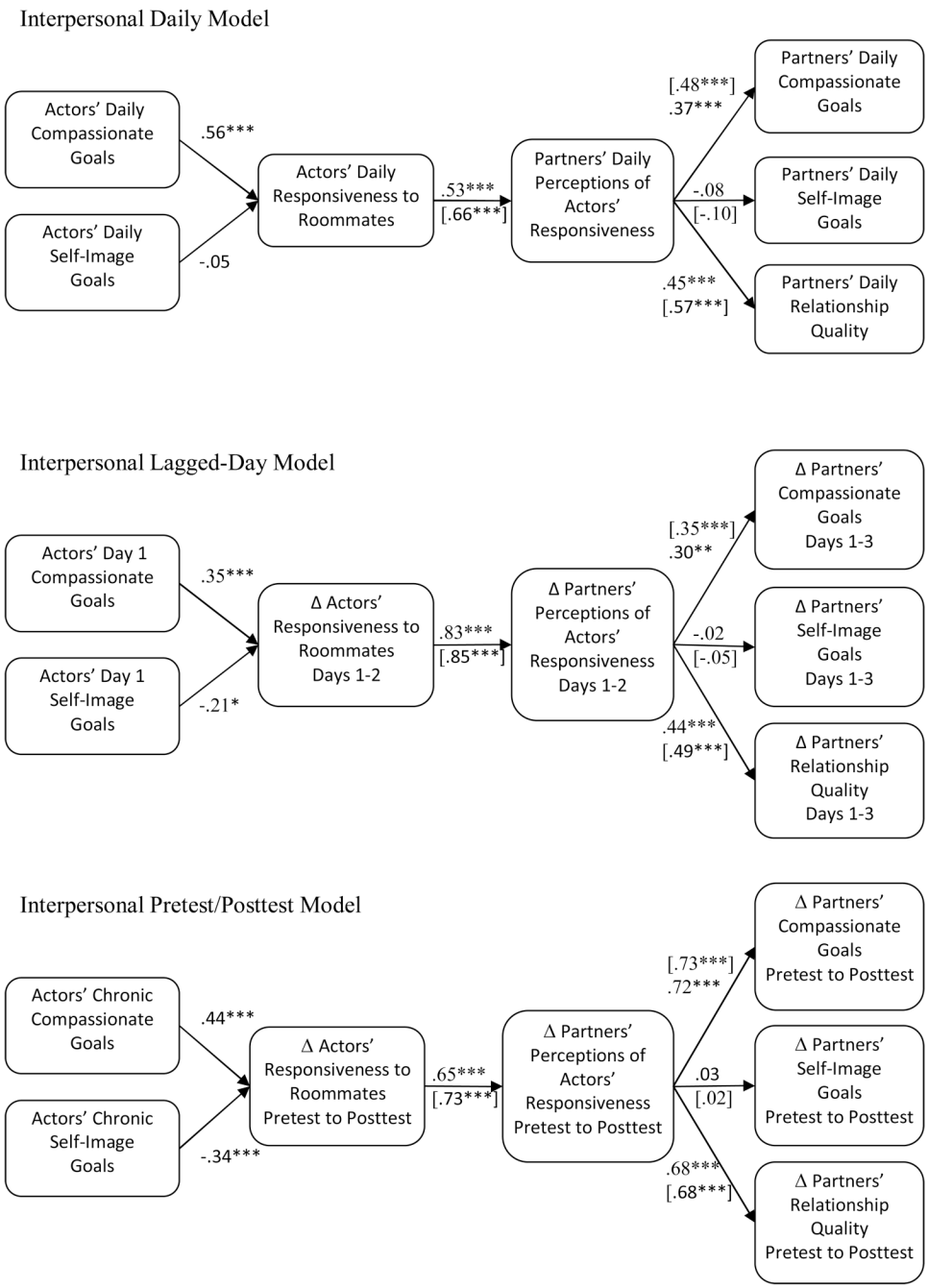

Figure 5.

Study 2: Interpersonal (between-person) path analyses of daily, lagged-day, and pretest and posttest data. NOTE: All estimates are partial correlations; estimates in brackets

Table 1

Study 1 means, standard deviations, and intrapersonal intraclass correlations for all primary pretest, posttest, and mean weekly variables.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	*M* (*SD*)
1. Pretest Compassionate Goals												4.04 (.50)
2. Pretest Self-Image Goals	−.22***											2.53 (.68)
3. Pretest Responsiveness to Roommates	.56***	−.28***										4.37 (.61)
4. Pretest Perceptions of Roommates' Responsiveness	.47***	−.30***	.62***									4.17 (.74)
5. Posttest Compassionate Goals	.49***	−.17*	.42***	.38***								3.89 (.82)
6. Posttest Self-Image Goals	−.02	.54***	−.13	−.20**	−.14*							2.36 (.77)
7. Posttest Responsiveness to Roommates	.35***	−.18**	.38***	.38***	.84***	−.20**						4.16 (.85)
8. Posttest Perceptions of Roommates' Responsiveness	.24***	−.11	.29***	.42***	.67***	−.19**	.79***					3.99 (.97)
9. Chronic Compassionate Goals	.69***	−.24***	.54***	.50***	.84***	−.11	.70***	.55***				3.87 (.61)
10. Chronic Self-Image goals	−.14*	.68***	−.20**	−.23***	−.21**	.88***	−.23***	−.21**	−.23***			2.38 (.67)
11. Chronic Responsiveness to oommates	.51***	−.28***	.57***	.57***	.75***	−.20**	.75***	.70***	.82***	−.30***		4.03 (.70)
12. Chronic Perceptions of Roommates' Responsiveness	.41***	−.26***	.47***	.65***	.65***	−.24***	.69***	.81***	.71***	−.30***	.86***	3.92 (.81)

*** $p < .001$

** $p < .01$

* $p < .05$

N = 230 at pretest, N = 218 at posttest. Chronic scores were calculated by averaging across the weekly reports. Self-image and compassionate goals were measured on a scale ranging from 1 (never) to 5 (always). Responsiveness to roommates and perceptions of roommates' responsiveness were measured on a scale ranging from 1 (not at all) to 5 (very much).

Table 2

Study 1 interpersonal (i.e. actor-partner) intraclass correlations for all pretest, posttest, and mean weekly variables.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Pretest Compassionate Goals	.24*											
2. Pretest Self-Image Goals	−.11	.02										
3. Pretest Responsiveness to Roommates	.20**	−.08	.13									
4. Pretest Perceptions of Roommates' Responsiveness.	.25***	−.11	.22**	.25**								
5. Posttest Compassionate Goals	.13	−.05	.10	.18*	.22*							
6. Posttest Self-Image Goals	−.08	−.01	−.14*	−.07	−.09	.07						
7. Posttest Responsiveness to Roommates .	.06	−.03	.10	.18*	.22*	−.10	.32***					
8. Posttest Perceptions of Roommates' Responsiveness .	.02	.02	.03	.14	.22**	−.10	.28**	.34***				
9. Chronic Compassionate Goals	.23**	−.10	.19*	.26***	.20*	−.14*	.20*	.17*	.30**			
10. Chronic Self-Image goals	−.10	.01	−.09	−.09	−.11	.04	−.10	−.08	−.12	.00		
11. Chronic Responsiveness to Roommates .	.21**	−.13	.15	.26***	.24**	−.19**	.25**	.21*	.33***	−.16*	.33***	
12. Chronic Perceptions of Roommates' Responsiveness	.15*	−.07	.14	.27***	.23**	−.14*	.26**	.29**	.30***	−.12	.35***	.43***

*** $p < .001$

** $p < .01$

* $p < .05$.

N = 230 at pretest, N = 218 at posttest. Chronic scores were calculated by averaging across the weekly reports. Self-image and compassionate goals were measured on a scale ranging from 1 (never) to 5 (always). Responsiveness to roommates and perceptions of roommates' responsiveness were measured on a scale ranging from 1 (not at all) to 5 (very much).

Table 3

Study 2 means, standard deviations, and intrapersonal intraclass correlations for all pretest, posttest, and mean daily variables.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	*M* (*SD*)
1. Pretest Compassionate Goals															4.04 (.60)
2. Pretest Self-Image Goals	.12														2.69 (.66)
3. Pretest Responsiveness	.47***	−.15*													4.23 (.58)
4. Pretest Roommate Responsiveness	.47***	−.11	.80***												4.07 (.69)
5. Pretest Relationship Quality	.34***	−.22***	.62***	.73***											.00 (.74)
6. Posttest Compassionate Goals	.29***	−.25***	.43***	.34***	.37***										3.86 (.75)
7. Posttest Self-Image Goals	−.04	.50***	−.02	−.04	−.10	−.16*									2.34 (.82)
8. Posttest Responsiveness	.31***	−.30***	.58***	.48***	.51***	.75***	−.23***								4.14 (.73)
9. Posttest Roommate Responsiveness	.28***	−.26***	.55***	.55***	.54***	.76***	−.15*	.86***							3.99 (.84)
10. Posttest Relationship Quality	.12	−.26***	.45***	.51***	.76***	.59***	−.11	.58***	.75***						.00 (.78)
11. Chronic Compassionate Goals	.35***	−.06	.56***	.49***	.49***	.70***	.03	.56***	.58***	.47***					3.33 (.81)
12. Chronic Self-Image goals	−.03	.45***	.04	−.01	.04	−.06	.76***	−.13*	−.06	−.00	.28***				2.11 (.68)
13. Chronic Responsiveness	.32***	−.25***	.67***	.59***	.63***	.66***	−.11	.75***	.76***	.61***	.85***	.07			3.72 (.66)
14. Chronic Roommate Responsiveness	.29***	−.25***	.63***	.65***	.65***	.62***	−.18**	.70***	.77***	.67***	.78***	−.03	.93***		3.67 (.65)

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	*M* (*SD*)
15. Chronic Relationship Quality	.23***	−.25***	.52***	.57***	.73***	.47***	−.05	.50***	.62***	.71***	.62***	.12	.73***	.75***	−.01 (.48)

*** $p < .001$

** $p < .01$

* $p < .05$.

N = 130 at pretest, N = 124 at posttest. Chronic scores were calculated by averaging across the 21 daily reports. Responsiveness to the roommate and roommate responsiveness was measured on a scale ranging from 1 (not at all) to 5 (very much). Relationship quality was standardized. Chronic self-image and compassionate goals were measured on a scale ranging from 1 (never) to 5 (always).

Table 4

Study 2 interpersonal (i.e. actor-partner) intraclass correlations for all pretest, posttest, and mean daily variables.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1. Pretest Compassionate Goals	.09														
2. Pretest Self-Image Goals	−.21***	.05													
3. Pretest Responsiveness to Roommates	.13	−.20**	.31***												
4. Pretest Perceptions of Roommates' Responsiveness	.16*	−.15*	.35***	.39***											
5. Pretest Relationship Quality	.19**	−.17*	.43***	.48***	.59***										
6. Posttest Compassionate Goals	.21***	−.14*	.25***	.26***	.27***	.10									
7. Posttest Self-Image Goals	−.09	−.02	−.02	−.01	−.07	−.22***	.14								
8. Posttest Responsiveness to Roommates	.22***	−.17*	.25***	.28***	.31***	.22**	−.11	.28***							
9. Posttest Perceptions of Roommates' Responsiveness	.20**	−.23***	.26***	.30***	.37***	.21**	−.21***	.26**	.26**						
10. Posttest Relationship Quality	.07	−.15*	.30***	.32***	.44***	.14	−.18**	.20**	.23**	.30***					
11. Chronic Compassionate Goals	.21**	−.16*	.41***	.39***	.43***	.19*	−.13*	.33***	.34***	.31***	.36***				
12. Chronic Self-Image Goals	−.09	−.04	−.02	.04	.04	−.18**	.13	−.01	−.07	−.05	−.02	.17			
13. Chronic Responsiveness to Roommates	.18**	−.21***	.42***	.39***	.44***	.26***	−.11	.35***	.35***	.34***	.45***	.00	.52***		

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
14. Chronic Perceptions of Roommate Responsiveness	.17*	−.16*	.43***	.40***	.47***	.28***	−.17*	.35***	.37***	.36***	.46***	−.03	.53***	.53***	
15. Chronic Relationship Quality	.04	−.23***	.34***	.35***	.48***	.21**	−.14*	.27***	.32***	.38***	.43***	.03	.46***	.46***	.51***

*** $p < .001$

** $p < .01$

* $p < .05$

N = 130 at pretest, N = 124 at posttest. Chronic scores were calculated by averaging across the 21 daily reports. Responsiveness to the roommate and roommate responsiveness was measured on a scale ranging from 1 (not at all) to 5 (very much). Relationship quality was standardized. Chronic self-image and compassionate goals were measured on a scale ranging from 1 (never) to 5 (always).