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Relational Turbulence Theory: Explaining Variation in Subjective Experiences and Communication Within Romantic Relationships

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This essay extends the relational turbulence model as a framework for understanding communication in romantic relationships. Following the relational turbulence model, relational turbulence theory identifies relational uncertainty and interdependence as parameters that shape subjective experiences, but the theory clarifies the theoretical processes underlying their distinctive effects. In addition, relational turbulence theory articulates causal processes linking cognitive appraisals and emotions to communication. Relational turbulence theory also describes how episodes characterized by biased appraisals, intense emotions, and volatile communication coalesce into global evaluations of relationships as turbulent. In turn, the theory addresses the effect of relational turbulence on personal, relational, and social outcomes. Finally, the theory explains how communication can contribute to the development of both turbulence and resilience in romantic relationships.

Keywords: Interdependence, Interpersonal Communication, Relationship Development, Relational Turbulence, Relational Uncertainty, Romantic Relationships.

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Fifteen years have elapsed since Solomon and Knobloch (2001) proposed the relational turbulence model to explain turmoil at moderate levels of intimacy within courtship (see Solomon, Weber, & Steuber, 2010). Solomon and Knobloch (2001, 2004) argued that the transition from casual dating to serious involvement corresponds with relational uncertainty and goal interference from a partner, which polarize people's cognitive, emotional, and communicative reactions to relationship experiences. Over time, the model shifted from an emphasis on intimacy as the

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antecedent condition to a focus on relational uncertainty and interference from a partner as phenomena that increase during relationship transitions and shape subjective experiences. In turn, the relational turbulence model has been used to understand a variety of experiences in romantic relationships (e.g., hurtful messages—McLaren, Solomon, & Priem, 2011; negative emotions—Knobloch, Miller, & Carpenter, 2007; relational irritations—Theiss & Solomon, 2006b) and an array of relationship transitions (e.g., infertility—Steuber & Solomon, 2008; parenthood—Theiss, Estlein, & Weber, 2013; reintegration after military deployment—Knobloch & Theiss, 2011a; empty nest—Nagy & Theiss, 2013).

Empirical studies employing diverse methodologies have supported the relational turbulence model. Tests of the model have used cross-sectional self-report methods (e.g., Solomon & Knobloch, 2004), longitudinal self-report methods (e.g., Theiss & Solomon, 2006a), laboratory observations of dyadic interactions (e.g., McLaren, Solomon, & Priem, 2012), and theme analyses of discourse (e.g., Knobloch & Delaney, 2012). Research populations include both college-aged dating couples (e.g., Theiss, Knobloch, Checton, & Magsamen-Conrad, 2009) and married couples (e.g., Knobloch & Theiss, 2011a). Across a range of phenomena, results indicate that relational uncertainty and interference from a partner are associated with more extreme cognitive appraisals, emotions, and communication behaviors. Thus, findings are consistent with the model's claim that relational uncertainty and interference from a partner correspond with subjective experiences of relationship phenomena.

This essay builds upon the relational turbulence model to advance relational turbulence theory. In general, a *model* depicts associations between phenomena without necessarily identifying the processes that give rise to them; a *theory* explains relationships in terms of generative mechanisms (Shoemaker, Tankard, & Lasorsa, 2004). Although research guided by the relational turbulence model has yielded important insights, this work is open to several of the criticisms of so-called theoretically grounded research voiced by Roloff (2015). Thus, we answer Roloff's call for communication theory offering precise logic from which scholars can deduce hypotheses testable across the landscape of research on interpersonal communication.

Our transformation of the model focuses on three key theoretical advances. First, whereas the relational turbulence model treats relational uncertainty and interference from a partner as parallel forces shaping subjective experiences, relational turbulence theory highlights the distinctive processes through which these parameters shape cognitions and emotions. Second, the theory elaborates on the causal relationships among cognitions, emotions, and communication, which are unspecified in the relational turbulence model. Finally, relational turbulence theory clarifies how specific experiences coalesce into an overall perception of the relationship as chaotic, and how this characterization affects a variety of outcomes.

Reformulating the relational turbulence model not only addresses theoretical ambiguities within the perspective, but it also has heuristic value in three ways. First, advancing claims about underlying theoretical processes can inform more

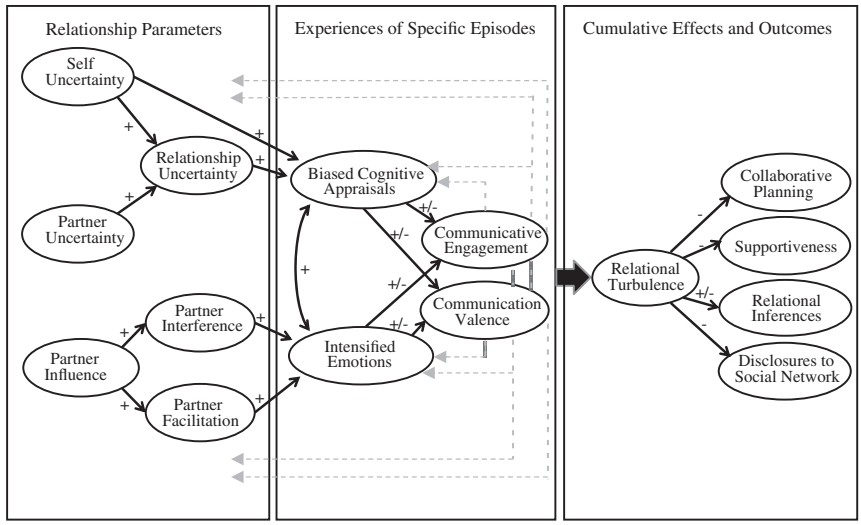

Figure 1 Relational turbulence theory (reciprocal effects are depicted in dashed gray lines). *Note*. Paths are designated with "+/−" when the direction of effects depends on factors outside the scope of this depiction.

specific tests of the theoretical logic. Although the relational turbulence model was inductively derived to describe patterns apparent in empirical studies (see Solomon & Knobloch, 2001, 2004), it referenced theoretical accounts of uncertainty (Berger, 1988) and interdependence processes (Berscheid, 1983) in relationships to justify particular linkages in the model. In addition, more recent work has offered alternative accounts of the role of relational turbulence within the model (e.g., McLaren et al., 2012; Theiss & Estlein, 2014). Integrating and adjudicating these viewpoints within relational turbulence theory provide a necessary touchstone for future research. Second, extensions to various communication episodes and relationship contexts also would benefit from more precise theoretical claims. Although the concepts in the relational turbulence model illuminate challenging aspects of relational transitions (e.g., Knobloch & Delaney, 2012; Nagy & Theiss, 2013; Steuber & Solomon, 2008), attention to theoretical mechanisms is needed to guide tests, rather than applications, of the framework. A third heuristic value of the theory lies in clarifying how relational turbulence constitutes a global quality of romantic associations that affects a variety of personal, relational, and social outcomes. Doing so provides a foundation for theoretically rich and socially significant research on the associations among qualities of personal relationships, communication, and well-being.

In the following sections, we discuss the assumptions that constitute relational turbulence theory (see Figure 1). These claims are formalized within seven pairs of axioms (i.e., claims assumed to be true) and propositions (i.e., associations implied by axioms; per Reynolds, 1971). We conclude by discussing implications, limitations, and directions for future research.

Changes in the relational environment

The relational turbulence model initially focused on relationship development; therefore, it emphasized intimacy as a central construct. Specifically, the model predicted that people experience more relational uncertainty, more interference from a partner, biased cognitive appraisals, stronger emotions, and distinctive communication at moderate levels of intimacy, which were assumed to correspond with the transition from casual to serious dating (Solomon & Knobloch, 2001, 2004). Some studies documented curvilinear patterns across levels of intimacy as predicted, but others did not (see Solomon & Theiss, 2011). One source of ambiguity was the interpretation of *moderate intimacy*. Studies operationalized intimacy as the average of *z*-scores for scales indexing commitment, love, closeness, and/or chance of marriage (e.g., Solomon & Theiss, 2008); therefore, what constituted the mean level of intimacy was tied to the distribution of the variable within each sample. Tests of the curvilinear association were also compromised because nonintimate relationships were underrepresented in these studies. Finally, intimacy proved a less consistent predictor of outcomes than relational uncertainty and characteristics of interdependence (e.g., Theiss & Solomon, 2006a). Thus, the focus of research shifted from intimacy to how relationship transitions set the stage for relational turbulence.

A *transition* in an interpersonal relationship is a period of discontinuity between times of relative stability, during which individuals adapt to changing roles, identities, and circumstances. Importantly, transitions can involve primarily positive or primarily negative developments; they are not isomorphic with problematic events, expectation violations, conflict, or turbulence, but rather they encompass changes that create a mismatch between previously established relationship beliefs or routines and new relationship circumstances (Solomon & Theiss, 2011). A transition can be sparked by changes within a dyad's internal environment (e.g., pregnancy) or external environment (e.g., military deployment), which can range from seemingly minor (e.g., a new hobby) to life altering (e.g., a cancer diagnosis), and can develop gradually (e.g., declining health) or emerge suddenly (e.g., termination of employment). A relational transition ends not when the emergent conditions subside, but when partners establish patterns of relating that are adapted to their new circumstances (see Solomon & Theiss, 2011). Because transitions call into question assumptions about involvement and alter patterns of interdependence, people become vigilant about their relationship, react intensely to events that would ordinarily be mundane, and experience volatility relating to each other (Solomon et al., 2010). Thus, transitions are pivotal junctures that bring the potential for relationship reorganization, growth, or decay.

Changes in the relationship environment include both qualitative transformations and quantitative fluctuations, which manifest as transitions when they alter patterns of relating. Notably, we do not include transitions as a core construct within the theory, because they defy straightforward demarcation and falsifiability. We also do not specify transitions as a scope condition for determining the theory's applicability, because relational uncertainty and interdependence processes can be salient in the absence of a

specific transition (McLaren et al., 2011). Rather, we consider changes in the relational environment to be a relevant, but not necessary, condition that affects relational uncertainty and interdependence between partners.

Relational uncertainty

The relational turbulence model positioned *relational uncertainty*, or questions about the nature of involvement in a relationship, as a polarizing phenomenon. Relational uncertainty is an umbrella term indexing three sources of ambiguity: (a) *self uncertainty* refers to questions people have about their own involvement in the relationship, (b) *partner uncertainty* encompasses questions about a partner's participation in the relationship, and (c) *relationship uncertainty* includes questions about the status of the relationship itself (Knobloch & Solomon, 1999). The three sources of relational uncertainty emerge on a global level as people's sense of ambiguity about a relationship and on an episodic level as questions individuals experience in response to a discrete event (Knobloch, 2010). The relational turbulence model identified global relational uncertainty as biasing people's subjective experiences of specific episodes. Throughout this essay, we use the phrase *specific episode* to refer to any discrete communication event between partners (cf. Baxter, 1992), but especially those in which relational information is particularly salient (e.g., exchanges involving hurt, support, conflict, sexual communication, etc.).

Both theory and research identify self, partner, and relationship sources of relational uncertainty as distinct constructs despite substantial covariation (e.g., Knobloch & Solomon, 1999; Knobloch et al., 2007; Solomon & Theiss, 2008), with self and partner uncertainty as antecedents of relationship uncertainty (e.g., Berger & Bradac, 1982; McLaren et al., 2011; Solomon & Knobloch, 2004). Conceptually, self and partner uncertainty index questions about individuals, whereas relationship uncertainty encompasses questions about the dyad as a unit (Berger & Bradac, 1982). Empirically, measurement analyses demonstrate that self, partner, and relationship uncertainty do not form a unidimensional second-order factor (for review, see Knobloch, 2010), and substantive analyses reveal divergent effects of self uncertainty when partner and relationship uncertainty are covaried (McLaren et al., 2011; Priem & Solomon, 2011; Theiss & Solomon, 2006b). Accordingly, best practices for coping with the statistical overlap among the three sources of relational uncertainty include (a) examining the trio separately using regression or multilevel modeling techniques (e.g., Knobloch & Theiss, 2010; Solomon & Theiss, 2008), (b) modeling them as distinct but linked factors using structural equation techniques (e.g., McLaren et al., 2012; Solomon & Knobloch, 2004), or (c) reporting and comparing the results of both analytical strategies (Priem & Solomon, 2011).

A central assumption of the relational turbulence model is that global relational uncertainty evokes biased cognitions, intensified emotions, and polarized communication in reaction to specific episodes, and empirical evidence is compatible with this claim (see Solomon & Theiss, 2011). Although research findings align with

predictions, the model does not specify mechanisms to explain the effects of relational uncertainty. Indeed, studies have neither distinguished between manifestations of relational uncertainty processes (e.g., message processing deficits) and outcomes (e.g., characterizing a partner as intentionally hurtful), nor explained why self uncertainty sometimes functions differently than partner and relationship uncertainty. To address these issues, relational turbulence theory describes the theoretical processes through which sources of relational uncertainty affect people's subjective experiences.

Our theorizing draws upon Knobloch and Satterlee's (2009) analysis of how relational uncertainty complicates message production and processing. Knobloch and Satterlee argued that people experiencing relational uncertainty are operating under an information deficit because they lack insight into the nature of their relationship. With respect to message production, individuals experiencing relational uncertainty encounter more severe face threats, have difficulty planning messages, and are reluctant to communicate directly about sensitive topics. With respect to message processing, people experiencing relational uncertainty have trouble interpreting their partner's messages, are less confident in their communication skills, and view their partner and their relationship pessimistically. Knobloch and Satterlee's thinking points to the fundamental challenge posed by relational uncertainty: Individuals who are uncertain about their relationship lack a clear conceptual framework through which to make sense of events.

Relational turbulence theory uses Berger and Calabrese's (1975) application of Shannon and Weaver's (1949) portrayal of communication systems to clarify the theoretical processes at work. Those perspectives assumed that uncertainty corrupts communication because a lack of contextual information creates ambiguity about the meanings, intentions, and consequences of symbolic exchange. Specifically, comprehension suffers because people lack knowledge that would help them select among a variety of possible inferences. In the absence of information, particularly concerning the actions of others, individuals are more likely to rely on heuristic cues to inform appraisals of the situation (Pronin, Gilovich, & Ross, 2004). One consequence is an increase in attribution biases when explaining other people's actions and motivations (Kruger & Gilovich, 2004).

Building on these ideas, we propose that relational uncertainty undermines comprehension of specific episodes. In particular, we suggest that ambiguity concerning relational involvement forces individuals to use incomplete information to make sense of situations, which promotes biased cognitive appraisals. Used in this sense, *cognitive bias* refers to systematic deviations introduced by deficient or flawed information processing, and *biased cognitive appraisals* are the distorted assessments of a situation that result. Importantly, biased cognitive appraisals can reflect positive distortions (e.g., the tendency for people to appear more attractive in a group setting; Walker & Vul, 2013) or negative distortions (e.g., the tendency for actors to appear more culpable when events have negative consequences, Jones & Davis, 1965).

Elucidating the theoretical processes through which relational uncertainty affects subjective experiences provides insight into differences among sources of relational

uncertainty. As people seek to make sense of episodes, knowledge of their partner's involvement and the relationship serve as touchstones for comprehension. Access to another person's psychological functioning is inherently limited and, at best, informed conjecture (McGuire & McGuire, 1986; Pronin et al., 2004); therefore, partner and relationship uncertainty may be more likely than self uncertainty to impede inferences about the meaning of a partner's actions and lead to biased interpretations. Consistent with this reasoning, empirical studies have found that self uncertainty has distinctive associations with cognitive and physiological responses to a partner's hurtful behavior (McLaren et al., 2011; Priem & Solomon, 2011), feelings of sadness and jealousy (Knobloch et al., 2007), and the directness of communication about irritations (Theiss & Solomon, 2006b), compared to partner and relationship uncertainty. In sum, relational uncertainty may correspond with biased cognitive appraisals, in general, but the effects of self uncertainty may diverge when partner and relationship uncertainty are taken into account. This reasoning is represented in our first axiom and the proposition that follows from it:

A1: Relational uncertainty undermines comprehension of specific episodes.
P1: Through its effect on comprehension, relational uncertainty causes people to form more biased cognitive appraisals of specific episodes.

The hypotheses deduced from our conception of relational uncertainty and first proposition are depicted in Figure 1. We position the sources of relational uncertainty as distinct but related, with self and partner uncertainty as antecedents of relationship uncertainty. The theory proposes that relational uncertainty is uniquely relevant to cognitive appraisals, because of its deleterious effect on comprehension. For example, manifestations of biased appraisals can include self-reported perceptions of severity or threat and attributions of blame and resolvability associated with difficult situations, as well as indicators of those appraisals in dialogue (e.g., accusations of responsibility for problems).

Within Figure 1, we show that the effects of self and partner uncertainty are mediated, at least partially, by relationship uncertainty (per Knobloch et al., 2007). We anticipate that partner uncertainty is positively associated with biased cognitive appraisals when examined independently, but work published to date suggests that partner uncertainty does not have a direct effect on outcomes when relationship uncertainty is covaried. Conversely, and as reviewed previously, prior research has found that self uncertainty has a unique direct effect on some outcomes when controlling for relationship uncertainty (e.g., Priem & Solomon, 2011). Thus, Figure 1 depicts the effects of partner uncertainty on outcomes as wholly mediated by relationship uncertainty, and shows that self uncertainty exerts both mediated and direct effects.

Interdependence

Figure 1 identifies interdependence as a second relationship parameter that shapes reactions to specific episodes. Following Berscheid (1983); Solomon and Knobloch

(2001, 2004) argued that transitions in relationships modify how much *influence from a partner* people allow as they perform everyday activities. With increases in influence, partners are more likely to interrupt each other's routines, and those interruptions can be experienced as either disruptive or facilitative. *Interference from a partner* is the extent to which a partner prevents desired outcomes or makes activities more difficult, and *facilitation from a partner* indexes how much a partner makes achieving goals or performing activities easier (Knobloch & Solomon, 2004).

Studies have documented positive associations between influence from a partner and both interference and facilitation from a partner, as expected (Knobloch & Solomon, 2004; Solomon & Knobloch, 2001; Solomon & Theiss, 2008). In addition, the body of work testing the relational turbulence model has demonstrated that interference from a partner corresponds with negatively biased cognitive appraisals, more intense emotions, and polarized communication (see Solomon & Theiss, 2011). Although fewer studies have measured facilitation from a partner, those investigations show that interference and facilitation diverge in their associations with measures of cognitive, emotional, and communicative experiences (e.g., Knobloch et al., 2007; McLaren et al., 2011). As was the case with relational uncertainty, however, the theoretical process that explains these associations merits elaboration.

Relational turbulence theory refines the role of interdependence by connecting interruptions specifically to the intensity of emotional responses. Knobloch and Solomon (2004) drew upon Berscheid's (1983) emotion-in-relationships model (ERM) to explicate influence, interference, and facilitation, and the logic of Berscheid's perspective is particularly relevant to emotional outcomes. ERM argues that relating involves people granting, escalating, or limiting a partner's influence over their daily activities and, as a result, individuals become vulnerable to interruptions to their behavioral routines. A core tenet of ERM is that any interruption in a person's sequence of goal-directed action sparks emotion. Individuals direct their attention to the source of the violation, and people's appraisals of the incongruities created by the interruption determine the valence of their affective response. In particular, interference from a partner usually prompts negative emotion ("You forgot my birthday?") and facilitation from a partner typically incites positive emotion ("You cooked my favorite dinner!"). Thus, ERM locates appraisals of the effects of interrupted routines as antecedent to experiences of interference or facilitation, which in turn drive emotional outcomes.

Whereas ERM focuses on immediate emotional reactions to incidents of interference or facilitation from a partner, relational turbulence theory considers the cumulative impact of periods marked by heightened interference or facilitation. Diverse theoretical perspectives suggest that recent and frequent emotional activation amplifies people's affective reactions to subsequent but unrelated stimuli (Berkowitz, 2000; Cunningham, Shamblen, Barbee, & Ault, 2005; Zillmann, 1996). For example, Zillman's excitation transfer theory suggests that the emotional arousal associated with previous experiences elevates the baseline for subsequent emotional reactions when there is insufficient time between episodes for the initial arousal to dissipate.

Relational turbulence theory utilizes this reasoning to suggest that the prevalence of emotional experiences caused by interruptions, either disruptive or helpful, creates a climate of heightened emotional reactivity that infuses people's emotional reactions to other relationship events. In other words, heightened affective arousal sparked by interruptions from a partner prompts stronger emotional reactions to subsequent episodes. Conceptually this effect encompasses interruptions that are both interfering and facilitating, but Berscheid (1983) argued that people habituate to facilitation and positive interruptions recede from their awareness. Thus, although experiences of facilitation can promote positive emotions and thereby offset the arousal of negative emotions, the theoretical logic suggests that patterns of interference from a partner may be especially likely to amplify emotional reactions to specific episodes. The following axiom reflects this reasoning and provides a foundation for our second proposition:

A2: Interruptions from a partner, particularly those that interfere with everyday routines, heighten affective arousal.

P2: Through their effect on affective arousal, interruptions from a partner, particularly those that interfere with everyday routines, cause people to experience more intense emotions in response to specific episodes.

Figure 1 represents the hypotheses that follow from our second axiom. We predict that interference and facilitation from a partner occur when a partner's influence interrupts goal-directed activity, and interference and facilitation amplify the emotions experienced in response to specific episodes. Example operationalizations of this outcome include self-report indices of emotions, behavioral coding of facial affect, and physiological measures. In addition, Figure 1 shows that the effects of a partner's influence are mediated by experiences of interference or facilitation. We also anticipate that interference from a partner exerts a stronger effect on the intensity of emotional responses than experiences of facilitation from a partner.

Cognitive appraisals, emotions, and communication

The second panel in Figure 1 summarizes experiences within specific episodes. The relational turbulence model treats cognitions, emotions, and communication as equivalent outcomes of relational uncertainty and qualities of interdependence. Within relational turbulence theory, we specify the relationships that exist among cognitive appraisals, emotional intensity, and communication behavior. In particular, we position communication behavior as an outcome resulting from cognitive and emotional reactions to relationship events.

Two features of interpersonal communication are especially relevant in this context: communicative engagement and communication valence. We focus on these two dimensions because they are central to characterizations of communication in a variety of interpersonal contexts (e.g., Dillard, Wilson, Tusing, & Kinney, 1997). *Communicative engagement* encompasses people's decisions to communicate with a

partner versus withdraw or avoid, and the extent to which they communicate using direct versus indirect responses. Some measures of communicative engagement include self-report scales indexing willingness to communicate (e.g., Knobloch & Theiss, 2011b), frequency counts of topics avoided (e.g., Knobloch, Theiss, & Wehrman, 2015), and manifestations of direct and indirect communication during dyadic interactions (King & Theiss, in press). *Communication valence*, which refers to the tenor of an interaction, ranges from integrative, constructive, or positive responses to distributive, destructive, or negative responses. Again, both self-report and observational measures are available to assess the valence of communication behavior (e.g., King & Theiss, in press).

Relational turbulence theory incorporates the widely accepted assumption that cognitive appraisals and emotions causally impact communication. With regard to cognitions, studies show that people who make negative appraisals about their relationship report using more indirect communication with a partner in response to specific events (e.g., Theiss & Estlein, 2014; Theiss & Nagy, 2013). In research on conflict, results indicate that the perceived severity of relational irritations corresponds positively with self-reported communicative directness (Theiss & Solomon, 2006b) and negatively with tendencies to withhold complaints (Solomon & Samp, 1998). Empirical evidence also documents associations between maladaptive attributions for a partner's actions and more negative interpersonal behavior, less effective approaches to problem solving, and less integrative communication (e.g., Miller & Bradbury, 1995). Thus, we link cognitive appraisals to both communicative engagement and communication valence.

With regard to emotions, we draw on a wealth of theory indicating that emotions encompass specific action tendencies that direct behavior, with more intense emotions generating stronger action tendencies (e.g., Frijda, 1987). Studies of hurt (Theiss et al., 2009) and irritation (Theiss & Solomon, 2006b) suggest that strong emotions in these contexts warrant more direct communication to address perceived transgressions. Conversely, more hurt and anger in response to privacy violations lead to greater distancing from a partner and also more distributive communication (McLaren & Steuber, 2013). Among breast cancer survivors, the intensity of women's anger and sadness in response to particular cancer-related stressors corresponds with more negative communication with their spouse about those stressors, whereas women's happiness is associated with more positive interactions (Weber & Solomon, 2007). Thus, the intensity of emotional reactions can shape how much people approach or avoid communication and whether their interaction is positive or negative.

The assumptions that link biased cognitive appraisals and emotional intensity to communicative outcomes are specified in two pairs of axioms and propositions. The first pair underscores how cognitive appraisals direct particular communication responses; the second pair links intense emotions to communication behavior. Notably, these propositions do not identify the direction of effects on communicative engagement and valence, because the precise nature of those effects depends on

the conceptions of specific episodes and the action tendencies that emerge within particular experiences. For example, biased cognitive appraisals might lead a person to hold a partner accountable for a problem and support the goal of extracting reparations; this conception of the episode is likely to lead to direct communication. Conversely, biased appraisals might involve overestimation of the relationship threat posed by a situation and promote protective goals; this conception of an episode is likely to foster less communicative engagement. In the same way, different emotions involve distinct action tendencies, some of which (e.g., anger) foment engaged, negatively valenced communication, some of which (e.g., sadness) encourage less communicative engagement, and others (e.g., joy) promote positivity in interaction with a partner.

A3: Biased cognitive appraisals inform conceptions of specific episodes.
P3: Through their effect on conceptions of specific episodes, biased cognitive appraisals cause people to respond with communication that is more or less engaged and positively or negatively valenced.
A4: Emotions elicited by specific episodes have action tendencies.
P4: Through their effect on action tendencies, intense emotions cause people to respond with communication that is more or less engaged and positively or negatively valenced.

The hypotheses represented in Figure 1 are necessarily informed by particular cognitive appraisals and emotions, as noted previously, and also the focus of a specific episode. For example, appraisals of relationship threat might lead to less engagement in an episode concerning sexual intimacy, but promote more engagement about relationship irritations. Likewise, feelings of sadness might lead to withdrawal in a hurtful episode, whereas feelings of anger over rejection might promote confrontation. In similar ways, the particular cognitive appraisals and emotions that emerge in response to an episode shape the valence of communication.

Thus, Figure 1 depicts the general expectation that biased cognitive appraisals and intensified emotions shape communicative engagement and valence. Figure 1 also reflects the covariation that exists between cognition and emotion. Following appraisal theories of emotion, we assume that cognitive appraisals of a situation or event inform the activation of an emotional response. In addition, intense emotional reactions to specific episodes are likely to shape cognitive perceptions of a situation over time (e.g., Yan, Dillard, & Shen, 2010). Accordingly, the theory accounts for bidirectional effects between cognition and emotion.

Relational turbulence

The final panel in Figure 1 portrays the theory's assumptions about how specific experiences coalesce into global evaluations of relationships. Earlier uses of the phrase *relational turbulence* referred to specific phenomena associated with relational uncertainty and interference from a partner (e.g., Theiss & Estlein, 2014) and the extent to which a romantic association is in flux (e.g., Knobloch, 2007). Some work suggested

that perceptions of turmoil are a cognitive bias heightened by relational uncertainty or interference from a partner (Knobloch & Theiss, 2010; Theiss & Nagy, 2012), but others positioned relational turbulence as a quality of relationships that renders people sensitive to relationship-relevant information (McLaren et al., 2012; Solomon et al., 2010). Importantly, these positions are not incompatible. Evaluations of turmoil in the relationship may be an assessment of recent experiences or constitute a more general quality of the association. Indeed, Theiss and Nagy (2012) suggested that perceptions of turmoil as a cognitive appraisal may reflect underlying feelings of ongoing disarray in the relationship.

In relational turbulence theory, we define relational turbulence as a global and persistent evaluation of the relationship as tumultuous, unsteady, fragile, and chaotic that arises from the accumulation of specific episodes. As Solomon (2001, p. 85) argued, specific cognitions and emotions that occur within particular episodes "have the potential to transcend the boundaries of that exchange … [and] become unified and ultimately support a global judgment about the relationship." This general notion is reflected in a variety of research programs that have linked specific relationship experiences to evaluations of marital satisfaction (see Solomon, 2001, for review). Relational turbulence viewed in this way is broader than evaluations of any particular experience; it arises from the accumulation of specific experiences that coalesce to form a global relationship judgment.

The experiences that contribute to relational turbulence are episodes characterized by biased appraisals, strong emotions, and polarized communication. Theoretically, these episodes can involve amplified highs and lows; however, we suspect negative polarization is more common, because biased cognitive appraisals typically produce a negative view of events and interference from a partner is more salient than facilitation. In any case, the subjective intensity of these encounters has the cumulative effect of creating a sense of disarray in the relationship. Repeated exposure to these evocative experiences, and the communication challenges they present, can lead to exhaustion within the relationship system. In a sense, the amplification of subjective experiences during these encounters creates vibrations that ripple through the relationship, increasing the perceived fragility of its infrastructure. Just as fluctuations in relationship satisfaction predict relationship instability (Arriaga, 2001), oscillation in experiences of specific episodes can have a deleterious effect on global relationship judgments. In particular, people come to characterize the relationship itself as unsteady, tumultuous, or in flux.

Our conceptualization of relational turbulence places it on par with other global relational qualities, such as intimacy, satisfaction, and commitment. Importantly, relational turbulence is a distinct quality that emerges from unique interpersonal dynamics. Intimacy is the connection between partners that results from disclosure, responsiveness, and shared experience (Laurenceau & Kleinman, 2006). Satisfaction reflects the costs and benefits of a relationship, and commitment arises from satisfaction, a lack of alternatives, and investment in the union (e.g., Rusbult, 1980). Relational turbulence uniquely indexes the overall sense of chaos in the relationship.

Following empirical evidence that relational turbulence exerts a distinct influence on reactions to particular events, above and beyond the effect of relational satisfaction (McLaren & Solomon, 2014; Solomon & Priem, in press), we position it as a separate substantive global quality of romantic relationships. Our reasoning is reflected in a fifth axiom and proposition:

A5: Experiences of specific episodes characterized by biased cognitive appraisals, strong emotions, and polarized communication coalesce into a sense of chaos within the relationship.

P5: Through their effect on perceptions of chaos within the relationship, experiences of specific episodes characterized by biased cognitive appraisals, strong emotions, and polarized communication cause global evaluations of the relationship as turbulent.

As shown in Figure 1, we assume that relational turbulence is caused by exposure to subjectively intense episodes. Importantly, relational turbulence arises from the accumulation of these experiences. Because relational turbulence constitutes a global relationship quality, its operationalization relies on self-reported perceptions of chaos, turmoil, and instability (e.g., Knobloch, 2007; McLaren et al., 2012). Specific hypotheses linking evaluations of relational turbulence to biased cognitive appraisals, the intensity of emotions, communicative engagement, and communication valence are consistent with the theoretical logic.

The consequences of relational turbulence

As the final component of the theory depicted in Figure 1, we connect relational turbulence with personal, relational, and social outcomes. As noted previously, we conceptualize relational turbulence as a quality of relationships on par with intimacy, satisfaction, and commitment. Just as those global qualities of romantic associations affect cognitions, emotions, and behavior throughout relationships, relational turbulence exerts a pervasive impact on individual, relational, and social functioning. In the paragraphs that follow, we describe the theoretical processes underlying the effects of relational turbulence, and we offer several examples of how these processes are manifest in substantive and multifaceted outcomes.

A first theoretical process we identify to explain the effects of relational turbulence focuses on *construals*, which are conceptual units that index how individuals perceive phenomena. People's subjective thought processes can focus on concrete details or abstract categories, specific episodes or global trends, and constraints or opportunities (e.g., Trope & Liberman, 2003). Construal level theory (Trope, Liberman, & Wakslak, 2007) claims that psychological distance increases the tendency to conceptualize phenomena in abstract, schematic, and organized ways (e.g., Liberman, Sagristano, & Trope, 2002). Greater psychological distance is also linked to a focus on motives rather than means, more creativity, and less concern about negative circumstances that might develop in the future (Henderson, Wakslak, Fujita, & Rohrbach, 2011). We propose that individuals who perceive their relationship as turbulent are preoccupied with the

chaos, which leaves them unable to consider the horizon. This focus on the here and now decreases psychological distance and, therefore, affects cognitive construals. The result is less abstract, integrated, rational, creative, and idealistic construals, and more concrete, pragmatic, and instrumental thinking.

A second process through which relational turbulence affects individual, relational, and social outcomes is *dyadic synchrony*, which is the degree of coordination between individuals engaged in an interaction (Harrist & Waugh, 2002). Interactions are synchronous when partners exchange speaking turns fluidly, maintain topic coherence, and adjust conversational behaviors (e.g., speech rate, turn pause latency, volume, word choice) to become similar to each other (Bernieri & Rosenthal, 1991). Although these behavioral adjustments are largely nonconscious, they are influenced by subjective factors, such as perceptions of similarity between partners, liking for a partner, and a desire to identify with a partner's social group (see Giles, Coupland, & Coupland, 1991). Research has shown that women's attachment style predicts dyadic synchrony in interactions with their preschool-aged children (Crandell, Fitzgerald, & Whipple, 1997). In addition, Knobloch (2008) found that interference from a partner corresponds with less synchronous conversation as rated by third-party judges. We suggest that a global sense of chaos in a relationship undermines dyadic synchrony, thereby fracturing the very structure of interaction between partners.

We see the potential for relational turbulence to influence a variety of outcomes spanning intrapersonal processes, dyadic phenomena, and the interface with social networks. As one example, we propose that relational turbulence has a negative impact on collaborative planning, which generally refers to people's engagement in collective, future-oriented decision making. Collaborative planning in romantic associations can address mundane topics ("What should we do this weekend?"), major undertakings ("Are we ready to start a family?"), positive events ("Where should we vacation?"), and costly decisions ("Can we afford to replace our car?"). For people in turbulent relationships, both construal level and dyadic asynchrony can undermine collaborative planning. Through its effect on construal level, relational turbulence is likely to attenuate motivation to engage in planning with the partner; to focus people on pragmatic concerns, rather than aspirations; and to limit creative ideation by emphasizing constraints, rather than opportunities. Operationally, collaborative planning could be indexed by the frequency of talk focused on future plans, an analysis of linguistic choices (e.g., risk/prevention focus vs. reward focus; Pennebaker, Boyd, Jordan, & Blackburn, 2015), or the frequency of novel ideation during dialogue (cf. Samp & Solomon, 2005). Through its effect on dyadic synchrony, relational turbulence is likely to promote topically incoherent patterns of interaction that make it difficult for partners to develop and articulate shared goals and a plan that integrates their respective interests. Topic coherence, dyadic pronoun use, and turn-taking fluency are examples of possible indices of these processes (e.g., Knobloch, 2008; Knobloch & Solomon, 2003). In sum, we predict that relational turbulence undermines collaborative planning.

In a similar fashion, we anticipate that relational turbulence disrupts the performance of pragmatic relationship functions, such as supportive communication. For an interaction to be supportive, a person in distress must disclose to a partner, the partner must convey comforting messages, and the support recipient must respond to the support provision. For people in turbulent relationships, all aspects of the supportive communication process are threatened. Through its impact on construal level, relational turbulence can undermine people's ability to describe their distress to partners coherently, as well as their ability to infer explanations for a partner's distress. Construal level, in combination with dyadic asynchrony, may compromise people's ability to enact sensitive and responsive support, as well as their ability to draw comfort from enacted support. Research testing these ideas could draw upon widely used measures of support communication quality (e.g., Goldsmith, McDermott, & Alexander, 2000), as well as measures that index how support seekers disclose about their difficulties and the dyadic responsiveness manifest between support seekers and providers during interaction (see Cannava & Bodie, in press). Although these ideas remain speculative in the absence of direct empirical tests, they illustrate how relational turbulence can affect the communication of support, as well as other instrumental processes such as conflict management, interpersonal influence, and the negotiation of sexual intimacy.

As another example, we suggest that characterizations of a relationship as turbulent distort relational communication between partners. Relational framing theory claims that people make inferences about the level of dominance–submissiveness and affiliation–disaffiliation in interactions, and these judgments are influenced by contextual features, including characteristics of the relationship (Dillard, Solomon, & Samp, 1996). To the extent that relational turbulence, through its effect on construal level, directs cognition to constraints rather than opportunities, it may promote perceptions of relational messages as more dominating and disaffiliative. Likewise, through its tendency to disrupt dyadic synchrony, relational turbulence is likely to inform perceptions of less affiliation between partners (e.g., Giles et al., 1991). Although direct empirical tests of these predictions are limited, McLaren et al. (2012) found that relational turbulence was positively associated with perceptions of dominance expressed in a hurtful conversation which, in turn, were positively associated with perceptions of disaffiliation. Thus, we propose that relational turbulence shapes the relational inferences people draw from communication with a partner.

As a final example, we consider people's communication about their relationship with social network members. Individuals in romantic relationships experience a dialectical tension between keeping their association private and sharing their relationship with their social network (Baxter & Montgomery, 1996). When confronted with challenges internal to their relationship, partners may be especially reluctant to disclose details of the relationship with others (e.g., Steuber & Solomon, 2011). Through its effect on construal level, relational turbulence focuses individuals on the tumultuous here and now, which obscures a coherent view of the relationship that can be presented to outsiders. Through its effect on dyadic asynchrony, relational

turbulence may leave people feeling unable to communicate effectively about the relationship. As a result, we suggest that relational turbulence increases the rigidity of privacy boundaries between the couple and the social network. Possible operationalizations of this outcome include frequency estimates of disclosures to social network members, congruence or discrepancy in partners' versus network members' assessments of the relationship between partners, and people's self-reported comfort with extradyadic communication about the relationship.

Our final two axioms summarize the assumed effects of relational turbulence on construals and dyadic synchrony, and our final two propositions link relational turbulence to a variety of outcomes:

A6: Global evaluations of the relationship as turbulent decrease the psychological distance for construals.

P6: Through their effect on the psychological distance for construals, global evaluations of the relationship as turbulent affect a variety of personal, relational, and social outcomes.

A7: Global evaluations of the relationship as turbulent disrupt dyadic synchrony.

P7: Through their effect on dyadic synchrony, global evaluations of the relationship as turbulent affect a variety of personal, relational, and social outcomes.

Hypotheses that follow from our final propositions are shown in Figure 1: We anticipate that relational turbulence undermines the performance of collaborative planning, impedes supportive interactions, promotes perceptions of dominant and disaffiliative relational communication while inhibiting affiliation, and constrains disclosures to social network members. We offer these outcomes as illustrative, rather than exhaustive, examples of the effects of relational turbulence.

Reciprocal effects of communication

Thus far, we have described communication as a feature of episodes that contributes to relational turbulence, but we have neglected how communication between partners might influence the processes that precede the development of relational turbulence. Within relational turbulence theory, the reciprocal effects of interpersonal communication are pivotal in two ways. First, communication between partners can shape the cognitive appraisals and emotions that intensify reactivity to episodes. Second, communication can influence the relationship parameters that give rise to cognitive appraisals and emotional reactions. As discussed in the paragraphs that follow and depicted in Figure 1, these reciprocal influences can exacerbate the deleterious effects of relational uncertainty and interference from a partner or contribute to resilience within relationships.

The most immediate outcomes of communication are observed within experiences of specific episodes, where engagement and valence can have iterative effects on cognitive appraisals and emotional reactions. In general, interactions between partners influence cognitions and emotions as dialogue reinforces or modifies how people perceive their circumstances. The degree of communicative engagement and

the valence of messages may be especially consequential. Research has revealed that distributive communication strategies, which are confrontational and negatively valenced, can reinforce maladaptive cognitions, escalate negative emotions, and elicit more hostile communication in response (e.g., Keck & Samp, 2007). In addition, avoiding communication about relationship problems can increase rumination and promote more maladaptive cognitive appraisals (e.g., Cloven & Roloff, 1991). In fact, Courtright, Millar, Rogers, and Bagarozzi (1990) found that the incidence of behaviors indicating avoidance, withdrawal, and submission during interaction distinguished married couples who separated from those who remained together after marital counseling. Thus, communication can have a reciprocal influence on the very appraisals and emotions that motivate interaction in the first place.

Communication between partners also can shape the relationship parameters that catalyze experiences of specific episodes. Knobloch and Theiss (2011b) showed that individuals experience increased relational uncertainty following weeks where they avoided talking with their partner about the relationship, and decreased relational uncertainty in weeks after they had engaged in relationship talk. Another longitudinal study revealed that direct communication about jealousy is associated with decreased relational uncertainty in the following week (Theiss & Solomon, 2006a). These studies highlight the reciprocal influence that communication can have on relationship parameters, especially with regard to relational uncertainty. For example, individuals who are unsure about involvement can discover information that decreases *or* increases their questions (Knobloch & Satterlee, 2009), and communication during specific episodes may spark episodic relational uncertainty that informs their global relational uncertainty. More generally, we expect that communication that is engaged and positive attenuates relational uncertainty and facilitates interdependence, whereas communication that is avoidant, indirect, and negative amplifies relational uncertainty and undermines interdependence.

To the extent that partners use communication to promote cognitive reappraisal, regulate negative emotions, mitigate relational uncertainty, and enhance interdependence, communication can break the cycle that culminates in relational turbulence. Indeed, the intensified experiences that occur under conditions of relational uncertainty and interference create opportunities for partners to strengthen their relationship. When partners work through difficult experiences together, they can promote cohesion and intimacy; when partners use difficult experiences as a springboard for clarifying relational involvement or patterns of interdependence, they can improve the foundations of their relationship (see Solomon & Theiss, 2011). In this way, relational turbulence theory offers insight into the development of resilient relationships.

Discussion

Our aim of this paper was to propose a theory that refines and extends the claims of the relational turbulence model. Whereas the relational turbulence model positioned relational uncertainty and interference from partners as predictors of an array of

intensified cognitive, emotional, and communicative reactions to relationship events at moderate levels of intimacy, relational turbulence theory offers several extensions that clarify the underlying theoretical mechanisms in the model and broaden its explanatory power. As a starting point, relational turbulence theory confirms that transitions at any stage of relationship development have the potential to elicit the conditions that give rise to relational turbulence.

In addition, the theory formalizes the theoretical processes through which relational uncertainty and characteristics of interdependence shape the cognitive appraisals (A1) and emotional responses (A2) that emerge with regard to specific episodes. The theory also clarifies how cognitive appraisals (A3) and emotions (A4) predispose people to more or less communicative engagement and more positive or negative communication. In an extension of the relational turbulence model, relational turbulence theory suggests that the accumulation of intense relationship experiences coalesces into a global view of the relationship as chaotic and tumultuous (A5). A final advance offered by relational turbulence theory positions construal level (A6) and dyadic synchrony (A7) as theoretical mechanisms that mediate the effects of relational turbulence on a variety of personal, relational, and social outcomes. In this final section, we consider the implications, as well as the limitations and future directions, that follow from our articulation of relational turbulence theory.

Implications

We opened this essay by asserting that a theory of relational turbulence would not only address shortcomings in the relational turbulence model, but would also propel the accrual of knowledge about communication in personal relationships. Our theoretical reasoning offers a conceptual framework from which a variety of substantive hypotheses can be derived. The direct and indirect paths in Figure 1, which are deducible from the theoretical axioms and propositions, provide focal points for testing the theory. In addition, the theoretical architecture invites application to a variety of outcomes that may be affected by relational turbulence through construal level and dyadic synchrony. We also see opportunities to evaluate the role of relational turbulence in comparison to other global relationship qualities (i.e., intimacy, satisfaction, and commitment). This work would illuminate how the communication processes emphasized by the theory provide unique insight into individual, relational, and social functioning.

Advancing relational turbulence theory serves pragmatic ends as well. In our programs of research, we have studied the lives of women touched by breast cancer, military families coping with deployment, and couples managing depression, infertility, parenthood, and empty nesting. Although we hope our studies provide insight into these challenges, we remain unable to offer well-grounded advice for addressing them. Relational turbulence theory, however, can guide the development of interventions for couples navigating transitions. By identifying the theoretical processes underlying the consequences of relational uncertainty, disrupted interdependence, biased cognitive appraisals, and strong emotions, we have suggested points of

intersection where communication between partners might forestall the emergence of relational turbulence. Likewise, by identifying the cognitive and communicative processes that perpetuate and broaden the consequences of relational turbulence, we have identified sites where counseling interventions might attenuate these outcomes. Thus, we are especially encouraged by the potential for future interventions informed by this framework.

Relational turbulence theory primarily attends to the erosion of relational well-being, but it also has important implications for relational resilience. Transitions that occur in romantic relationships include relatively mundane changes in circumstances, hardships or challenges, and joyful new developments. In any case, transitions produce incongruities in partners' relational knowledge and patterns of interdependence. Left unchecked, those conditions can polarize particular experiences, contribute to an overall perception of the relationship as chaotic, and exert pervasive and negative effects on individual, relational, and social functioning. But when transitions prompt the realignment of relationship schemas and enhancements to interdependence, they catalyze relationship growth and promote cohesion. Thus, relational turbulence theory implies that partners who use communication to mitigate the volatility of specific episodes and/or to address relational uncertainty and interdependence can capitalize on relationship transitions to strengthen their bond.

As a final implication, we consider how relational turbulence and its outcomes affect people's physical and mental well-being. Individuals who are unable to plan for a bright future, participate in supportive interactions, enjoy affiliative relational messages, and call upon their social network have depleted resources for navigating everyday threats to well-being. More specifically, people experiencing relational turbulence may be hampered in their ability to procure and provide assistance in executing wellness behaviors such as eating nutritiously, sleeping adequately, exercising sufficiently, and managing stress effectively. Studies by our research teams have already linked parameters in the relational turbulence model to physiological stress (Priem & Solomon, 2011) and depression (Knobloch & Theiss, 2011a). Consequently, the effects of relational turbulence on well-being are an important implication for further consideration.

Limitations and directions for future research

Every theory omits important nuances, and our presentation of relational turbulence theory reflects inevitable choices. Some of the unresolved questions are quite specific. How might we improve measurement of relational uncertainty in light of the truncated variance observed in prior studies? When might relational uncertainty lead to positively biased cognitive appraisals, rather than the negative biases we emphasized? Do experiences of facilitation from a partner play a substantive role in emotional experiences, or should the focus be exclusively on interference? Are both construal level and dyadic synchrony needed to explain various outcomes, or might some outcomes be driven primarily by one or the other process? As we conclude this essay, we focus

on broader limitations that arise from our theoretical choices and directions for future research to address these issues.

First, we recognize that our reasoning privileges the individual, rather than the dyad, as the unit of analysis. Questions about relationship involvement and qualities of interdependence inherently arise from interactions between partners; however, relational turbulence theory emphasizes the individual's perceptions of these conditions. Likewise, our focus on cognitive appraisals, emotional reactions, and cognitive construals highlights processes that unfold within individuals as causes of outcomes that transpire between partners. Although dyadic synchrony captures the fluidity of interaction, our focus, like others before us (e.g., Giles et al., 1991), is on how perceptions and motivations that reside within people shape dyadic patterns. No doubt, the assumptions outlined in relational turbulence theory are complicated when they are stretched to accommodate the perspectives of both parties in a romantic relationship (e.g., McLaren & Solomon, 2014). We are eager to see future research take on those challenges, even while our theoretical perspective is primarily focused on individuals.

Second, our portrayal of the emergence of relational turbulence as a global relational quality is both a strongpoint and a shortcoming of relational turbulence theory. This aspect of the theory speaks to an age-old question concerning how discrete episodes of interpersonal communication, which are affected by proximal and temporary circumstances, amalgamate into more durable and pervasive relational sentiments. At the same time, our theory is silent on the algorithms that ultimately answer that question. How people aggregate specific observations into generalizations is a mystery at the heart of impression formation, attitude change, identity development, the onset of depression, and – of particular relevance to this essay – the growth and decay of romantic bonds. Relational turbulence theory emphasizes the accumulation of specific experiences as a force that can shift conceptions of a relationship, but it leaves the task of resolving the specifics of those transformations to future theorizing.

Finally, relational turbulence theory is decidedly postpositivistic, in that we deduce hypotheses by applying rules of logic to a system of axiomatic claims, and we assume that there are empirical regularities in the world that can be discovered through observation. As we embrace scientific realism, we neglect important questions about ethical conduct within relationships, the influence of cultural and economic diversity, and the pervasive effect of heteronormative and gendered assumptions about communication in romantic associations. Also, although our theoretical reasoning prioritizes cognitive and emotional processes within people, relational turbulence theory does not incorporate the phenomenological experience of partners in a meaningful way. Thus, relational turbulence theory offers a particular type of account for communication experiences, and leaves room for scholars to bring a variety of other epistemological frameworks to bear in future work.

Conclusion

Roloff (2015) cautioned that thinking theoretically does not mean referring generally to a theory that addresses a topic, it does not mean describing empirical findings that

align with hypotheses, it does not mean locating constructs within a path model, and it does not mean showing statistically significant patterns of mediation or moderation. Rather, thinking theoretically means using the logic of a theory to deduce hypotheses. Our goal in this essay was to elucidate our theoretical claims, offer them as a basis for deducing hypotheses, and ground our expectations within logic rather than empirical observations. Time and the accumulation of research will determine whether relational turbulence theory provides a fitting and useful account for the experience of turmoil, both episodically and as a global relationship quality, within romantic associations. More immediately, we offer relational turbulence theory as a foundation for theoretically grounded research on communication in romantic relationships.

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