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# Emotional Energy, Relational Energy, and Organizational Energy: Toward a Multilevel Model

Wayne E. Baker

Stephen M. Ross School of Business, University of Michigan, Ann Arbor, Michigan 48109, USA; email: wayneb@umich.edu

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## Keywords

human energy, emotional energy, relational energy, energy networks, group emotion, collective affect, interaction ritual, networks, multilevel models

## Abstract

The concept of emotional energy generates increasing scholarly and popular interest. Research spans multiple disciplines (psychology, sociology, organization behavior, network science) and levels of analysis: micro (individual-level emotional energy), meso (dyadic or relational energy), and macro (group emotion, energy networks). I impose order on this sprawling and disparate literature by defining core concepts and conducting a broad but selective review with a focus on mechanisms. This review identifies key empirical findings but also reveals critical ambiguities and disagreements in the conceptualization (and therefore measurement) of energy. Theorizing has outpaced empirical testing. One implication is that practice may be unmoored from a solid empirical grounding. I offer a critique that points to several promising areas of empirical research. I conclude with practical implications for individuals and organizations, summary points, and future issues.

## INTRODUCTION

The concept of emotional energy generates a lot of energy. From wide promotion in popular literature and the world of practice (e.g., Gordon 2007, Bruch & Vogel 2011, Collins & McConnell 2015) to systematic investigation in psychology, sociology, and organization science, the concept has intuitive appeal and accords with everyday experience. Here, I document the rising interest in the concept of emotional energy and impose order on this sprawling literature by conducting a broad but selective review with an eye for studies that reveal (or at least suggest) mechanisms that operate within and connect levels of analysis: micro (individual-level emotional energy), meso (dyadic or relational energy), and macro (e.g., group emotion, productive energy, energy networks). Excellent reviews of human energy and emotion in organizations exist (e.g., Quinn et al. 2012, Elfenbein 2007), and I do not rehash them here. Rather, my goal is to draw together disparate studies of emotional energy, connecting concepts across the three levels. This approach assumes that emotions are (at least partly) socially constructed (Barrett 2012) and that this construction (at least partly) takes place in a relational context (Quinn & Dutton 2005). Undoubtedly there is more than one way to approach the study of energy across levels. I take a relational perspective because it is consistent with current theorizing about energy, takes advantage of recent empirical findings, provides a clear and precise way to connect across levels, and reveals many opportunities for additional research on energy at each level and across levels.

This review reveals critical ambiguities and disagreements in the conceptualization and measurement of energy. After discussing these issues, I define emotional energy as the capacity to do work where the source is affect—the subjective component of a biobehavioral system of activation. Emotional energy is a potential that may or may not influence motivation or effort. This review also shows that theorizing about energy has outpaced empirical analysis and hypothesis testing. I offer a constructive critique that points to several promising areas of research. I describe a formal model that uses a system dynamics perspective to unite the three levels of analysis, and I show how conceptual models that operate at one level (e.g., individual) could be profitably connected with this multilevel model. I conclude with practical implications for individuals and organizations, summary points, and future issues.

## RISING POPULARITY OF EMOTIONAL ENERGY

**Figure 1** makes evident the escalating interest in the concept of emotional energy. Using data from multiple comprehensive databases (ABI/INFORM, ProQuest, Google Scholar, Web of Science, Factiva, and Scopus), **Figure 1** provides graphs of annual counts of English-language publications that mention "emotional energy" or "emotional energies."

In addition to the upsurge of interest, these data reveal that the term "emotional energy" is not new. The earliest mention is 1843, in a review of the collected works of eighteenth-century German poet Friedrich Gottlieb Klopstock, wherein the phrase "supercharge of emotional energy" was used to refer to the overexuberance of young poets (Schmidlin 1843, p. 446). The next article that mentions emotional energy (or energies) did not appear until 1854, with occasional articles since then until the 1920s. The upswing of interest began in the 1970s with more than 100 mentions per year (**Figure 1**). By the 1980s, "emotional energy" appeared at least 200 times a year, approximately half in academic publications and half in popular outlets. Interest rose rapidly thereafter.

Popular mentions have not outpaced academic mentions. Although they tend to rise together, in some years academic mentions of emotional energy have outnumbered popular mentions. The majority of recent mentions in academic publications are dissertations or theses (**Figure 2**). In 2015 and 2016 combined, these publications accounted for almost eight of ten (78%) mentions,

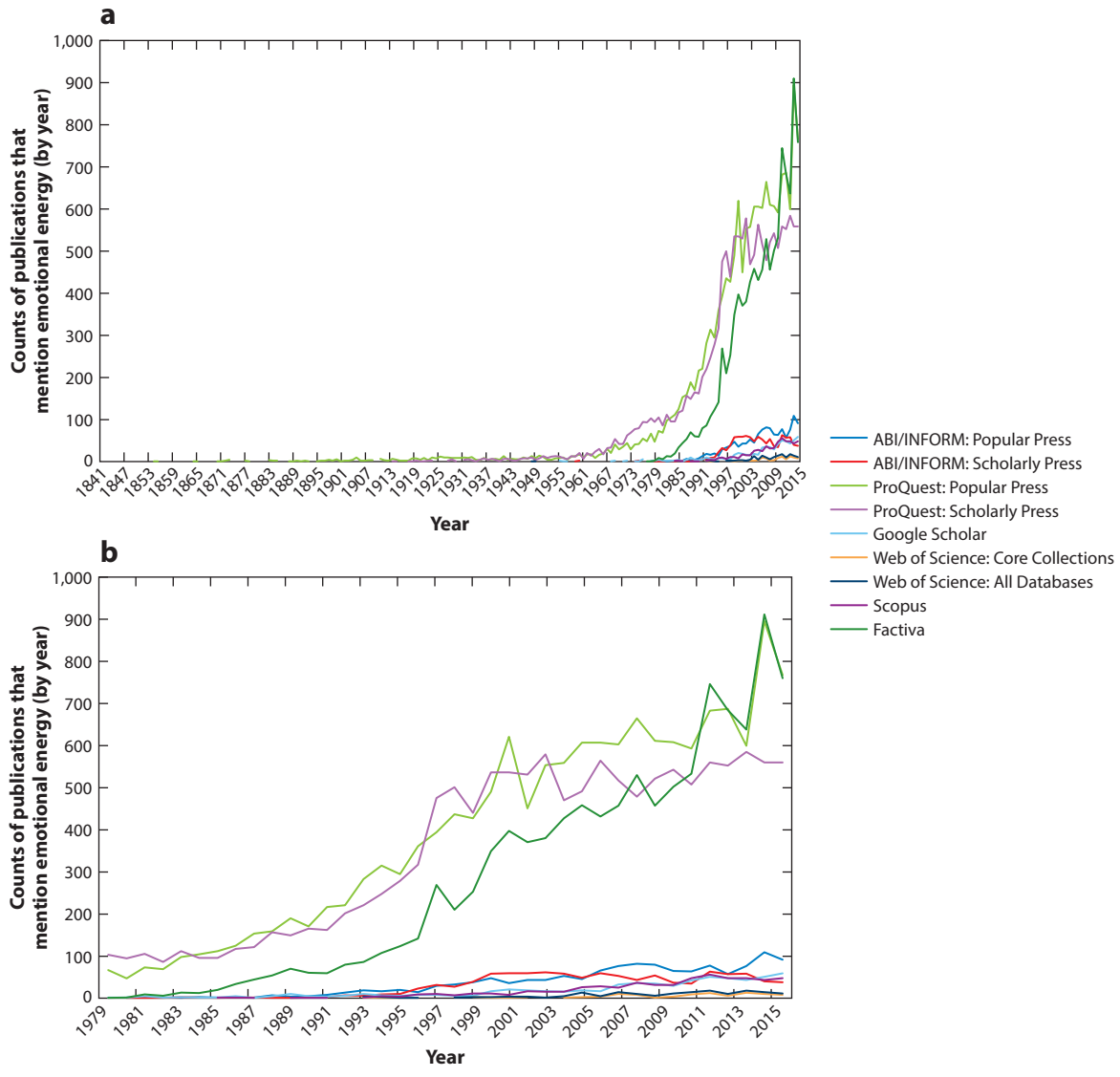


**Figure 1**

Annual counts of publications that mention emotional energy. (*a*) 1840–2016; (*b*) 1979–2016.

whereas scholarly journals accounted for approximately two of ten (21%). Because dissertations and theses precede publication in scholarly journals, their preponderance suggests that we will continue to see "emotional energy" in academic journals.

## EMOTIONAL ENERGY AND RELATED CONCEPTS

The expanding literature on emotional energy sprawls across disciplines and levels of analysis. Multiple definitions of emotional energy abound; in some cases, the concept is not defined at all, or it appears to be colloquial or metaphorical rather than scientific. Emotional energy may be a

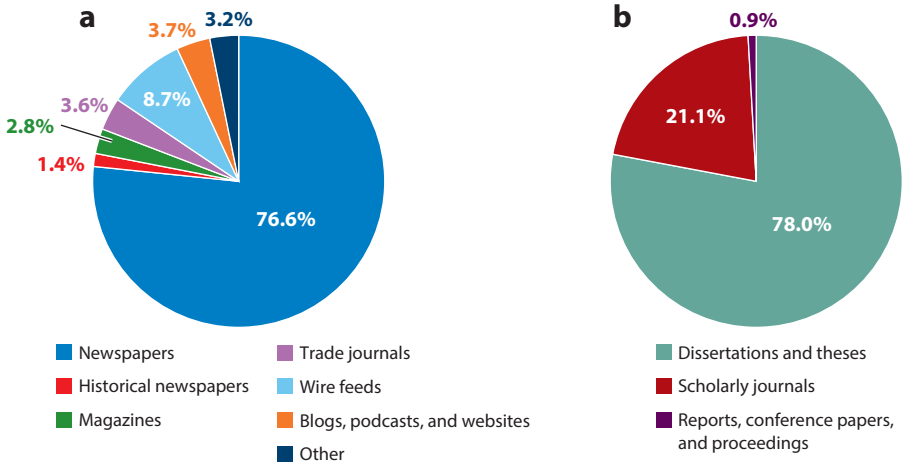


**Figure 2**

Composition of popular press and scholarly publications that mention "emotional energy," with 2015 and 2016 data combined. (*a*) All popular press sources; (*b*) all scholarly sources.

popular concept, but is it real? Is it more than just a folk term? Is it different from other concepts, such as motivation, which some define in terms of "energetic forces" that initiate behavior and the expenditure of effort (Pinder 2004, p. 10), or flow (Csikszentmihaly 1990)? Here, I review some of the key definitions of emotional energy, discuss their pros and cons, and address these and other questions about emotional energy.

For some, like Barsade (2002), emotional energy is simply a synonym for emotional intensity: Emotional energy is "the intensity with which emotions are expressed and communicated from one person to another" (p. 649). This energy or intensity is expressed by verbal pitch, loudness, and tempo, along with nonverbal cues such as gestures and facial patterns. Used this way, "emotional energy" adds little value to our understanding of the concept. Linking emotions and their expression also blurs the distinction I make, in the next section, about emotional energy as a capacity versus the use of that capacity.

Collins (2004, p. 49) defines emotional energy "a feeling of confidence, elation, strength, enthusiasm, and initiative in taking action." He introduced the concept into mainstream sociology with an article in the *American Journal of Sociology*—"On the Microfoundations of Macrosociology" (Collins 1981). Microsociology is the study of everyday social interactions on a small scale and includes the social psychology of emotions (Scheff 1990, 2007). Collins's so-called radical microsociology assumes that all macrosociological phenomena (groups, organizations, social class, institutions, and other "macro" social structures) can be reduced to and explained by "microsocial" units of analysis. Within sociology, this approach has been criticized as microsociological reductionism (Fuchs 1989), although psychologists might have fewer qualms about it.

After his initial article, Collins developed the argument that emotional energy is the common denominator of rational choice, meaning that a person evaluates alternative interactions and events according to their expected effects on the person's emotional energy and will choose those that are more energizing over those that are less (Collins 1993). In book form, Collins elaborated his theory and extended the range of applications, including, for example, a theory of sexual interaction, social stratification, and substance use and abuse (Collins 2004). I defer presentation of his theory until later because his conceptual model is one of the few that explicitly links levels

of analysis (micro, meso, and macro). For now, I consider his definition of emotional energy. His definition seems intuitive and accords with the everyday experience of what is colloquially called emotional energy. He argues that emotional energy occurs on a "continuum from enthusiasm, confidence, and initiative at the high end, down to passivity and depression at the low end" (Collins 2004, p. 134). Location on this continuum can be measured by self-observation and self-report of one's feelings and bodily sensations, and by outside observers of others' bodily postures and movements, facial expressions, eye contact, voice, and hormone levels (Collins 2004, pp. 133–40). This definition of emotional energy and its measurement are similar to psychological definitions and measurement of emotions, moods, and core affect (e.g., Russell 1980, Russell et al. 2003). Using Russell's two-dimensional circumplex, Collins's high emotional energy is a high activation-pleasure affective state, and his low emotional energy is a deactivated-displeasure affective state.

Quinn & Dutton (2005) avoid the adjective "emotional" in the term "emotional energy" as they theorize about the role of "energy" in coordination. They build on Cooren's (2000) theory of the organizing property of communication, which focuses on narratives or speech acts as the texts that people use to coordinate activities. Quinn & Dutton (2005) argue that it is not just words (texts) that organize, but also affective cues, especially energy. Quinn & Dutton (2005, p. 43) define energy as "an affective experience, described variously as energetic arousal (Thayer 1989), emotional energy (Collins 1993), subjective energy (Marks 1977), positive affect (Watson et al. 1988), vitality (Ryan & Frederick 1997), and zest (Miller & Stiver 1997)." In conversations, energy involves the interpretation of one's own energy level (how energized I feel in a situation) and of a conversational partner's energy level (how energized I think the other person feels), as well as how "eager to act and capable of acting" each partner feels and therefore how much effort will be invested in this and subsequent conversations or activities (Quinn & Dutton 2005, p. 43).

Quinn & Dutton's (2005) conceptual model of coordination as energy in conversations contributes to Cooren's (2000) theory by adding affect (energy) to it; it contributes to organization behavior by importing Cooren's theory, emphasizing the organizing role of communication, and elaborating how energy influences the dynamics of communication, coordination, and organizing. Quinn & Dutton's (2005) use of "energy" is consistent with how people perceive, describe, and explain their affective experiences in communication, but it is unclear if their model would be appreciably different if synonyms for energy, such as energetic arousal, subjective energy, positive affect, or vitality, were used instead.

Quinn & Dutton's (2005) avoidance of the adjective "emotional" marks the start of a thread in the literature, which, as I discuss below, argues that we should not imply that there are different types of energy like emotional energy (e.g., Collins 1981), subjective energy (e.g., Marks 1977), or psychic energy (e.g., Galatzer-Levi 1976). Atwater & Carmeli (2009), for example, use the term "feelings of energy" instead of emotional energy in their empirical analysis of energy, leader-member exchange (LMX), and creativity. They define energy as "the feeling that a person is capable of and eager to engage in a particular behavior or undertake a task" (Atwater & Carmeli 2009, p. 265). They constructed an eight-item measure of energy at work (see the sidebar Atwater & Carmeli's Feelings of Energy at Work Scale) and ascertained the validity of this measure with data from two focus groups and a pilot study ($n = 120$). An exploratory factor analysis produced a one-factor solution and a reliability score (Cronbach's alpha) of 0.97. This scale resembles Ryan & Frederick's (1997) seven-item subjective vitality scale, but anchors the respondent on affective experiences at work.

Data for Atwater & Carmeli's (2009) main study come from 193 employees sampled from 24 different organizations. Respondents completed two surveys, two weeks apart. All measures were self-reported. These included the quality of a respondent's relationship with his or her supervisor, measured at Time 1 with the 11-item LMX-MDM (multidimensional measure of leader-member

## ATWATER & CARMELI'S FEELINGS OF ENERGY AT WORK SCALE

1. "I feel active and energetic at work."
2. "I have high energy to complete my work."
3. "During the work day I feel I am full of energy."
4. "I have the energy to successfully do my job."
5. "When I get to work in the morning I have energy for the new day."
6. "I feel enthusiastic when I am doing my work."
7. "The work in this organization gives me positive energy."
8. "When I am at work I feel vital and alive."

5-point Likert scale, where 1 = not at all and 5 = to a large extent.



exchange) scale (Liden & Maslyn 1998). Two weeks later, at Time 2, they measured feelings of energy (see the sidebar Atwater & Carmeli's Feelings of Energy at Work Scale) and employee involvement in creative work with Tierney et al.'s (1999) nine-item measure of creativity. Using structural equation modeling (SEM), they found that the relationship between LMX and creative work involvement was mediated by feelings of energy, controlling for job tenure, educational level, gender, organization type, and creativity expectations across jobs. (Some jobs inherently require more creativity than others.) In other words, a positive relationship with a supervisor (LMX) produced more individual-level energy and more creativity, compared to a poor relationship. In a related empirical paper, Carmeli & Spreitzer (2009) analyzed the relationship between trust, connectivity (openness and generativity in relationships), thriving, and innovative behaviors at work. They define thriving as a second-order construct composed of two first-order constructs: energy and learning. They use the feelings of energy scale (see the sidebar) but relabel the construct "vitality." Using a two-period design and SEM, they find that (*a*) connectivity mediates the relationship between trust and thriving, and (*b*) thriving (learning and energy/vitality) mediates the relationship between connectivity and innovative behaviors at work.

The literature reviewed so far evinces uncertainty about emotional energy. Because it is often defined in terms of related concepts (e.g., positive arousal, vitality, zest), relabeled as something else (such as vitality), or described in ways that appear to be similar to other concepts (e.g., motivation), an open question is how different and unique the concept of emotional energy is. Another question is whether the adjective emotional or even the noun energy should be retained. Quinn et al. (2012) address these questions in a thorough review of the literature on human energy at the individual level. They develop a taxonomy of energy constructs (Quinn et al. 2012, p. 341) that places "human energy" as a type of resource that allows a person to enact a schema (i.e., a cognitive frame used to make sense of a situation). The two types of human energy are "physical energy" and "energetic activation." Physical energy is "the capacity to do work" and is stored in the human body as "potential energy" (glucose and adenosine triphosphate) that is transformed into "kinetic energy" (action or energy-in-use). Energetic activation is "the subjective component of [a] biobehavioral system of activation experienced as vitality, vigor, enthusiasm, zest, etc." (Quinn et al. 2012, p. 341). They advocate "energetic activation" because "energetic" makes an explicit connection to human energy and contemporary psychologists prefer "activation" over "arousal."

Quinn et al. (2012, pp. 343–44) argue that physical energy and energetic activation are different from other constructs, such as emotional burnout, flow, or motivation. Emotional burnout is a state of low energetic activation combined with the feeling of being unable to raise energetic

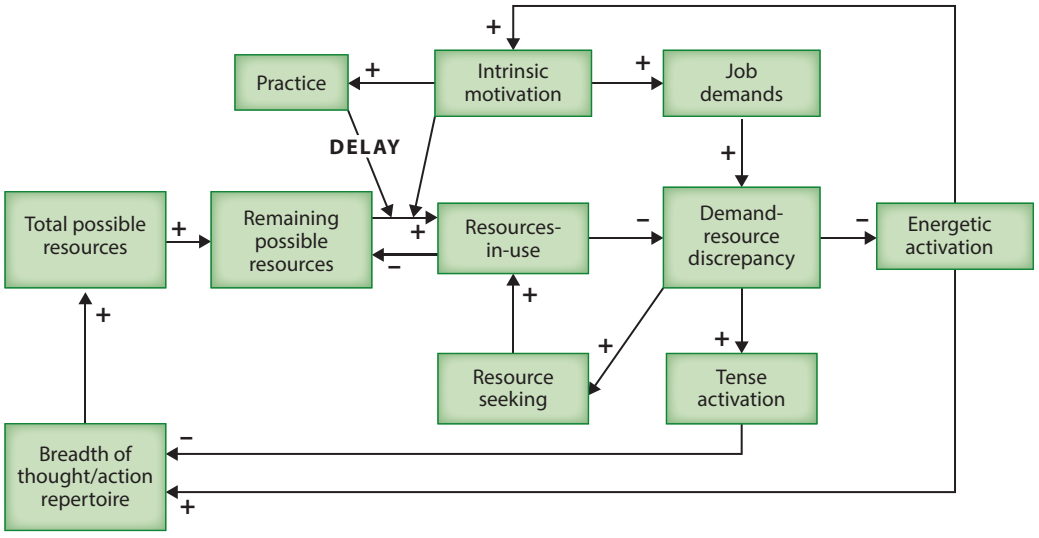


**Figure 3**

An integrated model of human energy. Figure modified with permission from Quinn et al. (2012).

activation. In contrast, as the author trio points out, one might feel capable of high energetic activation but choose to not pursue it; this would not be considered burnout. Flow merges one's conscious awareness with the application of knowledge and skills in an activity (Quinn 2005). This is not the same as energetic activation. In fact, the positive feelings associated with flow come after the experience. Colloquially, motivation and emotional energy seem similar. Researchers who study emotional energy, however, see them as different. Motivation is the initiation, direction, intensity, and persistence of effort (Landy & Becker 1987, Pinder 2004). But effort is not part of the definition of energy. Physical energy, as the capacity to do work, is potential energy that may or may not be used to exert effort. Energetic activation may or may not be directed into effort. One may feel energized but unmotivated to perform work; conversely, one might lack energy but still be motivated to exert effort (e.g., Zhang 2018, p. 21). Energy and motivation can be connected. Core affective feelings at work can influence motivation directly and indirectly (Seo et al. 2004).

Quinn et al. (2012) draw together multiple theories to develop a conceptual model of human energy, illustrated in **Figure 3**. Due to space constraints, I provide a barebones description. A key assumption is that energy is a resource. (*a*) From conservation of resources theory, energetic activation is a function of job demands and resources used to meet them. A discrepancy in demands and resources influences energetic activation. When job demands exceed resources, energetic activation declines; when resources exceed job demands, energetic activation increases. (*b*) When demands exceed resources, ego-depletion theory suggests that people will seek more resources, which increases resources-in-use and decreases the discrepancy. However, more resources-in-use means fewer remaining possible resources (hence the negative sign between these two variables). Total possible resources is a constraint in this model, representing that a person has an upper limit to how many resources a person may have. Practice—the repetition of activities over time—increases efficiency (e.g., becoming more skillful) so that practice moderates the relationship between resources-in-use and remaining possible resources. The delay indicates that practice takes time. (*c*) The literature on energetic activation and tense activation (Thayer 1989) suggests four paths: Energetic activation increases the breadth of thought-action repertoires; the increase in

breadth increases total possible resources; tense activation comes from the experience of negative emotions (Thayer 1989) and rises when demands outstrip resources; and an increase in tense activation narrows the breadth of thought-action repertoires. (*d*) In the section titled Toward a Multilevel Model, I describe interaction ritual theory (Collins 2004). The Quinn-Spreitzer-Lam model is an individual-level model, so interaction ritual theory adds only one variable—intrinsic motivation. Energetic activation increases the intrinsic motivation to repeat activities that are perceived to be energizing, which in turn increases practice. (*e*) Self-determination theory suggests that intrinsic motivation moderates the relationship between remaining possible resources and resources-in-use. (An intrinsically enjoyable activity makes it easier to perform the activity.) People who are intrinsically motivated seek more challenges and increase job demands. Taken together, these theories, variables, and relationships represent a system dynamics view of human energy at the individual level.

So where are we with "emotional energy"? Quinn et al. (2012, p. 367) state that "emotional energy," as used by Collins (1981, 1993, 2004), is "synonymous with energetic activation," but they also say that emotional energy is a colloquial term that is best understood as "the energetic activation I feel for engaging in a specific kind of action" (p. 341). Generally, they eschew adjectives before "energy." As they argue, "[e]nergy is not 'mental', 'social', or 'spiritual' per se. Rather, people invest their physical energy in, or feel energetic activation about, mental, social, or spiritual activities" (p. 342). Some theorists go so far as to say that "emotion" and its types (e.g., fear, anger, happiness) are nothing more than folk terms, arguing instead for "core affect" as a scientific concept (Russell & Feldman Barrett 1999, Russell 2003). Core affect is defined as "that neurophysiological state consciously accessible as the simplest raw (nonreflective) feelings evident in moods and emotions" (Russell 2003, p. 148). Core affect varies along two dimensions: activation and pleasure. Energetic activation, then, is an activated-pleasure affective state.

From these perspectives, it seems that we should drop "emotional" from emotional energy. Nonetheless, something meaningful may be lost by not using the concept "emotional energy." In physics, biology, or chemistry, energy is defined as the capacity to do work. The source of energy is chemical, electrical, gravitational, or nuclear. Work is the transfer of energy. Similarly, physical energy in humans is the "capacity to do work" where the source of human energy is stored in the chemical bonds that compose glucose and adenosine triphosphate. This "potential energy" becomes "kinetic energy" when the bonds are broken down into simpler chemicals (Quinn et al. 2012). In a similar way, we can consider emotional energy as the capacity to do work where the source is affect—the subjective component of a biobehavioral system of activation. In shorthand, emotional energy is the subjective capacity to do work. Just as physical energy is a potential, so too is emotional energy. For example, the subjective capacity to do work may or may not be directed into effort (in other words, emotional energy is not motivation). Retaining the adjective "emotional" does not imply that all adjectives are equal. Adjectives such as "mental" or "spiritual" may not be useful.

## RELATIONAL ENERGY AS A SOURCE OF EMOTIONAL ENERGY

Emotional energy (or, as sometimes labeled, energetic activation) has multiple sources. Individual choices and activities that create positive emotions (or decrease negative emotions) can increase emotional energy, such as physical exercise (e.g., Thayer et al. 1993), keeping a gratitude journal (e.g., Lyubomirsky 2007), or timing breaks at work and choice of activities during breaks (Hunter & Wu 2016). Fritz et al. (2011) studied a variety of physical, relational, mental, and spiritual activities that could increase emotional (and physical) energy at work (see also Schippers & Hogenes 2011). They found that individual activities that elevated energy included learning something new,

focusing on what gives joy at work, setting a new goal, and reflecting on the meaning of one's work (Fritz et al. 2011, p. 34).

Relational choices also influence emotional energy (e.g., Collins 2004). "Relational energy" is the concept that represents the emotional energy generated (or depleted) in social interactions. Relational energy is defined as "a heightened level of psychological resourcefulness generated from interpersonal interactions that enhances one's capacity to do work" (Owens et al. 2016, p. 37). Relational energy is not a different type of energy. Rather, it denotes that interactions are a source of emotional energy.

The earliest published empirical study of what would be called relational energy introduced the concept of energy networks and documented the effects of relational energy on individual performance (Baker et al. 2003). This study of social networks in several organizations included a single energy item in an organizational network survey: "When you typically interact with this person, how does it affect your energy level?" Each respondent rated all other respondents, using a five-point Likert scale (1 = strongly de-energizing, 5 = strongly energizing). Using objective job performance data, Baker et al. found that the more people a person energized, the higher the person's job performance, controlling for various factors. Supplemental data from qualitative interviews suggested that energizing others raises performance because those who are energized are more likely to share information and resources with, and devote discretionary time to, energizers. The interviews also suggested a trade-off between emotional energy and information acquisition: People avoid interacting with de-energizers even if it meant failing to acquire valuable information. This observation is consistent with Collins's (2004) theory (reviewed below) and with the empirical finding in Casciaro & Lobo (2014) of "affective primacy" in the workplace: Employees trade off "affective values" (emotional energy) and "instrumental values" (information), forgoing the acquisition of information to avoid interacting with de-energizers.

The Baker et al. (2003) study and related work (e.g., Cross et al. 2002, 2003) began a new stream of theorizing and research on relational energy but also foreshadowed the need for construct validation. Critics challenged the new concept, arguing that relational energy was simply a synonym for established concepts such as positive affect, LMX, social support, etc. Therefore, Owens et al. (2016) conducted four studies to develop and validate the relational energy scale. Study 1 provided qualitative data from 64 people in various industries to develop a conceptual definition. These data revealed that feeling "energized" by others at work is a combination of emotional energy and motivation. Thus, the relative contribution of interpersonal interactions to increase motivation versus emotional energy has not been determined. Studies 2–4 examined relational energy with supervisors from the receiver's point of view. Study 2 used a sample of 184 full-time employees from a commercial subject pool. Exploratory factor analysis was used to winnow a list of 22 candidate items to the final 5 (see the sidebar Owens, Baker, Sumpter, & Cameron's Relational Energy Scale). A second sample ($n$ = 200) from a commercial subject pool was used

## OWENS, BAKER, SUMPTER, & CAMERON'S RELATIONAL ENERGY SCALE

1. "I feel invigorated when I interact with this person."
2. "After interacting with this person, I feel more energy to do my work."
3. "I feel increased vitality when I interact with this person."
4. "I would go to this person when I need to be 'pepped up'."
5. "After an exchange with this person I feel more stamina to do my work."

7-point Likert scale, where 1 = strongly disagree and 7 = strongly agree.

to establish the discriminant validity of relational energy, showing that it was distinctly different from perceived social support from one's supervisor, LMX, relational identification, vigor, and productive energy. (I discuss the latter concept in the following section.) Of course, these are related to relational energy. For example, LMX and other forms of "high-quality connections" (Dutton 2003, Baker & Dutton 2007) can be causes of relational energy. Analysis of data from a third sample ($n = 266$) of employees in a healthcare organization confirmed the findings from the second sample. Study 3 used a different sample ($n = 157$) from the same organization to assess predictive validity. The relational energy that employees experienced with leaders at Time 1 predicted job engagement at Time 2 (one month later), controlling for the competing construct of perceived social support and various demographic controls. Study 4 used a third sample ($n = 123$) from the same organization to replicate the analysis in Study 3 and then predict objective job performance at Time 3. They found that relational energy (Time 1) influences employee job performance (Time 3) through the mechanism of job engagement (Time 2).

Other empirical studies examine the consequences of relational energy. For example, the same team that validated the relational energy concept produced a study that examined the effect of relational energy at work on nonwork outcomes such as work-enrichment of family and general well-being (Owens et al. 2018). In a four-year panel study, Parker & Gerbasi (2016) analyzed the impact of energizing ties on voluntary and involuntary turnover in the information technology department of a global engineering consulting firm. They conducted an organizational network survey each year that included a single energy item similar to the item used in Baker et al. They operationalized an individual's energetic activation (aka emotional energy) as the count of incoming energizing ties. As I discuss below, equating energetic activation with relational energy may be problematic because it assumes that other sources of emotional energy, such as physical exercise or timing breaks at work, are absent. Parker & Gerbasi found that employees who have more energizing ties are less likely to voluntarily exit but that the relationship is mediated by individual performance. Employees with high levels of energetic activation perform at a higher level, which itself tends to cause voluntary exit. They also find that those who energize others have a lower risk of involuntary exit, but this too is mediated by performance: Those who increase the energetic activation of others perform at a higher level, which in turn reduces the risk of being fired.

However, other studies examine both the antecedents and consequences of relational energy. For example, Wang et al. (2018) explored the effects of leader humility on follower's relational energy, task performance, and emotional exhaustion. Leader humility emphasizes self-transcendence and personal improvement over self-aggrandizement and an inflated sense of self; it is expressed as admitting mistakes and limitations, being open to feedback, advice, and new ideas, and emphasizing the strengths and contributions of others (e.g., Owens & Hekman 2012, 2016) and measured with a nine-item other-report scale (e.g., "My leader admits when he or she doesn't know how to do something"). Study 1 was a two-phase survey of 211 manager-employee (leader-follower) dyads in China from 45 organizations in various industries. First, followers rated leader humility and reported demographics. Three weeks later, followers rated relational energy with leaders and perceived leader power and reported their own emotional exhaustion. At the same time, leaders evaluated followers' task performance. The analysis shows that leader humility has a positive indirect effect on followers' task performance via increased relational energy and decreased emotional exhaustion. The effects of leader humility are stronger when followers perceive more leader power. Study 2 was a three-phase study of 201 subordinates and 85 supervisors in a public company in China. This study replicated Study 1 and also showed that followers' relational energy was indirectly influenced by the leader's relational identity and an "incremental theory of the self" (growth mindset). The concept of growth mindset was measured with an eight-item

scale that included items such as "everyone, no matter who they are, can significantly change their basic characteristics" (Levy et al. 1998).

In a study of 27 six-person graduate student teams ($n = 162$), Cullen-Lester et al. (2016) analyzed extraversion as an antecedent of relational energy and proactive performance as a consequence. Each team consulted with a company on a specific human resource challenge and made a formal presentation of recommendations. Extraversion was measured at the start of the project. Ratings of relational energy among team members were collected three months later (near the end of the project), using a single energy item similar to that in Baker et al. At this time, team conflict was also measured. One month after the final presentation, team members rated one another's contributions to the team, using a three-item scale (e.g., "suggested ways to make your team more effective"). They found that extraverts developed more energizing ties, which generated higher proactive performance ratings from team members. However, task conflict reversed extroverts' energizing effects. In high conflict teams, extroverts developed fewer energizing ties and were rated lower on proactive performance.

Most studies of relational energy emphasize their positive effects. In contrast, two studies focus on "de-energizing ties" and their deleterious effects. Gerbasi et al. (2015) theorized that de-energizing interactions impair job performance because they reduce motivation, add stress, and disrupt cognitive functioning. They measured relational energy with a single item similar to Baker et al. and counted each person's outgoing de-energizing ties (that is, the number of people a person perceives to be de-energizing). Study 1 used data from a sample of 161 people in the information technology department of an engineering firm and found that more de-energizing ties led to lower performance. Study 2 used data from 439 management consultants and found that a sense of "thriving" elevates job performance. Moreover, a sense of thriving moderates the effect of de-energizing ties. They argue that thriving buffers the harmful effects of de-energizing relationships because those who are thriving at work are less likely to be distracted or derailed by negative relationships, see themselves on a positive path, focus on their goals, and learn from their interactions, positive or negative.

Gerbasi et al. (2018) studied the effects on subordinate job satisfaction when the de-energizing tie is with the boss. Their study included 211 members of an engineering department in a large manufacturing company. They measured the quality of the relationship between supervisor and subordinate with a seven-item LMX scale, and measured relational energy with a network survey that used a single energy item similar to that in Baker et al. They found that subordinates with higher LMX were more satisfied with their jobs, whereas those with lower LMX were less satisfied, controlling for prior year job performance and other factors. They also find, however, that energizing ties (relational energy) with fellow coworkers can buffer the effects of low LMX. Employees who have low-quality supervisor relationships but also have many energizing ties with coworkers can still be satisfied with their jobs.

## GROUP EMOTION, PRODUCTIVE ENERGY, AND ENERGY NETWORKS

Several concepts represent emotional energy at the macro level. I refer to these, together, as organizational energy in the workplace or collective energy in general. "Group emotion" is a collective affective state of a group or team that can be measured as the mean, variance, minimum or maximum, and homogeneity or heterogeneity of individual members' acute emotions, longer term moods, or dispositional affect (Barsade & Gibson 1998). The literature on group emotion does not explicitly address emotional energy, except, as pointed out above, as a synonym for emotional intensity (Barsade 2002, p. 649). However, group emotion has been shown empirically

to influence a range of individual and group performance outcomes (Barsade & Gibson 2012), suggesting that group-level emotional energy also influences individual and group performance. For example, the data in the team study discussed above (Cullen-Lester et al. 2016) could have been aggregated to group emotional energy and then included in a multilevel analysis of the effects of energy on performance.

Group-level emotional energy applies to small groups and teams characterized by face-to-face interactions. For larger entities, such as organizational units or entire organizations, Cole et al. (2012) propose the concept of "productive energy"—"the shared experience and demonstration of positive affect, cognitive arousal, and agentic behavior among unit members in their joint pursuit of organizationally salient objectives" (p. 447). They argue that positive affect is a critical element of productive energy, but that cognition and behavior must also be included to "encompass the totality of a positively energized work context" (p. 447). The appropriateness of combining affect, cognition, and behavior into a single construct is debatable and one of the Future Issues I discuss below. Nonetheless, they used data from several studies to establish the construct, discriminant, and predictive validity of the productive energy measure (PEM). In a preliminary study, they developed a list of 38 candidate items, based on in-depth interviews with 50 experienced business executives. With input from outside reviewers, the authors reduced the list to 17 items. Study 1 included a large sample of employees ($n = 2{,}208$) from a US-headquartered company. Exploratory and confirmatory factor analyses were used to evaluate the underlying factor structure of the 17 items. The three dimensions (affective, cognitive, and behavioral) are viewed as latent indicators of the second-order productive energy construct. Study 2 used a new sample of employees ($n = 660$) to cross-validate the same factor structure, resulting in a final set of 14 items (see the sidebar Cole,

## COLE, BRUCH, & VOGEL'S PRODUCTIVE ENERGY SCALE

Affective dimension

1. People in my work group feel excited in their job.
2. People in my work group feel enthusiastic in their job.
3. People in my work group feel energetic in their job.
4. People in my work group feel inspired in their job.
5. People in my work group feel ecstatic in their job.

Cognitive dimension

6. My work group is ready to act at any given time.
7. People in my work group are mentally alert.
8. In my work group, there is a collective desire to make something happen.
9. People in my work group really care about the fate of this company.
10. People in my work group are always on the lookout for new opportunities.

Behavioral dimension

11. People in my work group go out of their way to ensure the company succeeds.
12. People in my work group often work extremely long hours without complaining.
13. There has been a great deal of activity in my work group.
14. People in my work group are working at a very fast pace.

Responses to affect items used a 5-point frequency scale (1 = never; 5 = frequently, if not always). Responses to cognition and behavioral items used a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree).

Bruch, & Vogel's Productive Energy Scale). In Study 3, Cole et al. administered the PEM to more than 5,000 employees from 145 departments (units) located in five countries. They found that the PEM aggregated to the unit level was positively associated with goal commitment, organizational commitment, and overall satisfaction. Study 4 examined the relationship between the productive energy of firms and their overall performance. Using data from 92 German firms ($n = 5{,}939$ employees), they found the PEM aggregated to the firm level predicted firm performance (as evaluated by key informants). A clear next step is to analyze the relationship between productive energy and objective measures of firm performance.

Networks are an alternative to the aggregation of individual-level emotions, moods, or dispositions into a macrolevel measure (e.g., PEM). A social network is a set of relationships (or ties) among a specified set of people. A social network can include multiple types of relations, such as information transfer, advice giving and getting, or informal socializing. Relational energy is a type of relation. An "energy network" is the set of relational energy ties among a specified set of people. **Figure 4** is a visualization of the network of "energizing" ties among staff in a government agency, where relational energy was measured with the item discussed above (i.e., Baker et al. 2003). Three leaders were brought in to revitalize this organization. Supplemental qualitative interviews suggested that they were successful, which is supported by the centrality of the three leaders in the energy network diagram. Many staff members perceived the leaders to be energizing, as shown by the incoming arrows in figure. The energy the leaders created spread through the network. **Figure 5** is a visualization of the "de-energizing" ties among engineers and their supervisors in a petrochemical company. (Staff and supervisors who did not have any de-energizing ties are not shown in this figure.) Supplemental qualitative interviews indicated that the supervisors

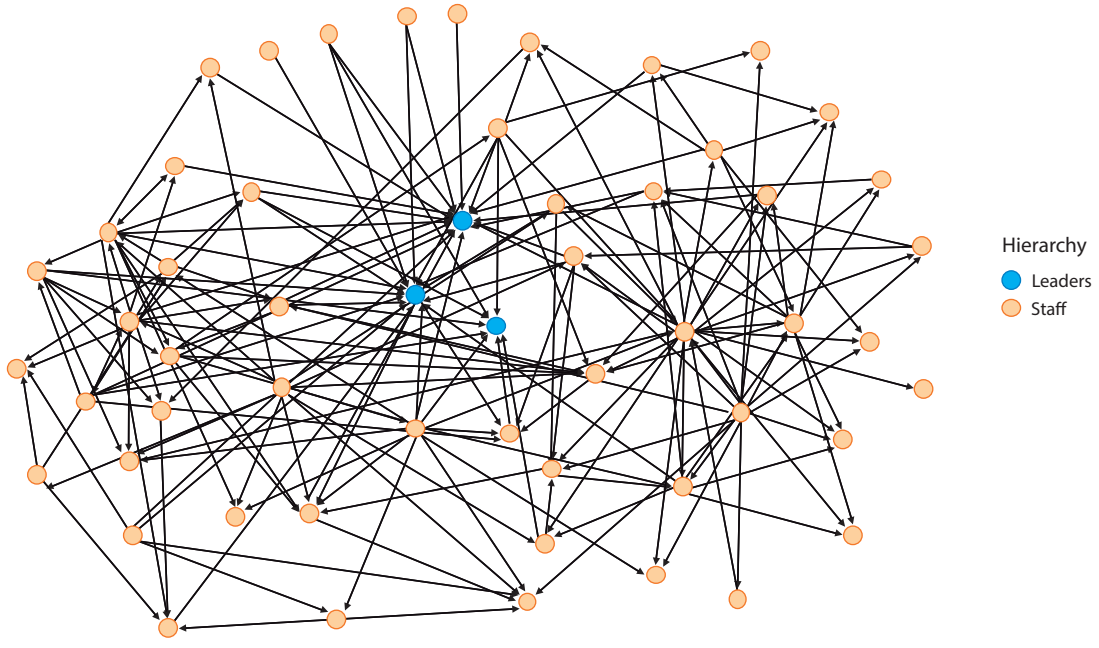


**Figure 4**

Network of energizing ties among leaders and staff in a government agency. Leaders are shown in blue, and staff members are in yellow. Each line represents an energizing relationship. Arrowheads indicate direction from the "energized" to the "energizer." Figure modified with permission from Cross et al. (2002).

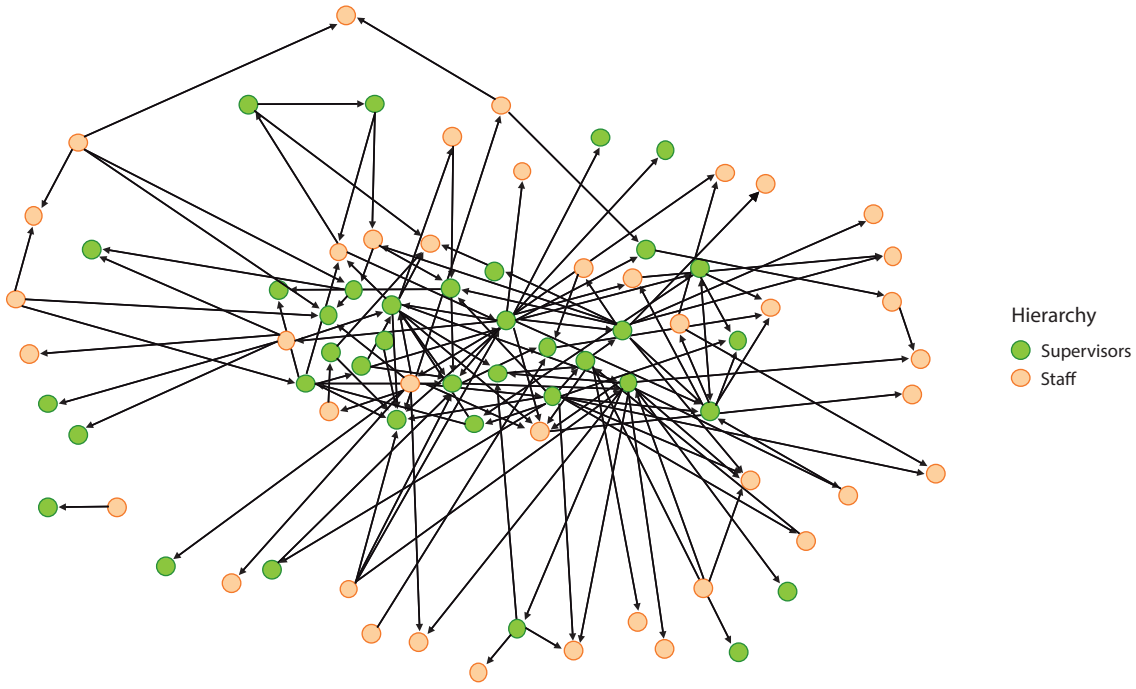


**Figure 5**

Network of de-energizing ties among supervisors and staff in a petrochemical company. Supervisors are shown in green, and staff members are in orange. Each line represents a de-energizing relationship. Incoming arrowheads indicate indegree centrality, that is, the number of people who view the target as de-energizing. Figure modified with permission from Cross et al. (2002).

were largely responsible for creating a corrosive organizational culture, which was corroborated by the centrality of supervisors in this (de)energy network. Indeed, deleting supervisors and their de-energizing ties from the network map (**Figure 5**) shows that few de-energizing ties occurred among the engineers themselves.

Practitioner studies of energy networks abound (e.g., Cross & Parker 2004), but there is a dearth of articles on energy networks in academic journals. One reason, as discussed above, was that the relational energy construct needed to be validated, and this occurred in 2016. However, some articles come close to studying energy networks. For example, studies cited above (Parker & Gerbasi 2016; Cullen-Lester et al. 2016; Gerbasi et al. 2015, 2018) collected energy network data as a way to measure each person's subset of relational energy ties (e.g., the number of incoming energizing ties or outgoing de-energizing ties) but stopped short from analyzing the contextual effects of energy networks. Explicitly adding energy networks would require a multilevel model and a corresponding multilevel analysis. This approach could avail itself of the rich array of existing social network concepts and measures (e.g., Borgatti et al. 2013) and produce a sophisticated multilevel theory of emotional energy, relational energy, and energy networks.

## TOWARD A MULTILEVEL MODEL

A multilevel model recognizes that phenomena at different levels or scales are related: What happens at one level influences what happens at another level and (possibly) vice versa (Markovsky & Turner 2007). A statistical relationship between levels does not qualify as a multilevel model.

The theory must explain why a relationship exists. Markovsky & Turner (2007, p. 3005) argue that "theories seeking to bridge levels need to develop concepts, propositions, and models that capture the key dynamics of each level, and then to develop bridging propositions connecting the concepts across levels." For example, theories of "group affect" propose specific mechanisms by which group emotion results from a "bottom up" process that reflects the "affective composition" of group members and/or a "top down" process that reflects the "affective context" of the group (Barsade & Gibson 1998, Kelly & Barsade 2001, Barsade & Knight 2015). Emotions are transmitted through "affective transfer processes" such as "emotional contagion, vicarious affect, behavioral entrainment and interaction synchrony (the tendency for group members to automatically adjust their behavior to synchronize with other members' behavior), explicit affective influence/induction, and affective impression management (managing one's surface-level affective displays to achieve one's goals)" (Barsade & Gibson 2012, p. 119). These mechanisms are likely at play in the spread of emotional energy (the subjective capacity to do work) in groups and the formation of group-level emotional energy, although this would have to be established by research.

Yang et al. (2017) develop and test a true multilevel energy model. They measure relational energy between supervisors and subordinates and the variability of relational energy in work groups, making this a two-level meso-macro model. Similar to Parker & Gerbasi (2016), they do not directly measure emotional energy and instead assume that emotional energy at the micro level is equivalent to relational energy. Their data come from a three-phase study of 497 employees and their immediate supervisors in a health service organization in China. At Time 1, each employee rated his or her supervisor's "spiritual leadership" (a 17-item scale that covers vision, hope/faith, and altruistic love) and a four-item perceived "leader integrity" scale (Dineen et al. 2006). Six months later (Time 2), employees rated relational energy, using the five-item scale in Owens et al. (2016). Twelve months later (Time 3), Yang et al. (2017) obtained supervisor ratings of their employees' job performance, using a four-item scale. The researchers found an indirect positive effect of spiritual leadership on subordinate job performance, mediated by supervisor-subordinate relational energy. The relationship between spiritual leadership and relational energy was stronger when leader integrity was higher (moderation effect). Using two-level hierarchical linear modeling (HLM), they found that the positive relationship of relational energy and job performance was weakened when the variability of relational energy in work groups was higher. Yang et al (2017) argue that high variability in relational energy means that a supervisor is inconsistent or unreliable in relationships with subordinates, creating a context of uncertainty that interferes with job performance. This finding is consistent with research that shows that "affective diversity" in teams can lead to more conflict and lower performance (Barsade & Gibson 2012, p. 121).

Collins's (2004) theory of interaction ritual chains is one of the very few published attempts to develop a three-level energy model. The model includes emotional energy (micro), interactions (meso), and group emotion and solidarity (macro). As introduced above, this theory argues that people obtain emotional energy from participation in (*1*) shared activities and interactions, (*2*) they repeat shared activities and interactions that raise emotional energy (and avoid those that do not), and (*3*) this repetition creates "chains" that become routinized into social structures. **Figure 6** illustrates Collins's model. The "ritual ingredients" are the copresence of two or more human bodies, a boundary between participants and outsiders, a common focus of attention and awareness of one another, and group emotion. The "ritual outcomes" are emotional energy in participants, group solidarity or a feeling of membership and belonging, and symbols of group membership.

The heart of an interaction ritual is what Collins calls the process of mutual focus of attention and emotional entrainment, or what Barsade & Gibson (2012) call the affective transfer process of behavioral entrainment and interaction synchrony (defined above). For illustration, consider

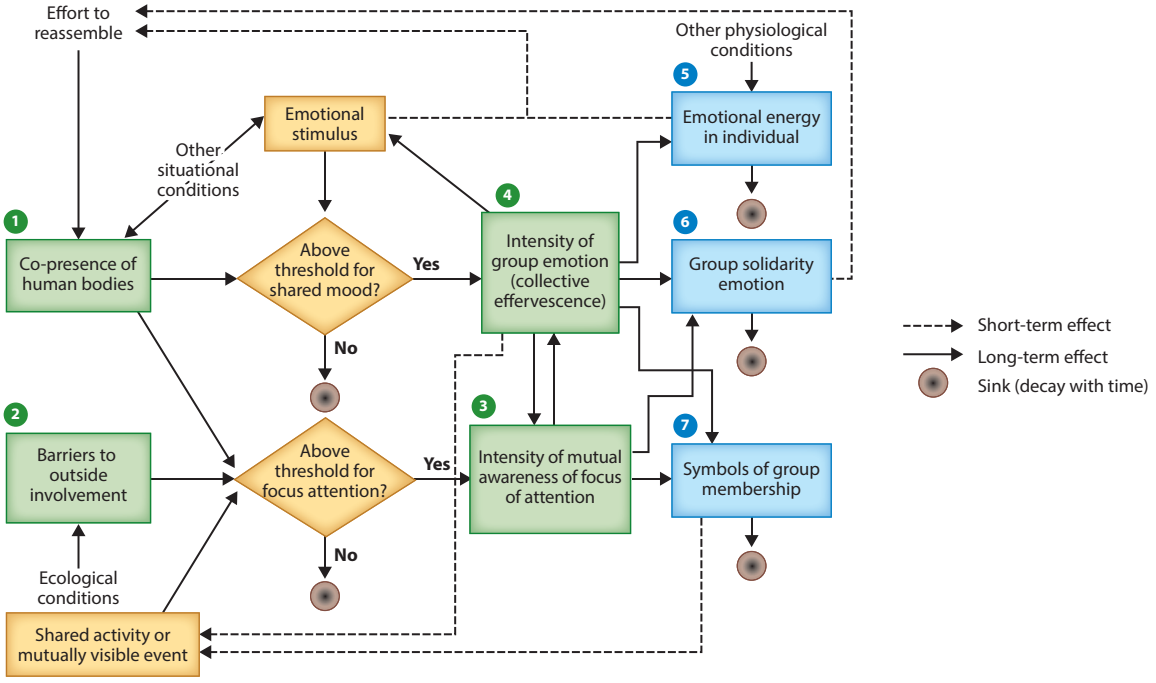


**Figure 6**

Collins's flow chart of interaction ritual. Green rectangles are "ritual ingredients" (❶,❷,❸,❹). Blue rectangles are "ritual outcomes" (❺,❻,❼). Orange diamonds and rectangle indicate contingencies in the model. See text for explanation. The figure is modified with permission from Collins (2004).

Rivera's (2015) application and extension of Collins's theory to understand how employers in elite professional service firms (investment banks, law firms, management consulting firms) use the subjective experience of emotional energy generated in interviews to evaluate applicants and make hiring decisions—and thereby recreate structures of opportunity and inequality. Rivera's data come from 120 semistructured interviews (40 per industry) of professionals involved in making hiring decisions of undergraduate and graduate students from prestigious universities, as well as nine months of fieldwork in an elite professional service firm. She found that 94 of the 120 people (78%) she interviewed "spontaneously reported using their emotions to evaluate job candidates" (Rivera 2015, p. 1351). "Excitement" was the most common emotional descriptor used by interviewers. Rivera equates reports of "excitement" to Collins's concept of emotional energy. Most interviewers believed that using emotional reactions like excitement to make hiring decisions ("going with your gut") was legitimate, effective, and efficient.

Rivera notes that the job interview contains the ritual ingredients in Collins's model, such as copresence of human bodies, barriers to outside involvement, and mutual awareness/focus of attention (**Figure 6**). But these ingredients are preconditions that do not by themselves generate emotional energy. Noting that Collins is "elusive" on how the subjective experience of emotional energy develops in an interaction, Rivera uses her data to develop an original four-phase model of "emotional energy development." In phase 1, evaluators develop an "energy expectation" prior to the actual interview. This is an expectation of how "emotionally rewarding" the interview will be, based on what the evaluator learns from the candidate's resume and application materials. Evaluators expect excitement when they discover that they share extracurricular interests with a

candidate (e.g., exotic travel), the candidate participated in physically demanding activities (e.g., varsity athletics), or the candidate did something unusual or unique. Phase 1 is an "energy impression" that forms in the first minutes of the interview and either confirms or revises the energy expectation from phase 1. Conversation in the first minutes is the "ice breaker" and not related to the job per se. Topics often focus on resume similarities (e.g., went to the same school or participated in the same extracurriculars). The evaluator's energy impression is also affected by the candidate's display of energy in verbal and body language, vivid storytelling, and physical attractiveness. The hiring decision is often made in phase 2. Phase 3 is the "formal performance evaluation," which might include tests of knowledge or skill. Evaluators might (but often do not) revise their energy impressions from phase 2, based on the candidate's creativity in problem solving or the energy with which the candidate approaches a problem. Phase 4 takes place after the interview when an evaluator recalls each candidate's "energy trace" (feelings of emotional energy that linger after the interview) and ranks candidates accordingly. Phase 5 occurs when the evaluators meet as a group to deliberate and make hiring decisions. Decisions were based mainly on emotional reactions to the candidates. This final phase corresponds to the ritual outcomes in Collins's model (**Figure 6**). For example, group solidarity is reinforced by group decision making and consensus, strengthening of bonds among the evaluators, and the reestablishment of group boundaries (who is hired and who is "let go").

Rivera's analysis of the microsocial dynamics of the elite hiring process cannot directly address the link between micro and macro, but it does suggest how interaction rituals reproduce systems of stratification (Rivera 2015, pp. 1380–81). For example, the qualities that generated emotional energy in interviews were "gendered." The evaluators "were pumped up by activities and experiences that were physically demanding, adrenaline producing, and stereotypically masculine." These elite firms have been dominated by men and a male-oriented culture. Although the diversity of these firms has increased over time, hiring on the basis of emotional energy reproduces the traditional male-oriented culture: Both men and women in these firms "display stereotypically masculine interests and experiences." Hiring on the basis of emotional energy reproduces socioeconomic inequality because it places a premium on extracurricular activities that are expensive and time-consuming. Extracurriculars that create high-energy expectations put job applicants from lower socioeconomic backgrounds at a disadvantage, compared with those from families who have the economic, social, and cultural capital to support participation in these extracurricular activities.

## PRACTICAL IMPLICATIONS FOR INDIVIDUALS AND ORGANIZATIONS

The practice literature is rife with advice about how individuals and organizations can manage emotional energy to boost performance. Theorizing has outpaced empirical testing so many recommendations are loosely guided by research. Here, I discuss practices that are supported by empirical research.

### Measurement and Diagnosis

Various scales and methods can be used to measure and diagnose energy at the micro, meso, and macro levels. Atwater & Carmeli's (2009) eight-item feelings of energy scale or Cole et al.'s (2012) 14-item productive energy scale can be used to measure energy in work environments. These individual-level measures can be aggregated to the group level as the sum, mean, or variability of individual members' energy. The five-item relational energy scale (Owens et al. 2016) can be used to measure the quality of peer-to-peer or supervisor-subordinate relationships. Relational energy can be aggregated to and analyzed at the group level or as energy networks. All of these measures

can be used to evaluate energy states at one point in time, to track energy over time, or to evaluate the impact of interventions or organizational changes.

## Creating and Maintaining Energy

The research cited in this review provides practical advice on the activities that elevate emotional energy, such as physical exercise, goal setting, choice of activities during work breaks, learning, and purpose. Cultivating high-quality connections (and avoiding low-quality connections) elevates emotional energy. Cultivating a sense of thriving by, for example, having purpose, clear goals, and making progress, buffers the negative effects of de-energizing connections. A network of energizing ties with peers buffers the deleterious effects of a low-quality supervisor-subordinate relationship.

Leadership also plays a role. Leaders who are humble and spiritual (as defined above) elevate emotional energy in the workplace. Generally, leaders who encourage collaboration, cultivate trust, and encourage open communication build social capital and elevate emotional energy (Carmeli et al. 2009).

### SUMMARY POINTS

1. Emotional energy is the subjective capacity to do work where the source of energy is affect. Emotional energy is the subjective component of a biobehavioral system of activation. Emotional energy is different from motivation or effort; it may, however, be directed or channeled into motivation or effort.
2. Emotional energy is associated with outcomes such as creativity, innovation, and hiring decisions.
3. Relational energy is "a heightened level of psychological resourcefulness generated from interpersonal interactions that enhances one's capacity to do work" (Owens et al. 2016). Relational energy is not a different type of energy. It denotes that interactions are a source of emotional energy.
4. Interactions are one of several sources of emotional energy. Nonrelational sources include physical exercise, keeping a gratitude journal, timing breaks at work, learning something new, focusing on what gives joy at work, setting a new goal, and reflecting on the meaning of one's work.
5. Antecedents of relational energy include leader humility, spiritual leadership, and extraversion.
6. Relational energy is associated directly or indirectly with employee engagement, job performance, voluntary and involuntary turnover, work enrichment of family, and general well-being.
7. A sense of thriving at work or energizing ties with peers offsets the harmful effects of de-energizing ties at work.
8. An energy network is a set of relational energy ties among a specified set of people. Other macro-level forms of emotional energy include group emotion and productive energy.
9. A three-level model of emotional energy (micro), relational energy (meso), and energy networks or group emotion (macro) exists in theory but has not been completely developed and tested empirically.

## FUTURE ISSUES

The concept of emotional energy is not new, but it has attracted scholarly interest only recently (**Figure 1**). This review identifies key findings and demonstrates the value of research in this area, but it also shows that much more work needs to be done. Open questions and promising avenues of research include the following:

1. What are the antecedents of emotional and relational energy? Only a few antecedents of relational energy have been identified (leader humility, spiritual leadership, and extraversion). For example, are the personality traits of agreeableness, openness, conscientiousness, or neuroticism antecedents of relational energy? What other leader behaviors influence relational energy?
2. What is the role of motivation in relational energy? Emotional energy is not motivation. Relational energy (Owens et al. 2016) refers to the emotional energy generated in interpersonal interactions, but defined as a "heightened level of psychological resourcefulness," which includes motivation. Additional research is needed to decompose relational energy into emotional energy and motivation, evaluating the relative contribution of each to heightened psychological resourcefulness.
3. Is it always appropriate to equate emotional energy and relational energy? Some studies aggregate measures of relational energy into a measure of emotional energy. This assumes, however, that interpersonal interactions are the only source of emotional energy. Respondents could report many energizing ties, but have acquired most of their emotional energy from nonrelational sources. Ideally, emotional energy should be measured separately and decomposed into its relational and nonrelational components.
4. Is it appropriate to combine affective, cognitive, and behavioral elements into a single definition of energy? Some concepts and measures of energy are based on the argument that energy is multidimensional and should be represented by a combination of affect, cognition, and behavior. However, this combination appears to mix cause and effect and it may be better to separate the components. Additional data and analysis are required to answer this question.
5. What affective transfer mechanisms are at play in relational energy? The definition of relational energy assumes the transfer of emotional energy from one person to another. Collins (2004) mentions only one (behavioral entrainment and interaction synchrony) of many possible mechanisms. Identifying and measuring the affective transfer mechanisms at play would help to develop the "bridging propositions" (Markovsky & Turner 2007) required for a multilevel model.
6. Is a single-item measure of relational energy valid and reliable? As noted above, scholarly research on relational energy stalled until the construct of relational energy was validated. However, it is not practical to use the five-item measure in a survey of a large network. Assume, for example, a network survey of 50 people. With the five-item scale, each person would have to answer the 5 items for 49 other people, which means answering 245 questions in total. This would create considerable respondent burden. Therefore, some studies of energy networks use a single item to measure relational energy. The extent to which this approach is valid and reliable should be evaluated.

7. Can we empirically test multilevel models of emotional, relational, and collective energy—as well as develop and test new models? To date, only one three-level model has been published—Collins's theory of interaction ritual chains. This model has been explored qualitatively (e.g., Rivera 2015) and its internal consistency has been analyzed with a computer simulation (Collins & Hanneman 1998). A next step is to collect empirical quantitative data at all three levels to test and refine these models. Such work would also stimulate the development of new multilevel models of energy.
8. What are the two-way spillover effects of emotional, relational, and collective energy at work and at home? To date, only one study has examined spillover effects: the one-way influence of relational energy at work on work enrichment of family and general well-being (Owens et al. 2018). What other spillover effects are there? Are there spillover effects in the other direction—from home to work?
9. Are there cross-cultural differences in emotional, relational, and collective energy? With few exceptions (e.g., Yang et al. 2017, Wang et al. 2018), the research I review has been conducted with people and organizations from what Heinrich et al. (2010) call "WEIRD" societies—Western, Educated, Industrialized, Rich, Democracies. However, there is a rich history of cross-cultural research on emotions, which has found similarities in the interpretation of emotional displays but also culture-specific expressions and interpretations of emotions. Are there both universal and culture-specific expressions, interpretations, and uses of emotional energy?
10. Can evaluation research help to separate practices that work from practices that do not, leading to more effective practice prescriptions? The intuitive appeal of emotional energy has spurred the development of a broad spectrum of how-to books, workshops, seminars, and various interventions purported to increase energy at work. Some prescriptions are based on empirical research, some are not. The world of practice would benefit from evaluation research that can test the effectiveness of managerial and organizational interventions, distinguishing those that work and those that do not.

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**Errata**

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