

# The Psychology of Close Relationships: Fourteen Core Principles

Eli J. Finkel,<sup>1</sup> Jeffry A. Simpson,<sup>2</sup> and Paul W. Eastwick<sup>3</sup>

- <sup>1</sup>Department of Psychology and Kellogg School of Management, Northwestern University, Evanston, Illinois 60208; email: finkel@northwestern.edu
- <sup>2</sup>Department of Psychology, University of Minnesota, Minneapolis, Minnesota 55455; email: simps108@umn.edu
- <sup>3</sup> Department of Psychology, University of California, Davis, California 95616; email: eastwick@ucdavis.edu

Annu. Rev. Psychol. 2017. 68:383-411

First published online as a Review in Advance on September 1, 2016

The Annual Review of Psychology is online at psych.annualreviews.org

This article's doi: 10.1146/annurev-psych-010416-044038

Copyright © 2017 by Annual Reviews. All rights reserved

## Keywords

relationship science, core principles, attachment theory, interdependence theory, culinary approach

#### Abstract

Relationship science is a theory-rich discipline, but there have been no attempts to articulate the broader themes or principles that cut across the theories themselves. We have sought to fill that void by reviewing the psychological literature on close relationships, particularly romantic relationships, to extract its core principles. This review reveals 14 principles, which collectively address four central questions: (a) What is a relationship? (b) How do relationships operate? (c) What tendencies do people bring to their relationships? (d) How does the context affect relationships? The 14 principles paint a cohesive and unified picture of romantic relationships that reflects a strong and maturing discipline. However, the principles afford few of the sorts of conflicting predictions that can be especially helpful in fostering novel theory development. We conclude that relationship science is likely to benefit from simultaneous pushes toward both greater integration across theories (to reduce redundancy) and greater emphasis on the circumstances under which existing (or not-yet-developed) principles conflict with one another.

## 

[R]elationships with other humans are both the foundation and the theme of the human condition: We are born into relationships, we live our lives in relationships with others, and when we die, the effects of our relationships survive in the lives of the living, reverberating throughout the tissue of their relationships.

-Ellen Berscheid (1999, pp. 261-262)

#### INTRODUCTION

Poets, novelists, and philosophers have long recognized the centrality of relationships to human existence. Yet the coalescence of an integrated science devoted to understanding human relationships dates back only to the 1980s. Today, relationship science is an interdisciplinary field that employs diverse empirical methods to understand the initiation, development, maintenance, and dissolution of interpersonal relationships. This field addresses the structure and trajectory of relationships, how relationships operate, and how relationship outcomes are influenced by both the personal characteristics that people bring to their relationships and the broader context in which relationships are embedded. Relationship scientists investigate many types of relationships, but the primary emphasis is on close relationships—those characterized by "strong, frequent, and diverse interdependence that lasts over a considerable period of time" (Kelley et al. 1983, p. 38)—especially well-established romantic relationships.¹ In her classic article on the "greening of relationship science," Berscheid (1999) discussed the growing coherence and influence of relationship science on myriad scholarly fields, presciently forecasting the growth of a

<sup>&</sup>lt;sup>1</sup>Close relationships researchers investigate a wide range of relationships, even within the subcase of romantic relationships. Although there are main effect differences across relationship types (Kurdek 2005), the available evidence suggests that "the processes that regulate relationship functioning generalize across gay, lesbian, and heterosexual couples" (Kurdek 2004, p. 880). Thus, we have no reason to believe that the 14 principles discussed below qualitatively differ across different romantic relationship arrangements. As such, and because the vast majority of research has examined heterosexual romantic relationships, our examples focus on the heterosexual case.

flourishing discipline in the twenty-first century (see also Campbell & Simpson 2013, Reis 2007).

Researchers have written many reviews of the close relationships literature, including in previous volumes of the *Annual Review of Psychology* (e.g., Clark & Reis 1988, Gottman 1998). In this review, we focus on the major theories that guide research in relationship science, with a particular emphasis on those deriving from social and personality psychology. We seek to understand what assumptions these theories share, the extent to which they align or conflict, and how they could be augmented and complemented. Toward those ends, we attempt to extract from the literature a set of core principles for understanding close relationships and illustrate how articulating and organizing these core principles can promote theory refinement and development.

### MAJOR THEORIES IN RELATIONSHIP SCIENCE

Relationship science has produced many strong theories, two of which—interdependence theory and attachment theory—have been especially influential. Interdependence theory, which began as a game-theoretic model of dyadic interaction, traces its roots to Thibaut & Kelley's (1959) book *The Social Psychology of Groups*. This theory was first applied to close relationships in the 1970s (Kelley 1979, Levinger & Snoek 1972) and became a dominant theory of such relationships in the 1980s (Kelley et al. 1983, Rusbult 1983). According to interdependence theory, social situations vary along several dimensions, and this variation influences relationship processes and outcomes (Kelley et al. 2003). For example, situations in which a man is more (versus less) dependent on his girlfriend for rewarding experiences should increase the extent to which he monitors her behavior for signs that she loves and is committed to him. His high level of dependence puts him in a low-power position unless she is also highly dependent upon him. High levels of mutual dependence typically promote cooperative behavior when partners have corresponding interests but conflictual behavior when they have noncorrespondent interests.

Attachment theory, which initially focused on infant—caregiver relationships, traces its roots to Bowlby's (1969, 1973, 1980) trilogy on attachment, separation, and loss. The theory was adapted to explain the nature of close relationships between adults in the 1980s (Hazan & Shaver 1987), and it joined interdependence theory as a dominant model of adult relationships in the 1990s (Hazan & Shaver 1994). According to attachment theory, people develop emotional bonds with significant others (usually romantic partners in adulthood) and are motivated to maintain these bonds over time (Mikulincer & Shaver 2007). People seek proximity to their primary attachment figure, especially when they are stressed, ill, or afraid, and rely on the psychological security provided by this person when pursuing challenging activities that can promote mastery and personal growth. Individuals vary along two dimensions of attachment insecurity: (a) anxiety, the extent to which they need reassurance that their attachment figures love and will stay with them, and (b) avoidance, the extent to which they are uncomfortable with emotional intimacy and being vulnerable. Secure individuals, who score low on both dimensions, typically display the most constructive relationship processes and have the most positive relationship outcomes.

Several other theoretical perspectives have also been influential in relationship science, including risk regulation theory (Murray et al. 2006), self-expansion theory (Aron et al. 2013), the communal/exchange model (Clark & Mills 2011), the interpersonal process model of intimacy (Reis & Shaver 1988), and the vulnerability-stress-adaptation model (Karney & Bradbury 1995). The existence of such theories, along with many others, is a major strength of relationship science: These theories have fruitfully guided thousands of empirical investigations into how people think, feel, and behave in close relationships.

Nevertheless, it is not obvious how, or whether, these theories cohere and what qualities they have in common. Some theories overlap in intended ways. For example, risk regulation theory (Murray et al. 2006) deliberately combines elements of attachment theory and interdependence theory. Other theories overlap in underappreciated ways. For example, the ideal standards model (Simpson et al. 2001) focuses on standards, whereas the suffocation model (Finkel et al. 2014a) focuses on expectations, two constructs that are almost synonymous in interdependence theory. Still other theories discuss processes that are rarely articulated elsewhere. For example, the emphasis in the vulnerability-stress-adaptation model on stressors external to the relationship (Karney & Bradbury 1995) is neglected in most other theories (but see Hill 1949, McCubbin & Patterson 1983). Relationship science is fortunate to have this rich assemblage of theories, but their collective depiction is murky because the degree to which the field's core principles complement, circumscribe, overlap with, or conflict with one another remains unclear.<sup>2</sup>

#### EXTRACTING PRINCIPLES: A CULINARY METAPHOR

The primary goal of this review is to articulate the principles that cut across many of the theories in relationship science. Consider a culinary metaphor in which each theory is a dish (e.g., a curry) composed of discrete ingredients (e.g., a grain, a protein, a vegetable, several spices). We set ourselves the task of extracting the core principles—the basic ingredients—and determining which principles emerge repeatedly across different theories. Our approach, in other words, involves temporarily setting the theories aside in order to identify and organize a set of core principles that characterize relationship science in general. Subsequently, we illustrate how theorists might use these principles in theory refinement and novel theory development.

In general, the goal of the extraction process is not to replace current theories, nor to generate a comprehensive list of every theoretical idea ever introduced within the relevant research domain. Rather, the goal is to identify the key—most widespread and influential—principles that have influenced theory development and hypothesis generation in the field. This assessment can help determine whether and how various theories align, perhaps through redundancy or by emphasizing different features of a phenomenon (akin to the proverbial blind men examining different parts of an elephant). Additionally, it fills the theoretical pantry with the main ingredients required for the theory development (cooking) process.

In applying this culinary approach to relationship science, we began by examining psychologically oriented handbook volumes, textbooks, and review articles to identify the major theories and models within the research domain and to extract an initial list of core principles. We then obtained feedback from 16 leading relationship scientists in psychology to refine this initial list, ultimately producing the 14 core principles discussed below (see **Table 1**).

Each principle is described at a fairly high level of abstraction so that it can align with multiple theories; our goal is to capture the general thrust of how each theory characterizes a given principle, even if there is minor variation across theories in the principle's precise specification. Each principle can be used to develop empirical hypotheses, but no one principle specifies how particular constructs should be operationalized (i.e., there is no gold-standard measure required by a particular principle). Reflecting the current state of the field, the principles exist at somewhat

<sup>&</sup>lt;sup>2</sup>The evolutionary psychology of human mating (Buss 2008) developed alongside mainstream relationship science. By and large, however, these two fields have developed in parallel. They address some overlapping topics but tend to employ different research methods and exhibit modest cross-fertilization of ideas (see Durante et al. 2016, Eastwick 2016). Toward the end of this review (see Optimizing Relationship Science: Theoretical Cohesion Versus Conflict), we address some ways in which relationship science could benefit from greater incorporation of ideas from evolutionary psychology.

Table 1 The 14 principles extracted from the psychology literature on relationship science

Seta	Number	Name	Definition
1	1	Uniqueness	Relationship outcomes depend not only on the specific qualities of each partner but also on the unique patterns that emerge when the partners' qualities intersect
	2	Integration	Opportunities and motivations for interdependence tend to facilitate cognitive, affective, motivational, or behavioral merging between partners
	3	Trajectory	The long-term trajectories of relationship dynamics are affected by each partner's continually updated perceptions of the couple's relationship-relevant interactions and experiences
2	4	Evaluation	People evaluate their relationships and partners according to a set of positive and negative constructs, which tend to be moderately negatively correlated
	5	Responsiveness	Responsive behaviors promote relationship quality for both the self and the partner
	6	Resolution	The manner in which partners communicate about and cope with relationship events affects long-term relationship quality and stability
	7	Maintenance	Partners in committed relationships exhibit cognitions and behaviors that promote the relationship's persistence over time, even if doing so involves self-deceptive biases
3	8	Predisposition	People bring certain basic qualities of personality and temperament to their relationships, some of which influence their own and their partners' relationship wellbeing
	9	Instrumentality	People bring certain goals and needs to their relationships, and the dynamics between the two partners affect the extent to which they succeed in achieving these goals and meeting these needs
	10	Standards	People bring certain standards to their relationships and tend to experience greater relationship wellbeing when their relationships exceed these standards
4	11	Diagnosticity	Situations vary in the extent to which they afford opportunities to evaluate a partner's true goals and motives regarding the relationship
	12	Alternatives	The presence of attractive alternatives to a current relationship—including the option of not being in a relationship at all—threatens relationship quality and persistence
	13	Stress	High demands external to the relationship predict worse relationship outcomes, especially if the demands exceed the two partners' (individual or combined) resources for coping
	14	Culture	Relationships are embedded in social networks and a cultural milieu—including norms, practices, and traditions—that shape the nature and trajectory of those relationships

<sup>&</sup>lt;sup>a</sup>Set refers to the four major theoretical questions that the principles address: (1) What is a relationship? (2) How do relationships operate? (3) What tendencies do people bring to their relationships? (4) How does the context affect relationships?.

different levels of analysis. Some, for example, apply to a person at a single moment in time, whereas others apply to a person in general or across time; some imply a particular causal process (e.g., responsive behaviors increase relationship quality), whereas others specify only that a construct accounts for variance in a process or outcome (e.g., culture accounts for variance in the quality of relationship functioning).<sup>3</sup> Consistent with the culinary metaphor, most theories incorporate or address only some of the 14 principles, in the same way that specific dishes do not use all the ingredients in the pantry; it is unlikely that a cogent theory could incorporate all 14 principles, especially at this rather early stage of the field's development.

By necessity, our extraction process involved many subjective judgments. For example, what counts as a theory? Which theories are most relevant to relationship science? Is a given principle

<sup>&</sup>lt;sup>3</sup>All of the principles we discuss can be disconfirmed, though it may be easier to disconfirm principles that specify a particular causal process than principles that specify that a construct should predict an outcome in general.

sufficiently core to warrant inclusion? Thus, we make no claim that our conclusions reflect the absolute truth regarding the key principles that define relationship science from a psychological perspective; other scholars might make different decisions or draw different conclusions about the discipline's core principles. However, the subjectivity of this approach does not render the conclusions arbitrary. The conclusions are constrained by the theories in our research domain, which means that all competent extraction efforts ought to generate principles that are reasonably compatible with one another. We hope that our synthesis starts a dialogue about the core principles that anchor relationship science and about how these principles might be used both to refine current theories and to generate new ones.

#### THE CORE PRINCIPLES OF RELATIONSHIP SCIENCE

Once we extracted the 14 principles (see **Table 1**), we embedded them within a sensible, albeit post hoc, organizational structure. We settled on a four-set structure in which each set was built around a central theoretical question in relationship science: (*a*) What is a relationship? (*b*) How do relationships operate? (*c*) What tendencies do people bring to their relationships? (*d*) How does the context affect relationships? **Figure 1** depicts an organizational framework for conceptualizing the 14 principles within this four-set structure.

### Set 1: What Is a Relationship?

Relationship scientists have written extensively about the definitions of terms such as close and relationship (e.g., Berscheid & Regan 2005, Kelley et al. 1983). One pervasive concept that characterizes all attempts to define close relationships is that partners are dependent on one another to obtain good outcomes and facilitate the pursuit of their most important needs and goals (see Finkel

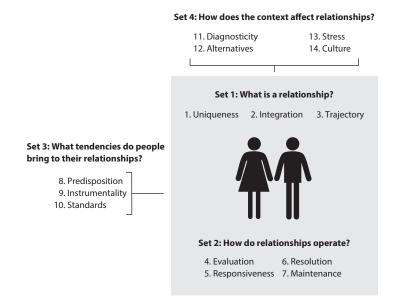


Figure 1

A psychological perspective of the core principles in relationship science. Although the image depicts a heterosexual couple, the available evidence suggests that all 14 core principles generalize to other relationship structures, including those involving gay men or lesbians (see Footnote 1). Picture credit: Pixabay.

& Simpson 2015). Beyond these broad definitional efforts, theories have extensively explored the nature of close relationships. Set 1 contains three core principles that address how and why a relationship becomes more than the sum of its parts (the uniqueness principle), the merging of two partners into a single psychological entity (the integration principle), and the way relationships change over time (the trajectory principle).

**Uniqueness.** Relationship outcomes depend not only on the specific qualities of each partner but also on the unique patterns that emerge when the partners' qualities intersect.

According to relationship scientists, a relationship functions as its own entity that is distinct from and irreducible to the two constituent partners (Berscheid 1999). For example, even if two individuals tend to be low self-disclosers, their idiosyncratic personal characteristics may mesh in a unique way that leads both of them to self-disclose a great deal to each other. From a statistical standpoint, uniqueness effects are evident in the degree of relationship variance in social relations model studies and in actor × partner interaction effects in actor–partner interdependence model studies (Kenny & Kashy 2011).

Various theories address the uniqueness principle in distinct ways, with most emphasizing certain characteristics of relationship partners or specific interpersonal outcomes. Interdependence theory (Kelley et al. 2003) proposes that the qualities of each partner influence how the two partners interact in particular situations and, consequently, the outcomes they reap from those interactions. Transactive goal dynamics theory (Fitzsimons et al. 2015) argues that successful goal attainment depends on features of the self (e.g., a man's desire to lose weight) in conjunction with those of the partner (e.g., his wife's training as a dietician). Relational regulation theory (Lakey & Orehek 2011) posits that the extent to which social interaction successfully regulates affect, behavior, and cognition depends on the idiosyncratic traits, preferences, and personal tastes of each partner (e.g., the two partners find it soothing if she plays guitar while he cooks).

There are many empirical examples of uniqueness. For example, relationship variance explains most of the total variance in perceptions of mate value and long-term attraction, indicating that beauty (as well as other desirable qualities of a mate) really is largely in the eye of the beholder (Eastwick & Hunt 2014). Mutuality of commitment—the degree to which both partners report comparable levels of commitment to the relationship—predicts unique variance in relationship wellbeing above and beyond the two partners' levels of commitment (Drigotas et al. 1999). Capitalization discussions—in which one partner attempts to savor positive news with the other (Gable & Reis 2010)—tend to be especially difficult and unsatisfying if the person sharing the news is high in attachment anxiety and the partner is high in attachment avoidance (Shallcross et al. 2011). Depressive symptoms during the transition to parenthood are particularly pronounced when highly neurotic individuals have highly disagreeable spouses (Marshall et al. 2015). In short, relationships cannot be understood fully by studying main effects involving the two partners; consideration of the unique dyadic context generated by the two partners is also required.

**Integration.** Opportunities and motivations for interdependence tend to facilitate cognitive, affective, motivational, or behavioral merging between partners.

In many close relationships, the psychological boundaries that separate partners are blurry, making it difficult to discern where one partner ends and the other begins. The self component in terms such as self-concept and self-regulation takes on a less individualistic focus. Consider the self-concept, which is often deeply embedded in and possibly altered by close relationships (Andersen & Chen 2002). As a relationship develops and the desire to maintain it increases, an individual's self-concept usually becomes increasingly intertwined with the partner and relationship. In unstructured relationship thought-listing tasks, for example, higher relationship commitment

predicts greater spontaneous use of plural pronouns such as we, us, and our (Agnew et al. 1998). Individuals also become confused about whether they or their partner has a given attribute (e.g., extraversion), as illustrated by research showing that participants are slower and less accurate when making me/not me decisions under time pressure if either they or their partner possesses the relevant attribute than if neither or both of them do (Mashek et al. 2003). Similar effects are also found in newly formed relationships when an individual desires high interdependence with his or her potential partner (Slotter & Gardner 2009). Perhaps due to this merging of identities, the tendency for individuals to exhibit self-enhancing biases generalizes to their close (but not nonclose) relationship partners (Sedikides et al. 1998).

Self-regulation is also embedded within close relationships. According to transactive goal dynamics theory (Finkel et al. 2016, Fitzsimons et al. 2015), relationship partners form a single self-regulating unit that involves a complex web of goals, pursuits, and outcomes. The optimal unit of analysis for understanding goal dynamics is the dyad or group, not the individual. For instance, Alice might set a goal for John, such as losing weight; she might then pursue this goal by buying healthier snacks, or John might pursue it by forgoing desserts. Alice might also set a goal for herself, such as submitting a work project on time, which John helps her pursue by doing some solo parenting so she can complete her project. Depending on how efficiently partners coordinate their goals and pursuits, goal interdependence can either bolster or undermine each person's goal success. When goal coordination is strong, partners can achieve a level of goal success that would have been impossible if they were single or had a less compatible partner. In fact, research has shown that individuals assigned to think about ways in which their romantic partner is helpful in their pursuit of a goal work less hard at pursuing that goal (Fitzsimons & Finkel 2011), which frees resources for other goal pursuits.

When performing joint tasks, people who desire a communal rather than an exchange relationship tend to behave in ways that obscure rather than accentuate their independent contributions, which makes overall performance function as a shared dyadic contribution rather than as a combination of two independent contributions. Even at a physiological level, the line separating close relationship partners is fuzzy (Beckes & Coan 2011, IJzerman et al. 2015, Sbarra & Hazan 2008). Romantic partners performing laboratory interaction tasks, for example, exhibit increased alignment over time in their respiratory sinus arrhythmia (a biomarker of feeling safe), an effect that is stronger among individuals who are more satisfied with their relationship (Helm et al. 2014).

**Trajectory.** The long-term trajectories of relationship dynamics are affected by each partner's continually updated perceptions of the couple's relationship-relevant interactions and experiences.

Relationships change over time. Close relationships models from the 1960s and 1970s posited that change reflected a normative series of stages or filters. For example, the intersection model of pair relatedness (Levinger & Snoek 1972) proposes that relationship partners move through stages of escalating interdependence as they become aware of each other, interact, and eventually form a relationship characterized by a couple-level identity. The relational development model (Knapp et al. 2014) suggests that couples move through a series of stages both when beginning a relationship (e.g., initiating, then intensifying, then bonding) and when ending a relationship (e.g., differentiating, then stagnating, then terminating). Shifts between stages are often marked by transitions—turning points where partners' levels of commitment become explicit (Loving et al. 2009) or life events that change the relationship, such as the transition to parenthood (Rholes et al. 2011).

Other models focus on how specific relationship constructs ebb and flow across time. According to social penetration theory (Altman & Taylor 1973), relationship partners develop intimacy as they gradually increase the depth and breadth of their self-disclosures. Attachment theorists propose that the three behavioral systems associated with pair-bonding develop at different rates,

with the sexual mating system being particularly important early in a relationship and the attachment and caregiving systems taking on greater importance once the relationship has become established (Zeifman & Hazan 2008). Interdependence theorists have focused on how the situations encountered by a given couple produce relationship-specific behavioral tendencies, which often become reified as injunctive norms (Thibaut & Kelley 1959). For example, if one partner likes action films and the other likes screwball comedies, the couple might develop a strong turntaking norm, which would not exist in couples in which partners had identical film preferences. People also update their internal working models over time (Bretherton & Munholland 2008). Research has confirmed that events that produce feelings of greater attachment security lead to changes in partner-specific attachment models (e.g., expectations that one's current partner is reliable), which subsequently change global attachment models (e.g., expectations that partners in general are reliable) (Fraley 2007, Pierce & Lydon 2001).

Many of the events and experiences that cause relationships to change occur in simple, ordinary interactions and commonplace situations. Indeed, relational regulation theory (Lakey & Orehek 2011) suggests that people's perceptions of social support originate mainly from everyday conversations and shared activities with partners rather than in response to major life stressors. Consequently, relationship outcomes are challenging to predict before a relationship begins, even if one has considerable knowledge of each partner's personal characteristics (Finkel et al. 2012). The ReCAST model (Eastwick et al. 2016) posits that relationships that turn out to be long-term, committed relationships are often indistinguishable from those that turn out to be short-term and casual in the early stages as two people get to know each other. Long-term and short-term relationships prove difficult to differentiate primarily because people do not know if they want to be in a committed relationship with a specific person until they can fully gauge the relationship's emotional and sexual chemistry. However, relationships do not remain unpredictable forever: Once relationship partners progress to advanced relationship stages (e.g., marriage), latent strengths and vulnerabilities presage whether partners' evaluations of relationship quality will remain high or deteriorate (Lavner et al. 2012).

## Set 2: How Do Relationships Operate?

Besides examining existential and temporal features of relationships, relationship scientists also investigate how individuals think, feel, and behave with regard to their experiences and interactions with their partners. Set 2 encompasses four core principles, which address how individuals evaluate their partners and relationships (the evaluation principle); how partners respond to each other's needs (the responsiveness principle); how partners react dyadically to conflict and other important relationship events (the resolution principle); and how partners (typically) manage to sustain their relationship, despite challenges (the maintenance principle).

**Evaluation.** People evaluate their relationships and partners according to set of positive and negative constructs, which tend to be moderately negatively correlated.

People constantly evaluate the world around them, and their relationships and partners are no exception. Most people make relationship evaluations on separable positivity and negativity dimensions (Gable & Reis 2001); researchers have used this two-dimensional conceptualization to examine the effects of ambivalence—simultaneous highly positive and highly negative evaluations—on relationship processes and outcomes (e.g., Uchino et al. 2013).

Typically, however, individuals who evaluate a relationship more positively also evaluate it less negatively, so most evaluative variables are bipolar and labeled according to their positive endpoint (e.g., satisfaction, commitment, trust, etc.). Each of these constructs has its own

definition, timecourse, and measure, and various theoretical perspectives have attempted to explain how and why these constructs are related or distinct.

According to the triangular theory of love (Sternberg 1986), for example, love has three elements, which can be present or absent to varying degrees: intimacy (warm feelings of connectedness), passion (romantic and sexual attraction), and commitment (the decision to maintain the relationship). Other scholars have focused on the timecourse of passion and intimacy, finding that passion is a function of the first derivative of intimacy over time: When intimacy is increasing, passion is high; when it is stable (regardless of its level), passion is low (Rubin & Campbell 2012). These and other positive evaluative constructs are conceptually distinct, but they are often positively correlated, sometimes quite highly. Although six of the major evaluative constructs in relationship science—commitment, trust, love, passion, intimacy, and satisfaction—are distinct, they share considerable variance and form a single, broad dimension reflecting overall relationship quality (Fletcher et al. 2000a,b).

Most and perhaps all of these constructs include not only reflective/consciously accessible components but also impulsive/automatic components (Murray et al. 2013). Using distinct measurement approaches (e.g., explicit versus implicit priming), both kinds of components can be assessed; depending on the context, either explicit or implicit measures may account for more of the variance in predicting a given relationship process or outcome (Banse & Kowalick 2007, McNulty et al. 2013).

**Responsiveness.** Responsive behaviors promote relationship quality for both the self and the partner.

Individuals' assessments of relationship quality are strongly influenced by their interactions with their partners, including their degree of mutual responsiveness—the extent to which they are "cognizant of, sensitive to, and behaviorally supportive of" each other's core needs and values (Reis 2007, p. 9; see also Clark & Lemay 2010, Reis & Clark 2013). Studies have confirmed that partners' responsive behaviors across a wide range of negative and positive experiences predict greater personal and relationship wellbeing (Debrot et al. 2012, Gable et al. 2012), above and beyond the positive effects of other more general forms of support (Otto et al. 2015).

This emphasis on responsiveness to the partner's core needs and values indicates that one cannot be responsive by simply learning a set of techniques and applying them in all situations (Finkel et al. 2014b). Rather, responsiveness requires tailoring one's actions to the unique needs of one's partner in a particular situation. Consider this classic example: Having someone immediately repay your favor is responsive if you want an exchange relationship with him or her, but it is unresponsive if you desire a communal relationship (Clark & Mills 1979).

When individuals believe their partner is responsive to their needs, they typically feel good about themselves and are more willing to place themselves in emotionally vulnerable positions, which can enhance the quality of their relationship (Murray et al. 2006). People vary, of course, in how comfortable they are being emotionally vulnerable, an individual difference that influences not only how responsive they are but also how they are likely to react to responsive behavior from their partner. When in a support-provision role, insecurely attached individuals tend to provide less responsive support when their partners are upset (Feeney & Collins 2001, Simpson et al. 1992). When in a support-recipient role, such individuals report feeling greater insecurity and display relationship-destructive behaviors, although receiving more responsive support tailored to their needs buffers them from experiencing these adverse states (Lemay & Dudley 2011, Simpson & Overall 2014). Responsiveness, in other words, plays a crucial role—frequently in conjunction with the partners' individual qualities—in social support contexts in which one partner helps the other cope with negative experiences or stressors. The extent to which individuals perceive that

they have high-quality support available predicts greater wellbeing and better health outcomes (Robles et al. 2014).

Responsiveness is also important in capitalization situations (Gable & Reis 2010) in which responsive reactions typically involve active, constructive behaviors such as excitement or enthusiasm (Feeney & Collins 2015). These reactions often yield positive outcomes, such as increases in the discloser's positive mood or self-esteem, which in turn lead the discloser to feel closer to the responsive partner. Conversely, passive or destructive responses such as apathy or envy signal a lack of responsiveness and frequently elicit distancing responses from disclosers.

**Resolution.** The manner in which partners communicate about and cope with relationship events affects long-term relationship quality and stability.

Certain relational events stand out, reverberating with psychological resonance for one or both partners. These events may be commonplace, such as the fifteenth fight over chores in a month, or infrequent, such as the birth of a child. The ways in which these events affect a relationship often hinge on how both partners behave in response to them (Overall & McNulty 2017).

The range of these resonant events is vast, but because negative relational events have stronger consequences for relationship wellbeing than do positive events (Gottman 1998), conflictual interaction tends to be especially significant. Communication often becomes fraught during conflict, and relationship satisfaction and stability largely depend on how partners construe and respond to each other's behavior. In addition, the effectiveness and pace with which partners recover from conflict episodes independently predict relationship satisfaction and stability (e.g., Gottman & Levenson 1999).

The response options to conflict reside within a constructive/destructive × active/passive behavioral space (Rusbult et al. 1982; for a similar model, see Overall & McNulty 2017). Responses within this space have downstream effects on relationship quality; active/constructive responses, for example, tend to predict higher satisfaction and lower breakup likelihood (Rusbult et al. 1982). Observational research has documented four conflict-relevant behavioral patterns that forecast relationship distress and propensity to divorce: globally criticizing your partner's personality, responding defensively to your partner's criticism, conveying the belief that your partner is beneath you, and refusing to engage with your partner's concerns (Gottman 1998).

Major relationship problems must sometimes be directly addressed to resolve persistent, nagging issues that, if left unattended, could further destabilize the relationship. For example, compared to partners who are more passive or destructive, partners who directly and openly confront major problems in active, constructive ways experience greater distress during and immediately following conflict discussions, but they and their partners are more likely to resolve these problems and have happier relationships over time (Overall et al. 2009). It appears that direct opposition is beneficial when serious problems must be addressed and when partners can make changes, but it is often harmful when partners do not have the traits or skills to be adequately responsive to one another (Overall & McNulty 2017). Indirect (i.e., passive) cooperative communication, on the other hand, appears to be harmful when major problems must be resolved but can be beneficial when (a) problems are minor, (b) things cannot be changed, or (c) one or both partners are too defensive to resolve the problem effectively.

Forgiveness research has revealed that the ways in which both partners behave and react following major interpersonal transgressions alter how resolution unfolds. If, for example, transgressors make stronger amends and victims forgive them more wholeheartedly following a major relationship transgression, victims tend to develop greater self-respect and clearer self-views (Luchies et al. 2010), which should result in better and more constructive interactions later on. Indeed, the expression of greater forgiveness by the victim predicts more constructive patterns of marital

conflict resolution and greater long-term relationship stability across time (Fincham et al. 2004). If, however, transgressors fail to make adequate amends or are verbally aggressive, victims who are highly (versus modestly) forgiving tend to respect themselves less and feel less satisfied in the marriage (Luchies et al. 2010, McNulty 2008).

Maintenance. Partners in committed relationships exhibit cognitions and behaviors that promote the relationship's persistence over time, even if doing so involves self-deceptive biases.

Forgiveness is one of many processes that protect and promote relationships over time; these processes are collectively called relationship maintenance mechanisms. Many of these mechanisms involve a transformation process in which partners override their immediate self-interests in favor of behaviors that are more beneficial to the partner or the relationship (Kelley & Thibaut 1978). One of the most robust predictors of the tendency to enact relationship maintenance mechanisms is relationship commitment, which emerges from feelings of satisfaction and investment in the relationship and from the belief that the alternatives to involvement in the relationship are less desirable (Le & Agnew 2003). Greater relationship commitment, in turn, is associated with enacting relationship-maintaining cognitions and behaviors, such as perceiving one's relationship as better than others' (including in the sexual arena; see de Jong & Reis 2015), ignoring or mentally derogating romantic alternatives, making sacrifices to benefit the relationship, and forgiving partner transgressions (Rusbult et al. 2001).

Some of the relationship-promoting effects of commitment stem from motivated biases. For example, the positive association of commitment with perceptions that one's relationship is better than others' relationships is stronger when one's relationship is threatened (Rusbult et al. 2000). The negative association of commitment with the assessment of romantic alternatives as desirable is stronger when alternatives are objectively more appealing; in fact, the negative association disappears when alternatives are objectively unappealing, presumably because they do not threaten the relationship and do not require derogation (Johnson & Rusbult 1989, Simpson et al. 1990). Similarly, although romantically unattached men tend to find a novel woman more desirable when she is at the most fertile stage of her ovulatory cycle, men who are involved in a committed romantic relationship show the opposite pattern (Miller & Maner 2010). That is, men in relationships actually find a woman other than their partner less attractive when she is highly fertile, presumably because she is especially tempting and threatening to their existing relationship and they are therefore motivated to perceive her negatively.

When engaged in relationship maintenance activities, one partner's commitment becomes more closely tied to the other's trust (Wieselquist et al. 1999). It is, after all, fairly easy to trust someone who forgives your transgressions and derogates attractive alternatives. Trust, in turn, is associated with less monitoring of the partner's behavior as the trusting individual develops more faith that the partner has his or her best interests at heart (Holmes & Rempel 1989). Indeed, individuals who place greater trust in their partners exhibit relationship-promoting biases in which they misremember their partner's relationship transgressions as being more benign than they actually were (Luchies et al. 2013).

Relationship scientists have also drawn from other theoretical frameworks to identify relationship maintenance mechanisms. For example, research has shown that positive illusions about the partner predict salutary relationship outcomes over time (Murray et al. 2011), and making more generous attributions about the causes of a partner's behavior predicts higher relationship satisfaction (Bradbury & Fincham 1990). Of course, reality does act as a constraint on an individual's rose-colored glasses (Fletcher & Kerr 2010, West & Kenny 2011), and biases may be more or less pronounced depending on the specific features of a situation. For example, the strength of a person's positive biases is more pronounced when he or she is pursuing important relationship

goals rather than deliberating about which goals to pursue (Gagné & Lydon 2004). Relationship-promoting effects are also found when partners engage in novel and arousing (rather than merely pleasant) activities with each other (Aron et al. 2000) and when they adopt the perspective of a neutral, benevolent third party when thinking about relationship conflict (Finkel et al. 2013).

## Set 3: What Tendencies Do People Bring to Their Relationships?

Thus far, our discussion has focused predominantly on relationship functioning. We have largely sidestepped both the normative or idiosyncratic tendencies that individuals bring to their relationships (Set 3) and the contextual factors that might influence relationship processes (Set 4). Set 3 contains three core principles that address how and why relationship functioning is influenced by the partners' personality qualities (the predisposition principle), their needs and goals (the instrumentality principle), and the benchmarks they use to evaluate the relationship (the standards principle).

**Predisposition.** People bring certain basic qualities of personality and temperament to their relationships, some of which influence their own and their partners' relationship wellbeing.

The most basic tendencies that people bring to their relationships are tied to their personality and temperament. The effects of personal strengths (e.g., high self-esteem, attachment security, approach goals) or vulnerabilities (e.g., neuroticism, rejection sensitivity, avoidance goals) can be amplified by events that transpire within relationships or in the wider environment. For example, John, who has low self-esteem and adopts avoidance goals in his relationship (e.g., avoiding conflict), may not worry much about the status of his relationship with Alice if they are getting along well and everything is fine at work. However, when either the relationship or work generates stress, his personal vulnerabilities may rise to the fore and make him think, feel, and behave in relationship-damaging ways, which adversely affect Alice and their later interactions (Gable & Impett 2012, Murray et al. 2006).

Several relationship theories are relevant to the predisposition principle. Attachment theory (Bowlby 1973), for instance, proposes that the ways in which an individual is treated by significant others (attachment figures) across the course of his or her life—and especially during childhood—produce internal working models of the self and others, which then guide how he or she thinks, feels, and behaves in later interpersonal contexts, particularly stressful ones. Securely attached individuals, who have received nurturing and sensitive care, develop positive models of the self and others and, therefore, behave more positively and constructively toward their partners (Mikulincer & Shaver 2007), especially when one or both of them are upset (Collins & Feeney 2004, Simpson et al. 1992). Anxiously attached individuals, who have received unpredictable or inconsistent care, develop negative models of the self (viewing themselves as unworthy of love), which motivates them to be hypervigilant to signs that their partner might be pulling away. Avoidantly attached individuals, who have been rebuffed or rejected, develop negative models of others (viewing others as uncaring), which motivates them to keep their attachment systems deactivated by being self-reliant, especially in stressful situations (Simpson & Rholes 2012).

The predisposition principle is prominent in other theories and bodies of research, as well. For example, according to evolutionary models of social development (reviewed in Simpson & Belsky 2016), stressful circumstances (e.g., early unpredictable environments) result in poorer parenting, which creates enduring vulnerabilities (e.g., attachment insecurity) that eventually affect the quality and stability of an individual's romantic relationships years later (Szepsenwol et al. 2016). According to the communal/exchange model (Clark & Mills 2011), people who bring greater communal strength to a relationship typically provide benefits to their partners that are

costly to themselves. According to the intimacy process model (Reis & Shaver 1988), the degree to which an individual discloses important personal information to his or her partner—and how the partner then perceives this information and reacts to it—is shaped by the unique motives, needs, goals, and fears (the working models) that each partner brings to the relationship (Laurenceau et al. 1998). Certain personality traits—especially neuroticism, which develops early in life—predict a host of negative relationship outcomes later in life (McNulty 2013).

**Instrumentality.** People bring certain goals and needs to their relationships, and the dynamics between the two partners affect the extent to which they succeed in achieving these goals and meeting these needs.

Beyond personality differences, people also bring many needs and goals to relationships. Some of these motivational elements are species typical. Attachment theory, for example, contends that humans have an innate need to develop attachment bonds (Bowlby 1969), whereas self-expansion theory suggests that humans have an innate need to expand the self (Aron et al. 2013). Applications of self-determination theory in the domain of relationships indicate that people look to their significant others to help them achieve their innate psychological needs for autonomy, competence, and relatedness (La Guardia et al. 2000). Other goals, such as the desire to reduce carbohydrate consumption, are more idiosyncratic. Relationship scientists investigate the ways in which relationships influence how much individuals are able to fulfill these needs and achieve their goals.

One foundational need relevant to the formation and maintenance of close relationships is attachment, the need to establish an emotionally close relationship that fosters feelings of security (Baumeister & Leary 1995, Bowlby 1969). Attachment theory's central idea is that human adults (in contrast to adults of our closest genetic relatives, chimpanzees and bonobos) evolved to form deep, long-term emotional attachments with other adults, presumably because such bonds promoted survival of our species' altricial infants ancestrally (Eastwick 2009, Finkel & Eastwick 2015, Fletcher et al. 2015). Human adults also seek out their primary attachment figures (e.g., romantic partners) for subsidiary attachment-related needs, such as comfort when they are upset or strength when pursuing challenging goals (Feeney & Collins 2015). Brain imaging research reveals that people subjected to physical pain exhibit stronger reductions in the activation of neural systems supporting emotional and behavioral threat responses when they are randomly assigned to hold their spouse's hand, especially if they have a higher-quality marriage (Coan et al. 2006). Other studies demonstrate that merely viewing a photo of one's romantic partner when enduring physical pain activates brain regions linked to safety signaling, especially among those who believe their partner is highly supportive (Eisenberger et al. 2011).

Close others influence an individual's goal pursuit processes in diverse ways. For example, when the opportunity arises, people tend to outsource their goal-related activities to their significant others, which may reduce the effort they exert when pursuing their goals (Fitzsimons & Finkel 2011), and they draw closer to those who help them achieve their high-priority goals (Fitzsimons & Shah 2008). As noted in the section Integration, above, the degree to which goal interdependence bolsters or undermines an individual's goal success is partially determined by how effectively partners can coordinate, such as by pooling and efficiently allocating their goal-relevant resources across the many goals that both partners possess (Fitzsimons et al. 2015). When things go well, partners not only achieve better goal-related outcomes on a daily basis but also move toward their ideal selves across time (Rusbult et al. 2009).

Close others also play a major role in existential outcomes. Perhaps the most remarkable evidence of this is that both marital status (married versus single) and marital quality (higher versus lower) predict lower morbidity and mortality rates (Holt-Lunstad et al. 2010, Robles et al. 2014).

**Standards.** People bring certain standards to their relationships and tend to experience greater relationship wellbeing when their relationships exceed these standards.

A third tendency that people bring to relationships is their personal standards, a construct that assumes a prominent role in many relationship theories. Thibaut & Kelley (1959) express this idea in their concept of comparison level (CL), which refers to individuals' overall assessments of the outcomes they believe they deserve in a particular relationship. According to interdependence theory (Kelley & Thibaut 1978, Thibaut & Kelley 1959) and its offshoots (Rusbult 1983), people are more satisfied with a relationship when the outcomes (rewards minus costs) it provides exceed their CL.

Many domain-specific relationship theories also focus on standards or on similar concepts, such as expectations, ideals, or preferences. For example, the triangular theory of love posits that greater relationship quality is indexed by smaller discrepancies between an individual's ideal level of each component of love (intimacy, passion, commitment) and the actual amount of love that he or she experiences in each component (Sternberg 1986). The ideal standards model (Simpson et al. 2001) claims that individuals should experience higher relationship quality when they perceive greater alignment between their ideals for particular traits in a romantic partner (warmth/loyalty, vitality/attractiveness, and status/resources) and their partner's actual traits. The suffocation model (Finkel et al. 2014a,b) suggests that people have varied historically in the degree to which they expect their spouses to fulfill needs that are low (e.g., safety) versus high (e.g., self-actualization) in Maslow's hierarchy of needs; the extent to which their relationships meet these expectations is theorized to predict marital quality more strongly for higher-level than lower-level needs.

High standards bode poorly for relationship wellbeing when they are unattainable (McNulty 2016a,b); people tend to be less happy when their actual partners and relationships do not fulfill their lofty standards. Conversely, high standards bode well for relationship wellbeing when such standards motivate individuals to engage in behaviors that improve relationship outcomes, such as when molding a less-than-ideal partner into an ideal one (Murray et al. 1996). Although high standards often motivate prorelationship cognitions and behaviors in people who have strong relationship skills, they also produce disappointment in those with poor relationship skills (McNulty & Karney 2004).

People sometimes deviate from strict veridicality when comparing their standards with reality. For example, people who are in a relationship characterized by aggression but nonetheless remain committed to the relationship adopt more tolerant standards for partner aggression (Arriaga et al. 2016). In addition, an individual's ideal partner preferences change over time to match the desirable qualities possessed by his or her current partner (Fletcher et al. 2000a,b; Neff & Karney 2003). People also have difficulty comparing, on a trait-by-trait basis, the concrete features of a flesh-and-blood partner with their abstract standards. Consequently, the match between ideals and a partner's traits is typically irrelevant to relationship outcomes if ideals are measured on single traits (e.g., attractiveness) isolated from the partner's complete suite of traits (Eastwick et al. 2014a,b).

## Set 4: How Does the Context Affect Relationships?

Consistent with classic person × situation models (e.g., Lewin 1936), the close relationships literature complements its analysis of the tendencies that people bring to their relationships with an analysis of the situational and contextual factors that influence relationship processes and outcomes (McNulty 2016a,b). Set 4 includes four core principles, which range from the micro to the macro level of analysis. These principles address how and why partners navigate situations in which their interests diverge (the diagnosticity principle), how they respond to appealing alternatives (the

alternatives principle), how stressors affect relationship dynamics (the stress principle), and how the broader social network and culture influence relationship dynamics (the culture principle).

**Diagnosticity.** Situations vary in the extent to which they afford opportunities to evaluate a partner's true goals and motives regarding the relationship.

Some situations provide better opportunities than others for revealing a partner's relationship-relevant goals and motives. For example, an individual's behavior in noncorrespondent situations such as strain tests—in which a good outcome for one partner produces a bad outcome for the other partner—can reveal his or her relationship goals, motives, and orientations more clearly than does his or her behavior in correspondent situations (Holmes 1981, 2002; Kelley & Thibaut 1978). If John agrees to quit his dream job and leave his friends and family so Alice can pursue her dream job in a faraway city, his willingness to make these sacrifices reveals how much he cares about her and is committed to their relationship. Alice's ability to make relatively unambiguous attributions about John's motives would have been diminished if the situation were more correspondent, as would be the case if he disliked his current job and did not have close social ties where they were living. Because highly noncorrespondent situations allow individuals to demonstrate their willingness to make significant sacrifices for their partner and relationship, such prorelationship behavior from one partner tends to promote the other partner's trust (Shallcross & Simpson 2012, Wieselquist et al. 1999), among other relationship benefits (Simpson 2007).

Diagnostic situations are central to several theories in relationship science. According to interdependence theory (Holmes 1981, 2002; Rusbult & Van Lange 2003), when relationship partners find themselves in noncorrespondent situations such as strain tests, the partner being asked to make a sacrifice must try to set aside his or her personal desires and transform his or her motivation to do what is best for the partner and relationship. He or she must then coordinate plans and actions with his or her partner to help achieve the partner's important goals. This explains why strain tests in particular are such powerfully diagnostic situations: They leave little attributional ambiguity regarding the extent and nature of the sacrificing partner's transformation of motivation. But if partners fail strain tests because they do not engage in prorelationship transformation of motivation, relationships run the risk of becoming unstable (Rusbult et al. 2001).

Diagnosticity is also a key element of both the risk regulation model (Murray et al. 2006) and the mutual responsiveness model (Murray & Holmes 2009). Individuals are typically motivated to connect emotionally with their partners while protecting the self from excessive vulnerability. Compared to correspondent situations, noncorrespondent situations highlight the fundamental conflict between (a) seeking connection and allowing the self to be vulnerable and (b) protecting the self and avoiding potential rejection. This is a basic conflict that both partners must struggle to resolve because relationships cannot fully develop unless the two of them are willing to take leaps of faith (Murray et al. 2006) and reciprocally disclose intimate information (Reis & Shaver 1988), actions that make them vulnerable to possible exploitation (Cavallo et al. 2009).

**Alternatives.** The presence of attractive alternatives to a current relationship—including the option of not being in a relationship at all—threatens relationship quality and persistence.

The existence and extent of options that make it desirable for an individual to leave an existing relationship play a vital role in interdependence theory (Kelley & Thibaut 1978, Thibaut & Kelley 1959) and the investment model (Rusbult 1983). Specifically, the comparison level for alternatives ( $CL_{Alt}$ ) concept reflects the outcomes that individuals would experience in their best alternative to being in the current relationship, including being single. Interdependence theorists hypothesize that relationship stability is more closely aligned with  $CL_{Alt}$  (the extent to which a person can

achieve better outcomes in another relationship) than with CL (the extent to which a person's current relationship outcomes exceed his or her standards). That is, CL<sub>Alt</sub> determines the extent to which a person is dependent on his or her partner to achieve his or her needs, goals, and other desirable outcomes.

Most  $CL_{Alt}$  studies have emphasized individuals' subjective (rather than objective) perceptions of the degree to which current alternatives are appealing. Research has shown, for example, that the better people perceive their alternatives to be, the more likely their relationships are to dissolve (Le et al. 2010). Research has also tested this association using experimental manipulations: When participants are randomly assigned to believe that their own sex is in the numerical minority (versus majority), they report lower relationship quality with their current partners, presumably because the abundance of opposite-sex people suggests that better options may be available (Kim 2013).

Most relationship models characterize desirable alternatives as threats that individuals should be motivated to ignore, downplay, or derogate to mitigate negative effects on their relationships (Durante et al. 2016, Lydon & Karremans 2015). This process is evident in controlled, conscious responses to attractive alternatives, such as the explicit evaluation of the desirability of opposite-sex alternative partners (Johnson & Rusbult 1989, Simpson et al. 1990). However, it is also evident in automatic, spontaneous responses, such as the amount of time individuals spend looking at attractive alternatives (Maner et al. 2009, Miller 1997) or displaying affiliative nonverbal behaviors in response to them (Karremans & Verwijmeren 2008).

Some theoretical analyses linked to these findings adopt an evolutionary perspective. Pairbonds most likely evolved in humans because such relationships offer adaptive benefits for offspring (Eastwick 2009). However, it takes considerable time and energy to cultivate a strong pair-bond, which suggests that the derogation process may be an evolved adaptation that motivates committed romantic partners to train their attention on each other to preserve the existing pair-bonded relationship (Maner et al. 2008). The process of derogating desirable alternatives is also consistent with cognitive dissonance perspectives: Once people have made a difficult-to-reverse choice (e.g., committing to a partner), they become motivated to perceive nonchosen alternatives as less desirable (Brehm 1956).

However, in some cases, people can sustain committed relationships while also pursuing sexual, even loving, relationships with other partners, as in the case of polyamory, a relationship structure in which individuals have "consensual loving and romantic relationships with more than one partner" (Conley et al. 2012, p. 126). In fact, polyamorous relationships may be stable precisely because people do not construe their additional sexual partners as true alternatives that would replace a current partner.

**Stress.** High demands external to the relationship predict worse relationship outcomes, especially if the demands exceed the two partners' (individual or combined) resources for coping.

Beyond the immediate situation and romantic alternatives, external factors, especially stressors, can also affect relationship functioning. It is difficult to sustain a high-quality relationship when confronting acute or chronic stress external to the relationship (Karney & Bradbury 1995). A broad spectrum of stressors—including job loss, financial strain, incarceration, chronic illness, infertility, and natural disasters—predicts myriad adverse relationship outcomes, including low satisfaction and breakup (Karney & Neff 2015, Randall & Bodenmann 2009).

Research has shown that some couples manage stress better than others. One major factor in explaining this variation is the level of coping-relevant resources (Hill 1949, McCubbin & Patterson 1983). According to stress buffering perspectives (Cohen & Wills 1985), the adverse effects of stressors are especially strong if such resources are low, as is the case when the couple lacks

sufficient money or when one or both partners feel psychologically depleted due to work-related stress. However, among couples who have good problem-solving skills, navigating moderate levels of stress early on strengthens the relationship over time, as long as they responded to those stressors effectively (Neff & Broady 2011).

The most influential framework for conceptualizing the impact of stress on relationship functioning is Karney & Bradbury's (1995) vulnerability-stress-adaptation model, which emphasizes the role of interpersonal processes in mediating the effects of stress and resources on relationship outcomes. According to this model, stress exerts its adverse influence on relationship processes and outcomes via two routes (Karney & Neff 2015). First, stress alters how much time partners have for each other and how they use that time. Partners who encounter high levels of stress have less time to engage in tasks that might increase emotional or physical intimacy, and they use more of their winnowed time dealing with stressful, challenging situations (Neff & Karney 2009). Second, stress depletes the self-regulatory resources that partners need to respond constructively to relationship challenges (Repetti 1989). Partners whose self-regulatory resources have been depleted are especially prone to retaliation in response to provocation (Finkel et al. 2009), and the subjective experience of self-regulatory depletion mediates the association of stress with both negative marital behaviors and diminished marital satisfaction (Buck & Neff 2012). These effects are particularly strong when individuals are tempted to lash out at their partners but are smaller or nonexistent in the absence of such temptation (Finkel et al. 2012).

**Culture.** Relationships are embedded in social networks and a cultural milieu—including norms, practices, and traditions—that shape the nature and trajectory of those relationships.

As we broaden the contextual lens to consider cultural and subcultural effects on relationships, we turn to social ecological models, which posit that environmental contexts have nested layers (e.g., Bronfenbrenner 1986). More specifically, individuals live within social networks of friends and family whose approval or disapproval of a given relationship might affect its trajectory. These social networks are themselves embedded in cultural contexts consisting of norms, values, and scripts, and relationships are also shaped by these socially shared constructs. Finally, cultures are embedded in national and historical contexts that can cause relationships to differ across time and place.

At the level of the social network, approval from friends and family members predicts greater relationship satisfaction and stability (Felmlee 2001). In some cases, friends and family members may engage in specific behaviors that help a relationship flourish or flounder; in other cases, simply hearing a loved one's positive reaction about one's current partner can reduce uncertainty and increase the likelihood of investing more in the relationship (Sprecher 2011).

People also share knowledge about sexual scripts and norms within the local culture, which subsequently guide behavior (Simon & Gagnon 2003). Fraternity membership, for example, predicts the extent to which sexual activity is part of the script that undergraduates use when describing a typical date (Bartoli & Clark 2006), and norms about appropriate sexual behaviors vary as a function of regional levels of education and religiosity (Laumann et al. 1994).

Finally, relationships can be influenced by the national and historical context. For example, the degree to which individuals are willing to engage in casual sexual activity is linked to national indicators such as the rate of infectious diseases and women's economic power (Schaller & Murray 2008, Schmitt et al. 2005). People in the United States expect their marriage to help them fulfill certain needs, but these needs have varied over time; Americans were especially likely to prioritize needs like safety and food production circa 1800, needs like intimacy and sexual fulfillment circa 1900, and needs like self-discovery and self-expression circa 2000 (Finkel et al. 2014a). The rise of

the postindustrial economy in Western cultures during the second half of the twentieth century facilitated a "grand gender convergence" (although certainly not an equalization) in men's and women's social roles (Goldin 2014), which profoundly influenced relationship dynamics, especially in marriages (Finkel et al. 2014a).

Evolutionary models of culture connect these different context levels to specific psychological processes. Transmitted cultural models, for instance, explore how and why people share beliefs, practices, and knowledge, usually emphasizing the processes of adopting, changing, and improving these products of shared culture (Richerson & Boyd 2005). As an example, college administrators frequently hold workshops that increase students' sensitivity to issues surrounding sexual consent and that change how the students engage in sexual behavior. Evoked cultural models posit that encountering a particular environmental cue that was prevalent in our ancestral past, such as the presence versus absence of a responsive caregiver (Simpson & Belsky 2016), triggers adaptive cognitive and behavioral responses. For example, environments containing more pathogens may trigger preferences for romantic partners who carry genes associated with better health (Gangestad et al. 2006). These two forms of culture may influence psychological functioning in tandem or independently (Eastwick 2013).

#### COMBINING THE PRINCIPLES TO REFINE OR DEVELOP THEORIES

Scholars can use these 14 core principles from the psychological literature on relationships (see **Figure 1** and **Table 1**) to clarify and refine existing theories and perhaps generate new ones. Using the metaphoric terminology of the culinary approach, the cook (the theorist) can canvas the pantry (the collection of principles) for particular ingredients (specific principles), prepare the recipe (select and arrange the ingredients), and then cook the dish (develop the theory).

## **Refining Existing Theories**

To refine an existing theory, theorists might first map each of the 14 principles onto a theory, retaining the principles that overlap or fit with this theory and setting aside those that do not. Theorists can then determine whether the addition of one or more of the extra principles—those that were not part of the original theory—might broaden the explanatory power of the theory enough to offset the additional complexity that comes with including more principles.

We illustrate this process using transactive goal dynamics theory (Finkel et al. 2016, Fitzsimons et al. 2015). We focus on this theory because we are familiar with it and because it was developed within the past few years, which means that there are few published articulations of the core principles. Transactive goal dynamics theory contains elements of integration (Principle 2), evaluation (Principle 4), responsiveness (Principle 5), predisposition (Principle 8), instrumentality (Principle 9), and alternatives (Principle 12). Specifically, it proposes that: (a) relationship partners form a shared system of goal pursuits (integration), (b) subjective assessments of relationship commitment predict increased merging (evaluation), (c) goal success is maximized when partners support each other in ways tailored to each partner's idiosyncratic goals and needs (responsiveness), (d) each partner has certain skills and preferences that can be leveraged for optimal goal functioning at the dyadic level (predisposition), (e) partners influence each other's degree of goal success (instrumentality), and (f) the relationship is more likely to continue if it results in goal success that exceeds what the two partners would otherwise experience (alternatives). In short, we can formulate much of the content of transactive goal dynamics theory with just these six ingredients.

As with most theories, transactive goal dynamics theory also contains important elements that do not rise to the level of a core principle. For example, one tenet of the theory is that stronger goal interdependence in a relationship should predict poorer goal-related recovery following a breakup. Such idiosyncratic elements are crucial in defining the unique terrain that a given theory seeks to address.

Transactive goal dynamics theory, however, leaves eight core principles unused. Thus, a scholar seeking to refine or expand the theory might consider whether adding any additional principles might benefit or improve the theory enough to offset the complexity of doing so, or whether incorporating additional principles might generate novel hypotheses. For example, transactive goal dynamics theory is not a theory of goal content; it primarily takes the two partners' goals as a given rather than investigating how or why they adopted these particular goals. By adding the perspective of culture (Principle 14), a theorist might wonder whether the goal contents that people bring to their relationships—for example, the desired level or type of interdependence in the relationship—differ in important ways across cultural or historical contexts and whether such variation has implications for relationship quality and longevity. This analysis might lead to the novel hypothesis that emotional responsiveness is more important for such outcomes in the twenty-first century United States than in Jane Austen's England (Light & Fitzsimons 2014).

## Generating New Theories

Other scholars might want to use the principles not to refine or expand an existing theory but to guide theory development in a bottom-up manner. Although this process can begin in various ways (e.g., one might start with observations about relationship dynamics in the surrounding world), it is likely to entail a systematic consideration of whether each of the principles can inform thinking, which would lead to the generation of new insights and hypotheses. For example, a scholar might wish to develop a new theoretical perspective on the circumstances under which sexual intercourse draws partners closer together versus pushes them apart. Merely looking at the list of core principles will not yield a new theoretical perspective, but it might be a productive first step. A scholar can consider whether each principle is likely to yield a deeper, better, or more nuanced understanding of a topic and can then explore how the most relevant principles interrelate in theoretically interesting ways. To facilitate this process, he or she might generate a path diagram that specifies precisely how the variables should interrelate, including processes such as mediation, moderation, and feedback loops. Because the principles are cast at a relatively high level of abstraction, they can be exported readily to different research domains. For example, the researcher might find it easier to apply two or three principles—rather than an entire theory of relationships—to an existing evolutionary perspective on how sex affects relationship partners.

## OPTIMIZING RELATIONSHIP SCIENCE: THEORETICAL COHESION VERSUS CONFLICT

What has this exercise taught us? Among other things, we have learned that there are few instances in which a notable principle used in one theory clearly conflicts with a notable principle used in another. <sup>4</sup> Many relationship scientists recall interdependence theorists whispering the objection

<sup>&</sup>lt;sup>4</sup>One reason for this cohesion may be the abstract nature of the 14 principles. When different theories operationalize, test, and combine constructs associated with specific principles in novel ways, they may generate different or competing predictions. For example, although scholars agree that the principle of standards (Principle 10) matters, there is debate about the circumstances under which standards influence relationship outcomes (Eastwick et al. 2014a,b; Schmitt 2014). There could also be conflict

that attachment theory is too focused on individual differences. However, as attachment theory complemented research on individual differences with research on normative attachment processes (Mikulincer & Shaver 2007), the whispers dissipated. Many currently prominent relationship models derive specific hypotheses on the basis of ideas borrowed from different theories. When developing the risk regulation model, for example, Murray and colleagues (2006) extracted several key features of interdependence theory and attachment theory, combined them in novel ways, and added new theoretical components to generate an important process model that tied together several major ideas in the field.

In many ways, such strong theoretical cohesion is marvelous. Although relationship scientists have many theories and models that address distinct relationship processes, we appear to have something approximating a consensual theoretical paradigm. This paradigm, which encompasses the 14 principles reviewed above, is compelling and generative. Recent edited volumes (e.g., Simpson & Campbell 2013) and journal special issues (e.g., Finkel & Simpson 2015) indicate that relationship science is thriving.

However, there are also downsides to having such a cohesive discipline. Science often benefits from competition between conflicting ideas. Although it is pleasant to work in an environment characterized by consensus, it sometimes takes friction to generate forward motion. We believe that the current theoretical paradigms in relationship science are excellent, but the field might benefit from some theoretical conflicts—alternative accounts that might sharpen and hone one another. For example, our field could explore whether the dominant view that people are best served by being in a secure relationship with a romantic partner is misguided, at least under some circumstances, such as when close friends provide a better option (DePaulo & Morris 2005). We could also reexamine the widespread, albeit implicit, assumption that relationship stability is a good outcome (with abusive relationships being one exception) and breakups are a bad outcome. Perhaps we could challenge this dominant view by examining the circumstances under which people are best served by leaving their relationship or seeking to trade up for a partner who is more compatible. Revisiting broad questions and assumptions such as these accentuates the fact that many relationship scientists have focused quite heavily on the life cycle of one relationship rather than the multiple relationships that many people develop throughout their lives.

Evolutionary psychology, for example, potentially poses some serious challenges to certain theories and models in relationship science, particularly in the realm of mate selection. The evolutionary psychology of human mating adopts foundational assumptions that differ from many of those in relationship science (Durante et al. 2016, Eastwick 2016). In particular, evolutionary perspectives highlight not only the adaptive value of strong pair-bonds but also the potential adaptive value of behaviors such as sexual infidelity, trading up, and stalking (Buss & Shackelford 1997). If a scholar extracted the core principles in the evolutionary psychological literature on mating, one of these principles might be that people evolved to seek opportunistic copulations outside of long-term, committed relationships. The hypotheses that follow from this principle seem to fundamentally conflict with hypotheses that follow from the maintenance principle discussed above (Durante et al. 2016). If ancestral humans enjoyed a survival advantage from such relationship-destructive behaviors, how can relationship scientists reconcile this with the field's strong emphasis on the benefits—including the survival benefits—of exclusive romantic relationships (Holt-Lunstad et al. 2010, Robles et al. 2014)? And if humans are best served by having

at the level of abstraction of the 14 principles, but our extensive literature review unearthed minimal evidence of any such conflict within relationship science.

accurate insights about their partner's romantic attraction to others so that they can guard against mate poaching, why do they shield themselves from the truth precisely in those circumstances when the threat of one's partner's extrarelationship temptation is strongest (Johnson & Rusbult 1989, Simpson et al. 1995)?

By posing these and other questions, evolutionary psychology directly challenges some of the foundational assumptions and principles in relationship science. If those assumptions and principles withstand the challenge, the current relationship science paradigm will be solidified. If they do not, it will need to be altered. Regardless of the outcome, our discipline will benefit.

#### **CONCLUSION**

Relationship science has come a long way in a relatively short period of time. It has become a rich discipline characterized by strong theories and highly generative research paradigms. According to our analysis, the field has 14 core principles that address what a relationship is, how relationships operate, what tendencies people bring to their relationships, and how contextual factors affect relationship processes and outcomes. At present, the major theories in our field largely align and rarely conflict.

As we look to the future, it will be interesting to see whether various theories gradually merge into a single, unified theory of relationships or whether some major disagreements will enter mainstream relationship science. As the field continues to mature, it is likely to benefit from simultaneous trends toward greater theoretical unification on the one hand and greater theoretical disagreement on the other. Such trends should refine, deepen, and extend our understanding of how and why relationships function as they do in daily life, potentially providing clinicians and policymakers with more effective tools for helping people achieve deeper and more fulfilling relationships.

#### **SUMMARY POINTS**

- 1. This review presents the first attempt to discern the core principles that cut across the major theories in relationship science, especially the theories within psychology.
- 2. This review of the major theories used a novel procedure called the culinary approach, which seeks to extract the core principles (the basic theoretical building blocks or ingredients) from a given discipline and address how theorists can use them to refine existing theories or develop new theories.
- 3. Applying the extraction process to relationship science revealed 14 core principles, which help to answer four basic questions in the literature: (a) What is a relationship? (b) How do relationships operate? (c) What tendencies do people bring to their relationships? (d) How does the context affect relationships?
- 4. The literature review revealed a cohesive discipline with few notable conflicts among the core theoretical principles.
- 5. We suggest that relationship science would benefit from both (*a*) greater recognition of the principle-level overlap or redundancy across theories and (*b*) greater effort to adopt novel perspectives on relationship dynamics, ideally perspectives that raise important challenges to the dominant paradigm.

#### **DISCLOSURE STATEMENT**

The authors are not aware of any affiliations, memberships, funding, or financial holdings that might be perceived as affecting the objectivity of this review.

#### **ACKNOWLEDGMENTS**

The authors, who contributed equally to this review, thank Galen Bodenhausen, Jim McNulty, and Nickola Overall for their insightful feedback on a previous draft, as well as the 16 leading relationship scientists who provided constructive feedback on an early outline of this paper.

#### LITERATURE CITED

- Agnew CR, Van Lange PA, Rusbult CE, Langston CA. 1998. Cognitive interdependence: commitment and the mental representation of close relationships. *7. Personal. Soc. Psychol.* 74:939–54
- Altman I, Taylor DA. 1973. Social Penetration: The Development of Interpersonal Relationships. New York: Holt, Rinehart and Winston
- Andersen SM, Chen S. 2002. The relational self: an interpersonal social-cognitive theory. *Psychol. Rev.* 109:619–45
- Aron A, Lewandowski GW Jr., Mashek D, Aron EN. 2013. The self-expansion model of motivation and cognition in close relationships. See Simpson & Campbell 2013, pp. 90–115
- Aron A, Norman CC, Aron EN, McKenna C, Heyman RE. 2000. Couples' shared participation in novel and arousing activities and experienced relationship quality. J. Personal. Soc. Psychol. 78:273–84
- Arriaga XB, Capezza NM, Daly CA. 2016. Personal standards for judging aggression by a relationship partner: How much aggression is too much? *7. Personal. Soc. Psychol.* 110:36–54
- Banse R, Kowalick C. 2007. Implicit attitudes towards romantic partners predict well-being in stressful life conditions: evidence from the antenatal maternity ward. Int. J. Psychol. 42:149–57
- Bartoli AM, Clark MD. 2006. The dating game: similarities and differences in dating scripts among college students. Sex. Cult. 10:54–80
- Baumeister RF, Leary MR. 1995. The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychol. Bull.* 117:497–529
- Beckes L, Coan JA. 2011. Social baseline theory: the role of social proximity in emotion and economy of action. Soc. Personal. Psychol. Compass 5:976–88
- Berscheid E. 1999. The greening of relationship science. Am. Psychol. 54:260-66
- Berscheid E, Regan P. 2005. The Psychology of Interpersonal Relationships. New York: Prentice-Hall
- Bowlby J. 1969. Attachment and Loss, Vol. 1: Attachment. New York: Basic Books
- Bowlby J. 1973. Attachment and Loss, Vol. 2: Separation: Anxiety and Anger. New York: Basic Books
- Bowlby J. 1980. Attachment and Loss, Vol. 3: Loss. New York: Basic Books
- Bradbury TN, Fincham FD. 1990. Attributions in marriage. Review and critique. *Psychol. Bull.* 107:3–33
- Brehm JW. 1956. Postdecision changes in the desirability of alternatives. J. Abnorm. Soc. Psychol. 52:384–
- Bretherton I, Munholland KA. 2008. Internal working models in attachment relationships: elaborating a central construct in attachment theory. In *The Handbook of Attachment: Theory, Research, and Clinical Applications*, ed. J Cassidy, PR Shaver, pp. 102–27. New York: Guilford
- Bronfenbrenner U. 1986. Ecology of the family as a context for human development: research perspectives. *Dev. Psychol.* 22:723–42
- Buck AA, Neff LA. 2012. Stress spillover in early marriage: the role of self-regulatory depletion. J. Fam. Psychol. 26:698–708
- Buss DM. 2008. The Evolution of Desire: Strategies of Human Mating. New York: Basic Books. 2nd ed.
- Buss DM, Shackelford TK. 1997. From vigilance to violence: mate retention tactics in married couples. J. Personal. Soc. Psychol. 72:346–61

- Campbell L, Simpson A. 2013. The blossoming of relationship science. See Simpson & Campbell 2013, pp. 3–10
- Cavallo J, Fitzsimons GM, Holmes JG. 2009. Taking chances in the face of threat: romantic risk regulation and approach motivation. Personal. Soc. Psychol. Bull. 35:737–51
- Clark MS, Lemay EP. 2010. Close relationships. In Handbook of Social Psychology, ed. ST Fiske, DT Gilbert, G Lindzey, pp. 898–940. New York: Wiley
- Clark MS, Mills J. 1979. Interpersonal attraction in exchange and communal relationships. J. Personal. Soc. Psychol. 37:12–24
- Clark MS, Mills JR. 2011. A theory of communal (and exchange) relationships. Handb. Theor. Soc. Psychol. 1:232–50
- Clark MS, Reis HT. 1988. Interpersonal processes in close relationships. Annu. Rev. Psychol. 39:609–72
- Coan JA, Schaefer HS, Davidson RJ. 2006. Lending a hand: social regulation of the neural response to threat. Psychol. Sci. 17:1032–39
- Cohen S, Wills TA. 1985. Stress, social support, and the buffering hypothesis. Psychol. Bull. 98:310-57
- Collins NL, Feeney BC. 2004. Working models of attachment affect perceptions of social support: evidence from experimental and observational studies. 7. Personal. Soc. Psychol. 87:363–83
- Conley TD, Ziegler A, Moors AC, Matsick JL, Valentine B. 2012. A critical examination of popular assumptions about the benefits and outcomes of monogamous relationships. *Personal. Soc. Psychol. Rev.* 17:124-41
- de Jong DC, Reis HT. 2015. We do it best: commitment and positive construals of sex. J. Soc. Clin. Psychol. 34:181–202
- Debrot A, Cook WL, Perrez M, Horn AB. 2012. Deeds matter: daily enacted responsiveness and intimacy in couples' daily lives. *J. Fam. Psychol.* 26:617–27
- DePaulo BM, Morris WL. 2005. Singles in society and in science. Psychol. Inq. 16:57-83
- Drigotas SM, Rusbult CE, Verette J. 1999. Level of commitment, mutuality of commitment, and couple well-being. Pers. Relat. 6:389–409
- Durante KM, Eastwick PW, Finkel EJ, Gangestad SM, Simpson JA. 2016. Pair-bonded relationships and romantic alternatives: toward an integration of evolutionary and relationship science perspectives. *Adv. Exp. Soc. Psychol.* 53:1–74
- Eastwick PW. 2009. Beyond the Pleistocene: using phylogeny and constraint to inform the evolutionary psychology of human mating. *Psychol. Bull.* 135:794–821
- Eastwick PW. 2013. Cultural influences on attraction. See Simpson & Campbell 2013, pp. 161-82
- Eastwick PW. 2016. The emerging integration of close relationships research and evolutionary psychology. Curr. Dir. Psychol. Sci. 25:183–90
- Eastwick PW, Hunt LL. 2014. Relational mate value: consensus and uniqueness in romantic evaluations. J. Personal. Soc. Psychol. 106:726–51
- Eastwick PW, Keneski E, Morgan TA, McDonald M. 2016. What do short-term and long-term relationships look like? Building the Relationship Coordination and Strategic Timing (ReCAST) model. Work. Pap., Dep. Psychol., Univ. Calif. Davis. http://papers.ssrn.com/sol3/papers.cfm?abstract\_id = 2820704
- Eastwick PW, Luchies LB, Finkel EJ, Hunt LL. 2014a. The many voices of Darwin's descendants: reply to Schmitt 2014. *Psychol. Bull.* 140:673–81
- Eastwick PW, Luchies LB, Finkel EJ, Hunt LL. 2014b. The predictive validity of ideal partner preferences: a review and meta-analysis. *Psychol. Bull.* 140:623–65
- Eisenberger NI, Master SL, Inagaki TK, Taylor SE, Shirinyan D, et al. 2011. Attachment figures activate a safety signal-related neural region and reduce pain experience. *PNAS* 108:11721–26
- Feeney BC, Collins NL. 2001. Predictors of caregiving in adult intimate relationships: an attachment theoretical perspective. J. Personal. Soc. Psychol. 80:972–94
- Feeney BC, Collins NL. 2015. A new look at social support: a theoretical perspective on thriving through relationships. Personal. Soc. Psychol. Rev. 19:113–47
- Felmlee DH. 2001. No couple is an island: a social network perspective on dyadic stability. Soc. Forces 79:1259–87
- Fincham FD, Beach SRH, Davila J. 2004. Forgiveness and conflict resolution in marriage. *J. Fam. Psychol.* 18:72–81

- Finkel EJ, DeWall CN, Slotter EB, McNulty JK, Pond RS Jr., Atkins DC. 2012. Using I<sup>3</sup> theory to clarify when dispositional aggressiveness predicts intimate partner violence perpetration. *J. Personal. Soc. Psychol.* 102:533–49
- Finkel EJ, DeWall CN, Slotter EB, Oaten M, Foshee VA. 2009. Self-regulatory failure and intimate partner violence perpetration. J. Personal. Soc. Psychol. 97:483–99
- Finkel EJ, Eastwick PW. 2015. Attachment and pairbonding. Curr. Opin. Behav. Sci. 3:7-11
- Finkel EJ, Eastwick PW, Karney BR, Reis HT, Sprecher S. 2012. Online dating: a critical analysis from the perspective of psychological science. *Psychol. Sci. Public Interest* 13:3–66
- Finkel EJ, Fitzsimons GM, vanDellen MR. 2016. Self-regulation as a transactive process: reconceptualizing the unit of analysis for goal setting, pursuit, and outcomes. In *Handbook of Self-Regulation*, ed. KD Vohs, RF Baumeister, pp. 264–82. New York: Guilford. 3rd ed.
- Finkel EJ, Hui CM, Carswell KL, Larson GM. 2014a. The suffocation of marriage: climbing Mount Maslow without enough oxygen. *Psychol. Inq.* 25:1–41
- Finkel EJ, Larson GM, Carswell KL, Hui CM. 2014b. Marriage at the summit: response to the commentaries. Psychol. Inq. 25:120–45
- Finkel EJ, Simpson JA, eds. 2015. Relationship science. Curr. Opin. Psychol. 1(Spec. Issue). Amsterdam: Elsevier Finkel EJ, Slotter EB, Luchies LB, Walton GM, Gross JJ. 2013. A brief intervention to promote conflict-reappraisal preserves marital quality over time. Psychol. Sci. 24:1595–601
- Fitzsimons GM, Finkel EJ. 2011. Outsourcing self-regulation. Psychol. Sci. 22:369-75
- Fitzsimons GM, Finkel EJ, vanDellen MR. 2015. Transactive goal dynamics. Psychol. Rev. 122:648-73
- Fitzsimons GM, Shah JY. 2008. How goal instrumentality shapes relationship evaluations. J. Personal. Soc. Psychol. 95:319–37
- Fletcher GJ, Kerr PS. 2010. Through the eyes of love: reality and illusion in intimate relationships. Psychol. Bull. 136:627–58
- Fletcher GJO, Simpson JA, Campbell L, Overall NC. 2015. Pair-bonding, romantic love, and evolution: the curious case of *Homo sapiens*. *Perspect. Psychol. Sci.* 10:20–36
- Fletcher GJO, Simpson JA, Thomas G. 2000a. Ideals, perceptions, and evaluations in early relationship development. J. Personal. Soc. Psychol. 79:933–40
- Fletcher GJO, Simpson JA, Thomas G. 2000b. The measurement of perceived relationship quality components: a confirmatory factor analytic approach. Personal. Soc. Psychol. Bull. 26:340–54
- Fraley RC. 2007. A connectionist approach to the organization and continuity of working models of attachment. J. Personal. 75:1157–80
- Gable SL, Gosnell CL, Maisel NC, Strachman A. 2012. Safely testing the alarm: close others' responses to personal positive events. 7. Personal. Soc. Psychol. 103:963–81
- Gable SL, Impett EA. 2012. Approach and avoidance motives and close relationships. Soc. Personal. Psychol. Compass 6:95–108
- Gable SL, Reis HT. 2001. Appetitive and aversive social interaction. In *Close Romantic Relationships: Maintenance and Enhancement*, ed. JH Harvey, A Wenzel, pp. 169–94. Mahwah, NJ: Lawrence Erlbaum Assoc.
- Gable SL, Reis HT. 2010. Good news! Capitalizing on positive events in an interpersonal context. Adv. Exp. Soc. Psychol. 42:195–257
- Gagné FM, Lydon JE. 2004. Bias and accuracy in close relationships: an integrative review. Personal. Soc. Psychol. Rev. 8:322–38
- Gangestad SW, Haselton MG, Buss DM. 2006. Evolutionary foundations of cultural variation: evoked culture and mate preferences. Psychol. Inq. 17:75–95
- Goldin C. 2014. A grand gender convergence: its last chapter. Am. Econ. Rev. 104:1091-119
- Gottman JM. 1998. Psychology and the study of marital processes. Annu. Rev. Psychol. 49:169–97
- Gottman JM, Levenson RW. 1999. Rebound from marital conflict and divorce prediction. Fam. Process. 38:287–92
- Hazan C, Shaver P. 1987. Romantic love conceptualized as an attachment process. J. Personal. Soc. Psychol. 52:511–24
- Hazan C, Shaver PR. 1994. Attachment as an organizational framework for research on close relationships. Psychol. Ing. 5:1–22

- Helm JL, Sbarra DA, Ferrer E. 2014. Coregulation of respiratory sinus arrhythmia in adult romantic partners. Emotion 14:522–31
- Hill R. 1949. Families under Stress: Adjustment to the Crises of War Separation and Reunion. New York: Harper & Brothers
- Holmes JG. 1981. The exchange process in close relationships: microbehavior and macromotives. In *The Justice Motive in Social Behavior*, ed. MJ Lerner, SC Lerner, pp. 261–84. New York: Plenum
- Holmes JG. 2002. Interpersonal expectations as the building blocks of social cognition: an interdependence theory perspective. Pers. Relat. 9:1–26
- Holmes JG, Rempel JK. 1989. Trust in close relationships. In Review of Personality and Social Psychology, Vol. 10, Close Relationships, ed. C Hendrick, pp. 187–220. Thousand Oaks, CA: Sage
- Holt-Lunstad J, Smith TB, Layton JB. 2010. Social relationships and mortality risk: a meta-analytic review. PLOS Med. 7:e1000316
- IJzerman H, Coan JA, Wagemans FM, Missler MA, Van Beest I, et al. 2015. A theory of social thermoregulation in human primates. Front. Psychol. 6:464
- Johnson DJ, Rusbult CE. 1989. Resisting temptation: devaluation of alternative partners as a means of maintaining commitment in close relationships. J. Personal. Soc. Psychol. 57:967–80
- Karney BR, Bradbury TN. 1995. The longitudinal course of marital quality and stability: a review of theory, method, and research. Psychol. Bull. 118:3–34
- Karney BR, Neff LA. 2015. Couples and stress: how demands outside a relationship affect intimacy within the relationship. See Simpson & Campbell 2013, pp. 664–84
- Karremans JC, Verwijmeren T. 2008. Mimicking attractive opposite-sex others: the role of romantic relationship status. *Personal. Soc. Psychol. Bull.* 34:939–50
- Kelley HH. 1979. Personal Relationships: Their Structures and Processes. Hillsdale, NJ: Erlbaum
- Kelley HH, Berscheid E, Christensen A, Harvey JH, Huston TL, et al. 1983. *Close Relationships*. New York: Freeman
- Kelley HH, Holmes JG, Kerr NL, Reis HT, Rusbult CE, Van Lange PAM. 2003. An Atlas of Interpersonal Situations. New York: Cambridge Univ. Press
- Kelley HH, Thibaut JW. 1978. Interpersonal Relations: A Theory of Interdependence. New York: Wiley
- Kenny DA, Kashy DA. 2011. Dyadic data analysis using multilevel modeling. In The Handbook of Advanced Multilevel Analysis, ed. J Hox, JK Roberts, pp. 335–70. London: Taylor & Francis
- Kim JS. 2013. The influence of local sex ratio on romantic relationship maintenance processes. PhD Thesis, Univ. Minn., Minneapolis, MN
- Knapp ML, Vangelisti AL, Caughlin JP. 2014. Interpersonal Communication and Human Relationships. Boston: Allyn & Bacon. 7th ed.
- Kurdek LA. 2004. Are gay and lesbian cohabiting couples really different from heterosexual married couples? 7. Marriage Fam. 66:880–900
- Kurdek LA. 2005. What do we know about gay and lesbian couples? Curr. Dir. Psychol. Sci. 14:251-54
- La Guardia JG, Ryan RM, Couchman CE, Deci EL. 2000. Within-person variation in security of attachment: a self-determination theory perspective on attachment, need fulfillment, and well-being. *Personal. Soc. Psychol.* 79:367–84
- Lakey B, Orehek E. 2011. Relational regulation theory: a new approach to explain the link between perceived social support and mental health. Psychol. Rev. 118:482–95
- Laumann EO, Gagnon J, Michael R, Michaels S. 1994. The Social Organization of Sexuality: Sexual Practices in the United States. Chicago: Univ. Chicago Press
- Laurenceau J-P, Feldman Barrett LA, Pietromonaco PR. 1998. Intimacy as an interpersonal process: the importance of self-disclosure and perceived partner responsiveness in interpersonal exchanges. J. Personal. Soc. Psychol. 74:1238–51
- Lavner JA, Bradbury TN, Karney BR. 2012. Incremental change or initial differences? Testing two models of marital deterioration. J. Fam. Psychol. 26:606–16
- Le B, Agnew CR. 2003. Commitment and its theorized determinants: a meta-analysis of the investment model. Pers. Relat. 17:37–57
- Le B, Dove NL, Agnew CR, Korn MS, Mutso AA. 2010. Predicting nonmarital romantic relationship dissolution: a meta-analytic synthesis. *Pers. Relat.* 17:377–90

- Lemay EP Jr., Dudley KL. 2011. Caution: fragile! Regulating the interpersonal security of chronically insecure partners. 7. Personal. Soc. Psychol. 100:681–702
- Levinger G, Snoek JD. 1972. Attraction in Relationship: A New Look at Interpersonal Attraction. Morristown, NJ: Gen. Learn. Press
- Lewin K. 1936. Principles of Topological Psychology. New York: McGraw-Hill
- Light AE, Fitzsimons GM. 2014. Contextualizing marriage as a means and a goal. Psychol. Inq. 25:88-94
- Loving TJ, Gleason MEJ, Pope MT. 2009. Transition novelty moderates daters' cortisol responses when talking about marriage. Pers. Relat. 16:187–203
- Luchies LB, Finkel EJ, McNulty JK, Kumashiro M. 2010. The doormat effect: when forgiving erodes self-respect and self-concept clarity. J. Personal. Soc. Psychol. 98:734–49
- Luchies LB, Wieselquist J, Rusbult CE, Kumashiro M, Eastwick PW. 2013. Trust and biased memory of transgressions in romantic relationships. J. Personal. Soc. Psychol. 104:673–94
- Lydon JE, Karremans JC. 2015. Relationship regulation in the face of eye candy: a motivated cognition framework for understanding responses to attractive alternatives. *Curr. Opin. Psychol.* 1:76–80
- Maner JK, Gailliot MT, Miller SL. 2009. The implicit cognition of relationship maintenance: inattention to attractive alternatives. 7. Exp. Soc. Psychol. 45:174–79
- Maner JK, Rouby DA, Gonzaga GC. 2008. Automatic inattention to attractive alternatives: the evolved psychology of relationship maintenance. *Evol. Hum. Behav.* 29:343–49
- Marshall E, Simpson JA, Rholes WS. 2015. Personality, communication, and depressive symptoms across the transition to parenthood: a dyadic longitudinal investigation. *Eur. 7. Personal.* 29:216–34
- Mashek DJ, Aron A, Boncimino M. 2003. Confusions of self with close others. Personal. Soc. Psychol. Bull. 29:382–92
- McCubbin HI, Patterson JM. 1983. Family transitions: adaptation to stress. In *Stress and the Family: Coping with Normative Transitions*, Vol. 1, ed. HI McCubbin, CR Figley, pp. 5–25. New York: Brunner-Mazel
- McNulty JK. 2008. Forgiveness in marriage: putting the benefits into context. J. Fam. Psychol. 22:171-75
- McNulty JK. 2013. Personality and relationships. See Simpson & Campbell 2013, pp. 535-52
- McNulty JK. 2016a. Highlighting the contextual nature of interpersonal relationships. *Adv. Exp. Soc. Psychol.* 54:247–315
- McNulty JK. 2016b. Should spouses be demanding less from marriage? A contextual perspective on the implications of interpersonal standards. *Personal. Soc. Psychol. Bull.* 42:444–57
- McNulty JK, Karney BR. 2004. Positive expectations in the early years of marriage: Should couples expect the best or brace for the worst? *J. Personal. Soc. Psychol.* 86:729–43
- McNulty JK, Olson MA, Meltzer AL, Shaffer MJ. 2013. Though they may be unaware, newlyweds implicitly know whether their marriage will be satisfying. *Science* 342:1119–20
- Mikulincer M, Shaver PR. 2007. Attachment in Adulthood: Structure, Dynamics, and Change. New York: Guilford Press
- Miller RS. 1997. Inattentive and contented: relationship commitment and attention to alternatives. *J. Personal. Soc. Psychol.* 73:758–66
- Miller SL, Maner JK. 2010. Evolution and relationship maintenance: Fertility cues lead committed men to devalue relationship alternatives. J. Exp. Soc. Psychol. 46:1081–84
- Murray SL, Gomillion S, Holmes JG, Harris B, Lamarche V. 2013. The dynamics of relationship promotion: controlling the automatic inclination to trust. *J. Personal. Soc. Psychol.* 104:305–34
- Murray SL, Griffin DW, Derrick JL, Harris B, Aloni M, Leder S. 2011. Tempting fate or inviting happiness? Unrealistic idealization prevents the decline of marital satisfaction. *Psychol. Sci.* 22:619–26
- Murray SL, Holmes J. 2009. The architecture of interdependent minds: a motivation-management theory of mutual responsiveness. Psychol. Rev. 116:908–28
- Murray SL, Holmes JG, Collins NL. 2006. Optimizing assurance: the risk regulation system in relationships *Psychol. Bull.* 132:641–66
- Murray SL, Holmes JG, Griffin DW. 1996. The self-fulfilling nature of positive illusions in romantic relationships: Love is not blind, but prescient. *J. Personal. Soc. Psychol.* 71:1155–80
- Neff LA, Broady EF. 2011. Stress resilience in early marriage: Can practice make perfect? J. Personal. Soc. Psychol. 101:1050–67

- Neff LA, Karney BR. 2003. The dynamic structure of relationship perceptions: differential importance as a strategy of relationship maintenance. *Personal. Soc. Psychol. Bull.* 29:1433–46
- Neff LA, Karney BR. 2009. Stress and reactivity to daily relationship experiences: how stress hinders adaptive processes in marriage. *J. Personal. Soc. Psychol.* 97:435–50
- Otto AK, Laurenceau JP, Siegel SD, Belcher AJ. 2015. Capitalizing on everyday positive events uniquely predicts daily intimacy and well-being in couples coping with breast cancer. *J. Personal. Soc. Psychol.* 29:69–79
- Overall NC, Fletcher GJO, Simpson JA, Sibley CG. 2009. Regulating partners in intimate relationships: the costs and benefits of different communication strategies. *J. Personal. Soc. Psychol.* 96:620–39
- Overall NC, McNulty JK. 2017. What type of communication during conflict is beneficial for intimate relationships? *Curr. Opin. Psychol.* 13:1–5
- Pierce T, Lydon JE. 2001. Global and specific relational models in the experience of social interactions. 7. Personal. Soc. Psychol. 80:613–31
- Randall AK, Bodenmann G. 2009. The role of stress on close relationships and marital satisfaction. Clin. Psychol. Rev. 29:105–15
- Reis HT. 2007. Steps toward the ripening of relationship science. Pers. Relat. 14:1-23
- Reis HT, Clark MS. 2013. Responsiveness. See Simpson & Campbell 2013, pp. 400-23
- Reis HT, Shaver PR. 1988. Intimacy as an interpersonal process. In Handbook of Personal Relationships: Theory, Research, and Interventions, ed. S Duck, pp. 367–89. Chichester: Wiley
- Repetti RL. 1989. Effects of daily workload on subsequent behavior during marital interaction: the roles of social withdrawal and spouse support. J. Personal. Soc. Psychol. 57:651–59
- Rholes WS, Simpson JA, Kohn JL, Wilson CL, Martin AM, et al. 2011. Attachment orientations and depression: a longitudinal study of new parents. J. Personal. Soc. Psychol. 100:567–86
- Richerson PJ, Boyd R. 2005. Not by Genes Alone: How Culture Transformed Human Evolution. Chicago: Univ. Chicago Press
- Robles TF, Slatcher RB, Trombello JM, McGinn MM. 2014. Marital quality and health: a meta-analytic review. Psychol. Bull. 140:140–87
- Rubin H, Campbell L. 2012. Day-to-day changes in intimacy predict heightened relationship passion, sexual occurrence, and sexual satisfaction: a dyadic diary analysis. Soc. Psychol. Personal. Sci. 3:224–31
- Rusbult CE. 1983. A longitudinal test of the investment model: the development (and deterioration) of satisfaction and commitment in heterosexual involvements. *7. Personal. Soc. Psychol.* 45:101–17
- Rusbult CE, Finkel EJ, Kumashiro M. 2009. The Michelangelo phenomenon. Curr. Dir. Psychol. Sci. 18:305–9
- Rusbult CE, Olsen N, Davis JL, Hannon P. 2001. Commitment and relationship maintenance mechanisms. In Close Romantic Relationships: Maintenance and Enhancement, ed. JH Harvey, A Wenzel, pp. 87–113. Mahwah, NJ: Erlbaum
- Rusbult CE, Van Lange P. 2003. Interdependence, interaction, and relationships. *Annu. Rev. Psychol.* 54:351–75
- Rusbult CE, Van Lange PA, Wildschut T, Yovetich NA, Verette J. 2000. Perceived superiority in close relationships: why it exists and persists. *7. Personal. Soc. Psychol.* 79:521–45
- Rusbult CE, Zembrodt IM, Gunn LK. 1982. Exit, voice, loyalty and neglect: responses to dissatisfaction in romantic involvements. 7. Personal. Soc. Psychol. 43:1230–42
- Sbarra DA, Hazan C. 2008. Coregulation, dysregulation, self-regulation: an integrative analysis and empirical agenda for understanding adult attachment, separation, loss, and recovery. *Personal. Soc. Psychol. Rev.* 12:141–67
- Schaller M, Murray DR. 2008. Pathogens, personality, and culture: Disease prevalence predicts worldwide variability in sociosexuality, extraversion, and openness to experience. 7. Personal. Soc. Psychol. 95:212–21
- Schmitt DP. 2014. On the proper functions of human mate preference adaptations: comment on Eastwick, Luchies, Finkel, and Hunt 2014. Psychol. Bull. 140:666–72
- Schmitt DP, Alcalay L, Allensworth M, Allik J, Ault L, et al. 2005. Sociosexuality from Argentina to Zimbabwe: a 48-nation study of sex, culture, and the strategies of human mating. *Behav. Brain Sci.* 28:247–311
- Sedikides C, Campbell WK, Reeder GD, Elliot AJ. 1998. The self-serving bias in relational context. *J. Personal. Soc. Psychol.* 74(2):378–86

- Shallcross S, Howland M, Bemis J, Simpson JA, Frazier P. 2011. Not "capitalizing" on social capitalization interactions: the role of attachment insecurity. J. Fam. Psychol. 25:77–85
- Shallcross S, Simpson JA. 2012. Trust and responsiveness in strain-test situations: a dyadic perspective. 7. Personal. Soc. Psychol. 102:1031–44
- Simon W, Gagnon JH. 2003. Sexual scripts: origins, influences and changes. Qual. Sociol. 26:491-97
- Simpson JA. 2007. Psychological foundations of trust. Curr. Dir. Psychol. Sci. 16:264-68
- Simpson JA, Belsky J. 2016. Attachment theory within a modern evolutionary framework. In *The Handbook of Attachment: Theory, Research, and Clinical Applications*, ed. J Cassidy, PR Shaver, pp. 91–116. New York: Guilford. 3rd ed.
- Simpson JA, Campbell L. 2013. The Oxford Handbook of Close Relationships. New York: Oxford Univ. Press
- Simpson JA, Fletcher GJO, Campbell L. 2001. The structure and function of ideal standards in close relationships. In *Blackwell Handbook of Social Psychology: Interpersonal Processes*, ed. GJO Fletcher, MS Clark, pp. 86–106. Malden, MA: Blackwell Publishers
- Simpson JA, Gangestad SW, Lerma M. 1990. Perception of physical attractiveness: mechanisms involved in the maintenance of romantic relationships. J. Personal. Soc. Psychol. 59:1192–201
- Simpson JA, Ickes W, Blackstone T. 1995. When the head protects the heart: empathic accuracy in dating relationships. J. Personal. Soc. Psychol. 69:629–41
- Simpson JA, Overall NC. 2014. Partner buffering of attachment insecurity. Curr. Dir. Psychol. Sci. 23:54–59Simpson JA, Rholes WS. 2012. Adult attachment orientations, stress, and romantic relationships. Adv. Exp. Soc. Psychol. 45:279–328
- Simpson JA, Rholes WS, Nelligan JS. 1992. Support-seeking and support-giving within couples in an anxiety-provoking situation: the role of attachment styles. 7. Personal. Soc. Psychol. 62:434–46
- Slotter EB, Gardner WL. 2009. Where do you end and I begin? Evidence for anticipatory, motivated self-other integration between relationship partners. 7. Personal. Soc. Psychol. 96:1137–51
- Sprecher S. 2011. The influence of social networks on romantic relationships: through the lens of the social network. *Pers. Relat.* 18:630–44
- Sternberg RJ. 1986. A triangular theory of love. Psychol. Rev. 93:119–35
- Szepsenwol O, Griskevicius V, Simpson JA, Young ES, Fleck C, Jones RE. 2016. The effect of predictable early childhood environments on sociosexuality in early adulthood. *Evol. Bebav. Sci.* In press
- Thibaut JW, Kelley HH. 1959. The Social Psychology of Groups. New York: Wiley
- Uchino BN, Bosch JA, Smith TW, Carlisle M, Birmingham W, et al. 2013. Relationships and cardiovascular risk: perceived spousal ambivalence in specific relationship contexts and its links to inflammation. *Health Psychol.* 32:1067–75
- West TV, Kenny DA. 2011. The truth and bias model of judgment. Psychol. Rev. 118:357-78
- Wieselquist J, Rusbult C, Foster C, Agnew C. 1999. Commitment, prorelationship behavior, and trust in close relationships. J. Personal. Soc. Psychol. 77:942–66
- Zeifman D, Hazan C. 2008. Pairbonds as attachments: reevaluating the evidence. In The Handbook of Attachment: Theory, Research, and Clinical Applications, ed. J Cassidy, PR Shaver, pp. 436–55. New York: Guilford



## Annual Review of Psychology

Volume 68, 2017

# Contents

Eavesdropping on Memory Elizabeth F. Loftus	. 1
Memory: Organization and Control  Howard Eichenbaum	19
Neural Mechanisms of Selective Visual Attention  Tirin Moore and Marc Zirnsak	47
Learning, Reward, and Decision Making  John P. O'Doherty, Jeffrey Cockburn, and Wolfgang M. Pauli	73
Reinforcement Learning and Episodic Memory in Humans and Animals: An Integrative Framework Samuel J. Gershman and Nathaniel D. Daw	Λ1
Social Learning and Culture in Child and Chimpanzee  Andrew Whiten 12	
Survival of the Friendliest: <i>Homo sapiens</i> Evolved via Selection for Prosociality  Brian Hare	
Numerical Development  Robert S. Siegler and David W. Braithwaite	87
Gene × Environment Interactions: From Molecular Mechanisms to  Behavior  Thorbildur Halldorsdottir and Elisabeth B. Binder	15
The Structure of Social Cognition: In(ter)dependence of Sociocognitive  Processes  Francesca Happé, Jennifer L. Cook, and Geoffrey Bird	43
Toward a Social Psychophysics of Face Communication  *Rachael E. Jack and Philippe G. Schyns	69
Social Motivation: Costs and Benefits of Selfishness and Otherishness  **Jennifer Crocker, Amy Canevello, and Ashley A. Brown**  29	99
Attitude Strength  Lauren C. Howe and Jon A. Krosnick	27
How Power Affects People: Activating, Wanting, and Goal Seeking  Ana Guinote 35	53

The Psychology of Close Relationships: Fourteen Core Principles  Eli J. Finkel, Jeffry A. Simpson, and Paul W. Eastwick	383
Moving Beyond Correlations in Assessing the Consequences of Poverty Greg J. Duncan, Katherine Magnuson, and Elizabeth Votruba-Drzal	413
Culture Three Ways: Culture and Subcultures Within Countries  Daphna Oyserman	435
Learning from Errors  **Janet Metcalfe**  **Tanet Metcalfe**  **Ta	465
Mindfulness Interventions  J. David Creswell	491
Hidden Wounds? Inflammatory Links Between Childhood Trauma and Psychopathology  Andrea Danese and Jessie R. Baldwin	517
Adjusting to Chronic Health Conditions  Vicki S. Helgeson and Melissa Zajdel	545
Health Behavior Change: Moving from Observation to Intervention  Paschal Sheeran, William M.P. Klein, and Alexander J. Rothman	573
Experiments with More than One Random Factor: Designs, Analytic Models, and Statistical Power  Charles M. Judd, Jacob Westfall, and David A. Kenny	601
Interactions with Robots: The Truths We Reveal About Ourselves  Elizabeth Broadbent	627
Indexes	
Cumulative Index of Contributing Authors, Volumes 58–68	653
Cumulative Index of Article Titles, Volumes 58–68	658

## Errata

An online log of corrections to *Annual Review of Psychology* articles may be found at http://www.annualreviews.org/errata/psych