Article

Coregulation in Romantic Partners' Attachment Styles: A Longitudinal Investigation

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Nathan W. Hudson[1], R. Chris Fraley[1], Claudia Chloe Brumbaugh[2], and Amanda M. Vicary[3]

Abstract

The goal of the present research was to examine the coregulation of partner-specific attachment security in romantic relationships. We studied a sample of 172 couples 5 times over 1 year. At each assessment wave, partners independently completed a self-report measure of their security in the relationship. We operationalized attachment coregulation both as direct impacts (i.e., prospective effects of one partner on the other) and coordination (i.e., correlated changes across time). Results indicated that, after taking into account people's prototypical levels of security, changes in security were coordinated within couples.

Keywords

adult attachment, close relationships, coregulation, personality processes

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Previous research has found that attachment styles tend to be correlated within romantic couples (e.g., Collins & Read, 1990; Strauss, Morry, & Kito, 2012). Specifically, individuals who are relatively secure tend to be partnered with others who are also relatively secure. Why do romantic partners tend to be similar with respect to their attachment styles? One possibility is that people may initiate relationships with others who have attachment styles similar to their own (Holmes & Johnson, 2009). Because attachment styles are relatively stable dispositional factors (Fraley, Vicary, Brumbaugh, & Roisman, 2011), this initial congruence between partners may persist throughout the duration of the relationship, producing enduring within-couple similarity. However, this explanation is likely incomplete, as previous research indicates that attachment styles, despite having a stable component, are nonetheless quite variable (Baldwin & Fehr, 1995; Pierce & Lydon, 2001). The observation that people experience changes in their attachment styles, combined with the observation that partners tend to be similar to one another in their attachment styles, suggests the possibility that the changes people experience may be *coregulated* within couples.

A number of scholars have proposed that coregulation is a fundamental psychological dynamic in attachment relationships (Field, 1985; Hofer, 1984; Sbarra & Hazan, 2008). From this perspective, adults who share an attachment bond have the potential to function as a coordinated system, responding in similar ways to shared experiences and potentially serving as anchors for one another by shaping and constraining each other's felt attachment security. Although this hypothesis has not been directly tested, research shows that within-couple coregulation occurs in non-attachment domains. For example, Butner, Diamond, and Hicks (2007) demonstrated that couples are coordinated in their daily experience of emotions. Specifically, these researchers found that when individuals experienced an increase in negative or positive affect, their partners also experienced an increase or decrease in negative or positive emotions. These and related findings (e.g., Saxbe & Repetti, 2010) suggest that there may be a number of regulatory processes that facilitate and sustain similarity within couples across time.

The purpose of the present study was to examine the extent to which couples coregulate their attachment representations of one another across time. To do so, we studied 172 couples 5 times over a year and assessed how secure each person felt with respect to his or her romantic partner.

[1]University of Illinois at Urbana–Champaign, USA
[2]Queens College, Flushing, NY, USA
[3]Illinois Wesleyan University, Bloomington, USA

Corresponding Author:
Nathan W. Hudson, University of Illinois at Urbana–Champaign, 603 E Daniel St., Champaign, IL 61820, USA.
Email: hudson11@illinois.edu

These data allowed us to examine the extent to which changes across time in partner-specific attachment were coregulated within couples, while also addressing some novel questions about the dynamics of change and alternative manifestations of coregulation.

Attachment Security and Working Models Within Romantic Couples

Bowlby (1969) believed that individual differences in attachment security are reflections of people's *working models*—internalized beliefs and expectations regarding the nature of close relationships. He believed that working models develop and are continuously updated in response to experiences in attachment relationships. Moreover, he also believed that working models help shape relational experiences. Thus, working models are not only reflections of interpersonal experiences, but can also help drive subsequent experiences.

Within the past few decades, attachment theory has been extended from child–caregiver interactions to explain how adults function within romantic relationships (e.g., Bartholomew & Horowitz, 1991; Hazan & Shaver, 2004; Shaver, Hazan, & Bradshaw, 1988). Working models predict individuals' abilities to effectively trust in and receive care from their partners (e.g., Collins, 1996) as well as reciprocally provide support for their partners (Feeney & Collins, 2001). Furthermore, research suggests that people's attachment styles color their perceptions of and experiences within romantic relationships—both globally and within the context of specific romantic relationships (e.g., Cozzarelli, Hoekstra, & Bylsma, 2000; Grau & Doll, 2003; Hazan & Shaver, 1987). For example, Grau and Doll (2003) found that insecure individuals were more likely to harbor negative beliefs and resentment toward their partner.

Although adult attachment researchers have historically focused on people's general working models of romantic relationships, Collins and Read (1994) argued that working models can vary in their specificity. That is, in addition to general working models, people have working models of specific relationships (e.g., relationships with their romantic partner, relationships with their mother). This distinction has the potential to be important when considering the coordination of attachment within close relationships. First, the transactions that take place between people involved in a romantic relationship (e.g., expressions of care and support) are likely to shape people's working models of their romantic partner more than other types of working models (Collins & Read, 1994). For example, an argument with one's partner might undermine one's sense of security with respect to him or her (at least temporarily) but is unlikely to shift the way one thinks about relationships more generally.

Second, because the study of coregulation explicitly concerns coordinated *changes* in attachment, there is value in focusing upon attachment representations that are most likely to change. Research indicates that global models of attachment are more stable than partner-specific models of attachment. For example, Sibley, Fischer, and Liu (2005) found that the test–retest stability of global attachment was approximately .90. In contrast, Fraley, Vicary, and colleagues (2011) found that the test–retest stability of partner-specific attachment was approximately .50. This suggests that partner-specific working models may be the most appropriate level of analysis for studying attachment coregulation in romantic relationships.

Coregulation in Attachment Relationships

Although the majority of research on adult attachment has focused on attachment at the individual level, a growing body of literature has begun to emphasize attachment in terms of dyadic processes—in which two people mutually shape and constrain one another (e.g., Davila, Karney, & Bradbury, 1999). One potentially important idea that has emerged in this literature is that attachment relationships may serve coregulatory functions (Field, 1985; Hofer, 1984; Sbarra & Hazan, 2008). From this perspective, couples function as *coordinated systems*. This suggests that when one person's sense of security in the relationship increases, the other person's sense of security may increase as well. Importantly, coregulation can occur for many reasons. For example, shared experiences may lead individuals to experience correlated changes in their attachment security. Moreover, romantic partners can serve as anchors that influence and constrain each other's levels of felt attachment security within the relationship.

To the best of our knowledge, the hypothesis that partners coregulate their attachment security with respect to their shared romantic relationship has never been directly tested (cf. Davila et al., 1999). However, research has found that couples do, in fact, coregulate in non-attachment-related domains. For example, Butner and colleagues (2007) found that couples coregulate their emotional experiences. Specifically, on a day-to-day basis, couples tend to experience similar levels of positive and negative affect. This type of emotional coordination has also been observed on a moment-to-moment basis in the laboratory (Rohrbaugh, Shoham, Butler, Hasler, & Berman, 2009) as well as in day-to-day cortisol levels (Saxbe & Repetti, 2010). These studies collectively show that couples engage in non-attachment-related coregulation, and that these coregulation processes can be observed on different timescales (e.g., minutes, days, weeks). The present study examined whether couples similarly coregulate attachment security in their romantic relationship.

Prototype Dynamics and Coregulation

Although the idea that coregulation may help explain similarities in the way couples relate to each other is theoretically

compelling, studying coregulation empirically is not as straightforward as it may appear initially. One common method used for examining coregulatory dynamics is to assess couples repeatedly over time and regress one person's scores on the attributes of interest (e.g., affect) onto the other person's scores. To the extent to which there are correlations across time between one person's scores and his or her partner's, it would seem that individuals within the relationship are regulating each other.

However, recent theoretical developments on the dynamics of stability and change in attachment suggest that this methodology may overlook some important dynamics. Specifically, Fraley and his colleagues (e.g., Fraley, 2002; Fraley & Brumbaugh, 2004; Fraley, Vicary, et al., 2011) empirically demonstrated that, underlying within-person variation in attachment security, there exists a stable, trait-like source of stability (called a *prototype*). Thus, when people change in security, those changes are typically temporary fluctuations around their prototypical or baseline levels of security.

If the prototype hypothesis is correct, then observed correlations between partners' attachment security over time may be an artifact of selection processes rather than active coregulation. Specifically, if people tend to pair with others who are similar to themselves with respect to their stable levels of attachment, then partners may remain similar to each other over time simply because each partner continually returns to his or her prototypical levels of security, not necessarily because partners are coordinated in their changes. Therefore, to infer the presence of coregulatory processes, one must first control for similarities between partners in their prototypes.

One way to untangle these distinct processes is by explicitly modeling prototype dynamics within couples. Namely, by modeling each partner's prototypical levels of attachment security and his or her deviations around this prototype, it is possible to examine how *changes* in security are correlated within couples *after* accounting for the association expected on the basis of correlated prototypes.

Two Forms of Coregulation: Direct Impacts and Coordination

Another challenge for the empirical study of coregulation is that coregulation can be operationalized in at least two ways (Butner et al., 2007). First, coregulation may manifest as *correlated changes* between partners over time. That is, partners may simultaneously increase or decrease in the security they experience in their relationship. These types of correlated changes might emerge if partners react in similar ways (or shape each other's reactions) to common experiences. For example, if romantic partners have an argument, each individual may feel less secure about the relationship, at least temporarily, leading to coordinated changes in each person's security in the relationship. Research suggests that romantic partners tend to have a high agreement in their perceptions of whether their shared relational experiences are positive or negative (Gable, Reis, & Downey, 2003). Furthermore, positive and negative relationship interactions have been shown to increase and decrease attachment security, respectively (Campbell, Simpson, Boldry, & Kashy, 2005; Collins & Feeney, 2000). As such, it may be the case that shared perceptions of positive or negative relationship experiences cause partners to become more or less secure in tandem. We refer to this form of coregulation as *coordination* or *correlated change* throughout this article.

A second way coregulation may manifest is as one individual's attachment security *directly impacting* his or her partner's security at a later time point. Such prospective associations would suggest that one person's security in the relationship is directly influencing his or her partner's level of security. For example, some emotional states can be contagious (Hatfield, Cacioppo, & Rapson, 1994). With respect to attachment, secure attachment is based on feelings of trust that another person will provide adequate, responsive care to one's needs (Bowlby, 1969). Therefore, it follows that an insecure person who withdraws from his or her romantic relationship would fail to provide a partner adequate support, leading the partner to also feel insecure. We refer to this form of coregulation as *direct impacts* or *prospective effects* throughout this article.

To the best of our knowledge, no studies have explicitly examined within-couple coregulation in attachment security over time, and only one study has examined the correlation between partners' attachment styles over time. Contrary to expectations, Davila and her colleagues (1999) found that married couples experienced *negatively* correlated changes in attachment security over time. That is, if one partner increased in security, the other partner tended to decrease in security. Davila and colleagues called these effects difficult to interpret, but raised the possibility that couples may seek a homeostatic level of security in their marriage; when one partner increases in security, the other must decrease to compensate and maintain a specific level of security within the relationship. To the best of our knowledge, this possibility has not been tested further.

Overview of the Present Research

The goal of the present research was to examine the coregulation of partner-specific attachment security in romantic relationships. Specifically, we sought to determine whether couple members exhibit coregulation in their idiosyncratic patterns of attachment change after controlling for correlated prototypes across partners. We operationalized coregulation both as direct impacts (i.e., prospective effects of one partner on the other) and as coordination (i.e., correlated changes across time). To address these issues, we studied a sample of 172 couples 5 times over 1 year. At each assessment wave, couple members independently completed a self-report

measure of partner-specific adult attachment. This design allowed us to examine the extent to which couples are similar in their representations of their relationships and how changes in those views are synchronized across time.

Method

Participants

Couples in an exclusive romantic relationship were recruited from the Champaign–Urbana community via university announcements, newspaper ads, and e-mail listservs. We scheduled initial in-person, laboratory sessions with our research participants to establish rapport, obtain a set of basic measurements (e.g., demographic variables, detailed information about the nature of their relationships), and to ensure that participants understood the project and were committed to completing it.

Couples participated in a broad battery of assessments 5 times over the course of 12 months, approximately once every 2 months. At Time 1, the sample was composed of a total of 364 individuals, 344 of whom were in a heterosexual romantic relationship and who were both available to visit our lab, yielding 172 couples. This sample size afforded greater than 75% power to detect average-sized zero-order effects ($r \sim .20$; Richards, Bond, & Stokes-Zoota, 2003). Seventy-four percent of the sample was Caucasian and the ages ranged from 18 to 25 ($M = 20.31$, $SD = 1.61$). Ninety-three percent of the couples described themselves as being in exclusive dating relationships, and 4.1% of the couples described themselves as being engaged ($n = 7$). The remainder of the sample described their relationship as "casual." Relationship length at the beginning of the study ranged from less than a month to 7 years ($M = 16.62$ months, $SD = 15.73$ months). Participants were paid approximately 10% of their total stipend up-front and were paid US$100 total if they completed the study. Participants who dropped out of the study received prorated payment.

Of the 172 couples sampled at Time 1, 87 (51%) provided data for both partners at Time 2. At Times 3 through 5, 78 (45%), 69 (40%), and 61 (35%) couples provided data for both partners, respectively. None of the reported Time 1 measures were related to the number of waves competed by participants (all $|r|$s $< .06$, ps $> .26$).

Measures

Romantic partner attachment representations. To assess individual differences in romantic partner-specific attachment orientation, we used the nine-item romantic partner subscale of the Experiences in Close Relationships–Relationship Structures questionnaire (ECR-RS; Fraley, Heffernan, Vicary, & Brumbaugh, 2011).[1] The ECR-RS is a self-report measure of attachment derived from the Experiences in Close Relationships–Revised inventory (ECR-R; Fraley, Waller, & Brennan, 2000). In the present study, we used the ECR-RS subscale that assesses attachment security specifically with one's romantic partner. This subscale assesses two dimensions of security: attachment-related anxiety and avoidance. *Attachment-related anxiety* concerns the extent to which a person is worried that his or her partner may reject him or her (e.g., "I'm afraid that my partner may abandon me"). *Attachment-related avoidance* concerns comfort with emotional intimacy with one's partner. On the high end of this dimension are people who are uncomfortable with closeness and dependency (e.g., "I don't feel comfortable opening up to my partner"); on the low end are people who are more comfortable using others as a secure base and safe haven ("I find it easy to depend on my partner"). A prototypically *secure* person is low on both these dimensions.

Participants were instructed to rate each item with respect to how they felt at the moment, on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). In other words, participants responded to the items with respect to their current state of mind, regardless of whether it was consistent or inconsistent with the way they had responded in the past. Such a measure was expected to be more sensitive to fluctuations in attachment security than a more general measure like the ECR-R. Items were averaged to form composites. Reliabilities, based on the initial assessment session, were good (αs $> .81$).

Covariates

Neuroticism. Questions about attachment dynamics are complicated by the fact that individual differences in adult attachment tend to be associated with the Big Five personality traits (see Noftle & Shaver, 2006). Neuroticism, for example, often correlates moderately with attachment-related anxiety. Given that some theorists conceptualize personality traits as being highly stable entities (e.g., Costa & McCrae, 1994, 2006; but see Roberts, Walton, & Viechtbauer, 2006), it is possible that personality traits might explain dynamics we are seeking to investigate. Thus, in our primary analyses, we controlled for neuroticism. Participants rated their neuroticism using the 12-item subscale from the NEO Five Factor Inventory (NEO-FFI; Costa & McCrae, 1992) on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Items were averaged to form composites (Time 1 $\alpha = .88$).

Relationship satisfaction. Although relationship satisfaction is not the same "thing" as attachment style (see Mikulincer & Shaver, 2007), when attachment is measured in the context of a specific relationship, the distinction between the two is less clear-cut. Someone who is uncomfortable opening up to their partner and using him or her as a secure base, for example, is unlikely to experience high levels of satisfaction. Thus, to examine the extent to which partner-specific attachment and relationship satisfaction behave in similar or different ways, we also assessed relationship satisfaction in a state-like manner (i.e., how satisfied people were in their

Table 1. Descriptive Statistics and Correlations for Variables at Time 1.

	Men		Women		Correlations		
	M	*SD*	*M*	*SD*	1	2	3
1. Partner-specific anxiety	2.11	1.35	2.33	1.52	—	.37	−.35
2. Partner-specific avoidance	1.74	0.76	1.56	0.73	.46	—	−.64
3. Relationship satisfaction	5.98	0.86	5.98	0.95	−.39	−.52	—

Note. Correlations for men are listed in the upper matrix; correlations for women are listed in the lower matrix; all correlations are significant, $p < .05$.

Table 2. Cross-Sectional Partner Correlations in Relationship-Specific Attachment Security.

	T1 (n = 172)	T2 (n = 87)	T3 (n = 78)	T4 (n = 69)	T5 (n = 61)
Anxiety	.20*	.20	.27*	.27*	.27*
Avoidance	.35*	.36*	.33*	.45*	.64*

*$p < .05$.

romantic relationship at the time of the assessment). Participants completed the Investment Model Scale (Rusbult, Martz, & Agnew, 1998) at each time point. The items from the relationship satisfaction scale were averaged to create a composite index of relationship satisfaction at each time point. Sample items include "I feel satisfied with our relationship" and "My relationship is close to ideal."

Results

Descriptive statistics and inter-correlations for all study variables at Time 1 are presented in Table 1.

Coregulation of Security Within Romantic Relationships

Cross-sectional correlations in partners' attachment security. We first examined whether romantic partners share similar levels of attachment security in their relationships. Table 2 reports the cross-sectional correlations between romantic partners' relationship-specific attachment security at each of the five time points. The correlation between partners' levels of anxiety ranged from .20 (Waves 1-2) to .27 (Waves 3-5). Partners' levels of avoidance were also positively correlated, rs ranged from .33 to .64, ps < .05. These results are consistent with the notion that romantic partners tend to share similar levels of attachment security with respect to their romantic relationship.

Models of stability and change. Our next series of analyses tested whether partners coregulate changes in attachment, controlling for their prototypical similarities in attachment. To do so, structural equation models were estimated to examine how partners' levels of attachment security within the romantic relationship changed together over time. To simplify the analyses, we created four models, each of which examined one dimension of insecurity per partner (e.g., male anxiety—female anxiety; male anxiety—female avoidance).[2] All of our models were estimated using full information maximum likelihood estimation (FIML).

There exist several ways to examine coregulated changes while controlling for baseline similarities between partners. The most basic way is to examine the correlations between partners' levels of attachment across time, controlling for previous levels of security (see Figure 1).[3] Such an autoregressive or *revisionist* model assumes that attachment not only has some level of stability (autoregressive A-paths) but is also subject to random fluctuations over time (Fraley, 2002). As such, any correlated changes between partners (C-paths) represent coordinated changes in partners' attachment styles from a previous time point. This, in effect, controls for baseline similarities between partners, to the extent that those similarities were manifest at previous time points.

A more complex way of examining coregulated change while controlling baseline similarities between partners involves modeling stable individual differences in attachment (see Figure 2). Such *prototype* models include a latent intercept term that allows individuals to have enduring differences in attachment security, above and beyond their previous levels of security (autoregressive A-paths)(Fraley, 2002). As such, any within-individual variation in security is centered around a person's intercept (i.e., baseline/prototypical level). The coordinated changes between partners (C-paths) therefore represent how partners are deviating together around their respective baseline levels of security, controlling for previous levels of security. Such *coordinated changes* are of greatest theoretical interest because they are statistically independent of preexisting baseline similarities between partners.

Which of these methods represents the most appropriate way to study correlated change? Given that previous research indicates that a prototype model of stability better captures data on adult attachment than a revisionist one (e.g., Fraley, Vicary, et al., 2011), it would be preferable to study coordinated changes after controlling not only the autoregressive stability in attachment but also baseline levels of security. In fact, when we compared the relative fit of revisionist and prototype models with the test–retest data, the prototype model fit the data significantly better than the revisionist model in each analysis, all $\chi^2(11) > 23.39$, $p < .05$ (see Table 3).[4] Other fit indices also suggested that the prototype models fit the data well, all comparative fit indices (CFIs) > .94, root mean square error of approximations (RMSEAs) < .07. Thus, our subsequent analyses examine changes in attachment security within a prototype framework of development (Fraley, Vicary, et al., 2011). Coordinated changes in security were operationalized as correlations in the residuals after accounting for autoregressive and prototype stability (i.e., C-paths in Figure 2).[5] These

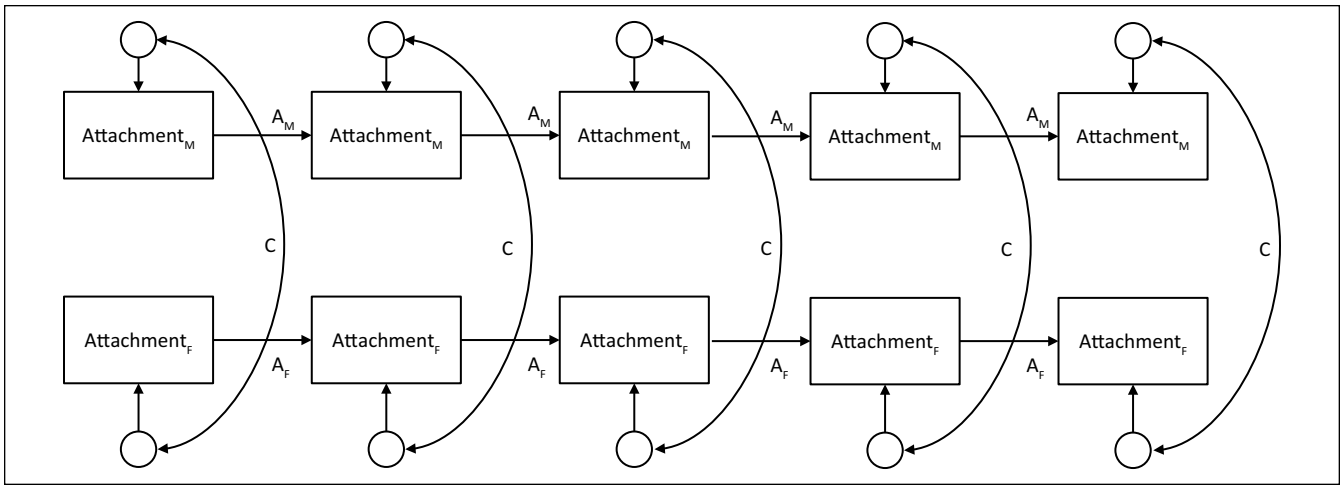

Figure 1. Revisionist model of partner coregulation.

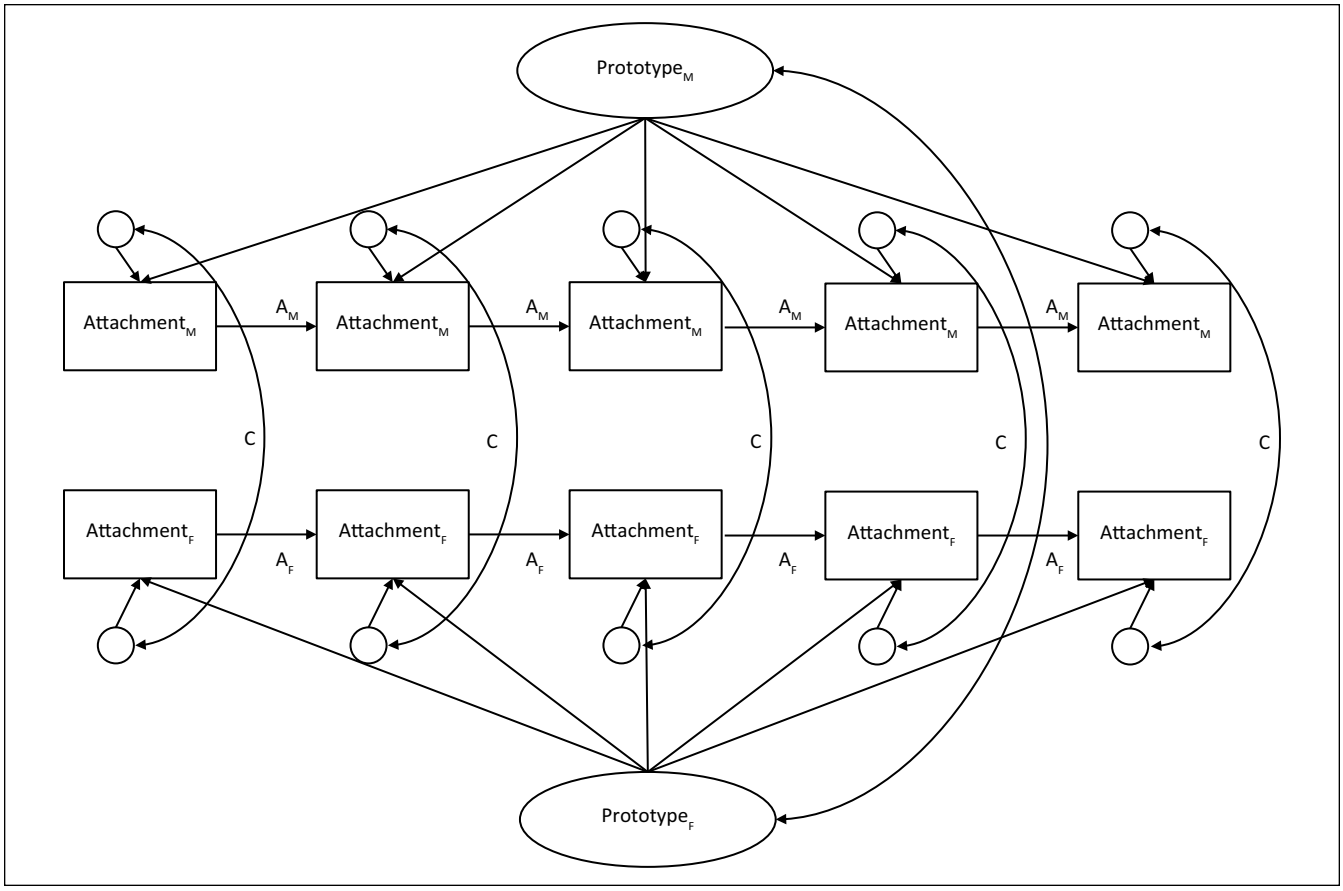

Figure 2. Prototype model of partner coregulation.

coordinated changes were constrained to be equal across time to give a single, parsimonious estimate of coordinated change between partners. All reported statistics are either correlations (*r*), standardized regression coefficients (β), or standardized factor loadings (λ).

Coregulation in partners' security. Our analyses revealed moderate levels of stability in partner-specific attachment security over time (average test–retest $r = .66$). Two sources of stability exist in the model. First, individuals' attachment prototypes press for consistent levels of security at each time

Table 3. Comparison of Revisionist and Prototype Models.

Model		Revisionist	Prototype	Prototype with cross-lag prospective paths
Male	Female	$\chi^2(41)$	$\chi^2(30)$	$\chi^2(28)$
Anxiety	Anxiety	77.52	37.85	36.94
Avoidance	Avoidance	119.69	UI	46.31
Avoidance	Anxiety	68.21	44.82	40.68
Anxiety	Avoidance	121.77	62.39	48.67

Note. UI = unidentified.

point (average $\lambda = .47$). Second, there were moderate autoregressive stabilities for anxiety and avoidance (A-paths in Figure 2), average $\beta = .34$.[6]

In terms of change, we examined two manifestations of partners coregulating their attachment security. First, we examined *correlated changes* in partners' attachment security (C-paths), which are indicative of partners sharing experiences which may affect their attachment securities in similar ways (Butner et al., 2007). Second, we examined whether each person's attachment security *prospectively predicted* their partner's security 2 months later (P-paths). For example, an insecure person may cause his or her romantic partner to become more avoidant over time. Figure 3 depicts a model that contains both correlated changes in attachment security (C-paths) as well as prospective influences (P-paths). The autoregressive paths were constrained to be equal across time separately for men (A_M-paths) and women (A_F-paths). Similarly, the prospective effects of men on women (P_M-paths) and women on men (P_F-paths) were separately constrained to be equal across time.

Using the model depicted in Figure 3, we first tested whether partners experienced correlated changes in attachment security. The C-paths in Figure 3 represent the correlation between partners' deviations from their prototypical levels of attachment security at any given time point.[7] As can be seen in Table 4, couples generally experienced coordinated changes in attachment security over time. For example, if one partner fluctuated in avoidance, his or her partner tended to fluctuate simultaneously in the same direction in avoidance (cov = 0.25, $SE = 0.04$, 95% confidence interval [CI] = [0.17, 0.33], $r = .47$, $p < .05$). One's change in avoidance was also related to his or her partner's change in anxiety (covs = 0.14, 0.30; SEs = 0.04, 0.06; 95% CIs = [0.06, 0.22], [0.18, 0.42]; rs ≥ .26; ps < .05). However, partners did not tend to experience coordinated changes with respect to attachment anxiety (i.e., one person's deviation from his or her prototypical levels of anxiety did not correlate with his or her partner's deviations from his or her prototypical levels of anxiety). Overall, these results are consistent with the ideas that partners may share many similar experiences that affect their levels of attachment security in similar ways.

Second, we examined whether individuals' attachment security prospectively predicted deviations in their partners' levels of security. The P-paths in Figure 3 represent the direct impacts of an individual's level of security on changes in his or her partner's security at a later time point. As can be seen in Table 5, higher levels of anxiety predicted subsequent increases in partner avoidance; this was true for both anxious men ($b = 0.12$, $SE = 0.03$, 95% CI = [0.06, 0.18], $\beta = .23$, $p < .05$) and anxious women ($b = 0.09$, $SE = 0.04$, 95% CI = [0.01, 0.17], $\beta = .12$, $p < .05$). Similarly, elevated levels of avoidance predicted subsequent increases in avoidance for both men ($b = 0.39$, $SE = 0.08$, 95% CI = [0.23, 0.55], $\beta = .30$, $p < .05$) and women ($b = 0.18$, $SE = 0.09$, 95% CI = [0.00, 0.36], $\beta = .17$, $p = .05$). In essence, either type of attachment insecurity predicted subsequent changes in partner avoidance. The same was not true for anxiety. Contrary to expectations, neither anxiety nor avoidance predicted subsequent deviations in partner anxiety, all $|\beta|$s ≤ .09, ps > .05. In short, high levels of anxiety and avoidance predicted increases in partner avoidance; however, high levels of insecurity did not predict subsequent increases in partner anxiety. These observed prospective effects have two possible interpretations. First, displays of insecurity from partners may breed avoidance. That is, high levels of either type of insecurity may lead to subsequent partner increases in avoidance. Second, secure individuals may foster security in their partners. Individuals who are more secure (i.e., low in anxiety and avoidance) may lead their partners to become subsequently less avoidant.

Examining Coregulation Beyond Other Relationship Features

Theoretically, attachment security is related to, but distinct from, relationship satisfaction (see Mikulincer & Shaver, 2007). However, when security is measured in the context of a specific relationship, these variables may function in similar ways. In fact, cross-sectionally at Time 1, both types of attachment insecurity were moderately to strongly negatively related to relationship satisfaction, for both men (anxiety $r = -.35$, $p < .05$; avoidance $r = -.64$, $p < .05$) and women (anxiety $r = -.39$, $p < .05$; avoidance $r = -.52$, $p < .05$). Thus, we thought it would be informative to examine coregulation in (a) relationship satisfaction, and (b) attachment controlling for relationship satisfaction.

First, we examined coregulation in relationship satisfaction. As can be seen in Tables 4 and 5, romantic partners experienced correlated changes in relationship satisfaction over time ($r = .58$, $p < .05$), and men's satisfaction tended to predict subsequent increases in their partner's satisfaction at later time points ($\beta = .25$, $p < .05$). In contrast, women's satisfaction did not significantly predict subsequent increases in their partner's satisfaction ($\beta = .10$, $p = .08$).

Next, we examined coregulation in attachment while controlling for relationship satisfaction as a time-varying covariate. As can be seen in Table 6, even while controlling for relationship satisfaction, increases in either type of female insecurity were still coordinated with increases in male

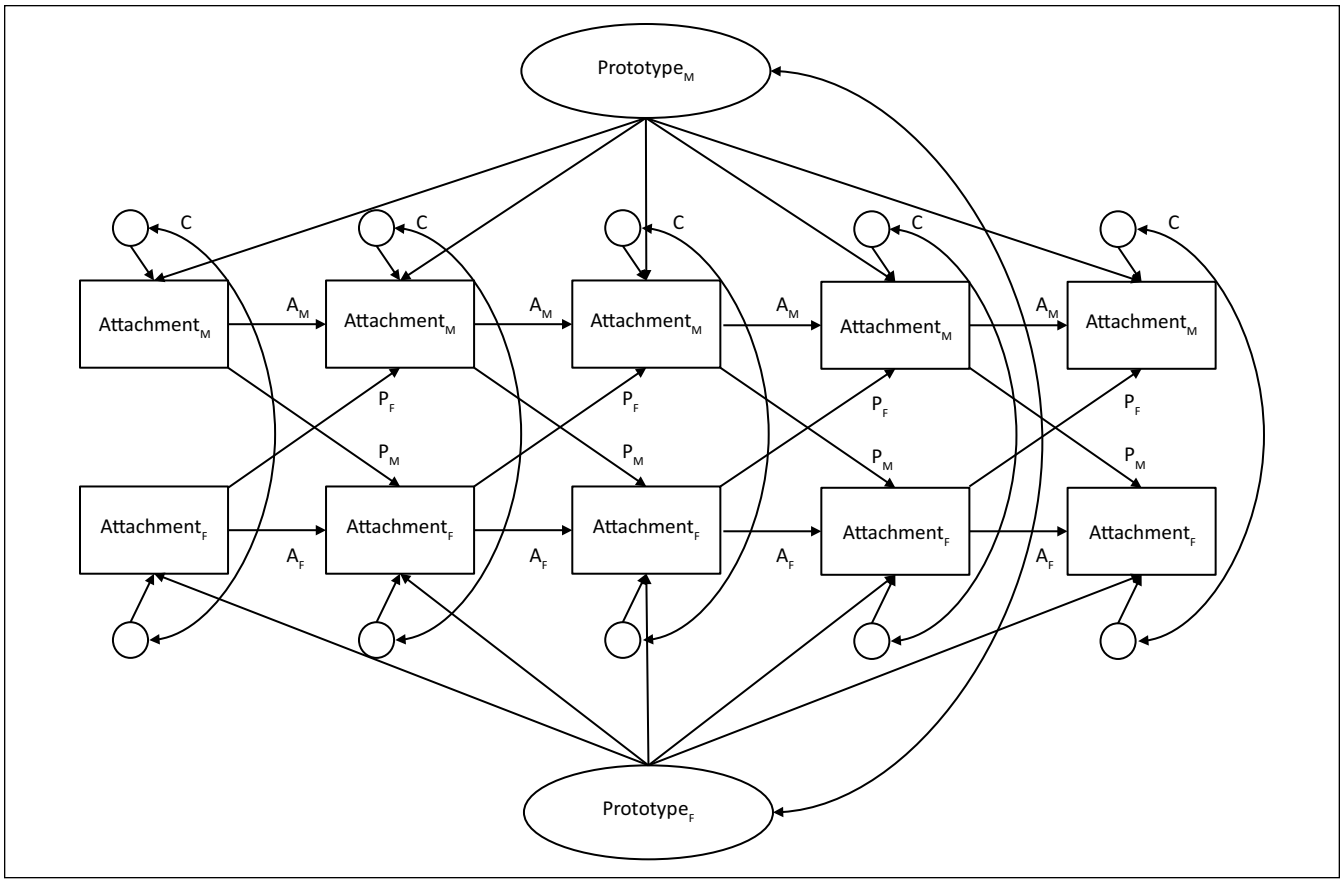

Figure 3. Prototype model of partner coregulation with prospective effects.

Table 4. Correlated Changes in Partners' Attachment Security.

	Female		
Male	Anxiety	Avoidance	Satisfaction
Anxiety	.05	.26*	—
Avoidance	.34*	.47*	—
Satisfaction	—	—	.58*

Note. Correlations estimated using structural equation models, path C in Figure 3.
*$p < .05$.

avoidance (anxiety cov = 0.15, $SE = 0.04$, 95% CI [0.07, 0.23], $r = .24$, $p < .05$; avoidance cov = 0.06, $SE = 0.02$, 95% CI = [0.02, 0.10], $r = .20$, $p < .05$). However, controlling for relationship satisfaction eliminated the relationship between changes in male anxiety and changes in female avoidance, cov = −0.05, $SE = 0.03$, 95% CI = [−0.11, 0.01], $r = -.14$, $p = .10$ (formerly, $r = .26$, $p < .05$). In terms of the prospective cross-lag paths, after controlling for relationship satisfaction, neither type of insecurity significantly predicted subsequent increases in partner avoidance, all βs ≤ .10, *p*s ≥ .07 (see Table 7).

Similarly, we examined whether couples experienced coregulated changes in relationship satisfaction when attachment was controlled as time-varying covariate. As can be seen in Tables 6 and 7, even when attachment was controlled, couples still experienced correlated changes in relationship satisfaction, $r = .38$, $p < .05$. In terms of the cross-lag paths, after controlling for attachment security, men's satisfaction no longer predicted increases in women's satisfaction, $r = .04$, $p = .48$ (formerly, $r = .25$, $p < .05$). Women's satisfaction was predictive of subsequent increases in men's satisfaction after controlling for relationship satisfaction, $r = .14$, $p < .05$ (formerly, $r = .10$, $p = .08$).

Collectively, these analyses involving relationship satisfaction have several possible interpretations. One interpretation is that changes in relationship satisfaction might partially explain why partners experience coregulated changes in attachment security—especially for women. This interpretation must be approached with caution, however. Attachment security, when assessed in a state-like fashion in the context of a specific romantic relationship, should be tightly intertwined with relationship satisfaction (e.g., Cozzarelli et al., 2000). Removing variance due to relationship satisfaction from measures of romantic attachment security might leave a theoretically ambiguous residue (i.e., momentary felt insecurity that is not related to momentary dissatisfaction) that is difficult to interpret. Beyond this, even when controlling for relationship satisfaction (which is correlated −.64 with attachment avoidance in men), increases in either type of

Table 5. Prospective Relationships Between Partners' Attachment Security.

	Predictor					
	Male (paths P_M)			Female (paths P_F)		
Outcome	Anxiety	Avoidance	Satisfaction	Anxiety	Avoidance	Satisfaction
Male						
Anxiety	—	—	—	.05	.09	—
Avoidance	—	—	—	.12*	.17*	—
Satisfaction	—	—	—	—	—	.10
Female						
Anxiety	−.01	.09	—	—	—	—
Avoidance	.23*	.30*	—	—	—	—
Satisfaction	—	—	.25*	—	—	—

Note. All estimates are standardized β-weights, paths P shown in Figure 3.
*$p < .05$.

Table 6. Correlated Changes in Partners' Attachment Security and Relationship Satisfaction, Mutually Controlling Each Other.

	Female		
Male	Anxiety	Avoidance	Satisfaction
Anxiety	−.01	−.14	—
Avoidance	.24*	.20*	—
Satisfaction	—	—	.38*

Note. Correlations estimated using structural equation models, path C shown in Figure 3.
*$p < .05$.

insecurity in women were coordinated with increases in their male partners' avoidance levels.

A second possible interpretation is that neither attachment security nor relationship satisfaction is causally prior to each other; as such, relationship satisfaction does not "account" for the observed attachment coregulation dynamics (nor vice versa). Rather, it seems that relationship satisfaction and attachment security are highly multicollinear, and thus controlling one mitigates the other's predictive validity. This is reflected in the finding that, when attachment was controlled, men's relationship satisfaction no longer predicted subsequent increases in women's satisfaction. One final issue to consider is that—given the long delay between data waves (~2 months)—it is unsurprising that controlling for an individual's more temporally proximate relationship satisfaction overwhelmed the more temporally distal effects of their partner's attachment security measured 2 months prior (and vice versa).

Discussion

Previous research has found that romantic partners tend to be similar to each other with respect to their attachment styles (e.g., Strauss et al., 2012)—partially because people choose mates with attachment styles similar to their own (e.g., Holmes & Johnson, 2009). Consistent with theory (e.g., Sbarra & Hazan, 2008), the present study found that fluctuations in romantic attachment were also coregulated across time, above and beyond selection effects.

Coregulation Between Romantic Partners

We used structural equation models to simultaneously examine prototypical attachment similarities within couples, as well as coregulated changes in attachment over time. We found that, above and beyond baseline similarity to each other, couples manifested two forms of coregulation. First, romantic partners exhibited positively correlated changes in attachment security across time. For example, if one person experienced increases in avoidance at a given time point, his or her partner was also likely to experience increases in avoidance. This type of coordinated change is consistent with the notion that romantic partners react in similar ways to shared experiences—or potentially even shape each other's reactions to shared experiences—thereby facilitating similarity in their working models of the relationship. Along these lines, every romantic relationship exists within a unique ecosystem that is constructed by the couple. For example, both partners' attachment styles may shape the frequency of positive and supportive or negative and antagonistic experiences that occur (e.g., Feeney & Collins, 2001). As such, each partner is contributing to a shared dyadic environment that may shape their attachment styles in similar ways (e.g., Campbell et al., 2005; Gable et al., 2003). While the present study did not assess the occurrence of discrete events, ultimately, any specific event is unlikely to be important in shaping attachment security—it is individuals' overall interpretations of and reactions to the events that mold their attachment styles (Davila & Sargent, 2003).

In addition to coordinated changes, we found that individuals' levels of attachment security prospectively predicted subsequent changes in their partners' avoidance 2 months later. For example, high levels of insecurity in one person predicted increases in the partner's avoidance at later time

Table 7. Prospective Relationships Between Partners' Attachment Security and Relationship Satisfaction, Mutually Controlling Each Other.

	Predictor					
	Male (paths P_M)			Female (paths P_F)		
Outcome	Anxiety	Avoidance	Satisfaction	Anxiety	Avoidance	Satisfaction
Male						
Anxiety	—	—	—	.01	−.07	—
Avoidance	—	—	—	.02	.04	—
Satisfaction	—	—	—	—	—	.14*
Female						
Anxiety	−.04	.06	—	—	—	—
Avoidance	.04	.10	—	—	—	—
Satisfaction	—	—	.04	—	—	—

Note. All estimates are standardized β-weights, paths P shown in Figure 3.
*$p < .05$.

points. This prospective relationship could be interpreted to mean that insecurity fosters avoidance. Specifically, high levels of insecurity may render an individual incapable of caring for his or her partner's needs (Feeney & Collins, 2001; Mikulincer & Shaver, 2007), which, if perceived by the partner, may lead the partner to also become more avoidant over time. Complementarily, the prospective relationship also could be interpreted to mean that secure individuals create safe, responsive environments for their partners, which lead their partners to become *more* secure over time. Either way, this represents a more direct form of coregulation, in which each person's attachment security is serving as an anchor that shapes and constrains his or her partner's security.

Somewhat surprisingly, high levels of insecurity did not predict subsequent increases in partner anxiety. One potential explanation for this finding is that anxiety is the result of negative self-relevant working models (e.g., the self is unlovable), whereas avoidance is the result of negative others-relevant working models (e.g., others are incapable or unwilling to provide for the self's needs)(Bartholomew & Horowitz, 1991). It is possible that insecure persons generally cause their partners to develop negative beliefs and expectations regarding other people (e.g., "my partner is not able to meet my needs"), rather than negative self-views (e.g., "I am unworthy of love"). This would potentially manifest as increased avoidance and unaffected anxiety.

Attachment Security and Relationship Satisfaction

Because attachment security is associated with relationship satisfaction (e.g., Cozzarelli et al., 2000), we examined whether coregulation processes occurred above and beyond changes in relationship satisfaction within couples. Models that controlled for relationship satisfaction indicated that some patterns of attachment coregulation might be partially explained by changes in relationship satisfaction. However, when controlling for relationship satisfaction, partners still exhibited evidence of coordination. That is, increases in partner insecurity were correlated with increases in avoidance for men, but the same was not true for women. Conversely, partners' prospective influences on each other were weaker when controlling for relationship satisfaction as a time-varying covariate.

These findings have several possible interpretations. First, relationship satisfaction might partially account for attachment coregulation dynamics. That is, changes in relationship satisfaction may drive changes in relationship-specific attachment security. One limitation of this explanation, however, is that, if one reverses the analysis (i.e., by modeling coordination in relationship satisfaction while controlling for partner-specific attachment as a time-varying covariate), partners' prospective effects on each other's relationship satisfaction are also weakened. These findings suggest that neither relationship satisfaction nor attachment security is causally prior to each other (i.e., relationship satisfaction dynamics do not "explain" attachment security dynamics). Rather, it seems more appropriate to conclude that state-like measures of partner-specific attachment security and relationship satisfaction function in highly similar ways. As such, when relationship satisfaction and partner-specific attachment security are mutually controlled, each other's predictive validities are dramatically reduced. Future researchers could further explore the links between relationship satisfaction and partner-specific attachment security.

Implications, Limitations, and Future Directions

Taken together, our findings suggest that part of the similarity in partners' attachment styles may be due to coregulatory processes in general, and coordinated change in particular. This has numerous implications for understanding the nature and development of working models in romantic relationships.

First, on a basic level, our results lend further credence to the notion that working models of romantic relationships fluctuate and update in response to ongoing relational events (Bowlby, 1969). The fact that romantic partners experienced coordinated changes in attachment security (above and beyond their baseline similarity to each other and direct impact on each other's security) implies that partners are responding to their shared experiences in common ways, shaping each other's reactions to shared experiences, or potentially even having immediate direct impacts on each other. One limitation of the present study is that we did not collect data on the specific events that couples had experienced. However, previous research suggests that it is not the events themselves, but rather the meaning that individuals assign to the events that affects attachment security (Davila & Sargent, 2003). Future research should more explicitly test whether couples' shared perceptions of events explain the observed coregulation in their attachment security over time.

A second implication of our findings is that attachment needs to be understood in terms of dyadic processes. Specifically, coregulation of attachment security is a fundamental feature of romantic relationships (e.g., Sbarra & Hazan, 2008). The observed concurrent and prospective coregulation of attachment security between romantic partners supports the idea that not only do partners use each other as a method to attain felt security (i.e., as attachment figures), but partners also serve as anchors that constrain each other's attachment-related experiences, both within the romantic relationship and potentially also across each other's relational networks. The significance of these findings may extend beyond merely understanding attachment security in ongoing romantic relationships, and may, for example, have implications for understanding the distress people experience when they lose their romantic partners. Such losses might not only represent the loss of an attachment figure, but also the loss of an important regulatory anchor. This notion could be explored more fully in future research by examining the patterns of intra-individual variation in attachment security during periods of separation from one's romantic partner, as well as during and after the process of romantic relationship dissolution (Sbarra & Hazan, 2008).

Although there was some evidence of direct impacts, at least when relationship satisfaction was not included in the models, we should note that the way we studied direct impacts was constrained by the temporal intervals used in our study. The fact that our assessment waves were spaced 2 months apart required us to estimate these prospective influences over a relatively broad and arbitrary period of time. This feature of our design may make it more difficult to reveal such processes if they do, in fact, play a pervasive role in coregulation. Related to this limitation is that our estimates of coordination (i.e., correlated changes) are likely to reflect not only the way people in relationships respond to shared experiences, but might also reflect direct impacts that are taking place on shorter timescale (i.e., in proximity to the assessment wave). We believe that it will be useful for future research to examine further these two forms of coregulation using designs that employ shorter time intervals.

Finally, our study underscores the need for further research on within-couple coregulation. Specifically, in stark contrast to our findings that changes in attachment security within the romantic relationship were *positively* correlated over time within relatively short-term dating couples, Davila and colleagues (1999) found that changes in attachment security were *negatively* correlated over time within married couples. Their sample differed from ours in a variety of ways: Their sample was slightly older and married. Our sample was predominantly young people in short-term relationships, with no married couples. It is possible that age, longer relationship duration, marriage, or potentially other unexplored factors require couples to engage in homeostatic regulation, which would manifest as negatively correlated changes in attachment security over time (i.e., if one partner increases in security, the other decreases). More research with more heterogeneous samples is needed to examine the generalizability of our findings, whether relationship context or length moderates within-couple coregulation, and the types of processes that might underlie positive and negative correlations in within-couple attachment security over time.

Conclusion

The present study found that individuals within a romantic relationship tend to be similar to each other in their relationship-specific attachment orientations—both because of stable, trait-like similarities and also because romantic partners experience coordinated changes in attachment over time. Taken together, these findings underscore the importance of examining dyadic processes, including coregulation (e.g., Sbarra & Hazan, 2008). We hope that future research can continue to elucidate the specific behavioral, cognitive, and physiological channels that drive and sustain coregulation among romantic partners over time.

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Notes

1. Henceforth, any references to "attachment" refer specifically to partner-specific attachment.
2. More complex models examining both anxiety and avoidance for both partners produced similar results to the simpler models, so we used the latter.

3. Although not depicted in Figures 1 to 3 for simplicity, we controlled for partners' levels of neuroticism. Parameter estimates were similar in models excluding neuroticism.
4. Models including both the autoregressive paths and latent variables fit significantly better than models including only the autoregressive paths, all $\chi^2(11) > 23.39$, $ps < .05$, or only the latent variables, all $\chi^2(2) > 23.16$, $ps < .05$.
5. The prototype model is essentially a growth curve model without a slope term. Including a slope parameter in the models did not significantly improve their fit.
6. The autoregressive estimates are attenuated by allowing the latent prototype to absorb some of the stability. Omitting the latent prototype augmented the autoregressive coefficients as high as $\beta = .85$.
7. The residual terms in Figure 3 represent both true deviations from individuals' prototypical levels of attachment security and measurement error. Theoretically, as measurement error is random, any correlation in residuals between partners represents meaningful, concurrent fluctuations between partners.

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