Experiencing Human Energy at Work:
A Study of How Individuals Experience Human Energy in Their Work Lives

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Dedication

I dedicate this effort and any good fruits that may come from it:

To my parents, Mary Theresa Parker and James Joseph Schmidt, Sr., who encouraged and sacrificed much for my education and who never subscribed to their generation's adage that it never pays to educate a girl.

To Sally Wagner Dumas, whose love of learning and caring heart inspired and encouraged me on my own journey of learning and love, and who pulled my family and me through some tough times. And to her husband, George Dumas, who drove me to school (or close to it) on nasty weather days, showed me by his example how to work and get things done, and got me out of the tree when I was afraid to climb down. (Otherwise I would still be up a tree.)

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Abstract of the Dissertation

Experiencing Human Energy at Work:
A Study of How Individuals Experience Human Energy in Their Work Lives

This research developed an experience-based definition of human energy in the workplace and detailed descriptions of human energy processes at work. The theoretical lens for the study was Collins's (2004) theory of interaction ritual chains. Drawing from Husserlian phenomenology, this study employed a methodology designed by Moustakas (1994) combined with Flanagan's (1959) critical incident technique. Participants in this study were from the health, information technology, engineering, and psychology disciplines. The life-centered, existentially based definition developed through this research was a distillation of the essences and meanings described by the study participants from their horizons of the phenomenon of human energy. Descriptions of energy, lack of energy, and depleting energy experiences arose in a variety of aspects of workplace energy processes. Participants' energy experience narratives suggested how human energy changes with variations in the work environment, including some of the conditions under which an individual is aware or unconscious of his or her energy. Implications for theory, research, and practice are discussed.

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CHAPTER 1:

INTRODUCTION

This study sought to understand the concept of human energy, its role in workplace interactions, and how workplace interactions affect human energy. While energy (Adams, 2005; Collins, 1990; Levy & Merry, 1986; Quinn & Dutton, 2005) is defined in various ways across disciplines, some of which are examined in chapter 2, I defined human energy for this study as "the force or power of human movement, action, change, or being" (Taylor & Casey, 2010, p. 2; Taylor & Casey, 2011, p. 4). Furthermore, "human energy is controlled, triggered, and focused by both conscious and unconscious physical, emotional, and mental activity and is manifested in behaviors during workplace interactions (Collins, 1990, 2004; Quinn & Dutton, 2005)" (Taylor & Casey, 2010, p. 2; Taylor & Casey, 2011, p. 4). Human energy is the source of human work.

Key Constituent Concepts

"The force that through the green fuse drives the flower drives my green age," Dylan Thomas (2003) said. Force is defined as a push or a pull occurring during an interaction between two or more entities or individuals, whether in contact with one another or at a distance (Henderson, 2010). If the interaction ceases, the experience of the force ceases. The result of this force can be excitement, stilling, movement, or prevention of movement, such that the state or location of either or both of the entities changes in some way (Tesla, 1900; Williams, Trinklein, Metcalfe, & Lefler, 1972). The force or power of human energy consists of attraction (pull) and repulsion (push). These energy

manifestations are, essentially, experienced as emotions and expressed as action or behavior, including thought (Adler & Obstfeld, 2007; Katz, 1999; Kóvecses, 2003; Merrett & Easton, 2008; Moustakas, 1994; Parsons, 1968/1937; Pascual-Leone, 2005). This emotional energy can be influenced by and stored in cognitive forms (Collins, 2004).

The science of physics defines power as the rate at which energy is transformed and work is performed (Henderson, 2010; A. Z. Jones, 2010). The definition of power in social science has generated more controversy (Bacharach, 1989; Lukes, 2005; Scott, 1994). French and Raven (2004/1959) considered power to be influence—specifically, the ability to influence change in life systems (e.g., behavioral or attitudinal systems) that comprise the psychological state or life space of another. Giddens (1991) discussed "quanta of power—the power [capacity or ability] of human beings to alter the material world and transform the conditions of their actions" (p. 138). Scott (1994), in his review of the concept of power, defined power as "the capacity or ability to cause something" (n.p.) and indicated that social power includes the concept "of the agent producing *significant*—or at least nontrivial—consequences in the *social* world, the world of human configurations" (n.p., italics in original).

It is a key concept among scholars that power is based on relation (French & Raven, 2004/1959; Hornborg, 2001; Scott, 1994). Collins (2004) identified two kinds of power: deference power, in which Person A can make Person B accede to Person A's will or orders, and efficacy power, which is the power to accomplish goals or achieve results. As defined and exemplified by these scholars, power requires the presence and application—or the ability to apply— human energy toward a purpose or effect. Collins

(2004) also claimed a recursive, reciprocal relation between power and human energy, contending that the use of power and being subjected to power result, correspondingly, in a gain or loss of emotional energy. In the broadest of these senses, power, as the ability to influence or change, has served as a synonym for force or human energy. In the more specific sense of power as the rate of work or transformation, power is a measure of application or transformation of energy and therefore is not synonymous with human energy.

The experience of energy is simultaneous with experience and consciousness of being (Berger & Luckmann, 1967). Philosophers have pondered and struggled with the "deep troubles" that have arisen over time in their efforts to understand and explain the phenomenon of being (Collins, 1998). Awareness of being arises through the self-conscious perception, the feeling, of energy, "based on body states and behaviors" (Damasio, 2003, p. 205; see also Damasio, 2000a, 2000b; Lakoff & Johnson, 1999). The phenomenon of awareness of the energy of being (or being-energy) can be experienced as a social as well as an individual event. We perceive and are conscious of our existence as selves—each self perceived as an individual force in relation to others, our consociates (Schutz, 1967/1932). We each seek to make sense of our social experiences of thought and feeling (Weick, 1995). Energy is fundamental to all being, and all being is, fundamentally, energy manifested in action (Collins, 1998). Consciousness of human energy, feeling, emotion, and knowing is necessary to a sense of self (Damasio, 2000b; Taylor & Casey, 2010). The being that is the individual organism, perceived as a self, is modified by the act of knowing (Damasio, 2000b). Instant to instant in our stream of being, we consciously and unconsciously notice and attend to energetic elements in our

environment that (to varying degrees) attract or repel us. We respond to them with our own energy in the form of feeling and thought, and these responses reflect our past (including immediate, just-happened) experiences and our projections for the future. The vitality of human energy is what makes us feel free, alive, competent, and connected—with ourselves and our environment, including other humans. When we feel threatened, unworthy, and incompetent, we feel less free, less alive, less connected, and less capable of survival and meaningful action (Carmeli & Spreitzer, 2009; Collins, 2004; Damasio, 2000b; Ryan & Frederick, 1997). When we cease to feel this energy entirely, consciousness and life are no longer possible, at least in the way we perceive it in the shared mode of existence we currently experience in our bodies.

Emotion as Energy

Collins (1990, 2004) conceived of human energy as emotional energy. Other scholars, too, have viewed emotions as a form of energy. Thamm (2007) defined emotion as including "both the appraisal and social dimensions," specifically, "the process of actors appraising and responding to real or imagined focused social situations" (p. 16). Robinson, Smith-Lovin, and Wisecup (2007) defined emotion as a subset of affect. "Emotional labels have the same kinds of affective meanings that identities and actions do," and emotions signal "how we feel within a situation and how that feeling compares to the stable affective meanings that are usually associated with our self-identity" (Robinson et al., 2007, p. 183; see also Kemper, 2003; Thoits, 1983). As energy, emotions bind the self and its identity to experiences and to those who share them (Robinson et al., 2007; Thamm, 2007). Collins (2004) asserted that "what holds a society together—the 'glue' of solidarity—and what mobilizes conflict—the energy of mobilized

groups—are emotions" (p. 103). Emotions, according to Collins (2004), provide the dynamics of social action theory—"the central micro-dynamics of emotion as a social process" (p. 103). Damasio (2000b) called emotion "an embodiment of the logic of survival" (p. 42). Emotions include both individual, internal experiences of feeling energy (Damasio, 2000b; Lawler & Thye, 2007) and expressed social experiences of feeling energy (Collins, 2004).

I use *feeling*, *affect,* and *emotion* in this dissertation as synonymous terms, as distinctions in the literature are in flux. Damasio (2000b) called for a distinction between publicly observable emotions and feelings that are internal and private. Lieberman (2013) reported on studies that Naomi Eisenberger, Kip Williams, he, and others have done that identified, using functional magnetic resonance imaging (tracing brain activity energy paths), the regions of the brain involved in both social (emotional) and physical pain, indicating some connection between emotions and the body. The derivation of the word *emotion* indicates a moving out of (Glover, n.d., as cited in Adler & Obstfeld, 2007). Consistent with Collins (2004), I include transient emotions that result from dramatic, transient events with long-term tones, moods, and attitudes. Similar to Robinson et al. (2007), Collins's (2004) emotions included feelings of solidarity, feelings of membership, feelings about oneself, feelings of righteousness and justification, and feelings of shame and unworthiness. Collins associated long-lasting emotions with emotional energy, which provides a context for short-term emotions.

Thought as Energy

While these scholars have made a cogent case for emotions being a form of human energy, their arguments do not rule out thought or other human phenomena as

forms of energy. If an individual's perception of reality is socially constructed (Berger & Luckmann, 1967), then it is reasonable to infer that the thoughts with which humans make constructs would be a form of human energy. Examples of the concept of thought as energy can be found in articles from a variety of disciplines. In literature, Olson (1954) described Dylan Thomas's poetry as an art that "demands energy of thought and feeling" (p. 215), while Matthiessen (1941) described how Emerson considered that in oratory, "the energy of thought and of action were practically indistinguishable" (p. 21) and that Melville was "ever more sure that genius consisted in a superfluidity of energy" (p. 408). Fogle (1953) praised Keats's "energy of thought" (p. 214). In psychology, Morreall (1982) cited Freud's claim that "in reacting to the comic we save an expenditure of energy in thought; and in humor we save an expenditure of energy in emotion" (p. 246). Cain (1979) noted that "Bagehot also speaks of 'an original stress of speculation, an innate energy of thought'" (p. 230) in reference to Cobden. In discussing Kojève's interpretation of the philosophy of Hegel, Bataille and Strauss (1990) explained that "the separating Action of the understanding implies the monstrous energy of thought" (p. 15). Posnock (1987) directly quoted Hegel's use of the term "the energy of thought" (p. 35). While these were not systematic discussions of thought as energy, they indicate a common understanding across disciplines of thought as energy.

Indeed, thought and emotion interact so closely that it is difficult to separate them in neurological studies (Lakoff & Johnson, 1999; Panksepp, 2003; Pessoa, 2008). Neuroscience uses magnetic and electrical technologies to trace brain activity, including the brain location of the uniquely human social cognition referred to as theory of mind (Lieberman, 2013; Norman, Polyn, Detre, & Haxby, 2006; Raichle, 2009; Ray & Oathes,

2003; Saxe, 2006). These techniques use energy patterns to determine the intensity of a cognitive dimension represented in a given region of the brain, thereby detecting and tracking cognitive states, and even make use of "mind-reading" activities such as determining whether the person is looking at a sentence or a picture, the orientation of a pattern as the subject is viewing it, and whether the person is reading an ambiguous or a forthright description (Norman et al., 2006). Energy tracing techniques are helping researchers link cognitively evoked signals to associated behavior (Raichle, 2009) and identify social cognitive areas of the brain involved in perceiving collaborative, goal-oriented triadic relations and cognitive empathy (as opposed to emotional empathy) (Saxe, 2006). This energy relation may extend all the way down to the cellular level (Apell, 2004; Raichle, 2009). Lieberman (2013) presented the neuroscience of both the cognitive and emotional aspects of social energy and connection. The question remains whether individuals are aware of thought as a form of human energy.

Human Energy as Distinct from Other Constructs

Emotional energy is necessary for motivation, discretionary effort, commitment, and engagement, but is distinguished from them (Cole, Bruch, & Vogel, n.d.; Shirom, 2004, 2007). Motivation is the purpose or reason for acting (Gagné & Deci, 2005; Weiner, 1989). It is not human energy itself, which makes the action doable (Taylor & Casey, 2011). Glover (n.d.) made a clear distinction between the emotion, a form of human energy according to Collins (2004), and motivation: "For psychoanalysis, emotion lies at the heart of human motivation—emotion drives motivation. It is not accidental that both words derive from the Latin *emovere*, to move" (quoted in Adler & Obstfeld, 2007).

An individual may desire or be moved to act, but may not have the energy (emotional or otherwise) to act.

Vogus (2004) described discretionary effort as employees choosing to take actions to benefit the organization that are beyond what is expected in their formal roles. Discretionary effort has been "defined as extra time, brainpower, and energy" (Towers-Perrin, 2003, as cited in Macey & Schneider, 2008, p. 14), and effort itself is not well defined as a construct in the literature (Macey & Schneider, 2008). Discretionary effort has to do with deciding to apply energy and doing it. It is not the energy that is applied as a result of the decision (Taylor & Casey, 2011).

Commitment is "the willingness to invest oneself and expend one's discretionary effort to help the employer succeed" (Erickson, 2005, p. 14, as cited in Macey & Schneider, 2008, p. 7). By extension, commitment could also be seen as a willingness to expend one's energy, but it is not the same as human energy itself. Emotional energy, for example, is a more generalized, internalized feeling of attachment, an energetic binding to the group (Collins, 2004), while commitment is a more focused, will-activated decision to apply that energy to achieving some work or result for the organization, including but not limited to organizational citizenship behaviors (Macey & Schneider, 2008).

Shirom (2004) and Macey and Schneider (2008) described engagement as a phenomenon comprising at least three components, one of which is energy (Taylor & Casey, 2011). Compared to any one of these concepts, human energy is more fundamental.

Problem Statement

The concept of human energy is not new to biological and social science or to management and organizational behavior, and there is a consistency and consilience in what those scholarly communities have discovered and articulated. Human energy has been described theoretically and studied empirically. It has been examined theoretically in neurology (e.g., Germine, 1998; Lieberman, 2013), in psychology (e.g., Freud, 1950/1895), in sociology (e.g., Collins, 1990; Parsons, 1978), in economics (e.g., Hirschman, 1983), in education philosophy (e.g., Dewey, 1922), in literature (e.g., Greenblatt, 1988), and in management (e.g., Barnard, 1968/1938; Bruch & Ghoshal, 2003; Kunze & Bruch, 2010; Quinn, Spreitzer, & Lam, 2012). Human energy is commonly held among these scholars to be composed of emotion or affect (e.g., Collins, 1990; Freud, 1950/1895; Parsons, 1978; Shirom, 2004, 2007), belief and cognition (Bruch & Ghoshal, 2003), and behavior or action (Hirschman, 1983).

Among the studies, the most systematic treatments are in Parsons's (1978) Freud-based concept of emotion as energy and source of action, Shirom's (2004, 2007) concept of vigor at work (see also Shraga, 2008), and Collins's (1981, 1990, 1993, 2004) theory of emotional energy and interaction ritual chains. Parsons approached human energy as an element in a system of goal-oriented action: "Effort energy is, in the processes of action, converted into realization of ends, or conformity with norms" (Parsons, 1968/1937, p. 752). Parsons (1978) contrasted the psychic energy of emotion with the information of the rational—which can be interpreted as emotion vs. cognition, assuming the two are separate. Locke and Latham (1990) researched and presented the effect of goals on performance. Adler and Obstfeld (2007), relating affect to Dewey's concept of

impulse and to Collins's (2004) emotional energy, pointed out that the literature on exploratory search has ignored the role of affect. Shirom's (2004, 2007) vigor construct includes emotional energy as one of three components of vigor, with the other two being physical strength and cognitive liveliness. Shirom proposed antecedents and consequences of vigor in the workplace. Collins linked his interaction ritual chains theory of social energy to the work of many other scholars and researchers, especially Durkheim, Goffman, and Garfinkel. According to Collins's theory, individuals derive emotional energy from their participation in interaction rituals, which in turn affects their attraction to or repulsion from similar rituals, forming chains of rituals, networks, and other structures.

Other more recent theorizing efforts found in the literature do not consistently link to a broader theoretical framework of human energy. Some (e.g., Bruch & Ghoshal, 2003; Bruch, Walter, & Voelpel, 2006; Cole, Bruch, & Vogel, 2005; Dhawan, 1990; Dhawan, Roy, & Kumar, 2002) have varied in their human energy terminology, definitions of human energy, and theoretical references. Some (e.g., Quinn & Dutton, 2005; Atwater & Carmeli, 2009) have drawn upon a variety of theoretical resources, but have not yet made full and systematic connections among them. Quinn, however, recently surveyed energy across a variety of scholarship areas and proposed a model (Quinn et al., 2012) that incorporates conservation of resources (e.g., Hobfoll, 1989). So far, these scholars have given strong deference to Deci and Ryan's (2000) self-determination theory. Deci and Ryan (2000) themselves are still in the process of formulating a systematic theory of human energy and have not linked to others' broader theoretical systems of energy. Deci and Ryan (2012), in what they characterized as a

"mini-theory" of "the enhancement and depletion of energy and vitality" (p. 416), distinguished vitality as "energy associated with people's integrated sense of self, which then invigorates the processes of choice, volition, and effective coping with challenges (e.g., Rozanski, 2005)" (p. 427). They contrasted the vitality derived from autonomous self-regulation with "the energy people experience when they are angry or anxious" (p. 427) and characterized it, along with externally demanded self-control, as depleting energy and vitality. Human energy factored into their theory minimally, at this point, whenever it supported self-determination theory. Human energy in itself—in all its dimensions and processes—is not the focus of self-determination theory. Nevertheless, self-determination theory gives a valuable framework for human energy insofar as it addresses it.

These scholarly efforts on energy are, for the most part, consistent with Parsons's (1978), Shirom's (2004, 2007) and Collins's (1981, 1990, 1993, 2004) theories. The Ross School of Business of the University of Michigan, home of many key positive organizational scholarship authors, is featuring a video presenting the work of Cole, Bruch, and Vogel (2013), associating their work on productive organizational energy with positive organization scholarship. These authors in the areas of productive organizational energy and positive organizational scholarship simply have not yet systematically connected their frameworks. The positive organizational scholars have, however, recently constructed their comprehensive model of human energy in Quinn et al. (2012). Their model distinguishes energetic activation from tense activation. In Chapter 6, that model is examined further in relation to the findings of this study. Their

work demonstrates the continued and increased interest in understanding the phenomenon of human energy at work.

In summary, the world of human energy scholarship has acknowledged the importance of human energy, has developed some systematic theoretical frameworks for explaining how it works, and has undertaken a considerable number of studies, especially quantitative studies, to examine its relationship with other organizational behavior constructs. What is missing is a basic, inductive, qualitative study designed to discover what is real and meaningful about the phenomenon of energy in individuals' work lives. This study seeks to fill, or at least begin to fill, that gap.

Significance of the Study

The benefits to be derived from a better understanding of human and organizational energy—the essence of an organization's human "resources"—are compelling. In their study of nearly 4,000 firms, Huselid and Becker (1997) found that a one standard deviation improvement in their index of strategic human resource management systems was associated with an increase in shareholder value of $41,000 per employee. Based on her survey responses of fired up and burned out working women, Norton (2006) calculated that an employee working at 60% of her potential as a result of burnout equates to $113,333 in lost revenue. Zohar, Tzischinski, and Epstein (2003) examined the critical nature of human energy availability of hospital workers, whose work performance can affect life and death issues, in responding to and recovering from emotional reactions. Clearly, the case has been made for the importance of understanding what energizes, de-energizes, and focuses the human energy of employees, groups, and organizations.

The field of organizational behavior has experienced a proliferation of constructs. This is, in itself, a problem. Van Dyne, Ang, and Koh (2008, pp. 17-18) observed, "Given the proliferation of constructs and measures in management, organizational behavior, and psychology, new theories must have a strong conceptual foundation as well as strong psychometric measures. New constructs must increase our understanding of relationships." What is needed is a unifying force, a phenomenon that unites related constructs like motivation, discretionary effort, and engagement. Theoretically, the phenomenon of human energy could be that unifying force that could "cut through the proliferation of constructs used to label similar phenomena" (Rousseau, 2007, p. 1039). An inductive, exploratory phenomenological study could discover deep, rich insights into the force of energy in the workplace.

The questions that arise for such a study have implications for organizational and management practice as well as theory and research. For theory: Is the concept of energy meaningful to employees? Are they aware of it and any changes in it? How do they define it? For organizational and management practice: What increases an employee's energy? What drains it? What focuses it? What is the outcome of the work achieved by an employee's energy at work?

The answers to these and other related questions would also inform management education and development. To answer them, we need empirical studies that can help us understand the experience of personal and collective energy in the workplace, to distinguish its dimensions, and to track the processes of increase, decrease, and focus. This study developed a social interaction framework to organize what we have learned about personal and collective human energy and to serve as a foundation for the research.

According to Collins (2004), successful interaction rituals can result in increased human energy, even though energy is expended entering and participating in the interaction. Learning more about how individuals can work together and experience increases in human energy can potentially inform how workplaces can be more efficient and allow individuals to enjoy their work lives more and have energy left for other aspects of their lives.

While quantitative empirical research (e.g., Baker, Cross, & Wooten, 2003; Carmeli & Spreitzer, 2009; Shraga, 2008) and some qualitative investigations of human energy are continuing (e.g., Quinn & Dutton, 2005; Stromberg, 2009), theories of human energy remain largely untested. These theories have significant implications for our understanding of individual employees' energy increases and decreases as a result of interactions in the workplace. A phenomenological study of how individuals define energy and experience energy, especially in their work, can provide rich insight. It can provide descriptions by which to understand and compare experiences across individuals. It is a necessary first step that has been heretofore missing in the scholarly investigations of the phenomenon of energy.

Theoretical Framework: Looking Systematically at Human Energy in the Workplace

This study drew upon the interaction ritual chains theory developed by Collins (1981, 1990, 1993, 2004). This theory is based primarily on the work of Durkheim, Goffman, and Garfinkel, and Collins's articles and books cite many other scholars' theoretical and empirical work to support it. According to Collins (1981, 1990, 1993, 2004), human energy operates through several phenomena. Solidarity and collective

effervescence (which Collins took from the work of Durkheim) are collective forms of energy occurring in social interactions. Collins identified emotional energy as energy residing in the individual. According to Collins, emotional energy is "something that one carries away from a group encounter, but as an individual. . . .The solidarity/moral harmony is a cause of greater emotional energy; it is not the definition of emotional energy itself" (personal correspondence, R. Collins, November 16, 2010). "High emotional energy is a feeling of confidence and enthusiasm for social interaction" (Collins, 1990, p. 32).

The central concept of Collins's (1981, 1990, 1993, 2004) theory is the interaction ritual and the linkages, or chains, that connect rituals over time and space. An individual, through feeling the confidence and initiative of emotional energy, "the social emotion par excellence" (Collins, 2004, p. xii), enters into an interaction with one or more other individuals. If the interaction is successful, the individuals become more and more mutually focused and less aware and engaged in the surrounding environment. Participants' emotions interact with reciprocal and reinforcing effects at both the micro conscious and unconscious levels. Actions—such as conversational pacing and visual movements and focus—become entrained in a mutually reinforcing rhythm. In very intense rituals, participants experience a combining of their energy in the form of collective effervescence, which is "a high degree of absorption in emotional entrainment, whatever the emotion may be" (Collins, 2004, p. 108). The combined human energy could manifest as an electric enthusiasm for or a fierce rejection of the issue on which they've become entrained.

While the collective effervescence eventually dissipates, for at least a time afterward there remains a feeling of group solidarity. Group solidarity is another form of collective energy. This solidarity involves a feeling of identity or membership status in a group (being in a central or at least recognized position in a group). Individuals carry the memory of that social energy with them in the form of emotional energy, a confident enthusiasm, which is stored in cognitive phenomena, such as emblems and symbols, including words and phrases (as in slogans or songs) as well as images.

Human Energy Processes in Interaction Ritual Chains

Energy is both expended and generated in ritual interactions. If one were to trace the reciprocal path of emotional energy going into and leaving an interaction, it might look like this: (emotional) energy <≈> engagement in interaction <≈> interaction ritual <≈> solidarity and (emotional) energy, with the squiggly arrow as my representation of the variability of the intensity and other qualities of the energy in transformation resulting from the interaction (Collins, 2004). The configuration can be more spatial and dynamic, as an interchange (again variable) in a variety of patterns, such as fields (Bourdieu, 1989; French & Raven, 2004/1959; Lewin, 1935), circles (Balfour & Mesaros, 1994; Prasad & Mir, 2002), spirals and vortices (Boje, 2012; Mischen & Jackson, 2007; Nonaka, 2007; Summers-Effler, 2007), or action at a distance (Cooren, 2004; Cornelissen & Kafouros, 2008; Fombrun, 1982; McKelvey, 2003), as in other social and psychological phenomena.

Application of Interaction Ritual Chains to Human Energy in the Workplace

Collins (2004) made it clear that he proposed a theory of all social action based on interaction ritual chains. He provided many examples of how his theory applies to work and the workplace. According to Bacharach (1989), theories that parsimoniously explain a broad range of objects and phenomena are preferable to those which are less comprehensive. In his article, Collins (1993) introduced his theory that emotional energy provides the basis of what is considered rational action in both the economic and social marketplaces. In that article and in his 2004 book, Collins provided insights into how money and other material resources enable participation in sought-after interaction rituals. For example, many people work at jobs that are not emotionally energizing in themselves, but their paychecks provide the economic resources to acquire and maintain emotional energy sources, such as season tickets to the ball game, a high-status home, or support of a family. Collins's (2004) dimensions of power, which include the authority to give orders to others and efficacy in getting results, and dimensions of status, which relate to one's membership position in a group (central or peripheral), have clear relevance to the workplace. Collins (1981, 1990, 1993, 2004) detailed a great deal of empirical as well as theoretical support for his theory, and other empirical studies (Huggins, 2008; Quinn & Dutton, 2005; Sandlin & Callahan, 2009) have successfully tested aspects of his theory.

An Overlapping Framework: Vigor at Work

An overlapping and informing framework, focused specifically on work, is vigor at work, which Shirom (2004, 2007) defined as a tripartite phenomenon comprising physical strength, emotional energy, and cognitive liveliness. Shirom's work

distinguished vigor from other concepts, such as engagement and self-efficacy. He proposed a measure of vigor at work and explored antecedents and consequences of vigor. The importance of noting Shirom's work along with Collins's is that Shirom, who has conducted empirical studies using quantitative methods, has also found support for *emotional* energy as a factor of success at work.

Other Scholars' Work on Human Energy in Organizations

Quinn and Dutton (2005) drew upon the work of Collins and other sociological and organizational scholars, such as Ryan and Deci (2000) and Cooren (2000), to examine how a better understanding of the concept of human energy can facilitate coordination in conversation and action in organizations. They presented a model to describe how people gain and lose energy as they attempt to coordinate activities. This energy and its fluctuation influence their coordination actions. The act of coordinating affects the effort channeled to the activities in the process they are trying to complete. Quinn and Dutton (2005) applied Collins's (1981, 1990) theory of emotional energy in interactions to determine how attractive an employee might find alternative actions. They advocated for attention to the tripartite factors of intrinsic motivation and well-being identified by Ryan and Deci (2000): autonomy, competence, and relation.

Quinn and Dutton applied Cooren's (2000) textual analysis to conversation and human energy patterns. They provided a table of how speech act interpretations can cause gain or loss of energy. The systems intelligence scholars (e.g., Hamalainen & Saarinen, 2007; Kiirla, 2007; Pulkkinen, 2007; Tallberg, 2007) built on Collins's (1981, 1990, 1993, 2004) theory of emotional energy in their work on positive organizational

scholarship (Cameron, Dutton, & Quinn, 2003; Ghoshal, 2005), as did Weick (2001) in his work on double interact processes.

Yet other scholars have provided insights on energy, either under other guises or through related concepts, such as "motivation" (Ryan & Deci, 2000; K. W. Thomas, 2002), "vitality" (Ryan & Deci, 2000; Ryan & Frederick, 1997), "discretionary effort" (Huselid, 1995), "engagement" (Bakker, Schaufeli, Leiter, & Taris, 2008; Spreitzer, Lam, & Fritz, 2010; Zigarmi, Nimon, Houson, Witt, & Diehl, 2009), "passion" (Vallerand et al., 2003), and "flow" (Csikszentmihalyi, 1990). Scholars have connected human energy or vigor with work performance (Baker et al., 2003; Cross & Parker, 2004; Shirom, 2004).

Common Threads in This Literature

There are common threads in this literature. Human energy has been a foundational concept since the inception of psychology, sociology, and management as sciences. It is the force of being, action, movement, and change of state. Human energy is a felt experience, most often interpreted as affect—whether labeled as emotion or mood (Collins, 2004; Damasio, 2000a, 2000b, 2003; Quinn & Dutton, 2005; Ryan & Frederick, 1997). Cognition or information is in some way related to and integrated with the emotive aspects of energy (Burgdorf & Panksepp, 2006; Panksepp, 2003, 2005a; Tucker, Derryberry, & Luu, 2000; Pessoa, 2008). Cognition and emotion may be essentially copresent and inseparable, or they may influence each other at micro levels. Human energy is an individual phenomenon with social aspects and factors. Human energy is also a social phenomenon manifested in the interaction in social situations.

A few experimental and quasi-experimental studies have attempted to distinguish energy from related constructs and even to identify antecedents and consequences. Other than Lerdal's (1998, 2002) studies in the field of nursing, no qualitative studies have explored, at a most basic, phenomenological level, the felt experience of human energy.

While the other scholars' work, described above, provides resources for the study of energy, Collins's theory (1981, 1988, 1990, 2004) was used as the theoretical framework for this study because it provides an interaction-based process based on energy. Collins's theory views energy as emotional, while this study holds open the question of the nature of human energy. Within Collins's broader theory of emotional energy in interaction ritual chains, this study placed particular focus on the individual's experience of energy. It was reasonable to expect that participants in the study would report aspects of their experiences that fell into the other portions of the Collins's (2004) model, but the focus of the questions was on the individual's experience of the social phenomenon of emotional energy.

Research Questions

To explore the process of energizing interactions and the experience of energy in the workplace, the following three research questions were posed.

1. How do individuals define and describe human energy? [Overarching question]
2. How do individuals experience human energy, especially in the workplace?
3. How do individuals experience human energy changes at work?

Summary of Methodology

Similar to the way that the study of quantum physics provides a basis for understanding the universe, Collins (1981, 1990, 1993, 2004) contended that the study of microsociology forms the basis for understanding all social action. Instead of quarks, electrons, and neutrinos building into meso structures of atoms and molecules, Collins defined the situation, not the individual, as the fundamental starting point for social action and indicated that the "glue" or force that holds together the actors in the situation is the energy of emotions. For this reason, the methodologies and methods selected for this study focused on capturing, analyzing, and understanding the process of human emotional energies as they wax and wane and combine in workplace interactions, described in situations articulated by the participants. The study employed Moustakas's (1990, 1994) heuristic, transcendental phenomenology methods and Flanagan's (1954) critical incident technique.

I recruited 12 participants from scientific, technical, medical, and social science occupations. Such participants would already have some terminology for understanding and describing energy in the world of physics, biology, and social science and thus were considered better able to explore whether those terms also applied to the human experience of energy in the workplace. I sought participants who were highly reflective so that they would be able to give sufficient time and attention to their reactions—both external and internal—in the process of experiencing energy.

I collected data for this study through two in-depth hour-long interviews with each of the 12 participants and an intervening activity in which I asked participants to give a description or artistic rendering of their energy-changing experience at work. As

the overarching question, Research Question 1—a definition of energy—was the main focus in the interviews. The other two research questions on the dimensions and context of energy experiences and changes were explored by asking participants to relate energy-increasing and energy-draining experiences by using Flanagan's (1954) critical incident technique. Throughout the interviews, I was conscientious about using appropriate techniques for building rapport and a trusting relationship with participants (Creswell, 2007). While I made extensive use of follow-up questions, both as a member check and as a way to elicit more details, I remained careful not to lead or prime the discussion. All interviews were audiorecorded and transcribed.

In line with heuristic transcendental phenomenology, I analyzed the data by developing individual textural and individual structural descriptions for each participant, and then a composite textural-structural description for each individual. Ultimately, I developed a composite of the essences, the invariant constituents that constituted (Dell, 1987; Maturana, 1988/1986) the group as a whole and gave a more complete sense of the social science constructs operating in the manifestation and experience of the phenomenon across all participants.

Limitations

Human energy in the workplace is just beginning to be studied systematically. Early studies, such as this one, while building on the work of previous social scientists, answer some questions to some extent, yet raise even more questions. As this is a phenomenological study, its purpose was to elicit rich, thick data from participants that give a broad and deep understanding of energy from the point of view of a small sample of individuals. The sampling strategy was aimed at finding exemplars of high energy and

high capacity for reflection in order to capture insights into the phenomenon. It assumed that such individuals would have experienced states and periods of low energy as well. However, the study sample was small, and certainly there are many more interesting experiences and insights about the experience of human energy at work that remain to be accessed from other individuals, including those of other age groups and backgrounds.

Because the data about each individual and his or her interactions were collected only from the participant, it was not possible to corroborate or extend understanding beyond the data communicated to me. Limitations arose from the participants' ability to recall interactions and the details about them, including thoughts, feelings, and actions of themselves and others. According to Collins's (2004) theory of interaction ritual chains, the details most salient to the participant are those most charged with emotional energy. While this fact worked to the advantage of the study rather than serving as a limitation, it is possible that the emotional charge could make it difficult for the participant to share those important, salient details, and the participant could hold them back—possibly without even realizing it. The participant's ability to reflect deeply and to speak candidly about deeply emotional responses had limits as well, and those limited the study.

Limitations also related to my ability to notice details of participants' reports that provided meaningful insight into the participant's experience of human energy and the processes that took place. Further limitations arose from my ability to notice when participants were having difficulty communicating sensitive personal information and my ability to convey empathy and trustworthiness and thereby put the participant at ease.

While the study sought to understand how individuals experience human energy, it focused on obtaining a useful definition of human energy that was meaningful to a

broad array of individuals. It also explored the dimensions and processes of energy experiences, but limited time and resources required that these resources be applied first to the definition quest. The results were expected to be tentative, even for the definition, and all the more so for development of a taxonomy of human energy or a model for its processes.

Delimitations

This study focused on how individuals experience energy in the workplace. While it was expected that participants would report on social interactions, extensive details about work groups were not its focus, but rather the reactions of the individuals as they interacted with these work groups. I did not observe the participants in their work settings to corroborate their reports. The approach drew predominantly upon sociological foundations and social psychology. The psychological issues deriving from participants' background or current experiences were not within the parameters of this study.

In fact, the unit of analysis—the situation—was more micro than the individual. The individual reported the situation as he or she experienced it, after the fact. As previously stated, the study focused on the individual-focused portion of Collins's (2004) model, emotional energy, and not on other forms of human social energy described by Collins (1981, 1990, 1993, 2004), solidarity and collective effervescence, even though these could arise in participant descriptions of interactions.

Conclusion

Collins's framework was the foundation of this empirical study of how human beings experience energy in their work. As individuals related their experiences in their

own words, I explored whether Collins's insights were borne out and allowed for new or entirely different insights to emerge. The study was meant to extend Lerdal's (1998, 2002, 2005) qualitative studies of individuals' experience of human energy in their lives. Insights from a qualitative workplace study might also provide items for constructing measures of individual energy or elaborating and refining those already in use. As Bacharach (1989) affirmed, qualitative field research may be more effective in supporting the explanatory utility of a theory than quantitative research.

Important strides have been made in understanding human energy. However, much more research must be conducted, especially at the basic level of how humans experience energy in their lives, especially in their work lives. We need a clearer understanding of how meaningful the concept of human energy is to the average person, how they define it, and how readily individuals perceive energy in a variety of dimensions and changes in those dimensions. This study served to provide confirmation or refutation of current findings and to expand our map of the territory of human energy to make it more useful to theorists, researchers, and practitioners.

This study was not intended to find ways to exploit human energy for higher productivity at the expense of an individual's resources, autonomy, and dignity. Rather, this effort proceeded from the conviction that productivity and human interaction, if undertaken in ways that attract individuals rather than repel them, can result in restoring human dignity and autonomy and the dignity of work and thereby also enhance productivity. The literature review that follows in chapter 2 provides a more thorough examination of the logic of this idea.

CHAPTER 2:

LITERATURE REVIEW

Whether in passing reference or contained within a theoretical discussion, social scholars have, for a considerable period of time, acknowledged the phenomenon of human energy. In his philosophy of human education and development, Dewey (1922) set it forth as a foundational concept, averring that all life endures by transforming the "energies which act upon it into means of its further existence" (p. 1). This applies as well to group and organizational life. Barnard (1968/1938) addressed the relevance of human energy to organizational life thus: "The life of an organization depends upon its ability to secure and maintain the personal contributions of energy (including the transfer of control of materials or money equivalent) necessary to effect its purposes" (p. 90). Katz and Kahn (2003/1966), using an open systems approach, have also stressed human energy's importance to organizational survival. Maisonrouge (1977) addressed the importance at the global level when he claimed that "one of the great problems of our time" is the human energy crisis—"the waste and frustration of untapped human potential" (p. 590).

This chapter reviews the literature relevant to this study. The literature search began in 2005 and continued through 2015. Databases searched included ProQuest, Web of Science, PsychINFO, Academic Search Premier, and Google Scholar. Reference lists from relevant articles provided links to other sources. A search of the term *energy* elicited a vast number of sources because it is a fundamental concept in physics, biology, and fuels. To target the search to the conceptual context of the human experience of energy,

the search was conducted with terms such as *human energy*, *social energy*, *collective energy*, *organizational energy*, *psychic energy*, *mental energy*, and *emotional energy*.

The chapter begins by addressing the foundational question: What is energy? The next section discusses frameworks for understanding energy, with a focus on Collins's interaction rituals. The chapter then reviews empirical research on energy in action and closes by reviewing major contributions to our understanding of human and organizational energy and the remaining gaps.

Definitions of Energy

Energy, the fundamental entity of the universe, has been studied since early in recorded history—and probably well before that. In English, the word *energy* is derived from the Greek word ἐνέργεια, transliterated as *energeia*, meaning "activity, operation"; the Greeks used the adjective ἐνεργός, transliterated as *energos*, to describe something that was "active, working" (Harper, 2001). The definition of energy taught in many science classes is relatively recent. It was developed by Thomas Young, a physician and physicist, in 1807. Young defined energy as "the ability to do work" (Dell, Anthony, & Rand, 2004; Trumper, 1900). "Ability to" implies potential, stored energy rather than kinetic, active energy (Asimov, 1966). Young's context was one of mechanical, physical energy, as he lived in a time when work was defined as the distance a weight could be lifted (Lehrman, 1973). For understanding human energy manifesting in work, it would be more useful to define work using the more recent physics definition: "Work is the transfer of energy" (Zobel, 2006).

Definitions of Energy in the Human Context

Physical scientists have learned about energy and how to harness some of its forms through thought experiments and through manipulations in the laboratory, some of which have resulted in the invention of new processes and tools (Di Paolo, Noble, & Bullock, 2000; Kuhn, 1977), and many of which have been confirmed through observations in the field of experience (Einstein, 1934). Social scientists have followed much the same course (e.g., Collins, 2004), devising theoretical frameworks, formulating definitions, exploring how those frameworks and definitions reflect real human experience—or not. This literature review has, to date, found a number of definitions of human energy and several theoretical frameworks of varying sizes and complexity.

"Energy—or energetic arousal (Thayer, 1989)—is the feeling that one is eager to act and capable of acting" (Quinn & Dutton, 2005, pp. 36-37). Energy is similar to but distinguished from positive affect (Cole et al., n.d.; Quinn & Dutton, 2005, pp. 36-37). Quinn and Dutton (2005) also contended that "energy is a type of positive affective arousal, which people can experience as emotion—short responses to specific events—or mood—longer lasting affective states that need not be responses to specific events" (p. 36). They also distinguished energy from "a negative affect (Watson, Clark, & Tellegen, 1988) or tension (Thayer, 1989), which is a type of affective arousal that involves a negative feeling of wariness or anxiety" (pp. 36-37). Quinn and Dutton (2005), along with some other scholars, classified energy in terms of positive and negative categories.

Energy in Human Systems

Energy in human systems has been defined in a variety of ways in Western scholarship. Freud's psychology addressed energy, work, and the capacity for work (Van Der Leeuw, 1969; Rosenblatt & Thickstun, 1970). Freud's concept of energy first appeared in 1895, and he developed and revised it over several decades (Rosenblatt & Thickstun, 1970). Freud (1950/1895) discussed energy in his *Project for a Scientific Psychology*, which he drafted in 1895. In that work, one can infer that he viewed emotional and physical energy under the same concept (Germine, 1998). "In later reformation, Freud postulated two, opposed classes of energy: libido and aggressive energy. Libidinal energy corresponded roughly to constructive, life-engendering aims, aggressive energy to destructive, life-threatening aims" (Moore & Fine, 1999, p. 511). In alignment with physics conceptualizations at the time, Freud related his concepts of force and energy to change in movement. To Freud, psychology was a closed dynamic system of drives and forces occurring in internal and external interactions. The psychologist studied them through *in vivo* psychological situations. Freud hoped that his struggle to describe psychic energy would help science identify a somatic substrate (Gill, 1977) that linked to

> a quota of affect or sum of excitation—which possess all the characteristics of a quantity (though we have no means of measuring it), which is capable of increase, diminution, displacement and discharge, and which is spread over the memory-traces of ideas somewhat as an electric charge is spread over the surface of a body. (quoted in Van Der Leeuw, 1969, p. 576)

Freud's concept of energy illustrates his multidisciplinary approach, which facilitates a common language for the study of nature, even if definitions may be

imperfect or the phenomena not completely described or their relationships not completely understood (Kuhn, 1996; Van Der Leeuw, 1969).

The Evolution of the Definition of Energy

Table 2.1 provides a chronological sampling of definitions found in the literature.

Table 2.1
Definitions of Energy

Source	Definition
Young, 1807	"The ability to do work."
Freud (1950/1895)	Two classes: libidinal energy, which relates to constructive, life-engendering aims, and aggressive energy, which relates to destructive, life-threatening aims (Moore & Fine, 1999, p. 511).
Lewin (1935), Wheeler (1928, 1930, 1936)	A field of tensors exerting influence.
Ellis (1962, 1979)	Equated with forceful thinking and action, with emotion viewed as "nothing more or less than a certain kind—a biased, prejudiced, or strongly evaluative kind—of thought (Ellis, 1962, p. 41)" (Ellis (1979).
Marks (1977)	The "basic 'stuff' of social interaction" and "a biological attribute" (p. 921).
Parsons (1978)	Includes affect and cognition. Parsons adopted a cybernetic view of energy and information. Contended that Freud, who has been mistranslated, based his concept of the Unconscious for the most part on the concept of psychic energy. "This energy is basically a common pool, not irrevocably attached to objects of 'desire'" (p. 84).
Hirschman (1983)	People's "bent for collective action" (p. 4); Hirschman coined the term *social energy* for this definition.
Thomas (2002)	"Strong feelings that keep people going—that keep them energized" (p. 112). By implication on p. 119, force that influences behavior.
Bourdieu (2001)	Social energy as a "form of reified or living labor. It is a *vis insita*, a force inscribed in objective or subjective structures, but it is also a *lex insita*, the principle underlying then immanent regularities of the social world" (p. 241) and is also a form of economic capital (p. 250).
Adams (2005)	The "potential for action or accomplishment of work" (p. 277).

Source	Definition
Levy and Merry (1986)	"The level of spirit, morale, enthusiasm, motivation, pace, and performance. It captures the vitality and stamina of organizational life" (p. 113).
Etzioni (1968) Greenblatt (1988)	Power or authentic consensus-formation that transforms societies. Aesthetic empowerment or compelling force: the "ability of language, in Puttenham's phrase, to cause 'a stir to the mind' . . . We experience that energy within ourselves" (pp. 5-6).
Collins (1990)	Emotional energy as "feelings of attachment to the group. . . . It is a continuum. . . . High emotional energy is a feeling of confidence and enthusiasm for social interaction. It is the personal side of having a great deal of Durkheimian ritual solidarity with a group . . . . what Durkheim (1912/1954) called 'moral sentiment'" (p. 32).
Lerdal (1998)	"The individual's potential to perform physical and mental activity" (p. 9).
Germine (1998)	Associated with the cognitive and the affective; energy is frequency. In the world of objects that only appear to be external, the self perceives a separate object and cathects it.
Dhawan, Roy, and Kumar (2002)	Mental energy as "vitality of individuals in your organization" (p. 407); the term *psychic energy* is used interchangeably with *mental energy*.
Cross, Baker, and Parker (2003)	"A type of positive affective arousal, which people can experience as emotion—short responses to specific events—or mood—longer-lasting affective states that need not be a response to a specific event" (p. 56).
Dutton (2003)	"The sense of being eager to act and capable of action" (p. 6).
Collins (2004)	Emotional energy as "feelings of attachment to the group" (1990, p. 32). Human energy operates with several phenomena, including solidarity, collective effervescence, and emotional energy, which he identified as residing in the individual.
Bruch and Ghoshal (2004)	"Exertion or vigor deriving from intense personal involvement" (p. 20). "Energy is vigor fueled by intense personal commitment and involvement. . . . Energy gets things going. . . . Energy is the emotional tenacity that can release immense inner resources when the stakes are high" (p. 21).
Quinn and Dutton (2005)	"Energy—or energetic arousal (Thayer, 1989)—is the feeling that one is eager to act and capable of acting" (p. 36).
Cole, Bruch, and Vogel (2005)	Productive organizational energy "as the force with which a company works" (p. V2).
Bruch (2007)	Organizational energy as "the force that companies use to move towards specific goals" (p. 1).
Bruch and Schweitzer (2011)	"Organizational energy is the force which an organization uses to purposefully put things in motion" (p. 1).

Source	Definition
Shirom (2007)	Vigor as "individuals' feelings that they possess physical strength, emotional energy and cognitive liveliness" (p. 86).
Atwater and Carmeli (2009)	"The feeling that a person is capable of and eager to engage in a particular behavior or undertake a task (Dutton, 2003; Quinn & Dutton, 2005)" (p. 265).

Note. Updated from Taylor & Casey, 2011.

Overlapping and sometimes parallel waves of social science in the 20th century through the present have to varying degrees addressed the concept of human energy. Some built upon previous scholars or their contemporaries. Others' work contrasted with previous scholarship or took issue with systems developed by their peers.

Gestalt psychologists. Some of the Gestalt psychologists in the early 20th century drew, like Freud (1950/1895), upon physics and biology for their descriptions of the concept of human energy. Gestalt scholars focused on learning and perception and adopted more experimental approaches. Their emphasis on discerning patterns through insight carried over the subjective reflective inquiry of earlier psychological scholars, like Freud (1950/1895) and James (1931, 1950, 1985/1902). Lewin (1935) and Wheeler (1928, 1930, 1936), among the key proponents of energetics in the early 20th century, built on Freud's concept of tension that accumulates in aspiring toward a goal object—a tension that seeks closure and restoration of equilibrium through the discharge of energy as the goal or object is approached and acquired. The individual is an energy system, according to Wheeler. Lewin and Wheeler viewed energy as a field rather than a quantity or bundle. This field quality of energy is evidenced in the actions of attraction and repulsion (Thorpe & Schmuller, 1954). The goal or stimulus of the energy arousal—this tension—works as a control that constrains, focuses, and attracts the energy of the tension

(J. F. Brown, 1929). This tension energy in the sense of physics can be interpreted as a field of tensors exerting influence (personal communication, A. K. Taylor, March 18, 2009).

Post-Freudian approaches. Psychologists and sociologists who came after Freud were influenced by him—building upon his work, opposing it, or blending the two. Many of the psychoanalysts who came after Freud (e.g., Gill, 1977; Rosenblatt & Thickstun, 1970) rejected Freud's concept of energy. Marks (1977) disputed Freud's and others' concept of scarce, competing energies in social roles. Marks defined energy as the "basic 'stuff' of social interaction—a biological attribute called 'energy'" (p. 921). Parsons (1978) clarified a common misconception that conflated instinct and energy in Freud. Parsons maintained that the concept of psychic energy was the foundational concept of Freud's concept of the Unconscious. "This energy is basically a common pool, not irrevocably attached to objects of 'desire'" (Parsons, 1978, p. 84). In Germine's (1998) one-mind theory, the world of objects only appears to be external. Under the perception of separateness, the self perceives an object and cathects it. Both theorists related the cognitive and affective domains with energy, and both agreed that information and energy (or frequency) interrelate (Germine, 1998; Parsons, 1978; Rocher, 1975).

Ellis (1979) declared emotion to be "nothing more or less than a certain kind—a biased, prejudiced, or strongly evaluative kind—of thought" (Ellis, 1962, p. 41) and equated energy with forceful thinking and action. For Etzioni (1968), energy and power were synonymous. He wrote, "These [cognitive] signals must be either backed by energy (i.e., power), or they must begin not with downward controlling signals but with signals

worked out with those to be controlled, in an authentic, consensus-forming process" (Etzioni, 1968, p. 81).

Other disciplines. Based on his work as an economist, Hirschman (1983) coined the term *social energy* to convey people's "bent for collective action" (p. 4), which he described as having three components: friendship, ideals or a shared value-based vision, and ideas for solving their problems. Based on his insights from sociology, anthropology, and philosophy, Bourdieu (2001) defined social energy as a "form of reified or living labor. It is a *vis insita*, a force inscribed in objective or subjective structures, but it is also a *lex insita*, the principle underlying the immanent regularities of the social world" (p. 241). It is also a form of economic capital.

Other social scholars, such as Barnard (1968/1938) and Katz and Kahn (2003/1966), gave energy a central place in their theories of the organization. While these scholars did not provide definitions of energy, another organizational scholar, Adams (2005), defined energy as the "potential for action or accomplishment of work" (p. 277). This definition does not address energy in action. However, in the definition provided by Levy and Merry (1986), organizational energy is "the level of spirit, morale, enthusiasm, motivation, pace, and performance. It captures the vitality and stamina of organizational life" (p. 113).

Lerdal (1998, 2002, 2005), seeking to better understand fatigue and energy, undertook a series of studies in Norway in the field of nursing. He defined human energy as "the individual's potential to perform physical and mental activity" (p. 9). Dhawan et al. (2002) studied energy in research and development organizations in India. In their

study, they defined mental energy as the vitality of individuals in the organization. They used the terms “psychic energy” and “mental energy” interchangeably.

The concept of energy has also been applied in the study of literature by literary critics and scholars. For example, Greenblatt (1988) characterized energy as aesthetic empowerment or compelling force: the “ability of language, in Puttenham’s phrase, to cause ‘a stir to the mind’; drawing on the Greek rhetorical tradition, they called it *energia*” (pp. 5-6). Greenblatt used the term “energy” in this rhetorical sense, rather than the way the term is used in physics. Greenblatt’s context for energy was social and historical, but we experience energy inside ourselves, as connected through “an irregular chain of historical transactions that leads back” (p. 6) in time to earlier events and settings, which aligns with Collins’s (2004) theory of interaction ritual chains.

Energy and Work: Operational Definitions

To facilitate conversation across sciences regarding energy as a fundamental concept, it is important to use terminology that is consilient with other sciences, while leaving open to future discussions how human energy may be different from physical energy outside of human systems. Work is defined in this study as the “*transformation and application of physical, mental, and emotional energy to tasks that achieve the purpose of the employing organization”* (Taylor & Casey, 2011, p. 22). This definition is consistent with recent physics definitions. It is also consistent with Barnard’s (1968/1938) approach to energy in organizations, in which he contended that individuals freely choose to contribute their energy cooperatively in organizations. Other scholars have taken a more deterministic approach, or have at least agreed with Bourdieu (1989, 2000) that individual freedom is constrained by habitus. Taking an opposite view, Ryan

and Deci (2000) claimed autonomy to be a factor in energy and motivation. The ability to choose freely, to exercise one's own will in contributing one's energy to a purpose, is an emotional or affective phenomenon. Conscious and unconscious factors can both be at play in increasing, decreasing, focusing, or fragmenting emotional energy in organizations. Even when action is unconscious, it is influenced or even generated by emotional energy (Collins, 2004). Therefore, the generation, transformation, and focus of emotional energy is the strategic organizing factor in the application of human physical, mental, and emotional energy.

As stated in chapter 1, human energy has been defined in this dissertation as the "force or power of movement, action, change or being" (Taylor & Casey, 2010, p. 2; Taylor & Casey, 2011, p. 4) within human beings. It includes human physical, mental, and emotional energy. As indicated in the classical definition of energy in physics, human energy is the source of human work. Human energy is manifested in all human activity, including workplace behaviors—the focus of this study. While conscious factors can and often do trigger, control, and focus human energy—in work and in all other human activity—unconscious factors are likely to influence it even more frequently (Lakoff & Johnson, 1999). Human energy at work is related to, but not the same as, power, motivation, discretionary effort, commitment, and engagement (Taylor & Casey, 2010, 2011).

Theoretical Frameworks for Understanding Energy

Collins: Energy in Interaction Rituals

As Collins defined it (personal communication, November 16, 2010), emotional energy is "something that one carries away from a group encounter, but as an individual.

. . . The solidarity/moral harmony is a cause of greater emotional energy; it is not the definition of emotional energy itself." Collins (1990) indicated that "high emotional energy is a feeling of confidence and enthusiasm for social interaction" (p. 32). Solidarity, a collective form of human energy, consists of "feelings of attachment to the group" (Collins, 1990, p. 32) assembled in an interaction ritual, which is a process "that takes place as human bodies come close enough to each other so that their nervous systems become mutually attuned in rhythms and anticipations of each other, and the physiological substratum that produces emotions in one individual's body becomes stimulated in feedback loops that run through the other person's body" (Collins, 2004, p. xix). These collective feelings are contagious.

Collins's "strong form of social construction" (2004, p. xix) set forth mechanisms by which social, psychological, and physiological experiences intertwine. The human energy that these experiences generate, derived from the most intense form of collective energy—collective effervescence—is "the 'sort of electricity' that Durkheim metaphorically ascribes to the group" (Collins, 2004, p. 38). This energy is long lasting and stored in what Collins called cognitive "batteries" (p. 38), such as symbols, and retained within the individual participants in the interaction ritual in the form of emotional energy. These emotional energy experiences stratify over time and intensity in the individual as interaction chains that bring with them anticipatory feelings of attraction or avoidance that are available over time and space.

Interaction rituals and organizations. Group interaction rituals are the source of the moral energy behind standards and the "moral power" for change (Weick & Quinn, 1999, p. 380). Collins's focus on the interaction dynamic is consistent with Weick's

(2001) concept of the double interact dynamic and how it leads, through collective constructs, to organizational structures. The positive organizational scholars (Cameron et al., 2003) proposed that interaction chains that the participants deem to be positive can result in virtuous, self-reinforcing spirals, while those perceived as negative can constitute vicious circles or spirals (see also Boje, 2012).

Emotional energy as the basis for coordinated action in organizations. Collins contended that emotional energy rather than rationality is the basis of action and that it is more empirically based than the rational actor model. He suggested many ways in which it can be observed and measured (Collins, 1981, 1993). Collins's (2004) model (see Figure 6.1) describes the flow of energy in an interaction ritual, as Collins (1993) conceived it. Overall, Collins said that "generalized and particularized conversational resources exist simply as things people say in conversations; emotional energies exist in the rhythms and tones with which people say them" (Collins, 1981, p. 1011). In other words, the topical content of conversations is indicative of cultural resources, and the tone and rhythm of conversation are indicative of emotional energies. In Collins's Durkheim-based theory (1981, 1990, 1993, 2004), "emotional energy" emanates from and is stored inside individuals as sacred or important, and it is combined through intersubjective interaction ritual chains that generate the collective energy experienced as collective effervescence, moral solidarity, and membership identity.

The flow of emotional energy in interaction rituals. According to Collins (1981), repetitions or chains of interactions within and among individuals give rise to organizations, structures, and macro processes. Experiences of varying periods of relative equilibrium and rapid change, such as conflict, "[flow] through the networks of micro-

interaction constituting the macrostructure" (p. 1009). This description is consistent with Weick and Quinn's (1999) continuous vs. episodic change processes. Focus of attention is a necessary condition to emotional entrainment and a successful interaction ritual that results in solidarity, emotional energy, and charged up symbols. As focus of attention becomes more mutual and entrainment begins, a sense of separation from those not participating also occurs.

Conversation is a common interaction ritual that communicates and transfers energy not only through content but also through its physicality (e.g., proximity, tone, rhythm, vocal and gestural frequency, and intensity), at both the conscious and unconscious levels. Decisions are made at the unconscious, emotional level, most often routinely, and rationalized cognitively and organized symbolically at the conscious level. For this reason, Collins's (1981, 1990, 1993, 2004) framework served as a basis for Quinn and Dutton's (2005) analysis of the relationship of conversation, energy, and coordination.

Other Relevant Frameworks Consistent with Collins's Interaction Ritual Theory

Collins's (1981, 1990, 1993, 2004) interaction ritual theory of emotional energy does not stand in a vacuum. Other scholars have theories that relate to Collins', including reference to the concept of energy—even emotional energy. This constitutes, in effect, a triangulation of scholarly observation. While the theory of each scholar is still at early stages of testing, these scholars are looking at related phenomena and explaining them in ways that have some overlap, raising the possibility that these theories might work cumulatively to provide greater scope and utility (Bacharach, 1989).

Emotional energy and the vigor construct. Shirom (2004, 2007) viewed emotional energy as part of the tripartite affective construct of vigor. According to Shirom (2007), "vigor refers to individuals' feelings that they possess physical strength, emotional energy, and cognitive liveliness" (p. 86). Shirom (2004) provided a recap of various scholars' attempts to develop and test energy scales, including mention of the World Health Organization's questionnaire on well-being and the Medical Outcomes Survey Short-Form 36. Both of these two instruments were also discussed by Lerdal (2005) in relation to energy measures. Shirom (2004) distinguished vigor from engagement on the basis that vigor, as a positive affect, is a factor in goal-directed behavior and approach behavior, and he identified some confounding issues with engagement as a construct. Shirom also defined vigor as including motivational elements and resilience. Shirom advocated for the empirical advantages of vigor as a construct in the workplace, as he found that individuals spontaneously attribute the affective state of vigor to their jobs and workplaces when asked about it, whereas emotional traits like positive affectivity refer to broader situational and temporal contexts.

Shirom (2004, 2007) provided antecedents, predictors, and consequences of vigor in the workplace. He identified energetic and transformational leadership as possible factors energizing followers and proposed other antecedents or mediators of vigor, such as self-efficacy, perceived social support, and intellectual stimulation. These antecedents can affect levels of vigor either directly or by affecting one or more of the three components. He anticipated that vigor is a mediator of employee organizational commitment, job performance, and resolution of role conflict.

His theory is not inconsistent with that of Collins (1981, 1990, 1993, 2004). The key contributions of Shirom's (2004, 2007) construct of vigor to this study are the presence of emotional energy as fundamental to the vigor construct and the distinguishing of that construct from other constructs, such as engagement.

Energy and self determination theory. Self-determination theory scholars (e.g., Ryan & Deci, 2000) have addressed energy, yet have not developed a systematic theory of energy and have not linked to others' theoretical systems of energy. For example, in their work on intrinsic motivation, which they said "concerns energy, direction, persistence, and equifinality" (p. 69), Ryan and Deci (2000) formulated cognitive evaluation theory and self-determination theory (Deci & Ryan, 1985) to explain "the perceived forces that move a person to act" (p. 69). Their conclusions were based on their decades of empirical studies and on Bandura's (1986) social cognitive theory and Csikszentmihalyi and Rathunde's (1993) flow theory of motivation. While Ryan and Deci (2000) discussed energy, they and other colleagues (e.g., Kasser & Ryan, 1999; Moller, Deci, & Ryan, 2006; Nix, Ryan, Manly, & Deci, 1999; Ryan & Frederick, 1997) more commonly referred to subjective vitality, which they defined as a "positive feeling of having energy available to the self" (Nix et al., 1999, p. 266). They concluded that three factors—autonomy, competence, and relation—contribute to positive energy (Ryan & Deci, 2000). Quinn and Dutton (2005) and Carmeli and his colleagues (e. g., Atwater & Carmeli, 2009; Kark & Carmeli, 2009) used self-determination theory (Deci & Ryan, 2000) as a key element in their theoretical frameworks.

Other related approaches to energy. Some scholars have continued to adjust their terminology, definitions, and theoretical grounding as they have investigated human

energy in organizations. Bruch and her colleagues (e.g., Bruch & Ghoshal, 2003; Cole et al., n.d.) have varied in their energy terminology (e.g., "productive organizational energy," Cole et al., 2005, p. v2; "collective mental energy," Bruch et al., 2006, p. 2), definitions of energy (e.g., see Table 2.1), and theoretical references (e.g., Avolio & Bass, 1988; Dutton, 2003; Levy & Merry, 1986). Similarly, Dhawan (1982, 1990) and his colleagues (Dhawan et al., 2002) have continued to explore theoretical bases for their studies of human energy at work, drawing upon a variety of theorists in passing, but not systematically linking their work to them (e.g., Etzioni, 1968; Ingalls, 1976; Katz & Kahn, 2003/1966). While Dhawan (1982) focused more on values, culture, and energy, Dhawan et al. (2002) were more interested in a relationship between energy and work styles.

Building on Collins

Organizational scholars Quinn and Dutton (2005) cited Collins (1981, 1990, 1993), among others, in relation to energy. Like Collins, they saw energy as affect or emotion and saw conversation as having a role in transfer and generation or diminishment of energy during interactions. Quinn and Dutton (2005) brought energy in interactions into the organizational context particularly as it related to coordination toward achieving the work and purpose of organizations. They viewed energy as depending on three feeling conditions: autonomy, competence, and relatedness. Quinn and Dutton showed how energy in conversational narratives and discourse is integrated with coordination of organizational activities toward objectives, goals, and purpose. They explained how coordination between people creates a collective subject acting under the tension of seeking a desired object, which relates, as Parsons (1978) pointed out, to

Freud's concept of cathexis. While Quinn and Dutton (2005) cited Collins (1981, 1990) in regard to energy, they did not address his theory of energy in social interaction in depth. They relied more strongly on Ryan and Deci's (2000) tripartite self-determination theory of the impact of autonomy, competence, and relation and Ryan and Frederick's (1997) theory that energy or vitality influences the effort individuals put forth in their activities and work. They drew their definition of energy from Thayer (1989).

Systems intelligence scholars are interested in leadership and its interaction in human systems, including the energy of human systems (Hamalainen & Saarinen, 2007). The systems intelligence scholars, such as Kiirla (2007), Hamalainen and Saarinen (2007), Pulkkinen (2007), and Tallberg (2007), have used Collins's (2004) theory of motivation and decision making and his formula for emotional energy (EE) as a working formula for understanding systems intelligence:

$$\max \left\{ \frac{\text{benefits (EE)}}{\text{costs (EE + material)}} \right\}$$

This formula describes the tendency of individuals to seek to maximize the proportion of the emotional energy benefits over the material and emotional energy costs to participate in the interaction ritual that is the source of the energy.

Kiirla (2007) indicated that humility and systems intelligent leadership can lead to increased emotional energy in employees. Humility in the leader results in the leader using the power and status difference in ways that support rather than humiliate employees. This view is consistent with Collins's (1981, 1990, 1993, 2004) theory that status differences tend to cause the participants with higher status to increase in emotional energy and the participants with lower status to lose emotional energy. A

systems intelligence approach redirects the focus of energy from exclusively personal concerns to concerns for what is best for the whole system.

Energy in Social Networks

As previously mentioned, Collins (1981, 1990, 1993, 2004) explained theoretically how repetitive interaction ritual chains intermingle and interact to form macrostructures, such as networks. Interaction rituals are the source of the collective energy of solidarity and individual emotional energy. Baker et al. (2003), in a chapter in the book by Cameron et al. (2003), described their unexpected findings in their work on information and social networks. In response to a remark by an executive at a client organization, Baker et al. (2003) added to their social networks survey a question on energizing individuals: "When you typically interact with this person, how does it affect your energy level?" (p. 331). Responses were given on a five-point Likert scale, and they determined a value of 1 or 2 to be de-energizing and a value of 4 or 5 to be energizing. When they analyzed their data, they found that the variable associated with a positive performance difference was energizing individuals.

After identifying the energizing as well as de-energizing individuals, Baker et al. (2003) interviewed those with whom those individuals interacted. They asked interviewees to review a network analysis map and describe the energizing relationships in as much detail as possible. In support of Collins's (1981, 1990, 1993, 2004) theory of interaction ritual chains, the interviewees reported both physical and psychological aspects of the relationships (Baker et al., 2003). In terms of focus of attention (Collins, 1981, 1990, 1993, 2004), an example of an interviewee's report included being "'there' more" (p. 332). The interviewees also described a contagious feeling. One respondent

reported becoming "caught up in the possibilities and this is both energizing and, I think, opens many new doors to possibilities *because you are looking for them, hoping for them"* (p. 333, italics in original). A typical de-energizing relationship was supervisors micro-managing employees. The researchers subsequently determined that supervisors had been following standard procedures.

Similarly, Quinn and Dutton (2005) and Ryan and Frederick (1997) concluded that the contribution of autonomy to vitality and energy was borne out in their own studies. The empirical studies mentioned by Pulkkinen (2007) also found that autonomy is a necessary condition for supporting cooperative prosocial behavior.

Empirical Research: Locating Energy in Action

In spite of the lack of systematic attention to human energy in organizations, some scholars have begun to explore the issue empirically. Both quantitative and qualitative studies have been conducted at the individual level of analysis, with some findings aggregated to the group level and the organizational level of analysis to describe collective energy. Studies of collective energy are not within the scope of this chapter.

Quantitative Research

Two survey-based lines of empirical research have emerged that examined energy at the individual level. As previously described, Baker and Cross and their colleagues (Baker et al., 2003; Cross, Baker, & Parker, 2003; Cross, Linder, & Parker, 2007; Cross & Parker, 2004) conducted social network studies of several organizations and included items eliciting information on who in the organization energized and de-energized

respondents. They did follow-up interviews of those who interacted with the energizers and de-energizers to find out what actions caused the increases and decreases in energy.

Although they extrapolated to organizational energy, it is worth noting that Dhawan and his colleagues (De, 1981; Dhawan, 1990; Dhawan et al., 2002) used surveys and group interviews to determine energy counts based on individuals' reactions to tasks at work. They identified energy-draining and energy-generating activities using a process for determining energy count. Dhawan et al. (2002) found energy to increase when employees perceived their roles to fall within their functional areas, when they had the intergroup skills to conduct interdepartmental collaboration in ways that didn't diminish energy, and when they had equitable relationships with outside entities with which they had to interact in order to get their work done. Overall, more energy could be tapped in organizations if employees were engaged more in job-related tasks that generate rather than drain energy.

Lerdal (2005) used established health surveys to examine individuals' levels of energy and fatigue. Lerdal elaborated his prior interview findings (1998, 2002) with two quantitative studies—one of fatigue levels in the general population of Norway and the other a longitudinal study of multiple sclerosis patients—using established medical instruments. Lerdal concluded that fatigue and energy are opposite poles of a continuum and called for more refined measures of individual energy.

Norton (2006) used surveys as her primary measure of energy levels of working women. Using the descriptors "burned out" and "fired up" to describe respondents' energy levels, without defining energy, she identified factors that contributed to being fired up or burned out. She elicited information that permitted calculation of the costs of

burn out in terms of lost sales and calculated profit to be gained when employees were fired up. Norton's study identified strategies that individuals and organizations can follow to rejuvenate individual energy.

Carmeli and his colleagues have focused exclusively on the factors that affect individual energy and the results of individual energy for performance. They examined the mediating role of energy between leader-member exchange and creative work involvement (Atwater & Carmeli, 2009), between care felt and innovative behaviors in the workplace (Vinarski-Peretz & Carmeli, 2011), between psychological safety and creative work involvement (Kark & Carmeli, 2009), between meaningfulness in the workplace and employee creativity (Cohen-Meitar, Carmeli, & Waldman, 2009), between trust and innovative work behaviors (Carmeli & Spreitzer, 2009), and between leader relational behaviors and job performance (Carmeli, Ben-Hador, Waldman, & Rupp, 2009). In these studies, the terms used for energy included emotional energy (Vinarski-Peretz & Carmeli, 2011), feelings of energy (Atwater & Carmeli, 2009; Cohen-Meitar et al., 2009), the affective phenomenon of vitality (Carmeli & Spreitzer, 2009; Kark & Carmeli, 2009), and vigor (Carmeli et al., 2009). Through their studies, these scholars have developed and tested several iterations of a scale of energy or vitality.

The experiments of Ryan and Frederick (1997) and subsequent studies of self-determination theory (Ryan, Kuhl, & Deci, 1997; Ryan & Deci, 2000) have examined intrinsic and extrinsic motivation, subjective vitality, "positive feelings of aliveness" (Ryan & Frederick, 1997), and physiological and psychological feelings of energy. Ryan and Frederick contended that a sense of "aliveness and energy refers to more than merely being active, aroused, or even having stored caloric reserves. Rather, [they] believe it

concerns a specific psychological experience of possessing enthusiasm and spirit that we refer to as vitality" (p. 530).

Qualitative Research

One set of qualitative studies by Lerdal (1998, 2002, 2005 [mixed methods]) very rigorously examined and analyzed the experience of energy by individuals who were chronically ill and individuals who were high-performing athletes. Through his qualitative studies, Lerdal (1998, 2002) distinguished energy capacity from energy levels and described attention on energy and patterns of energy, including fluctuations and loss of energy, periodicity in variations in energy capacity, and the role of body, mind, and feelings in participants' energy experiences. Lerdal defined energy as "the individual's potential to perform physical and mental activity" (Lerdal, 1998, p. 9) and explored the concepts of fatigue, a feeling of energy, bound energy, generation of energy, and the energy field. From his combined studies, Lerdal (2005) identified four dimensions of energy: intensity, quality, pattern, and distress. He concluded that fatigue and energy/ vitality are at opposite ends of a continuum and that more study and a comprehensive measure of energy/fatigue are needed.

In addition, there have been some qualitative studies based on Collins's (1981, 1990, 1993, 2004) interaction ritual chains. These include the social network analyses of Baker and Cross and their colleagues (Baker et al., 2003; Cross et al., 2003, 2007; Cross & Parker, 2004), previously described. Also, although not formatted as an empirical study, Quinn and Dutton (2005) cited Collins's energy concepts and analyzed empirical observational and interview data from a software company. Their data supported the importance of the three factors (Ryan & Deci, 2000) they have identified as generative of

emotional energy: relationship, competence, and autonomy. The relationship factor is most congruent with Collins's (1981, 1990, 1993, 2004) interaction ritual chains theory.

Several dissertations have been based at least in part on Collins's (1981, 1990, 1993, 2004) theory of emotional and social energy. K. R. Brown (2008) found Collins's (1981, 1990, 1993, 2004) model of the emotional energy in interaction rituals to work for the Fair Trade market. Huggins (2008) found that Collins's (1981, 1990, 1993, 2004) interaction ritual theory of three kinds of energy, especially emotional energy, explained subcultural consumer longevity in the fly-fishing recreational industry. Pitts (2007) used ethnography, along with video and conversational analysis, to examine the teaching and learning of chemistry across cultural boundaries. Pitts concluded that cultural encounters can generate positive emotional energy and solidarity through structures and agency resulting in greater fluency in science. Porter (2007) drew upon Collins's (2004) theory of emotional energy and collective effervescence generated through interaction ritual chains. Porter embedded himself in the investor community to understand how that community interacts in social networks and to shed light on how the entrepreneur seeking an investor must navigate the waters of investor communities.

Contributions to Our Understanding of Human and Organizational Energy

The studies conducted by Carmeli and colleagues (Atwater & Carmeli, 2009; Carmeli et al., 2009; Carmeli & Spreitzer, 2009; Cohen-Meitar et al., 2009; Kark & Carmeli, 2009; Vinarski-Peretz & Carmeli, 2011) consistently established a link between work factors, including leader behaviors, individual energy, and desirable work behaviors and performance. These quantitative studies support energy as the operant factor linking strategic human resource systems to increased shareholder return in Huselid and Becker's

(1997) study. They corroborate Norton's (2006) findings. They build a strong case for the study of human energy.

Most of the definitions of energy used in these empirical studies relate to what physicists would call "potential energy" as opposed to energy-in-action, or "kinetic" energy. Truly defining energy in a way that captures the processes in which it is involved would require a description more akin to kinetic energy. Energy in action can manifest as action, motion, or change of state. I agree with Lerdal (1998, 2002, 2005) that energy and fatigue comprise two poles of a continuum. Knowing what diminishes energy or causes fatigue in individual members of organizations can inform management practices and provide strategic advantage. The dimensions of energy that Lerdal (1998, 2002) identified can serve in formulating interview questions at the individual level of analysis in a phenomenological study.

Numerous researchers (Bruch & Sattelberger, 2001; Bruch et al., 2006; Fox, 1996; Kay, 2005; Kunze & Bruch, 2010; Norton, 2006) have found that relationships influence energy levels. Lerdal (1998, 2002) and Norton (2006) found that individuals can undertake strategies to increase their own energy levels. In addition to Quinn and Dutton's (2005) and Cross and Baker and colleagues' (Baker et al., 2003; Cross et al., 2007; Cross & Parker, 2004) insights on social networks, Dhawan et al. (2002) identified factors related to social networks as operant in energy generation and depletion. Lerdal (1998, 2002) and Norton (2006) added physical factors to generating or depleting energy. These studies, too, can inform selection of interview questions in a new study focused on the individual level.

Next Step: Filling the Gap

Although it has been studied through many centuries and in many cultures—including our technologically advanced scientific culture—energy remains a mystery to us all (Cohen & Ben-Zvi, 1982; Massa & D'Amico, 2001; Ross, 2010; Watson, 2005). Words are metaphors (Berger & Luckmann, 1967; Fowler & Fowler, 1908; Hofstadter, 2006)—the consensual placeholders (Taylor, Schwandt, & Casey, 2011) that we, as social beings, give to the mysteries of our experiences so that we can communicate to one another about them. As can be seen from the literature review, some scholars' definitions and frameworks for human energy are very similar, while others diverge greatly. Divergence, while providing an opportunity to explore, creates a problem for clear discussion and study. To discuss a phenomenon, we need to have a common language about energy, a working definition, so that we can work toward a common understanding. With a common, theoretically based and empirically examined definition, researchers can then investigate the dimensions, processes, and effects of human energy and possibly derive useful measures of energy for application in managing organizations. A theoretical definition has been proposed here, but it remains to be seen how individuals define it based on their experiences.

To date, the only systematic framework that integrates the various conceptualizations of emotional, cognitive, behavioral, linguistic, social, individual, and collective energy is that of Collins (1981, 1990, 1993, 2004). This framework bridges individual and collective energy and attempts to incorporate the full range of social phenomena at the micro level of analysis—the situation. It can serve as a core framework for a study focused on understanding how individuals experience energy. Lerdal (1998,

2002, 2005) has begun the task of exploring how humans communicate about their experiences of human energy in the contexts of chronic illness and of athletic performance. A phenomenological study of human energy in the workplace can help us articulate a definition of energy. It can help us understand how individuals experience energy as they transform their energy—work—to achieve results for their organizations. Chapter 3 outlines the methods for this study.

CHAPTER 3:

METHODS

To explore the process of energizing interactions and the experience of energy in the workplace, this study addressed three research questions.

1. How do individuals define and describe human energy? [Overarching question]
2. How do individuals experience human energy, especially in the workplace?
3. How do individuals experience human energy changes at work?

For this study, I defined energy as "the force or power of human movement, action, change, or being" (Taylor & Casey, 2010, p. 2; Taylor & Casey, 2011, p. 4). Further, I made a conscious assumption that "human energy is controlled, triggered, and focused by both conscious and unconscious physical, emotional and mental activity and is manifested in behaviors during workplace interactions (Collins, 1990, 2004; Quinn & Dutton, 2005)" (Taylor & Casey, 2010, p. 2; Taylor & Casey, 2011, p. 4). Human energy is the source of human work. Although related to other concepts such as power, motivation, discretionary effort, and engagement, human energy should not be confused with them.

A qualitative, phenomenological research design was chosen for this study. This chapter describes that approach, as well as the epistemological and ontological perspectives used. It then addresses the study procedures, including sampling, data collection, and data analysis, as well as the protection of human subjects and the study's trustworthiness.

Research Design

Epistemological Perspective

This study was founded on the perspective that reality is socially constructed, socially understood, and socially communicated (Berger & Luckmann, 1967; Collins, 1998; Dewey, 1922; Mead, 1967/1934). Human beings make sense of their reality by selectively focusing on aspects of circumstances that draw their attention (e.g., James 1895/1902; Schutz, 1967/1932; Weick, 1979). They interpret these aspects into situations that make sense to them (Weick, 1979). They then use that "way station" (p. 409) of sense to formulate intention and action (Weick, Sutcliffe, & Obstfeld, 2005). Language and action are methods of communicating sense from one person to another (space) and from one moment to another (time).

Thoughts are acts (Moustakas, 1994; Weber, as explained by Schutz, 1967/1932). Language is itself a human action, an element of social action (Dewey, 1922; Nerlich & Clarke, 1996). Because language enables us to take action (talk, communicate, move, sense), it is a meta-action, as are thoughts and intentions. Action requires energy and carries energy with it. In conveying meaning, language must access energy and convey energy. It is meta-energetic (Rudolph, 2002; Rutherford, 2003). While language is a conscious medium, like all thought, it is rooted in unconscious structures, of which it is itself a manifestation (Lakoff & Johnson, 1999).

A social constructivist perspective is not a perspective that rules out objectivity or reality (Schutz, 1967/1932). It is a reality that is perceived individually and socially interpreted and understood (Dewey, 1922; Weick, 1979). As Collins (1998) declared, "Social constructivism is sociological realism; and sociological realism carries with it a

wide range of realist consequences" (p. 858). As humankind struggles to make sense of the human experience, a community of understanding, which in formal understanding is called science, makes it possible to work together in more complex ways, solving more and more complex issues to break open paths to greater achievement and mutual understanding (Kuhn, 1996).

A Constitutive Ontological Perspective

Heuristic phenomenological exploration is based on discovery of the perceived experience through epoché and intuitive reflection. Epoché refers to the act of "setting aside prejudgments and opening the research interview with an unbiased, receptive presence" (Moustakas, 1994, p. 180). A foundational part of epoché is the phenomenological reduction—the bracketing or setting aside—of the everyday perception we humans have that the outside world has an independent existence which constitutes reality, so that we can go back to things as they present themselves to us, as they are given to us, and not be biased by "what we think they must be" (Smith, 2009, Section 2b). The phenomenological researcher recognizes that the world is perceived through awareness and intuition. This awareness does not presuppose an external reality (Smith, 2009). "The only thing we know for certain is that which appears before us in consciousness, and that very fact is a guarantee of its objectivity" (Moustakas, 1994, p. 45). According to Husserl's principle of all principles,

> Every originary presentive intuition is a legitimizing source of cognition, that everything originally (so to speak, in its 'personal' actuality) offered to us in 'intuition' is to be accepted simply as what it is presented as being, but also only within the limits in which it is presented there. (Husserl, 1982/1913, sec. 24, quoted in Smith, 2009, Section 2b)

Controlled experimentation does not reveal reality. As Collins (1998) put it, "The philosophically strongest argument is traditionally that which is self-grounding, certain in itself, without appeal to empirical observation" (p. 858).

His biologically derived constitutive ontology of observing was described by Maturana (1988/1986) in this way:

> We accept that constitutively we cannot claim the independent existence of things (entities, unities, ideas, etc.), and we recognize that a unity exists only in its distinction, that is, in the praxis of living of the observer that brings it forth. . . Scientific explanations do not require the assumption of objectivity because scientific explanations do not explain an independent objective reality. Scientific explanations explain the praxis of living of the observer, and they do so with the operational coherences brought forth by the observer in his or her praxis of living. It is this fact that gives science its biological foundations and that makes science a cognitive domain bound to the biology of the observer with characteristics that are determined by the ontology of observing. (p. 12, p. 6)

Regarding an objective reality, Maturana (1988/1986) stated:

> For epistemological reasons, we ask for a substratum that could provide an independent ultimate justification or validation of distinguishability, but, for ontological reasons, such a substratum remains beyond our reach as observers. All that we can say ontologically about the substratum that we need for epistemological reasons, is that it permits what it permits, and that it permits all the operational coherences that we bring forth in the happening of living as we exist in language. . . . We need the substratum for epistemological reasons, but in the substratum there are no objects, entities or properties; in the substratum there is no nothing (no-thing) because things belong to language. In other words, nothing exists in the substratum. (p. 37, p. 36)

Heuristic Transcendental Phenomenology

Based on these reasons, to investigate energy and what it means to human beings and to find out how they experience energy, a phenomenological approach is necessary and most appropriate. Moustakas's (1994) heuristic phenomenology, derived from the transcendental phenomenology of Husserl and Van Kaam's data analysis approach to

transcendental phenomenology, is especially appropriate when blended with a constitutive ontological (Dell, 1987; Maturana, 1988/1986) and dialogal (Halling, Kunz, & Rowe, 1994; Strasser, 1969; Velde et al., 2010) phenomenology.

Human energy, through processes as yet not fully understood, derives from physical energy, with its concomitant nonphysical, field properties (Damasio, 2000a, 2000b, 2003; Panksepp, 2003; Schutz, 1967/1932; Tallon, 1997). Much energy in the human energy system, including many physiological processes, operates below the threshold of consciousness (Bargh & Morsella, 2008). We can observe its effects in human action, including action at the microsocial level (Collins, 2004) and even the microscopic level, as evidenced in drug studies (Hou, Zhang, Wang, & Wang, 2009; Pert, 2002) and neural activity (Lakoff & Johnson, 1999), even though the human being observed may not be consciously aware of energy in action at that level. Phenomenological research brings "before me something that otherwise happens '*behind my back'"* (Gadamer, 1976, p. xviii, quoted in Moustakas, 1994, p. 10).

Through heuristic, transcendental, constitutive (Dell, 1987; Maturana, 1988/1986), and dialogal phenomenology, researchers seek to understand themselves and the world in which they live as a social experience, a community (Halling et al., 1994). In dialogal phenomenology, "to constitute . . . is a continuous process of giving an ever clearer meaning" (p. 66). It is an autobiographical process that involves confirming with the experience of others. Within and yet beyond the direct experience as reported by the participant, researchers look for social (and possibly universal) meaning in the experiences reflected upon by others and by themselves in light of their own revisited experiences and insights (Moustakas, 1990; Schutz, 1967/1932). Researchers further look

at the “conceptual perceptions” (Schutz, 1967/1932, p. 142) of the community of social science scholars (Halling et al., 1994; Kuhn, 1996; Moustakas, 1994; Schutz, 1967/1932).

Hermeneutic Process and Spirals

Phenomenological investigations involve a dynamic of distinguishing personal judgments and theoretical constructs from descriptions of direct experience and reducing the findings to only the experience descriptions. This is going “back to the things themselves” (Husserl, 2008/1901, p. 168) and “what matters” (van Manen, 1990, p. 184, quoted in Dowling, 2007, p. 132). Thus, we must go back as completely as possible to the lived experience. Some say that Husserl (and Moustakas, his proponent) eschewed the hermeneutic for the purely descriptive and not interpretive, as is the formal hermeneutic approach of Heidegger (e.g., Dowling, 2007). Others (e.g., Schutz, 1967/1932) reminded us of Husserl’s point that direct experience is living experience, and that neither the research participant nor the researcher can describe an experience in the very act of living it. Husserl himself said:

> Even an experience is not, and never is, perceived in its completeness, it cannot be grasped adequately in its full unity. It is essentially something that flows, and, starting from the present moment we can swim after it, our gaze reflectively turned towards it, whilst the stretches we leave in our wake are lost to perception. Only in the form of retention or in the form of retrospective . . . [recollection] have we any consciousness of what has immediately flowed past us. (as quoted in Schutz, 1967/1932, p. 50, citing Zeitbewusstsein, p. 82 [English translation, p. 140], inserted text in the original)

Essentially, we stop living the experience that we want to convey to another, and begin living the experience of communicating to another a description of the lived experience we just stepped out of, almost like a Shakespearean actor stepping forward on stage to pause the play in order to make an aside to the audience. The communicating of

the lived experience to others is done through expressions, statements that describe the experience to others. The person receiving the communication lives the direct experience of hearing the communicator's expressions and then reflects on what he has heard, often verifying his understanding by repeating the communication in his own words or by asking the communicator a question about meaning. A hermeneutical spiral of "sense-giving" (Husserl, 2008/1901, p. 191) and sense-making (Weick, 1979) occurs in which the person communicating the experience and the person receiving the communication refine their communication and understanding over the course of a conversation or, as is often the case in phenomenological research, over the course of an interview.

While Husserl saw the unity of our consciousness as permitting us to describe our experiences to others and allowing us to incorporate many aspects of earlier experiences and even to prospectively anticipate future experiences, by necessity, we cannot tell every minute detail of an experience. We must be selective (Schutz, 1967/1932). Already, then, in this selectivity of detail and in what words we use, there is a degree of interpretation or hermeneutics present in the description of the lived experience. However, this expression of the experience in the very words of the person who lived it is as close as we, as researchers, can get to "the things themselves."

These experience descriptions are time encompassing, including past, present, and pluperfect (Boje, 2012; Schutz, 1967/1932). Even if details are given in nonchronological order over the course of a description and in response to questions, they constitute (Dell, 1987; Maturana, 1988/1986) events, incidents, stories, that can be legitimately put into chronological sequence by the researcher based on timing indications given by the participant. These descriptions, later reduced from any extraneous or repetitive remarks

to only the main details that relate to the phenomenon, constitute the textural descriptions required by Moustakas's (1994) method in the data analysis stage. Once the descriptions of recollected direct experience have been isolated, the researcher begins a formal interpretation, a structured hermeneutic analysis of all the study data.

Although often discussed only in the data analysis stage, this dynamic of description of recalled direct experience followed by reflective, interpretive hermeneutics is not a one-time process performed late in the research. It is a spiral process that begins much earlier, when the researcher, pondering her own lived experience, begins to formulate a topic. The process of directly experiencing and then describing frequently moves into interpretation from the micro through the macro levels of interaction throughout the conducting of the research. It occurs from the very beginning of the idea in the researcher's mind (as he or she directly experiences the phenomenon directly, reflects on it, and interprets it, albeit tentatively) and later in interaction with professors, colleagues, and the scholarly literature, in a dialogal phenomenology (Halling et al., 1994; Strasser, 1969); Tallon, 1997; Velde, 2010). Once the primary research question, a definition of human energy, is developed, using reflection and interpretation, the dynamic of experiencing, describing, and interpreting emerges again in the epoché, the development of interview questions, the interview process itself, and then into the data analysis. This is the process I experienced as a natural progression of first tackling epoché as a mental exercise and then in developing and refining my interview questions and directly answering them in writing, before performing data analysis to complete the epoché.

Interpretation—the work of social science (Schutz, 1967/1932)—is involved in devising the overarching research question (in this study: defining human energy), which entails isolating the phenomenon as a fragment of one's whole experience and delimiting it as a phenomenon for study. In the epoché process of first examining one's own experience of the phenomenon, so that one can bracket it before interacting with one's research participants, the researcher must interpret his or her own perceptions and "prejudgments regarding the phenomenon being investigated" (Moustakas, 1994, p. 22). This requires some interpretation: some description, yes, of one's direct experience, but also some labeling, sorting, and categorizing of perceptions and descriptions of perceptions. The reflection process involves self-questioning. Even in asking oneself to describe the experience, one has already made a category of description. As one describes an incident to oneself, there is a natural structuring (interpreting), usually into sequential description statements of moments changing to subsequent moments, recollected after the experience.

In thinking about what I needed to know about the phenomenon, I devised questions for myself relating to aspects of the phenomenon. While this allowed me to be aware of my own perceptions so that I could bracket them, it also led to questions for the interview protocol. Thus, I asked participants the same questions in the interviews that I had already asked myself, such as, "Based on your experiences, how do or would you define human energy?" and also "How would you describe low energy . . . high energy?" The hermeneutic spiral of self-reflection spiraled into thinking about what I needed to hear about from the participants, so that I could directly experience from them, in their

own words, how they perceived and communicated their perceptions of human energy in the workplace.

Sampling Strategy

In accordance with Moustakas's (1994) methods and procedures for heuristic phenomenology, I used a purposive sampling strategy (Creswell, 2007). The main criterion for selection was having a high degree of reflectivity and fluency in articulating experiences. In addition, I sought participants with established backgrounds in the physical or technical sciences, such as engineering, healthcare, and related occupations, along with participants from the social sciences—based on the idea that participants with physical, technical, or social backgrounds might draw upon the energy-related language of their disciplines to describe their human energy experiences. Further support for this approach was found in Maturana (1988/1986):

> Self, self-consciousness and reality exist in language as explanations of the happening of living of the observer. Indeed, the observer as a human being in language is primary with respect to self and self-consciousness, these arise as he or she operates in language explaining his or her experiences, his or her praxis of living as such. Matter, energy, ideas, notions, mind, spirit, God . . . are explanatory propositions about the praxis of living of the observer. Furthermore, matter, energy, ideas, notions, mind, spirit or God, as explanatory propositions entail different manners of living of the observer in recursive conservation of adaptation in the domains of operational coherences brought forth in their different distinctions. (p. 39, original ellipses)

Finally, I sought a sample with a maximum variation in age, gender, ethnicity, ontological perspectives, occupations, and organizational hierarchy (Boyatzis, 1998; Creswell & Plano Clark, 2007; Seidman, 2006), since Creswell (2003) advised that maximum variation sampling increases the chances that the findings of the study will incorporate the range of different perspectives that can be examined in depth.

The number of participants for in-depth interviews in a phenomenological study can be "as many as 10" according to Creswell (2003, p. 131), but many qualitative studies have sampled more. Although this study was not based on Seidman's method, he offered useful insights for sampling strategies in phenomenological studies. Seidman specified two criteria regarding the number of participants in a study. First, the numbers must be sufficient to permit achieving a sample fairly reflecting the population. He preferred maximum variation sampling, as it increases the possibility that many readers will find elements in the participants' experiences that they can identify with (Seidman, 2006). Second, Seidman suggested obtaining participants until no new information was acquired from interviewing additional participants. These were my goals in recruiting participants.

Seidman also recommended, however, that the pragmatic realities of limited time and money on the part of the researcher may also limit the size of samples. I had access to a network of younger professionals in the San Francisco area, where five individuals had agreed to participate. However, my resources were not sufficient to permit two or three round-trip fares to the region in order to obtain two interviews from each participant. In addition, I had three additional willing participants within short travel distance on the East Coast: two psychologists and one anesthesiologist. These became available as time became short for completing my dissertation within the university's requirements. By that time, I had interviewed 12 participants and had hundreds of pages of transcripts. The cost of additional transcription was also a factor. Because the data already contained some similar findings at higher levels of abstraction, such as a

relationship between competence and energy, I chose to close data collection with 12 participants in my sample rather than seeking additional participants on either coast.

In recruiting participants, both direct perceptual experience and hermeneutic reflection and interpretation were necessary. For example, I had to listen to participants' answers to my questions about the study requirements and qualifications and then interpret how they fit or did not fit those requirements. One volunteer with an excellent background in physical human energy transformed into electromagnetic energy on the battlefield did not qualify because he was retired and did not currently have a contracting, volunteer, or expert witness gig in place.

Data Collection

I collected data for this study through two in-depth hour-long interviews with each of the 12 participants and an intervening activity for exploring an energy incident at work.

Interview Questions

To explore the process of energizing interactions and the experience of energy in the workplace, I developed a list of interview questions. Table 3.1 shows these interview questions in relation to the research questions and their rationale and theoretical framework. As the overarching research question, Research Question 1—a definition of energy—was the main focus in the interviews. The other two research questions on the dimensions and context of energy experiences and changes were explored by asking participants to relate energy-increasing and energy-draining experiences.

Table 3.1
Research Questions, Theoretical Framework and Rationale, and Interview Questions

Research question	Theoretical framework and rationale	Interview questions
1. How do individuals define and describe human energy? [Overarching question]	**Rationale:** Participants may need to first think about what human energy is and describe the experience in general terms that occur to them naturally, without limiting themselves to one experience. **Theoretical framework:** Using the term "human energy" encompasses the individual, internal, personal experience and the collective, social experience and invites the participant to address both or either.	• How do you define or describe human energy?
2. How do individuals experience human energy, especially in the workplace?	**Rationale:** Participants may need to first reference a remarkable energy experience in any context in order to describe energy most fully. **Theoretical framework:** Again, using the term "human energy" encompasses the individual, internal, personal experience and the collective, social experience and invites the participant to address both or either.	• I'd like you to tell me a story in which you experienced energy and then experienced a noticeable **change** in human energy in the workplace. Please describe the outcomes or products of the human energy in the workplace story. • Looking to future situations like this, how would you plan or prepare for your experience?
A. How do individuals recognize human energy as experienced at work?	**Rationale:** This question aims to explore the thoughts, feelings, and actions of the participant when personally experiencing energy and also aims to elicit descriptions of what the participant perceives, notices, and/or infers about the human energy of others, whether collectively or as individuals. **Theoretical framework:** This question permits exploration of how the participant describes thoughts, feelings, and actions that Collins (2004) described and predicted in his model, such as mutual focus of attention, reduced awareness of the environment outside the central	• How did you recognize or notice the human energy you perceived before you experienced the change in energy? • How did the energy first come to your attention? • How did the **change** in energy come to your attention? (What was different about it?)

Research question	Theoretical framework and rationale	Interview questions
	dyad or group, feelings of membership, and storing of energy in symbols. It also permits the participant to give descriptions that are not described or predicted by Collins's model or that even contradict it.	
B. How do individuals describe human energy as experienced at work?	**Rationale:** This question aims for the same elicitations as Question 1, but also aims to elicit information about the process and dimensions of the experience of human energy. **Theoretical framework:** This question permits exploration of how the participant addresses the same elements of the Collins (2004) model and permits the participant to provide insights into the dimensions and processes beyond the Collins model or in contradiction of it. Flanagan's (1954) critical incident technique requires elicitation of relevant details as observed and experienced by participants.	• What can you tell me about the human energy? What are all the ways you could describe it? What actions did you notice? • What effects did you notice? • Please share your thoughts, feelings, and actions about that energy. • What can you tell me about the **change** in energy: the actions, effects, thoughts, feelings that changed when the energy changed?
C. What external conditions are present as individuals experience human energy at work?	**Rationale:** This question aims to explore what the participant finds remarkable in conditions external to herself and, further, external to any interaction ritual the participant may be describing. **Theoretical framework:** This question permits exploration of how the participant's action (which can include thoughts and feelings), focus, and experience move concentrically from external perceptions inward (to the self) or outward (from the self) to external conditions, such as an interaction ritual, and moves outside an interaction ritual, as described in Collins's (2004) model. It also invites insights and observations beyond or in contradiction of Collins's model.	• What was happening around you as you experienced the human energy? • If a social interaction is described, also ask: What was happening around or external to the group or two-person interaction in which you experienced the human energy? • What was happening around you as you experienced the **change** in human energy? • What was happening around or external to the group or two-person interaction in which you experienced the **change** in human energy?

Research question	Theoretical framework and rationale	Interview questions
D. What internal conditions are present as individuals experience human energy at work?	**Rationale:** This question aims to explore what the participant finds remarkable in conditions internal to himself and, further, internal to any interaction ritual the participant may be describing. **Theoretical framework:** This question permits exploration of how the participant's experience moves concentrically from internal (within the self) outward (from the self) to internal conditions of an interaction ritual, as described in Collins's (2004) model. It also invites insights and observations beyond or in contradiction of Collins's model. It also invites insights into past experiences that the participant associates with the present experience and any future projections elicited by the current and/or past experiences.	• What was happening inside you as you experienced the human energy? • What are all the ways you could describe it? What actions did you notice or take? • What effects did you notice? • Please share your thoughts, feelings, and actions about that energy experience. • *If a social interaction is described, also ask:* What was happening within the group or two-person interaction in which you experienced the human energy? • What are all the ways you could describe it? What actions did you notice or take? • What effects did you notice? • What do you think were the others' thoughts, feelings, and actions about that energy experience as they took part? • What do you think were the thoughts, feelings, and actions of those who were outside the interaction, observing it? • Please share your own thoughts, feelings, and actions about that energy experience. • Now, let's go through those same questions in regard to the **change** in human energy.

Research question	Theoretical framework and rationale	Interview questions
3. How do individuals experience human energy changes at work?	**Rationale:** This question aims to explore more explicitly and fully the process of energy experience: how it changes in degree, quality, externality, internality, sharedness or self-only, etc. **Theoretical framework:** This question permits exploration of the context of energy changes as well as the processes internal and external to the individual.	• Now, if you haven't already done so, in the story you just told me, I'd like you to focus on and describe the noticeable changes in human energy in the workplace. **Note:** *The change question is explored using the same scenario the participant described for Research Question 2.*

Use of the Critical Incident Technique

During the interviews, I used Flanagan's (1954) critical incident technique to elicit details as observed and experienced by participants about events or interactions that affected participants' experience of energy. According to Flanagan (1954, 1st page, unpaginated copy), "The critical incident technique consists of a set of procedures for collecting direct observations of human behavior in such a way as to facilitate their potential usefulness in solving practical problems and developing broad psychological principles." Critical incident technique has provided insights into work phenomena such as tasks, processes, interactions, outcomes, and contexts for over 60 years in a variety of occupations. Early use included a study of the factors in trainee pilot failure, redesign of the cockpit environment to reduce pilot disorientation, and problems of combat leadership in the U.S. Army Air Force. It has been adapted for use in job analysis procedures to identify critical requirements of the job and make a systematic analysis of the factors that distinguish success and failure in performing those critical requirements. The objectivity of critical incident technique, characterized as "the tendency of a number of independent observers to make the same report" (Flanagan, 1954, p. 9, unpaginated

copy), in which observers are also required to be competent observers, is similar but not identical to that aspect of phenomenological objectivity that Schutz (1967/1932, p. 246) ascribed to "the ordering of subjective meaning-contexts (such as subjective valuations) into the objective meaning-context of scientific knowledge."

Adapting the critical incident technique, I asked participants in each interview to reconstruct a significant incident in their work (preferably in the recent past) in which they were aware of energy and changes in it. They could choose whether to report first on an energy loss incident or on an energy gain incident. I asked follow-up questions to elicit details about the experience and, in accordance with Husserl (2008/1901) and Schutz (1967/1932), to check on my hermeneutic understanding of the meaning of the participant's responses so that my next question would be appropriately worded to get more detail about what was reported.

Interview Process

In each of the two 60-minute interviews (scheduled in 90-minute sessions to allow time for study administration and equipment deployment), held at least 1 week apart, participants were asked to relate at least two energy change incidents at work and then to define and describe energy and how it acted and changed within their work interactions. The first interview "primed" (Kunda, 1999, p. 22) participants to notice, reflect on, and provide details of energy experiences at work during the interval period. Flanagan (1954, p. 14) also noted in his critical incident studies that "memory is improved if it is known in advance that the behavior to be observed is to be remembered." I intended this interval to help the participant to be more adept in retrieving incident memories and noticing details of events for reporting in the second interview.

The second interview focused on the most recent work experiences, especially those reported during the interval, seeking clear detail and insights on energy dynamics. If only one incident was reported in the first interview, or if energy incidents tended to be of only one direction—increase or decrease—I used the second interview to explore at least one incident of the opposite energy direction. In all cases I asked for recent experiences because, as Flanagan (1954) found, recall of recent experience tends to be more detailed, more accurate, and more representative. But some participants had strong memories of events deeper in the past and wanted to tell them, and I deferred. Flanagan (1954, p. 14, unpaginated copy) also acknowledged that "in some situations, adequate coverage cannot be obtained if only very recent incidents are included." Occasionally I asked participants about future possible energy scenarios and how they would approach them.

Use of only two 60-minute interviews may seem inadequate for an in-depth phenomenological study. For this reason, I was especially conscious of and conscientious about using appropriate techniques for building rapport and a trusting relationship with participants (Creswell, 2007). These techniques included active listening, mirroring (body posture, word choices, tone of voice, etc.), and pacing of conversation in synchrony with the participant's style and preference. Also, while maintaining a professional demeanor toward the research effort, I practiced a relaxed, inquiring, empathetic approach during the interview, recognizing the valuable contribution of the research participant to knowledge of the phenomenon based on the participant's experience of it (Rader, 2010).

Although the interview was structured to some extent, it was as open-ended as possible. In addition to asking participants to describe energy incidents at work, I also

asked them more than once over the two interviews to define and describe energy. Repeating the questions at intervals was intended to give participants an opportunity to extend or modify previous answers based on their review of their energy experiences. Participants were also asked for a description of the workplace outcomes or products of their work, their human energy expenditures.

During one of the early interviews, one participant voiced a concern, based on knowledge of quantitative survey techniques, about interview questions designed to draw conclusions about participants' mental health or designed to challenge participants' veracity with trick questions. This necessitated some discussion of the differences between qualitative and quantitative research and the goal of my study to hear and value what each participant described of their experiences. Even so, when I repeated a question periodically to see if more details might emerge, having been stirred by earlier descriptions, the participant again questioned whether I was repeating questions in order to trick him in some way. Subsequently, I made it a part of every interview to let every participant know that any repeated questions or deeper questions probing for more details were simply aimed at getting richer, deeper details, and not to trip up or doubt the veracity of the participants in any way.

Interviews were audio recorded using two to three audio recorders to ensure accuracy and to protect the investment of the participant's time and effort should one or even two recorders fail or be of poor quality. Keeping in mind that full attention to the direct experience of what the participant is saying is incompatible with reflection on and writing about it (Husserl, 1964/1928; Schutz, 1967/1932), to the extent possible, I took notes during the interview to record physical changes, such as facial expressions, eye

movements, gestures, and body language. Notes on the content of the responses also helped me formulate questions based as closely as possible on what the participant actually said. Insights I gained in each interview served as a resource for subsequent interviews. Each interview was transcribed by one of three professional transcriptionists from the fields of academics and law.

Additional Activity to Explore Energy Incidents

As another means of data collection, during the administrative portion of the first interview, I gave participants instructions for an activity to explore an energy incident at work emerging in the interval between the two interviews, to be completed and sent to me before the second interview. The intervening activity instructions (see Appendix D) included the interview questions as a guide to their reflections. As Flanagan (1954, p. 14, unpaginated copy) found from his critical incident studies, "[Memory] is greatly improved if the specific aspects of what is to be observed are defined." As a product of the activity, I asked participants to give a description or artistic rendering (in any medium, but recorded in some way) of their energy-changing experience. I chose this between-interview interval activity to aid recollection and articulation of lived experience and reflective, intuited insights and also to serve as recorded data that I could explore with the participant in the second interview. The art opportunity permitted the participant to address what Wittgenstein referred to as the unsayable, showable truths that cannot be adequately addressed in language (Monk, 1990, as cited in Collins, 1998) and could reveal unconscious metaphors and meanings that lie below the level of conscious awareness, the tip of the iceberg of thought of which 95% or more is unconscious (Lakoff & Johnson, 1999). Additionally, the participant could be even more relaxed in private

moments between interviews than when in the presence of the researcher, which could provide depth for phenomenological insights.

Only a few participants did this part of the study. A participant suggested that I make a pocket-sized card that could serve as a reminder to notice and record an energy event at work. I followed his suggestion and sent him some examples for review that included the key questions. I gave him some of the cards at the second interview, and I gave the cards to other participants. No one completed a card or made any reference to using it, unfortunately.

Member Checking

Member checking is a useful practice in qualitative research, and I used a form of it in the interviews to be sure I understood the reported situation well enough to ask a strong follow-up question to get richer details. However, I was also aware that when I clarified my understanding of participant responses by asking a question that used my own words (often because I couldn't recall the participant's own words, but also to see if there was any equivalence or differences in meaning), the effect could occur of my leading or influencing the participant in the phrasing of subsequent responses. This is an undesirable aspect of priming (Kunda, 1999). To offset this, I explained in the beginning of the interviews that I might ask clarifying questions or check in with the participant on my understanding of what he or she was saying, and that it was very important that they "push back" at me to make sure that I wasn't altering what they were conveying in their choice of words. I repeated this admonition/request often in asking clarifying questions, using phrases such as, "Don't let me put words in your mouth," or asking them to repeat the wording they used, so that I could appropriately build my follow-up question.

After the interviews, more formal member checking occurred (Lichtman, 2006; Lofland, Snow, Anderson, & Lofland, 2006). Participants were invited to review my three descriptions (textural, structural, and textural-structural) for their experiences and advise whether and to what extent the descriptions resonated with their perception of their experience of the phenomenon.

Pilot Interviews

As energy is both a conscious and an unconscious phenomenon, participants may have not been readily aware of their energy or its origins, changes, and dimensions. The interview questions needed to be tested to be sure they were adequate to elicit data relevant to the research questions, especially the overarching question of defining human energy. For this reason, the first two participants' interviews constituted a pilot. Based on the data collected, the interview questions were retained. The pilot tested the interview questions only, and not the structure of the study, and no problems with the structure emerged in the pilot or during the study. The pilot did reveal a problem with a minor aspect of the study, the attempted use of voice recognition software. Because of major inaccuracies in the voice recognition software, that portion of the study administration was dropped.

Data Analysis: Explication of the Data

Some phenomenological researchers prefer a term like "explication of the data" to "data analysis," as analysis connotes a breaking down or reducing into parts, while explication indicates examining, within the given context, the constituent elements of a phenomenon and how they relate to one another and, possibly, to other phenomena

(Groenewald, 2004). I use the term data analysis, as has been the convention for many years.

Analyzing individual data in accordance with heuristic transcendental phenomenology involves developing individual textural and individual structural descriptions for each participant, and then a composite textural-structural description for each individual. The insights gleaned (retaining and organizing the invariant constituents while eliminating irrelevant text) from each individual's communications result in a textural description of the phenomenon for that individual. Then insights about the experiential processes of the phenomenon are plumbed from the remarks (the textural descriptions) of each individual, using phenomenological reflection and imaginative variation, to obtain a structural description that identifies, when present, established and theorized social science concepts and principles (Moustakas, 1994; Schutz, 1967/1932). Subsequently, a textural-structural description is constructed for each individual, synthesizing invariant constituents and themes for that individual and distilling the essences and meanings into a whole (Moustakas, 1994; Priest, 2002). Ultimately, a composite of the essences, the invariant constituents, is developed that represents the group as a whole and gives a more complete sense of the social science constructs operating in the manifestation and experience of the phenomenon across all participants. This is a textural-structural composite, which the researcher uses to provide to the reader a synthesized, thematic portrayal of the experience—in this case, of human energy in the workplace as experienced by those in the sample. Themes and meanings may provide a glimpse into the common, conscious experience of energy and, possibly, its social unconscious as well, especially when symbolic and metaphorical language are present in

participants' composite reports (Lakoff & Johnson, 1999). Readers may then compare these experiences and the structural processes behind them to their own human energy experiences.

Time was a foundational concept for Husserl (Luft, 2002; Spiegelberg, 1975). Experiences are "bound together in a unified series of successive intentional horizons" (Beyer, 2013, Sec. 4). Logically, then, seeing the participants' experiences in chronological order was necessary for understanding them and determining how they change over time and with context. As Beyer (2013) stated:

> We have to look upon intentional acts as momentary components of certain transtemporal cognitive structures—*dynamic intentional structures*—in which one and the same object or state of affairs is constantly changing. (p. 8, italics in original)

Similarly, Maturana (1988) explained:

> The significance or meaning of any given behavior resides in the circumstances of its enaction. . . . History, time, future and past—as well as space—exist in language as forms of explanation of the happening of living of the observer, and partake of the involvement of language in this happening of living. The explanation of the happening of living [occurs] through the coherences of language. (p. 32)

Textural Descriptions

To obtain a constitutive (Dell, 1987; Maturana, 1988/1986), dialogal (Halling et al., 1994; Strasser, 1969; Tallon, 1997; Velde, 2010) phenomenological understanding of what an experience means to a participant, the researcher must come "to know the phenomenon as it shows itself as described by the participants" (Parse, 2001, p. 79, as quoted in Dowling, 2007, p. 132). The textural description is drawn from the first-person

accounts in the data that convey the phenomenon as the participant perceived his or her experiences of it (Beyer, 2013).

I could see that I needed to organize the data in a way that reflected, with continuity, the events and views the participant was providing. In conducting the phenomenological reduction required by Moustakas (1994), I gave equal attention and weight to all the participant's statements about the phenomenon and ignored my own statements and those statements by the participant not related to the phenomenon. I excluded descriptions by the participant when the language originated in my meaning clarification questions or in checking the accuracy of my understanding or mental pictures of their descriptions. For example, if I asked if my mental image of a door opening was correct, and that constituted the first use of the word "door," I did not include "door" in the textural description, even if the participant agreed with it and later included it, as that word may have been used more to help me than to truly describe the participant's direct experience. In either case, I deemed it likely that my words had "primed" (Kunda, 1999) the participant and might not be how he or she would have described the experience had I not interjected the word into the conversation.

In this study, to constitutively (Dell, 1987; Maturana, 1988/1986) develop the textural description for each participant, I gathered and organized invariant statements related to the participant's experiences of human energy in the workplace. To gather the invariant statements, I first conflated whatever was reported for each energy incident reported in the two interview transcripts so that all statements about a given incident were in one location of a document. I then put the statements into chronological order, deleting repetitive statements (which usually resulted from going over the same parts of the

incident more than once to get deeper, richer details), and that left the invariant statements. Transition words, such as “then” and “after” were added. If a detail came from a question I had asked, I used the referent words from the question so that the detail’s context would be retained. Putting the incident narrative statements into chronological order provided better accuracy of insight into the energy processes as the participant reported them to have occurred.

After organizing chronologically the participant’s statements about the reported critical incidents of energy experiences, I turned to organizing the participant’s statements related to the overarching research question (a definition of human energy) and subsidiary questions. The research question and each subsidiary question were used as interview questions, so each of the participant’s transcripts contained statements related to each research question.

Using a word processing application, Microsoft Word, which can be a useful digital tool for phenomenological analysis (Priest, 2002; Smith & Osborn, 2003), I copied the research questions and each subsidiary question into what had become my staging document. Then, from each of the two transcripts for the participant, I copied from the transcripts any statement related to the overarching research question—defining energy—and pasted it into what had become my staging document, under the defining energy question. I did the same process for each subsidiary research question (e.g., description of energy) except for the energy process question, which I considered to be addressed in the energy incident chronologies. I deleted repetitive statements and combined relevant partial but related statements into whole sentences. I included in the textural descriptions, at the appropriate organizational positions described above, any data from the intervening

activities. These were in the form of written submissions or graphical depictions, usually with accompanying transcript statements of the participant elaborating on the written submissions and explaining the meanings of the depictions. The depictions were scanned and included in the textural descriptions.

The resulting incidents and research question texts were almost exclusively in the participant's own words. In order to reduce the amount of text in chapter 4, I abbreviated some portions with paraphrasing that remained as true to the information as given by the participant as I could manage, using general words to cover more specific but not essential words. For example, if a participant mentioned several of her colleagues by name and descriptions, I would shorten by saying something like "Carla's women colleagues in her unit" or "all of Carla's colleagues in her unit," depending on whether gender was a distinction she was making. Similarly, I would telescope many numerous event steps into a more general statement. For example, if Carla described in detail a variety of response events to an invitation she sent, I might describe the response as a large number of responses received by email, phone, and in person that expressed gratitude for her organizing the event. The research question texts were further clustered into logical units using the participant's own words and, to conserve space, my own paraphrasing within both the denotative and connotative meanings of the participant.

The textural description has a crucial significance in phenomenological reduction. It serves as a foundation for the entire process. Researchers are not able to phenomenologically "see" (Moran, 2001, p. xli) in a trustworthy way the meaning essences in order to write the textural-structural description if they do not first receive in an open way the full horizon of the participant's experience of the phenomenon. The

textural description establishes first glimpses of the dependent relationships of the experience being described and other similar experiences seated within the participant's stream of consciousness, as well as between the particular experience and its specific features as described by the participant (Beyer, 2013). These relationships can take the form of an essential law in that a conscious emotion or sensation, such as a feeling of tearful, ineffable joy (in the accomplishment of bringing a clean water system to a poor village) or a sensation of pleasure (producing a photo with stunning detail of a bee's wings), is reciprocally related to a simultaneously experienced, corresponding belief (that these people's lives will be changed for the better because of this work or that most people could not get a photo of such high quality and sharp resolution using the same tools) (Beyer, 2013; Moran, 2001).

Structural Descriptions

In this study of human energy in the workplace, the structural description interprets each participant's textural description in relation to social science constructs about human energy and related concepts and frameworks (Moustakas, 1994; Schutz, 1967/1932). The constitutive ontological need (Dell, 1987; Maturana, 1988/1986) to identify constituent structures is another reason why it was essential to put the incident-related statements into chronological order for the textural description. According to Husserl, perceptual experience "displays a phenomenological deep- or micro-structure constituted by *time-consciousness*" (Beyer, 2013, Section 6, italics in original). This time-consciousness is essential to the identity of an enduring self (Schutz, 1967/1932). Indeed, Husserl considered time-consciousness to have "fundamental importance for the understanding of the structure of all consciousness" (Spiegelberg, 1975, p. 6).

The experiential processes that composed the structure that organized or made sense of the textural descriptions emerged, to some extent, through the participant's own lifeworld as he or she expressed it. These descriptions could include consistent references to a concept or a belief (Beyer, 2013; Moran, 2001), or the participant's own ascription of an aspect of an experience to some factor (Beyer, 2013). For example, if Carla consistently reported being energized by acknowledgment by other women of a need to form a support group, and this need was a result of being in a male-dominant culture, then gender identity emerged through her own analysis, but I was the one who, through the constitutive (Dell, 1987; Maturana, 1988/1986), dialogal (Halling et al., 1994; Strasser, 1969; Tallon, 1997; Velde, 2010) phenomenological attitude, categorized this structure in the terms of social science frameworks (Schutz, 1967/1932). In other cases, the participant might not express any awareness of the effect of a social science phenomenon, but, using the same constitutive, dialogal phenomenological reflection and imaginative variation, I as the researcher could identify the phenomenon as energy. For example, when Carla described her joy and excitement at receiving a large number of accepting and enthusiastic responses to her invitation, informed by Collins's (2004) description of high energy, I as the researcher recognized these as indicators that her energy level was high. Because the emerging structures were often interrelated and evident in the way that they presented themselves in the data, I needed to incorporate the interrelationships, to the extent possible, in the structural description. This was not only true to the way the structures emerged, but was also more parsimonious.

Structural description is a linchpin for the study design as a whole. As the "particular intending subject," the participant, in taking an action, whether thinking a

thought or speaking words, has an intention he or she is acting toward (Schutz, 1967/1932). “Intending always has the structure of intending-as-something” (Luft, 2002, p. 7), so that every activity has some intended goal. For example, we go to work to cure cancer or to pay the bills or because we need to get out of the house. Activity and intended goal are structured through the directing of one’s attention (Luft, 2002). Attention arises out of the attitude and interests residing in the participant or subject, and intentionality connects the subject to the object of attention, so that we could visualize a line of sight from a person grounded in a moment of time and space, looking toward an object idea or memory of a person or event, etc. (Luft, 2002). Our experience awareness, however, is a field (Luft, 2002; Moran, 2001; Smith, 2008; Tallon, 1997). As James (1890, as cited in Styles, 2006) described, attention comprises a central focus of high resolution, a margin of less clear resolution, and a fringe, which is even more vague. What we fix our attention on and its surrounding experience field contain features that we may be conscious of or entirely unconscious of, especially at points in the field farther away from the center (Smith, 2008). This experience field around the intended/attended object or goal constitutes a directed line of horizon (Luft, 2002). The spatiotemporal history of the participant/subject perceiving that moment has historical overlays of previous similar experiences with their own fields and horizons (Beyer, 2013; Luft, 2002).

To keep my phenomenological structural analysis as close as possible to the participant’s actual words, I read and reread the textural descriptions, and then I recognized constituent social science concepts, phenomena, and interrelationships and labeled them in marginal annotations. I used a different alphabetical letter (A, B, etc.) or

repetition of letters (AA, BB, AAA, BBB) for each structure. In a separate document for capturing the code and its constituent structure, I summarized the constituent structure next to its related alphabetical code.

To provide a vivid account of the underlying dynamics of the participant's experience of the phenomenon of energy at work, as I reflected upon, analyzed, and intuited from imagining the scenes and sequences present in the textural description, I took note of the key phenomenological, constitutive structures (Dell, 1987; Maturana, 1988/1986) and social science structures that I identified, organized them (based on the degree of influence and on interrelationships), and described them and how they interrelated. Describing these structures often required writing and organizing and rewriting and reorganizing, until the whole made sense and flowed logically in accordance with what the participant reported. "It is in the act of reading and writing that insights emerge," as van Manen (2006, p. 715) affirmed.

Writing the results of data analysis in a phenomenological study is a complex task, in that data are not given unambiguously. Van Manen (2006, p. 716) explained:

> Moreover, the so-called essences or eidetic structures of intentional objects are ultimately those of language . . . so phenomenological reflection on prereflective life would be much better described in terms of an experience in writing.

Individual Textural-Structural Descriptions

The textural descriptions, presented in the participant's own words or in close paraphrase, included the energy incident narratives followed by what participants said in relation to the overarching research question and its subsidiary questions, all of which were included in the interview questions. The structural descriptions identified the

constitutive structures (Dell, 1987; Maturana, 1988/1986) of the participant's consciousness regarding human energy in the workplace as reported in the critical incident narratives and in answer to questions about their perceptions of energy. To be systematic in identifying themes, meanings, and essences for my phenomenological textural-structural analysis, I read and reread the structural descriptions, referring back, for clarifications, to the textural descriptions, and then I identified in the structural analyses the overarching social science concepts, phenomena, and interrelationships. I labeled them in marginal annotations. I used a different alphabetical letter or combination, as described above, for each overarching entity.

In a separate document, I summarized the overarching essence or meaning next to its related alphabetical code. A gestalt emerges when one listens to and relistens to audio recordings of the participant's statements and reads and rereads participants' narratives and responses and engages with the data, putting oneself into the shoes of the participant. The interrelated constitutive (Dell, 1987; Maturana, 1988/1986) constituent structures (Moustakas, 1994) identified in the structural description can help the researcher see and articulate the gestalt that holds them together in a meaningful, dynamic, and, in the case of human energy processes, a living system. (We are, after all, exploring lived experience through language.) Using imaginative intuition, I looked for deeper structural dynamics in the structural descriptions that could provide a coherent, interrelated description of essential meanings and themes in the participant's experience of human energy in the workplace and developed that participant's textural-structural description. The deeper dynamics would be broader in scope or horizon than the specific incidents reported and their momentary constitutive structures (Beyer, 2013; Dell, 1987; Luft, 2002; Maturana,

1988/1986; Smith, 2008). This description would draw upon the participant's life view based on his or her experiences over the full range of time and place—in Husserl's terminology, his or her lifeworld (Beyer, 2013; Dowling, 2007; Luft, 2002; Moran, 2001; Smith, 2008, 2009).

Using imaginative empathy (Beyer, 2013; Dowling, 2007; Priest, 2002; Schutz, 1967/1932; Smith, 2008), I put myself in the participant's place and reflected on the highest-level issues and frameworks shaping the meanings and essences emerging in the textural-structural descriptions. I looked for a unifying image or dynamic. Van Manen (2006) illustrated the difficulty of this level of abstraction in analysis using the myth of Orpheus, who, in trying to glimpse Eurydice behind him before he arrived at the upper world, violated Hades' condition and therefore was left with only an image of her as she receded from view. The presence of Eurydice that he sought was "a presence not mediated by words or other means" (p. 717). Through this imaginative and intuitive process of identifying the gestalt of the energy as experienced through the dynamics of the meanings and essences in the structural description, I developed the textural-structural description for each participant. Phenomenologically speaking, it was the presence of "a human truth" (p. 717).

In developing the textural-structural descriptions, I paid close attention to the participant's own use of language, metaphor, and image. For example, Carla's definition and descriptions of energy states provided an overarching image of human energy as a life-force, diminishing toward death or increasing toward movement, accomplishment, and productivity and fruitfulness.

Composite Textural-Structural Description

The textural-structural composite is at the group level of analysis. It is an organized, coherent summary of the findings for the entire sample. According to Moustakas (1994, p. 122), the task is to "construct a *composite textural-structural description of the meanings and essences of the experience,* integrating all individual textural-structural descriptions into a universal description of the experience representing the group as a whole." I read and reread each participant's textural-structural description, and then I identified meanings and essences—inserting an alphabetical code in the margin, then reducing the meaning into essential descriptive statements. If a participant's textural-structural description contained the same meaning and essence concept already in the code list, I inserted the corresponding alphabetical letter next to that text in the margin of that textural-structural description. If some new meaning aspect of that concept was in the textural-structural description now being coded, that aspect was added to the essential descriptive statement next to that alphabetical code. After I coded all of the participants' textural-structural descriptions, I read through the list of essential descriptive statements and clustered them according to similar meaning and into logical sequence. Based on those statements, I wrote the composite textural-structural description to capture the interrelationships among meanings, essences, and processes. This composite textural-structural description was, naturally, at a higher level of abstraction than each participant's textural description, but it was grounded in those textural descriptions and in their corresponding structural descriptions.

Because each participant's energy experiences had many specific contexts, the textural-structural description and essences of the experiences had to be overarching.

Some participants' individual horizons overlapped with others', while some did not. Nevertheless, essences and meanings could be identified that were universal to the group or that had a common aspect, and could be placed on a continuum. Even unique perspectives or horizons could give a fuller view of the experience of human energy at work, and I included and identified those insights.

Presentation of Results

Chapter 4 provides a background description and the textural-structural description for each participant. At the higher level of abstraction found in the textural-structural descriptions, common essences more readily emerge. In the interest of brevity and protecting confidentiality, the individual textural and structural descriptions for each participant are not included in the dissertation. Appendix E provides the composite textural-structural description.

Chapter 5 presents my findings as a discussion of common themes. To derive the common themes, I reviewed the alphabetical list of constituent structures obtained through coding of the individual textural descriptions. This permitted accessing, as closely as possible, the actual words and structures in the participants' descriptions and narrated experiences. As a theme emerged from this constitutive (Dell, 1987; Maturana, 1988/1986), dialogal (Halling et al., 1994; Strasser, 1969); Tallon, 1997; Velde, 2010) phenomenological process, I captured into a holding document a summary of all the structural description statements, the structural findings (Miner-Romanoff, 2012) from every participant that related to that theme, including the participant's pseudonym and related codes. I then synthesized the themes into major topics that constituted my findings from this study.

Chapter 6 relates the essences and meanings across the sample to social science frameworks considered in the chapter 5 cross-sample analysis. These include those frameworks mentioned in the chapter 2 literature review and any additional scholars' work that could illuminate the data and identify coherent relationships among social science concepts.

Ethical Considerations

The phenomenological research methodology of Moustakas and Husserl (Moustakas, 1994) requires authenticity of self and of others to arrive at the essence of what is being studied. This authenticity requires the researcher to clearly and completely describe the intended research—its purpose and its nature, its risks (which were anticipated to be minimal or none), and its overall methods—so that the participants can respond authentically, with informed and full consent. Consequently, I obtained signed agreements from the participants providing their consent and acknowledging the conditions under which they were giving that consent. In this case, the recruitment document (a frequently asked questions fact sheet) and the research consent form described the research; listed the steps taken to ensure confidentiality in the recording, analysis, and reporting of the results of the study; delineated the roles and responsibilities of the researcher and participant; and identified the factors influencing sustained inclusion in the study. Copies of the institutional review board–approved recruitment document and research consent form appear in Appendices B and C.

Seidman (2006) stressed the importance of maintaining equity in the relationship with participants, along with the authority needed to guide the research as required by ethics and rigor. All procedures undertaken in this study conformed to the requirements

of 45 CFR 46 on the Protection of Human Subjects (U.S. Department of Health and Human Services, 2009); the guiding principles of justice, beneficence, and respect for the autonomy of persons set forth in the Belmont Report (U.S. Department of Health, Education, and Welfare, 1979); the guidelines outlined in the federal institutional review board (IRB) guidebook (U.S. Department of Health & Human Services, 1993); and the requirements and principles of the George Washington University IRB (Office of Health Research, Compliance, and Technology Transfer, 2015) and the Graduate School of Education and Human Development Doctoral Handbook (2014-2015).

The GWU IRB approved the study on September 22, 2011. On February 22, 2012, the IRB approved the postpilot modification, which consisted of dropping the use of voice recognition software for transcribing interviews. On September 11, 2012, the IRB approved renewal of the study through September 19, 2013; on August 26, 2013, the IRB approved renewal of the study through September 13, 2014; and on August 22, 2014, the IRB approved renewal of the study through September 15, 2015.

Although it was not likely that participants would face any negative effects of participation, there was a possibility that exploring their energy experiences could cause emotional discomfort for them. Such discomfort in participants who are functioning adequately in their workplaces was not likely to be of a serious nature nor to exceed the discomfort they encountered and dealt with in their normal workday. No participant gave any indication of having any serious discomfort from the study activities. Participants were free to refuse to answer any question. When asked about any other emotions in response to an incident, one participant indicated that he would only be comfortable discussing some emotions with very close friends and family, and I respected his limits.

In another case, a participant became very moved in describing an event. I moved the questioning to other details about the event that did not draw upon his emotions. He did not indicate to me any negative effects of his emotional expressions. Sensitivity to these issues and adjusting my behavior were examples of openness to fully receiving the expression of experience communicated by another, as well as reflecting on and interpreting what others were communicating to me to make a judgment on the best way to proceed.

Each research participant signed a confidentiality agreement that included agreement for me to retain all audio files (and, although not ultimately included in the study, video files) for possible use in a future study that might include voice and sound analysis. The transcripts, in both file name and in interview details, did not include any actual names of people or organizations. The interview transcriptionists signed a confidentiality agreement that indicated they would destroy any audio files provided to them for transcription. The file names of the audio files used the random number assigned to that participant and either no names or a pseudonym, and I gave each transcriptionist pseudonyms to use in the transcriptions for any people named by participants during the interview. Transcriptionists were instructed to refer to job titles, organization names, and any other specific details in a generic fashion, and I reviewed the transcripts to ensure that they complied with those instructions. In some cases, I made such references even more generic. I used pseudonyms for participants in reporting the findings.

Efforts to Ensure the Study's Trustworthiness

The use of rich, thick description, confirmed by each participant through member checking of his or her textural, structural, and textural-structural descriptions, is an indication of this study's credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985).

Further, to decrease bias, I engaged in the process of epoché, the conscious act of opening oneself up to discovery and being ready to accept that one's own previously formed concepts may be in error or incomplete. "The classic argument of this kind, the cogito, seeks irrefutable truths by passing statements through the acid bath of doubt" (Collins, 1998, p. 858). The researcher's subjectivity statement in Appendix A provides the reader the opportunity to consider my biases as the researcher.

Husserl required the researcher to eschew the natural attitude that takes the existence of the world for granted (Beyer, 2013; Luft, 2002). At the same time, as Moustakas put it, "The data of experience, my own thinking, intuiting, reflecting, and judging are regarded as primary evidences of scientific investigation" (1994, p. 59). When we combine that personal, primary evidence with that of others, "then we know for ourselves, from our experiences of others, and from reflections on these experiences, the meanings and essences of entities and experiences in the everyday world" (Moustakas, 1994, p. 60). This combined personal and social knowing results in a true, trustworthy understanding of the phenomenon within the horizon delimited by the study. In sharing this small community's understanding in their language and experience, the researcher opens the door to further dialogue with the larger scientific community to further explore the phenomenon as it presents itself to the world of human perception.

CHAPTER 4:

DATA ANALYSIS: PARTICIPANT LEVEL

This chapter introduces the 12 participants of the study and provides their textural-structural descriptions. The actual textural and structural descriptions are omitted in the interest of brevity and anonymity. To provide data points from those documents that are relevant to and illustrate aspects of this study's findings, toward the end of chapter 5, I provide critical incident tables, summarizing energy change incidents reported by each participant.

These 12 participants were from the Middle Atlantic States, with most from the Washington, DC, metropolitan area. More than half were employed as contractors for the federal government, but some were direct federal employees. The contractor firms tended to be small or mid-sized, while the government agencies tended to be large. The government agencies involved had missions in defense, aviation, law enforcement, and health. The sample also included participants who performed work for a local government and for nonprofits. All participants were managers, and most were at high and even senior levels of management. In many cases, participants were in their second or third careers, and many had served or completed careers in the military. Occupations, past and current (building on the past), included information technology (IT), intelligence, systems engineering, computer science, medical strategy, nursing, psychology, mechanical and aeronautical engineering, and combinations of these occupations, along with project management duties. Five participants were women, seven were men, one participant was African American, one was Native American, and the rest

appeared to be European American. Their ontological perspectives had some variation, as discussed throughout this chapter.

During the interviews, participants expressed concern about inferences that readers might make that would allow the readers to guess at the participants' identities or the identities of their employer and even their work locations. For this reason, I have not provided a table of participants with details about their backgrounds, specific job titles, or locations, in case anyone might guess personal or organizational identities from the patterns of those details.

Carla

Carla was an IT manager. She had a bachelor's degree in biology and in computer science. Her first career was in a medical oncology facility, and later she began a career in IT. She had a master's degree in information systems management and was currently working full time on a Ph.D. in IT security.

Her job was in a male-dominated culture, where working longer hours (coming in at 3:00 or 4:00 AM and working until 9:00 or 10:00 PM) was valued—and few women with families can do that. It was a job that one could not discuss with others outside the workplace. She tried to offset her schedule constraints by having highly competitive credentials.

At home with her husband and her three sons was where Carla's "real job starts." Her sons were excellent scholars, especially in math and science, and were also active in sports. Besides attending their school and sports events, Carla was active in her community and her sorority. Carla was recognized as a person with a lot of energy, and she kept a busy pace.

Overall, Carla experienced energy as a life force. She experienced energy decreases as contractions into herself and cessation of activity—death. She experienced energy increases as expansions of her identity and interaction with others who shared her needs and concerns, and she wanted to nourish them. When experiencing the far, low-energy end of the spectrum, Carla suddenly crashed. She wanted to run for cover—get in bed and put her head under the covers. She constricted her horizon of capability as far as she could. When experiencing the far, high-energy end of the spectrum, Carla felt ready to take on the world and any challenge. Her capability horizons were expansive. In both incidents, the emotional reaction was quickly followed by questions, which seemed to moderate the emotion. (The sickening feeling and the size of the dust cloud diminished in the draining case, and the excitement gave way to concern.) In both cases, the questions enabled action: searching for information, planning, organizing the group (possibly self-organizing) to act in concert, and identifying and taking steps, moving in heart or battle rhythm.

The pattern, generally, was as follows: stimulus action (announcement, email sending) > emotion and physical response > cognition (questions arising) > action (searching, planning, initiating) > emotion, and so forth, repeating.

The contractions inward appeared to be an attempt to allow time and space to recover. The expansions manifested as an affirmation of self, which, because of her concern for others, became permeated by others' selves, a collective. When experiencing either this collective energy of her group or the personal, collected energy she recovered after withdrawing deeply into her home surroundings, she felt capable of taking on the world.

Steve

Steve, a computer systems engineer, had worked in computers and networking since he was a young man in the Navy. Much of what he knew was a result of his own independent, informal study, and his considerable skills came from years of experience. In addition to being proficient in English, he was fluent in his native Lakota language and in 20 to 30 computer languages.

Steve kept a busy work schedule, including a lot of travel to upgrade or troubleshoot network systems and database systems. He managed several programs and was part of a small team. He worked for a company that held contracts for the federal government. At the time of the interviews, Steve's job was stable in spite of major budget cuts via the sequester agreement. However, some of the federal employees with whom he worked were expecting to lose 20% of their income from reduction in work hours. Steve felt the impact in the worry and tension he saw in his colleagues and also in a few cases of uncooperative attitudes as a kind of resistance, such as a slower response rate on crucial work processes—lagging by a month or more. Steve was mistrustful, concerned that this study may involve trick questions or attempts to put him in an analytical box.

For Steve, essentially, energy was life and life was energy—a great sacred thing that encompasses the material and the spiritual. Competence and work were part of identity and being. As a result, life-affirming and competence identity-affirming environments and relationships were energizing, whereas life-threatening and identity disparaging or stereotyping environments and relationships were de-energizing. Seeing others' suffering and threatened survival was de-energizing. Dealing with organizational

decisions' negative impact on others was frustrating, de-energizing, and required action to stop the impact. When environments were not affirming, Steve tended to keep his energy flowing and productive, interacting as needed, but not to initiate or seek close and deep interaction and bonding. When life, competence, and identity were affirmed and trust emerged, productive relationships and deeper interactions were possible, and bonds could form.

Knowledge and competence increased Steve's sense of survival and success in a constantly changing, sometimes chaotic world. For Steve, socially acquired knowledge-building capacities, such as language, ways of seeing, and professional expertise and group solidarity/relationships, created problem-solving bridges out of chaotic states into productivity and progress toward goals. Learning, camaraderie, and efficient and effective work generated in Steve life-affirming energies that empowered branching into a multitude of possibilities and actions. Energy incidents could be predominantly energy-increasing or energy-decreasing, but each also had, to some degree, the opposite effect, too.

Scott

Scott managed disaster response emergency communications for a large emergency/disaster response organization. He was responsible for all the technology the organization deployed to disaster relief operations around the country. Typically his organization responded to 70,000 disasters a year, of which about 50 to 60 bubbled up to the point to where they needed some national assets, such as cellphones, laptops, satellite system access, and network connectivity. He also managed the training of workers and volunteers in the field. His background included a bachelor's degree in speech and

communications, a master's degree in engineering management, and a master's certificate in crisis or disaster crisis and emergency response. He had worked in IT for about 26 years, including help desk services, biomedical, and consultancy.

Scott's work could take place anytime and anywhere, and his work hours could increase or decrease based on need. He had a family; a wife and at least one child, a daughter, were mentioned. Usually the demands of either home or work could be balanced because of this schedule flexibility. At the time of the interviews, a storm, later dubbed Superstorm Sandy, was due in a few days.

For Scott, energy was The Force, "the way you get stuff done." Energy itself was neutral. Whether it was positive or negative depended on what you did with it, and what you did with it depended on your goals, your tasks, and whether those tasks were focused or directed efficiently toward the goal. When you and others were working on tasks that fit your style toward valued, compelling (for some, even challenging and hazardous) goals that were in line with who you are and where you wanted to go, energy was conserved to the greatest degree (what was used was used efficiently) and energy was even increased by the sense of competence (confidence, faith in yourself and your team) that you obtained from successfully achieving the goal. Much more energy was used, and not readily recouped even in a successful outcome, when you felt (even potentially) under attack and had to go into hyper-focus to process many kinds of tasks (physical, mental, and emotional) simultaneously while monitoring the actions of other systems.

The energy-increasing and energy-draining processes depended on the styles or preferences of the person that was experiencing the situation. Some people, like Scott, didn't feel under attack when running into a disaster area, but they did when confronted

with a sensitive emotion-based interaction. Others could be energized by dealing with human emotion-based interaction. Regardless, individuals identified with the goal they had chosen and the organization in which they served it, as well as with the people they trusted and who trusted them to help accomplish the goal.

Criticism, having no support from others, working on tasks that were not your goals and that were not where you wanted to be, and being drawn into others' conflicts were de-energizing and pulled you down. As long as your work and your goals were in sync with who you are, you wouldn't notice your energy most of the time. You would notice it when you didn't have it, or when you had it but it was not directed toward where you wanted to be, or when you were in hyper-focus and drawing on all your reserves. After a draining event, some energy could be gained from what was learned and the confidence you would bring to a future similar event—but as a part of one's being, one's toolbox, and not as energy in the present for the next task in the daily schedule. That current demand of energy would have to come from doing something that increased one's energy—that was aligned with what one preferred, with who one is.

Overall, the energy-task process benefited from having a structure, a framework and a toolbox of solutions for responding to problems, and an available and competent team who could enact the solutions. Identifying the problem so that one could respond with an appropriate solution involved asking questions, making decisions, and adapting when conditions and information changed. Demonstrating knowledge, skill, and ingenuity, and having these fully engaged and directed on solving the problem and then solving it, were energizing and reinforced energy and confidence for the next task, event,

or goal. This was who we are. It was what we do. It was what we know. It was a self-reinforcing, supporting system.

Dave

Dave, an IT systems engineer, worked as a project manager for a federal contractor firm in the Washington, DC, metropolitan area. His bachelor's degree was in electrical engineering, and he worked in IT systems software application development and consulting on such projects. This information was sufficient to qualify him for the study, and no further relevant demographic information was obtained. Dave viewed his work as solving problems: "That's kind of the basics of what the work is, is just solving problems all the time."

Dave led information systems teams on projects and also worked lead on entire projects. He was a senior manager in his company. Solving problems for the client or in making systems work better were good challenges for Dave. What made work difficult were credit-mongering or abusive leaders; technical peers from other disciplines who, in good faith, questioned his decisions; seeing mediocre performance tolerated; and seeing good performers get fired for no apparent reason.

The energy—the aliveness, vitality, and enthusiasm that people brought to a situation, a goal to be reached, or a problem to be solved—was at least in part derived from confidence in individual and collective skills learned and successfully demonstrated in the past, in part from the freedom to contribute one's expertise openly and from benefiting from others' contributions, in part from having interesting problems to solve in service of a clear goal that all were focused on, and in part from having one's identity associated with the success one achieved or contributed to achieving.

As people contributed their insights, skills, and energy freely and got a sense that they were accomplishing their mission, they felt good, and their spirits were elevated, expanded, lightened, and liberated. The energy felt like an enthusiasm "entering the space" in the group, and this conveyed a sense of a shared enthusiasm. The result was a better solution than any one person could have achieved. There was joy and pleasure in working together, and people tended to be drawn or attracted to such conditions.

Work, in Dave's perspective, involved solving problems to meet the clients' needs, and solving problems in a context of moving forward toward the clients' required results was energizing work, even though work also consumed energy. Problems that needed to be solved generated questions, and questions generated contribution (and therefore solidarity), ideas, and action. Within the limitations set by the client's needs and constraints, there was room for freedom, as long as the management structure permitted it and colleagues were aligned in strategy and were communicating clearly and in sync with one another. The memory of successful experiences was a form of stored energy, related to a sense of competence and confidence.

Disputes and conflicts in solutions were not inherently de-energizing unless individuals either tried to dominate and silence others or sincerely didn't understand or perceive the other colleagues' insights. Sudden changes or obstacles could even be exciting and energizing, as long as a path toward forward movement was discernible. Relief from constraints was energizing, such as finding a resolution to a conflict or when an incompetent or self-aggrandizing colleague or manager was fired or taken off a project.

Energy-losing experiences felt constrained, tense, fearful, and dark. Energy loss occurred when the next higher level management took all the credit for a project and did not recognize one's major contribution in leading the project or the contributions of team members. They took away the competence identity of the real leader and the team members and gave nothing in return. Conflicts in interactions with self-serving managers were intolerable. Even being aware of colleagues' pain in interacting with such managers was intolerable. Organizational dynamics constrained people in these situations from speaking out about the sense of injustice, as one could do in private life. The members were forced to work in concert with the leader, but were actually repelled from it. They tried to leave the project or even the organization and had to struggle to overcome the repulsion and work as best as possible toward the goal. Questions served to focus the energy of escape: What shall I do? Where can I go?

Conflict with well-meaning team members was also energy-draining, but not intolerable. One felt constrained in forward movement toward the goal, frustrated and angry at wasting time or churning or spinning wheels, and it could seem as painful as beating one's head against a wall and dreading getting locked in conflict. One felt that one could achieve more working alone and was constrained by organizational dynamics to work in a team. Determination energy arose in opposition to the other. However, in such cases, one also felt empathy and respect for such colleagues, which energized working to find a relationship solution.

The most extreme example of an energy-draining experience was the loss—almost like a death, a chopping off of the head (which can symbolize skill and knowledge)—of a competent colleague who was fired from the organization.

The overall image of energy for Dave was a life-enhancing or life-building enthusiastic competence for forward movement toward a mutually compelling goal or mission.

Peter

Peter was assistant director of donor collections and donor services at a very large hospital blood bank, so he worked directly with blood donors and also managed many administrative aspects of that effort. He had a staff of about 70, with two managers who reported to him directly, with the front-line staff reporting to one of the two. He also worked on determining donor qualifications and how medical history affected those qualifications. He was very heavily involved in managing the quality of care. In healthcare, patient safety and quality of care are paramount, and he was a driving force in the blood bank's quality plan.

Peter's education and training prepared him to manage a blood bank and the quality of its operations. He began his training in the medical field in the military, as a medical specialist. Before his current position, Peter was a manager of information systems and had a variety of experiences in the nursing field. During that time, he earned an associate's degree in science and a bachelor's degree in comparative literature, followed by a master's degree in literature and cultural studies. Besides his full-time day job, Peter taught English at a local community college. Peter was an avid photographer with an interest in macrophotography, and he worked professionally at weddings. He was also learning to play the violin.

The core energy experience for Peter was joy, often accompanied by love, pride, excitement, confidence, competence, exhilaration, and anticipation—a looking forward.

Joyful energy experiences were those he liked and sought, and therefore did on his own initiative, with a sense of full freedom and autonomy to express his will to enjoyment.

Part of the energy of accomplishment and increased skills and productivity was a level of pride and of identity of oneself as having a higher level of competence. It was an affirmation of selfhood: I can do it; not everyone can do what I do at the level I do it. At the working level, it involved identity with a small team. In larger group and organizational levels, energy came from being part of something bigger, but as a subsystem or connection of subsystems and not as a directly interacting, large working group, which would be draining. Nested hierarchical teams seemed to be energy-increasing, whereas large, lateral peer group interactions were draining. Teaching could be a means of expressing or renewing competence in providing it to others in development of their competence. Peter took satisfaction in the learning of his students and in the development of his subordinates. In this way, he was expanding their selves or selfhoods, something he achieved for and through them, and thus achieved an enlargement of his own self, as connected with others—growth for all. Pushing out a project to the organizational masses was also part of this outward expansion and growth energy. Momentum in a task or project had no break in energy, implying flow, but nevertheless comprised smaller milestone goals, which, when achieved, provided battery charges of energy that kept his action accelerating in crescendo toward the finish.

Some emotions verged into others. For example, excitement could become scary, from a sense of going too fast and maybe making a misstep. Innovation could verge into adventure, which could verge into a sense of risk or danger. Conditions also seemed to be able to verge into other conditions—or perceptions of conditions. For example, the

opportunity to photograph a bee could verge into the action of taking the photos, and then into evaluation and experimental action. Action itself could verge into risk of some level of cost. Anything that reduced the level of cost, such as the large-scale change of moving from analog photography to digital (itself a threshold), could remove resistance to action and therefore make transition into action more fluid. Even desired action had a level of resistance at the initial point. Oscillation, like a series of waves, seemed to be a consistent pattern, whether in higher energy having its low points, stress energy having its calm and directed points, or low energy having its high points. Goals, experimental questions, and a dynamic action that captured the attention could build a sense of need to act. Acting to fill a need, like eating to fill a hunger, could become a drive in itself. For example, Peter came to enjoy the clapping and approval, and then he searched for it.

The core low energy experience for Peter was a total exhaustion, a state of not wanting to think much, and tended to occur in contexts of fear from some perceived (even if abstract) sense of a threat to survival or in the context of activities he found tedious and routine in which he had no choice but to persist and complete. Peter procrastinated and questioned the purpose (Why do I have to?). The questioning could be a way to assert some autonomy, to make space for some sense of selfhood. He complied to reduce the drain and conserve his resources. He played games in terms of how he ordered the tasks and reminded himself of larger goals in order to manage his energy, to restore it in small degrees while doing the dreaded task. There may have been some loss of competent identity when the department's leads assembled and Peter felt moments of panic and apprehension when he didn't have some knowledge that was needed and had to depend on or wait for others to provide it. There may also have been a loss of centrality

in the group. Even in these energy-draining experiences, he learned about the dynamics of his own energy, and learning increased his sense of competence and his energy.

Paul

Paul had an executive or very senior management role in an organization that contracted with the federal government, often the Department of Defense and its agencies or other large federal departments. Paul himself interacted with potential clients to get work, and he also oversaw the work for the contract. About his role, Paul said, “The British have a very good word for what I do. They call it a fixer. I get things done.” Paul had worked as a physicist, researcher, scientist, administrator, project manager, and program manager. Administratively, Paul traveled a lot, worked budgets, and did contracts. Paul didn’t mind arduous working conditions, including lack of sleep and food. As Paul described his approach, he gave not only insights about himself and his work, but also clues about the systematic way in which he viewed human action: “If you give other people credit, you can get just about anything done”; “I don’t care what the topic is—if it’s administrative or technical or scientific—if you need it done and I’m interested, I’ll do it.” He characterized his approach as one of surfing a turbulent organizational environment to accomplish the mission, rather than the easier role of planning steps for a project and then executing it, or trying to control the environment.

Raising the client’s energy was the essential element in the work of Paul’s organization and team. Because keeping the client’s energy up was so essential to success, Paul and his team had to constantly keep their own energy up. Paul’s and his team’s energy had to kick in even more when the client’s energy started to crash or dissipate.

Paul seemed to be energized—and find it fun—to help organizations (big, bureaucratic organizations) accomplish difficult, important, and necessary goals or missions. When the goal was something he and the organization's members found repelling, he looked to ways to redefine the context of the goal so that it became more desirable. In other words, Paul seemed to be energized when accomplishing hard things for a good, worthy purpose. When he did so, he "feels good."

In this light, the self-determination theory needs to which Paul subscribed—competence, autonomy, and relationship—made complete sense as essential to such huge undertakings. Paul and his colleagues had to be competent in the processes bureaucracies follow, in addition to any technical competence involved in the project. Paul needed to have strong, trust-based, energetic relationships with his team and to develop such relationships with key client organization members. And Paul needed a broad level of autonomy in deciding the best strategy to use with the client to achieve the goal—and do it in a way that allowed him and his team—and the client—to have fun/energy in the work.

The pattern of learning, knowing, doing, developing confidence in achieving and in close trusted relationships, and exercising freedom to be creative was in place in Paul's life through all or most of his career. In his family life, he had developed strong enough and deep enough relationships to support him through great grief. This suggests a fractal-life or a series of complex, intertwined spirals of freedom to explore, competence in solving problems, and confidence enough in his social relationships to take risks and try new things. When this dynamic was fully available to him, Paul could "live" in the environment.

When any element was removed—especially autonomy—Paul felt frustration and even anger until he found a creative way around the barrier. Typically the autonomy of Paul and others—including client members—was threatened or blocked by self-important leaders. Wasted resources (time, effort, budget, etc.) were also frustrating, as they took attention and resources away from the goal. When his closest, deepest needs were not met—such as the ability to experience the joy and love of one of his closest relationships, his daughter, through death—the energy loss was so great that he had difficulty catching a breath. His normally strong, energetic, and rapid conversation became very quiet, staggered, and strangled. His gestures became tense, tight, and close to his body, closer to the ground. When he spoke of reaching out to another deeply close relationship, his other daughter, his breath and his energy returned. He came "back to life."

It was not enough for Paul to have his essential needs met. He wanted to live in an environment of energized people who also got their needs for autonomy, competence, and connectedness met. And he and they also needed—as part of the competence and relationship—to experience success in achieving worthy goals: worthy for the larger social network and challenging enough to be worth their effort. The success and accompanying sense of competence gave a sense of confidence. Correspondingly, Paul's voice tone and gestures were open and expansive. "Can do" carried with it a sense of freedom and expansion. Each need met reinforced the meeting of the other needs. The toddler who learns to walk is then free to explore the world more fully. Competence in surfing chaotic bureaucracies and a network of leaders who trust your competence results in those leaders trusting you with broad discretion. They open their minds and organizations up to your advice and even direction.

Paul energized his employees and his client organizations by giving them autonomy and tasks that were challenging and interesting but within their competence. When they didn't know, he helped them or got someone else to help. He treated them with dignity and respect, so that they trusted him, just as Paul's clients did. He seemed to be mastering management of not only his own energy, but the energy of other individuals, and the energy of systems of individuals—organizations, giving all of them the caring and discretionary space and the tools to "live."

Pat

Pat was a manager of managers and a variety of contract efforts—a leader of many teams—in a consulting business whose revenue was based on contracts with federal agencies. Her previous background included nursing, computer and medical technology, and teaching these topics. At the time of the interviews, Pat suggested that her company, which had been laying off employees in small increments, would need to lay off an even larger number, and that she would soon be among them. Her company was getting less work, and the work it did get was for a lower amount, so that people were hired at lower rates with fewer qualifications. Also, as workers retired, they were not being replaced. This created much more complexity for project leaders like Pat, who managed more than one project and now had teams that were a mix of her company's workers along with subcontractors from other companies. Everything about her work was changing. She always had more work coming. Now, she had to go and find projects to work on. It was constant salvage mode.

The company was making incremental layoffs in a gradual, stepped-down level of work activity. But the uncertainty was its own form of "torture": "You don't know when

your number's up." Watching others get laid off was part of the torture. "It's emotionally very unsettling. As of yesterday, I had no charge code [laugh]. In a consulting firm, that's a bad, bad place to be." Pat had always had top performance ratings and was in the company's inner circles. With her children transitioning into college and the changes happening at work, Pat felt like she was burnt out, in a gray, overshadowed world, in a black hole, hoping that "there's the sun out there somewhere, and I will surface out of this."

Pat's sense of energy gain and loss revolved around a feeling of good or bad—whether from a moral or a pleasure/pain point of view was not clear, but the requirement of meeting a human need implied a moral perspective. From an environment of uncertainty and job insecurity and in the pain and ghostly presence of colleagues losing their jobs, Pat retracted into a disengaged, tense, stressful, structureless, colorless "black" hole of uncertainty, grief, and drained energy, feeling that her competence and performance were no longer valued. Through self-conversation and dialogue and asking others, Pat searched for resources that would clarify her direction, her path forward, toward her life-affirming and human need–connected goals and give her a sense of competence and confidence to take the structured action steps. Relationships with others were an essential dynamic in these need and confidence processes. Safe relationships with competent others who also affirmed one's own competence result in a high confidence of success. Pat's energy increased through this process, and she relaxed, breathed, listened better, and felt her vital signs improving (heart rate, etc.). She saw in others the pink glow of blood flow and good health, with everything in sync. She moved outward, upward, and into action, moving from one task to the next productively, with a

rhythmic sense of marching. Overall, she described a lack of energy in terms of badness, death or ill health, colorlessness, or a gray blurry zone. She described high energy in terms of good health, life, and good. It fed her soul.

Elizabeth

Elizabeth currently worked as a contractor in a consulting firm that, like many consulting firms in the area and in this study, did work for the federal government. Elizabeth's firm, too, was experiencing fallout from budget cuts and the sequestration of funds in the federal budget. Consequently, Elizabeth's work lately could be a short-term gig for a client, followed quickly, if she was lucky, by a different project for a different client in a different agency or industry and location.

Elizabeth's educational background was in nursing and strategic analysis. Prior to working for the consulting firm, Elizabeth worked in health and safety-related fields, was in an armed forces organization (active and reserve), and worked directly as a federal employee. Whenever she moved into a new job, it was always something related to but different from her previous job, and the new job always brought her increased salary and stature. Elizabeth had worked as a contractor for several different federal agencies.

Elizabeth was one of several participants who provided a more generalized conversation about energy experiences and was less detailed about specific incidents. Elizabeth expressed strong concern that giving details about incidents where she was interacting with a client was too risky, as it might violate the confidence she had to keep about her client and the business. Without giving specific details, however, Elizabeth was able to describe some work incidents and to trace for me various aspects and steps in her

energy experience. Her insights were informed by work she did in her personal life as well.

Elizabeth was a strong introvert whose system demanded autonomy of time and space for downtime and recharging, the autonomy to think her own thoughts and do what she wanted. When she was energized enough for social interaction, she sought opportunities to be with those she wanted to be with, and whose norms and mores she knew well. Although she said she gained no energy from being with people, even dear ones, once she reached a lonesome state, she felt depleted, suggesting another type of energy, which she had to pay a self-energy in order to get. She needed to reconnect with life, with the world, with people or something living, such as her dog, or a fish, if there was no other choice. This connection energy must be a need, but it also de-energized her the more she had to interact and therefore process stimuli. The self-energy—personal energy—cost was higher the less she knew the group and their norms and mores; she had to expend more energy to notice, learn, and consciously express.

Elizabeth wanted to have and maintain a nice home and to have enough income to save for a good retirement. To do that, she had to obtain and hold a good-paying job, even if she had to "buck-up" and stand on her head and bark like a dog to hold it. Bucking up was a compartmentalization process that required moving aside emotions that called on her to stay in bed so that she could focus on completing whatever task was required for her job. However, when her job required her to tacitly collude with or be the brunt of unethical, unfair, or rude, constantly criticizing interaction, Elizabeth was de-energized and began to fear that she could no longer buck up and do the work required under those conditions. These internal standards, which she held as part of her identity

and background, if violated, eroded her sense of self, well-being, and energy. Positive feedback, such as praise for a job well done and for the contribution she and her consulting team brought to the project, made Elizabeth happy, filled her with a sense of well-being, and energized her—making her ready and wanting to do more work, to achieve more, because now she had confirmation and confidence that she knew what the client needed.

High energy was warm, light, and buoyant, made her feel on top of things, and prompted her to move out to interact. Low energy was sad, cold, overhanging, pulling back into her home base and into her body, whining to be in bed. Once she recognized her low-energy state—which could include a sense of surprise—she used self-questions ("What are you going to do about it?), came to a decision on her goal(s), and then created a plan of action. She executed the action, accompanied by self-talk and self-coaching, as she moved on the path of action-achievement touch points.

Keeping a clean and organized home, with all her personal affairs such as bill-paying in order, was essential to keeping her home a sanctuary in which she could safely and fully recharge her energy, rejuvenate, and be prepared to resume her work week or engage socially. If the tasks piled up, Elizabeth felt encroached upon by chaos and overwhelmed with anticipation of the work that would be required to restore order. She felt depleted, de-energized, and unable to breathe. Once she set aside a portion of the mess and worked on clearing and ordering it, Elizabeth became more grounded and calm, energized by the accomplishment, which enabled her to do more cleaning and organizing of the next portion. Once everything was in place, Elizabeth's grounded and calm state was steady, and she felt rejuvenated.

Elizabeth's need for a clean and orderly personal life was a sense of moral rightness, a standard that validated her sense of self-worth and identity, originating in the social environment in which she was raised. It was reinforced because following those standards helped her plan and step out actions toward her goals and then execute those actions. If she didn't maintain these processes, bad things happened. When Elizabeth experienced energy loss from anger or lack of knowledge and social tools, she could also manifest the loss in physical reactions, such as tension in her jaw or arms and intestinal discomfort.

Nancy

Nancy worked for a company that performed work for other organizations under contract—a contractor. Her company brought subject-matter expertise to bear on the problems faced by client organizations. As is the case in the Washington, DC, metro area, frequently the customer was a federal government agency. Nancy had been trained as a nurse. After years of experience in clinical nursing, including managing a nursing unit, she provided consultation mostly to healthcare organizations. Nancy assisted the client in identifying the best solution for their problems and devising the best way to effect the solution. Nancy also had safety and health emergency responsibilities in her company.

Besides taking part in the two interviews, Nancy also submitted a one-page write-up, "Increased Human Energy in the Workplace," in response to the intervening activity element in the study's data collection. The content of the write-up was discussed during the second interview, and that discussion was part of the transcript.

Cognition, energy, emotion, and identity were closely intertwined in Nancy's conceptualization of human energy. Nancy's identity consisted of her education, training,

and experience as a nurse, as these formed her concepts of energy and also informed her work. Her spectrum of energy—from black (death, standstill) to green-blue (good, fulfilling, exciting, pushing the body of knowledge forward, health- and life-enhancing work) to red (highly stressful, not good, feeling of potential doom in the pit of the stomach)—implied that ideal human energy lies in a healthy and life-supporting cool, calm middle between two extremes. In her body language and speech actions, speaking of tension and fear stiffened and reduced Nancy's movements, while describing accomplishing goals, increasing knowledge that benefits health, and verifying and validating one's existence and one's work caused Nancy to make animated, cheerful, excited gestures. Feeling good about oneself and one's work gave strength and structure and meaning to one's life. Energy was best expended using one's wits and feelings to build others' health and self-concepts, and Nancy's very self-concept as a nurse was health-centered, life-centered. Energy expended at work needed to be cool, calm, and efficient toward achieving the goal—a healthier life. A sign that it was not efficient would be intrusion on her home life and her family.

Nancy had seen others psychologically near death through depression and grief, and had seen them physically near death in the intensive care unit. Her metaphors and analogies, as well as her definition of energy and the contexts that energized her, indicated that energy, for Nancy, was the life "force that propels us forward to act" and that nonaction was an indication of approaching death, zero energy. When a human being's life was threatened, other human beings must act with proportionate energy, using all their relevant skills and procedures to revive the person to an energetic life-filled state. This perspective highlights autonomy (to take action), competence (to make a

difference), and relationship (to connect to those in need and those around us, including family). The encounter could start with surprise or shock, but Nancy managed those and focused on the goal of life-saving. To do that, she asked questions of herself and others to assess the patient, the situation, and the environment, and she used self-talk, such as going over steps and procedures, and tools, such as checklists and instruments, to work efficiently and protect or restore life. These actions could be automatic, part of her identity even at an unconscious level, since "it's what nurses do," and achieving the result further reinforced that identity energy and the emotion (and emotional control) and cognition essential to it. If something didn't hit the mark, Nancy felt she owned it, too. She felt rejected at first, until she turned her self-identity to the task of fixing it—restoring it to health.

Ken

Ken worked for a contracting firm focused on aviation technology and engineering, located in the Middle Atlantic States. He was educated as a mechanical engineer and worked in that field in private industry and, as a government contractor, in international and domestic settings for both small and large corporations with defense and civil work. He especially appreciated the diversity of cultural and work experiences that his career had afforded him: "It's been a great career. I've enjoyed it. It's been diverse, and the cultural experiences that I've been able to enjoy and appreciate—and the different perspectives of different customers." His specialty was systems engineering, which traditionally included "more electrical engineering, computer science or information systems." He currently worked with large information systems as a program manager. His company's product was engineering services—hours, people. Ken's

company coordinated its work with other contractors, under the direction of federal management.

An important context for Ken's energy incidents was the occurrence of Superstorm Sandy, which caused major damage to homes and businesses along the Middle Atlantic States and the Northeast Coast of the United States. Ken's home was seriously damaged in the floods, storm surge, and winds. He and his wife had been living with friends at the time of the interviews because their home needed extensive gutting and repair, which also had an effect on his energy.

Energy, for Ken, was a feeling a person can create—a culture or an environment—that leaves a residue of influence on others. They will either feel good about you (positive) or bad about you (negative). In his expressions of his own energy and what he observed about others' energy, Ken distinguished chaotic nature, life, as turbulent, with shades of gray and not always clear right-or-wrong answers, with a laminar energy, which is what engineers prefer. Laminar means *smooth*—action that is less disruptive or turbulent, more efficient, with less loss. Positive energy, as Ken described it, is like Stokes flow, like a sphere through a smooth liquid in a tube. It's natural, not forced. Forcing something creates turbulence, eddies, friction, and heat. When the turbulent, unpredictable forces (human or natural in general) coming from outside were beyond Ken's control, he felt an inward pulling of his energy. If the external forces were strong on him or on others he was interacting with, he felt a sense of weight on his shoulders, a compression, pushing inward from the shoulders through the torso and into the pit of the stomach, where a knot formed and a sick or uncomfortable feeling may be felt. The overall effect was a draining of energy.

Ken used questions and conversations (sometimes with others and sometimes internally) to understand what was happening and how he (or they) could best cope—be healthy, survive, grow, expand. Knowledge and competence were both tools to growing and expanding and meeting goals. Growth was accomplished through laminar planning (potential energy) and laminar action (kinetic energy). Internally, laminar action involved reflecting on physical, emotional, and thought experiences in connection with infinite warmth and love (heart), generating (inward outward) ideas for expanding and growing, and acting with others toward goals that were healthy and sustaining—whether for the work objective (such as customer success) or for personal living (such as recovery from storm damage, protecting one's assets, saving the lives and full human function of a cardiac arrest victim or children and families living in poverty). Externally, laminar action involved working with others through trust-building interactions (conversations, tasks) that were two-way, empathetic, and tested for assumptions and clarity toward shared goals that aligned with shared or complementary values.

Turbulent forces could come from human interactions as well as nature. Getting distracted from the goal or the task at hand was one example. Trying to impose one's opinion on others outside the bounds of one's work-related authority or role was another. The forces of humans in society could also bring turbulence that moved the society from its goals or blocked the path. Examples were a legislative body that failed to do its job and take necessary actions to preserve the well-being of the society, or destitute poverty that left a society without the resources to keep its members alive, healthy, and learning.

A possible spectrum based on Ken's energy system would be chaos and turbulence on the energy-draining end of the spectrum and a laminar flow of collective

human energies aligned toward the health, growth, and expansion of each individual and the organization, community, species, and possibly planet on the energy-enhancing end of the spectrum. The laminar action would be self-reinforcing, so that energy acquired through action and accomplishment would exceed energy expended. The collective human energy would be expressed as joy, happiness, learning, expression, sharing, harmony, peace, and ineffable love.

Michael

Like many of the other participants in this study, Michael worked for a contracting firm in the Washington, DC, metro area. He was a high-level subject-matter expert in computer technology and had no interest in management. He did work in teams and had led technology teams. Michael had a Ph.D. in computer science and spent over 20 years teaching and researching at the university level before shifting his career into the private sector. He had a strong scientific background. When these interviews were conducted, Michael was finishing a phase of his research and was between client gigs. While he enjoyed learning and working to solve difficult technical problems at his job and was always looking forward to new things to do, in his personal life, Michael preferred to be outdoors and work with his hands using natural materials. Outside of work, Michael avoided the world of technology.

Like other firms that did a lot of work for the federal government, Michael's employer was facing the need to be more competitive in an environment of revenue constraint as a result of the sequestration of funds in the federal budget. Being between projects was a tense experience. Michael knew his company was working hard to submit proposals for a variety of projects. In spite of the constraints, the company had invested

in computer technology and hired more high-level experts, betting that the near future would demand this capacity.

The investment into more advanced computer technology was indicative of a new role Michael's company was taking on. In addition to being a contractor that assisted and advised the government on what projects to undertake and on contracting with other companies to execute those projects, Michael's company was moving into deeper analysis and prototyping, possibly even executing cutting-edge projects. Although he was uncertain of his company's direction and his place in it, he was beginning to be more optimistic about future trends.

Energy, work, and learning were dynamically intertwined in Michael with his identity as a human being and as part of a larger living system. He defined energy as drive and lack of energy as stall. Physical human energy was impacted by emotions. Excitement increased physical energy, while depression or feeling down decreased it. Work, for Michael, was activity driven by some kind of necessity. When the purpose of the work was also one's personal purpose, then work was also play, or fun. Michael sought more intense being through developing knowledge and skill to do ever more complex and challenging things. Michael felt most energized when working in unison with others who were competent and good and who interacted in coordination, focusing on achieving meaningful goals that furthered human life and well-being, and learning about interesting things in the process. This was fun and was life at its most exhilarating.

Between goals, when Michael had no clear direction or path, he became disoriented, distracted, and drained of energy. Between work goals, Michael felt vulnerable—deeply insecure. In this state, Michael's very rest was undermined, and his

mental acuity—what he valued as an essential attribute to his survival and his contribution to others' survival—was scattered. He felt bogged down, like he was not valued, like he was nobody.

Michael applied what energy he could muster in such a state to finding a new goal, finding new work that he could feel driven to do—feel passionate about. In his identity as a scientist, he took initiative to advance his participation in furthering knowledge. At his own expense, he took training, bought and practiced with software, and kept abreast of what was happening at other organizations that had projects in his field and the scientists who were working on those projects. While he was attracted to remaining with his current company, where they were investing in the technology and seeking work that Michael found most energizing, he was ready to go elsewhere, if needed, to find energizing work in an energizing environment. Michael had repaid his company's investment in him by producing intellectual assets for the company, as well as building organizational capabilities.

As a human being, *homo sapiens*, and a scientist, when Michael encountered puzzling situations, he asked himself questions and reflected on possible answers and outcomes in self-conversations or by imagining how conversations with others might unfold. He also used his imagination to consider possible organizational, industry, and economic scenarios. He was introspective in terms of recognizing his own emotional, mental, and physical processes and how they interrelated, and he could articulate them to others. He was aware of possible subconscious factors. He observed the behavior of others and developed plausible reasons for them, including his own behaviors as a

possible contributing factor. Michael and people like him epitomize the connection between science and human "being."

He cared about his own well-being and that of his family, his colleagues, and all humanity. As a living human entity, he sought the safety of relationship with these others—like a centripetal force, but driven by a conscious effort and desire. Trust was essential to his sense of safety and required that others cared about his well-being and trusted him enough to confide in him and to share information with him. Advocating for others (attesting to their expertise and referring opportunities to them) was one of the ways that Michael demonstrated his concern for the well-being of others and respect for their capabilities. In his working relationships, he wanted that same advocacy extended to him by his colleagues, especially by his managers. Living beings, generally, seek safety and growth through community with their kind. This is, essentially, a social desire for centrality. His effort to be essential was a manifestation of this desire for centrality and better chances of survival. When the community environment was abusive, brutally critical, unrealistically demanding in results, expectations, and timeframes, and otherwise antithetical to life, Michael was repelled from the environment—like a centrifugal force, but driven by a conscious effort and desire.

Michael sought balance in his life between his indoor machine-driven work and the outdoor world of living nature, both of which energized him, and where hard work was fun. He was centered on life—especially, but not limited to, human life. His essential identity was as a knowing and doing being capable of changing the environment to further life, especially human life.

Wendy

Wendy was a clinical psychologist in the Washington metropolitan area with experience in emergency mental health. At the time of the interviews, she was contracted to serve as a police psychologist for a large county police force. Her Ph.D. was in clinical psychology. She supervised a mobile crisis intervention unit that went out into the community, responding to mental health emergencies, regularly working in concert with the police as first responders. She also worked for 10 years on the hostage negotiating team. Wendy's work as a police psychologist began at a time when the role was less common.

Wendy had a partner in her psychology practice. Her work included conducting training as part of wellness and prevention programs, as well as therapy. The training focused on preventing stress-related physical and mental illness, such as cardiovascular disease, depression, substance abuse, posttraumatic stress syndrome, and suicide, all of which were high among police officers generally. Through Wendy's experience in emergency room interventions, she worked in concert with police officers in their interactions with people in crisis from mental illness. This provided her with some familiarity with scenarios police often encountered in their public safety work.

Wendy experienced energy as a vibration—a wave field that a person gives off that is perceived by others. Aware of herself as an energy source—including physical, emotional, and mental energy—Wendy also perceived the energy vibrations of others and imbued them as good or bad, positive or negative. When Wendy perceived an energy vibration as good, she was attracted to it, and she was repelled by bad or negative energy. Good energy was life-supporting, life-celebrating, and life-healing energy. Joy,

excitement, enthusiasm, and physical action were expressions of feeling more alive and could make Wendy and others feel alive through a contagious effect. Life energy was warm. Bad energy was trauma, loss, and death. Grief, ridicule, pain, and stress were expressions of death or death-risking experiences. Death energy was cold and rigid.

In a good energy situation, Wendy found herself in rapt attention, riveted to the center of action. She lost awareness even of her own physical comfort or discomfort. She mentally moved into other times and places—from distant, unknown places to close, familiar places and from present to past and from present into future. Vicariously living through the traumatic events of others, empathizing with them through the empathetic descriptions of the instructor, Wendy brought into the present, to carry forward into the future, insights and techniques that she could use to help clients. Wendy felt connected to the others in the class, who were also in rapt attention, struggling to get their notes down and interacting with the instructor to clarify a point and to be sure they understood. One person who drew attention to himself and his own stories became a distraction—not in alignment with the others who were focused on the instructor.

Wendy was drawn to learning about the human brain and how it functioned in change and in recovery. It excited her to learn more about its mechanisms and how to trigger them. This learning was a form of learning about the self—as an individual and as a human being. It added to her tools, to what she could do and what she could empower others to do to maintain or regain their mental health.

Wendy affirmed that energy is transmitted from a sense of connection, including but not limited to physical contact. Grasping connections in ideas or rapport in relationships among people were examples of energy waves creating a closeness, a

centrality of energy. Thinking about an experience could bring into the present some of the energy of that experience in physical, emotional, and mental manifestations. Wendy reacted to energy that affirmed others as good energy, whether human or other. The implication was that Wendy identified with the humanness of others and their needs to be whole and fully alive. She was repelled, left cold, by those who rejected other humans in some way. Even for those from whom she sensed or to whom she attributed bad energy, she showed kindness and tried to build good relationships or have good interactions with them. Wendy's work and her approach to energy were in synchrony—they resonated—because she was helping others to heal and to improve their own mental health and that of others, and, at the same time, she was learning more about living, changing for the better, and thriving. Wendy attributed much of her approach to life to her work—having brought to her face important life issues, such as its fleeting nature. Action (energy at work) could bring healing. Bringing people through a traumatic event and its toll so that they could return to work was a healing process. They then could be examples to others and to the organization—helping the organization and the work itself become a source of healing, life energy.

Conclusion

The textural-structural descriptions presented in this chapter represent the invariant constituents and themes of each participant's experience, phenomenologically reduced to their meanings and essences. The next step in the transcendental phenomenological method was to develop a composite description of the "meanings and essences of the experience" of human energy in the workplace as revealed by the entire

group through their individual textural-structural descriptions. Chapter 5 presents the composite analysis.

CHAPTER 5:

THE MEANINGS AND ESSENCES OF THE EXPERIENCE OF HUMAN ENERGY AT WORK

In this chapter I discuss the key findings from my analysis of the data collected in this study—a synthesis of the essences and meanings of the experience of human energy at work, as gleaned from across the sample of participants. Many rich insights emerged, and many of them overlapped one another as the participants communicated them. This chapter addresses the major themes that were common or universal to the participants in the sample (Moustakas, 1994). These themes included definitions of energy, descriptions of energy, energy in relation to work, sources of energy gain and energy depletion, and metaphorical essences and meanings of energy. Although the meanings and essences of any experience can never be fully plumbed, in Appendix H, I provide a composite textural-structural description of the experience of human energy in the workplace from my vantage point as a researcher at the time of this study, based upon my intuitive reflection and imaginative exploration of the experience as described by the participants. (Note: In this chapter, unless otherwise indicated, italics are added for my emphasis.)

Defining Human Energy at Work: Intuitive Integration

The primary research question in this study was: How do individuals define and describe human energy at work? While all the participants found the concept of human (or personal) energy in the workplace to be meaningful, they often needed to think through a definition, sometimes first giving examples and then describing it based on those contexts. Sometimes a sense of the participant's definition would arise in the

context of a process or incident. Nevertheless, there was overlap and some convergence across the definitions, all of which fell into a consistent cross-sample horizon of defining the phenomenon. Thinking of a horizon, the definitions that most overlapped would coalesce around the central point of the horizon, with some definitions positioned further from that central horizon point.

There was not one defining word or phrase that was common to all participants. However, among those who gave a definition that aimed at an essential meaning, the definitions centered on life or being: life, vitality, feeling of aliveness or feeling a little more alive, a state of being. The definition also included a sense of being authentically who one is ("who I am"). A more descriptive definition that several participants used was based on energy as a force field: the Force, life force, force that propels us forward to act, an aura one gives off or senses in others, drive of motivation (as in impulse to act, not rationale), a vibe, a buzz, a feel-good place, a good heart, infinite warmth or glow. The latter phrases carried moral meaning, as well. In expressing energy as a force field, one described getting caught up in or feeling part of "it"—something beyond oneself. This group of definitions included a universal field: a "great sacred thing" that is in "everything and anything" and was both the source and the product of life.

There were other ways that participants described energy in their attempts to define it or communicate the experience. These various approaches to defining human energy were complementary and can be seen as extensions from the central essence horizon. Life, being, and vitality naturally gave rise to action and were indicated by action (function). The lives and actions of others had an influence on the individual, and the individual's life and actions had an influence on others, which constituted a field of

influence. The emotions and physical body expressions of energy were a logical consequence of aliveness, a tendency toward action, and a field of influence.

Participants' definitions of human energy tended to be multifaceted, so that no participant's definition and description included all the possibilities, but rather some of them. Participant reports included, to varying degrees and combinations, statements about the essence of human energy; the mental, emotional, physical, or spiritual aspects of the experience of energy; functions of energy; and a description of energy.

Defining Human Energy: Descriptive Characterizations

In the context of life energy in action, participants frequently defined and described energy on the basis of how they used it: to make a difference, to nourish, to get things done, to achieve a desire or goal, to make people feel good. Still other definitions gave an experiential perspective (how it felt physically or emotionally). Energy was experienced, for example, as confidence, pride, competence, joy, happiness, passion, love, liking, wanting to, enthusiasm (and enthusiastic to get to work), fun or play, feeling good (pleasure or moral benefit), (wildly) excited, permission, few boundaries (sky is the limit), empowerment, wonderment, a sense of interest (in something), strength, capability, control or management, harmony, peace, trust. The descriptions the participants gave of energy presence were focused around life in its healthy optimum state, acting efficiently focused toward a stimulating, challenging, and meaningful goal.

Descriptions: Flow. In some such cases, participants also reported a state of flow (e.g., Ken's description of smooth, laminar flow as opposed to turbulent flow). Other examples—such as Steve's report of flowing along in his normal daily routine, Carla's preferred steady state of energy (rather than high or low energy), and Nancy's green or

blue calm, smooth energy—hinted at a day-to-day preferred normal state, where a path of least resistance helped conserve energy. Flow, as they described it in these contexts, was not a high energy or entrained state of focus. It struck me, in their descriptions, as a "keep on keeping on" state.

Descriptions: Energy that peaks, then depletes. Some participants discussed high energy states in their energy-draining incidents. Such energy was not a low or no energy state, yet it was also not a focused or efficient state of energy. Rather, energy arose quickly to meet a need or to address a threat or indignity, but left the individual feeling extremely depleted or disoriented. Participants described this energy manifesting as impatience, struggle, conflict, frustration, confusion, anger, irritability, anxiety, tenseness, always on guard, and adrenaline surges. This type of energy emerged in incidents in which some form of threat or indignity was present and, while temporarily energizing, eventually led to a drain in energy, often rapid in onset. Emotion-based language examples included references to tasks that "I hate doing," or are "painful to do," thinking about how events were trending and "dreading going down that path again." Some participants described a work environment as "intolerable," "I wanted so badly to get away from there," or "I needed to just get out of there." Other deep expressions of emotions were accompanied by physical manifestations, such as, "I'm really, really bad about that" (and visibly had trouble catching a breath or speaking audibly) or "I'm in a bad place." The latter emotions about "being bad" suggested a pain-based (and, possibly, a moral) factor.

Descriptions like "groveling" also indicated a diminished sense of self. Physical experiences symptomatic of peaking-depleting energy included headaches, listlessness,

bad color, a heart rate that was too fast or too slow, or insomnia. Considering the data collected across the sample (e.g., Steve, Wendy, Michael, Pat, Paul, and Dave), death and loss in others could constitute an energy decrease (often preceded by a shock or psychological trauma) for individuals observing it, even if they didn't experience the loss directly.

Also indicated in the descriptions and processes was that when energy was expended in response to a threat to self, including others with whom one identified, that emergency energy was depleting, and, once the incident was resolved, required a period of rest and recovery before work could be resumed. The resolution sometimes required leaving the project or leaving employment with that organization before recovery could occur.

The low energy resulting from a peaking-depleting energy experience was difficult to sort from low energy that was simply the result of working hard and having one's energy temporarily depleted. Some low-energy states following depletion seemed to have a continuously draining effect, such as severe depression, as Nancy characterized based on her nursing experience with the mentally ill. Some descriptions of depleted energy, such as giving in, implied the possibility of a latent peaking energy. For this reason, there could be some overlap or some wrongly sorted descriptions among the peaking-depleting and low-energy descriptions and graphical illustrations.

Descriptions: Lack of energy or low energy. Defining lack of energy was a challenge. The definitions often described an energy-losing process or state or a decrease in energy rather than a lack of energy. Also, in defining both energy and lack of energy, the participants often took a functional perspective (what it does for me) or an

experiential perspective (how it feels physically or emotionally) or both. In working toward a statement of the essence of lack of energy, participants tended to use circular language: no energy, zero, state of nonaction. Some addressed it from a perspective of personal identity (identity of others), social, collective identity (defined by group memberships), and self-identity (awareness of one's own identity) (McKendree, 2010), such as "taking me farther away from who I want to be"; "it's like I'm nobody." Some definitions were goal-focused or teleological: without meaning or purpose; without a goal, wasting time; unproductive.

In counterpoint to the function-based definitions of human energy, participants gave dysfunction-based definitions of lack of energy: not able to function on a normal basis or accomplish tasks; "I just don't have the energy to do that"; "You're just without energy, without the ability." Phrases like "not there" suggested a diminished sense of self, in addition to low energy. Some contexts conveyed a sense of inadequacy to a presenting need, and others were more global, representing a lack of capacity. Most strongly and commonly, participants described lack of energy in association with death, threat, and lack of control over the forces that could threaten one's healthy, happy, and successful existence.

Dichotomous Dimensions of Energy

Participants tended to describe energy dimensions in dichotomous pairs. Some of the dichotomies that arose were positive and negative, calm and anxious, laminar (smooth flow) and turbulent (chaotic flow), productive and wasteful, focused and distracted, life-furthering and death-threatening. By design, this study sought examples of increasing and decreasing energy incidents at work, resulting in many examples of the dichotomy of

increasing energy and decreasing energy. In this study, therefore, the collection of other dichotomies beyond the targeted increasing-decreasing dichotomy was not exhaustive or systematic, but merely illustrative. The examples in this section do, however, provide some sense of the variety of energy dimensions that emerged in energy descriptions from one participant to the next.

Dimensions: Positive and negative. The most common dichotomy was mention of "positive" and "negative" energy. However, participants often had differing descriptive distinctions and perspectives in regard to what the terms meant to them, and sometimes what an individual meant by positive or negative would vary by context. Some participants assigned the positive label to energy-increasing events, while incidents with an energy-draining effect got the negative label. Steve was an example. Steve described experiencing bursts of energy or sparks of energy in learning new things that he had been aware of but didn't understand before, and he characterized such experiences as positive: "Positive is anything that feeds my mind and keeps me progressing forward, as defined by the society." Whenever he learned something new, at "the core part of it are those little flashes of light that propelled me on to the next level." A sense of competence (or even pride), wonder, and victory was conveyed in his clarification: "The empowerment came from—that's it? Is that all there is?" A negative context for Steve involved empathetic pain: "I can feel the pain of others." The pain was associated with loss of resources or capacity: "I see people that are going to be losing their capacity to move forward in certain aspects of life. It's like a drop in my psychological well-being." Even though Steve himself was not affected by the same work environment factors, "in their attitudes and the emotional stability, I can see the diminished capacity."

Some participants who talked about positive and negative energy spoke more in terms of equating positive with good and negative with bad. Some equated positive with pleasure and negative with pain. Still other participants talked about positive and negative energy in terms of goals. For example, as previously mentioned, Scott related positive and negative energy to goals and identity: "So if I were to define positive energy, it's like: What's your goal? . . . Negative would be things that would take me farther away from who I want to be." Dave also explained positive and negative as related to the goal—or the mission. Some participants, though, disputed the idea of good or bad energy. Their view was that energy was neither good nor bad. It all depended on what one did with it and how one evaluated the outcome.

Often, there was a mix of meaning in the way the terms were assigned, as illustrated in Dave's descriptions of positive compared with negative energy: good emotions or bad emotions one time, and at another, elevated emotions or depressed emotions: "feeling good," "feeling more vital." It "has to do with elevation of spirits and a shared pleasure or joy in the human interaction." There was a consistency in how Dave reported positive energy. On the other hand, negative energy could mean "depressed and disturbed by a situation" or "anger or hostility or conflict"; in the latter context, people have "*just as much energy*, but that causes quite a difficult human exchange." Dave saw both the low state of depression and the high energy conflict state as negative.

Other dichotomous dimensions. Very common across participants was the report that one gains energy doing what one likes to do or finds interesting and loses energy doing tasks one does not like to do or finds uninteresting (e.g., Scott, Paul, Pat). This represented the dichotomy of interesting (high energy) vs. uninteresting (low

energy). Examples of other dichotomous dimensions mentioned by participants were laminar (smooth) or turbulent (chaotic) flow (Ken); drive or stall (Michael); structure or formless (Pat); in order/grounded or chaotic (Elizabeth); toward or away from goals (Scott, Dave); and static or dynamic and high or low key (Wendy). Other dichotomies were implied in participants' descriptions, often with one half of the dichotomy named and the other implied. For example, more than one participant mentioned well-being (e.g., Michael, Ken, Steve), implying an opposite of unhealthy or even life-threatening. Tension or relaxation was observable with all participants in varying degrees. Some participants specifically mentioned calm energy (e.g., Wendy, Nancy) and nervous (Scott) or tense, stressed energy (e.g., Ken, Pat). Vitality or life force was mentioned (e.g., Dave, Nancy), implying but not mentioning death or life-threatening as an opposite.

Contexts of Energy

Participants often talked about types of energy. Some talked about physical, mental, and emotional energy (e.g., Michael, Elizabeth, Paul). It is possible that the body, mind, emotions, and, for some, the spirit may be sources of energy, given the way they emerged in the energy-gaining and energy-decreasing incidents. Given that these aspects surfaced in related contexts, they were more contexts of energy rather than distinct types of energy. For example, while Carla talked about energy as a mental state when she needed to be analytical and resourceful, she also described emotional states, such as being excited or wanting *everyone*'s job to be saved, indicating energy experienced in regard to an emotion-laden context. Michael talked about how emotions can affect one's physical energy, implying that as energy comes into experience, emotional contexts can affect the degree and nature of the physical activity.

Also, as mentioned above, participants reported that doing tasks aligned with one's preferences or learning something one found interesting was a context of energy. Similarly, doing tasks or learning topics that participants found less preferred or uninteresting was tedious, even if the participant considered the tasks to be important or valuable to the mission or goal; thus, this too was a context. In the latter cases, the context of the value of the goal was what fueled action in completing the task, overcoming the resistance the participant felt to the work itself. Participants reported that performing the less preferred tasks and addressing uninteresting topics required more effort, while performing preferred tasks or learning something interesting used far less energy and could even generate energy.

Awareness of Energy: Conscious and Unconscious

Participants consistently reported not being aware of the level or nature of their energy from moment to moment in ordinary situations, so they didn't describe normal, day-to-day energy. This implied that when energy was not changing or was not reaching a threshold, participants were not aware of it. They were not *conscious* unless something happened that made them aware of an energy gain or drain or unless they didn't feel like they had enough energy for the task or the general demands of the moment. Some examples of excerpted, conflated phrases: "I know when I don't have the energy for it" (Elizabeth), "enthusiasm that enters the space" (Dave), "bright possible reality becoming more possible" (Paul). Carla reported that if she stopped to think about her energy, she'd feel overwhelmed thinking about the work she had to do and lose energy.

Energy Processes

Insights regarding energy processes emerged in participants' narratives of their energy change incidents at work. Across the sample, whether in energy-increasing or energy-decreasing incidents, the energy-change frame would begin with participants noticing a change in their energy as new information came into their awareness and grabbed their attention to some degree, bringing itself forward in focus from the background of routine. Sometimes their attention was grabbed in alarming ways and sometimes in exciting ways. Every participant reported at least one incident that included a period of questioning (sometimes in the form of phrasing such as "I wonder if I can get better detail with my other camera" or "If I do the technique the PTSD [posttraumatic stress disorder] teacher is presenting, I think it might get a better effect for that client"). Such wondering or predictive statements implied a question, such as, "Could I get better detail with the Hasselblad?" or "Would this tool he's explaining help Joe have fewer nightmares?" Typically, participants reported making action plans (or identifying steps) and then taking action, and sometimes moving directly into sequential action. Planning was seldom mentioned for actions that participants were prepared for with knowledge, skills, and experience. In such questions, the initial threat or opportunity was noticed and tools, procedures, and resources were identified. Participants liked the structure provided for action: plans, steps, procedures. However, there were also situations in which the structural energy impinged on the energy of the participants' autonomy (e.g., Peter with the inspection process and Paul with dealing with bureaucratic drag and self-important leaders).

Participants reported more detail about the after-effects of action. For example, responding to large-scale threats was the norm for Scott's team. They had assembled an array of technology options, procedures, and inventories, as well as reliable, competent, loyal team members. Successfully responding meant less sustained harm to the people in the response area. Though the outcome from disasters was grim, the amount of expended energy was reduced by their competence and routines, and energy was sustained and refueled by working toward and accomplishing the organizational mission to reduce the effects of the disaster.

Similarly, Carla's attention was grabbed by the idea communicated by her sorority of celebrating the sorority's anniversary. She recognized an opportunity to meet a need and then planned and began execution of the Meet and Greet for women in her organization. Within that larger project, Carla had moments of excitement, such as the higher-than-expected volume of responses and the responses from women from the organizational hierarchy. After a celebratory moment with a colleague, Carla began to ask herself and her colleagues and organizational gatekeepers what she had to do to get the resources to make the Meet and Greet happen on the workplace premises. These questions and their answers, as they arose throughout the action process, focused Carla's energy in the efficient execution of action so that all was finished on time and made the Meet and Greet successful and effective in developing a support network. Typical of participants' energy-generative experiences, the energy that success generated in Carla was obvious in her remarks and expansive body language as she relived the event in the telling of it.

Energy-Draining Processes

Even with the focus of questions and the most efficient use of energy, some work incidents left participants drained of energy. In some cases, such as Nancy's experience as safety coordinator during the earthquake, a brief recovery after the work day was sufficient to restore the depleted energy. In Carla's experience of the constant struggle to be valued as a contributor in her male-dominated culture and to have equal promotion opportunities, as well as the demands of her family role, Carla became so depleted that she "crashed" every seven weeks or so and needed to retreat to her bed, like a coffin closing on her, until her energy returned and life was like a spring day again. For others, such as Dave, Michael, and Elizabeth, the work situation was so intolerable and repelling that they had to leave it in order to recover.

Participants commonly reported losing energy in interactions at work. Pat's organization, like many participants' contractor organizations, was experiencing severe loss in revenue because of federal sequestration of funding, including government contracting. This factor, external to the various meetings and interpersonal conversations, and the changes it was generating were never far from Pat's awareness as she went through her workday. The interaction process that unfolded at a debrief meeting illustrated an energy-draining process. A higher-level manager, whom Pat admired and respected, led the meeting. Pat described in detail the central and peripheral activity of the debrief meeting. She could see that the others "were very engaged. Everyone was there before the meeting started." Pat's report was evidence that she was focused more on the interaction than wrapped up in the meeting as a participant. Pat could see that her colleagues were "very focused" and "hanging on every word." Pat still reported a degree

of her own sense of membership: “Even though we lost, there’s impact [on everyone].” In this process, too, questions emerged: “There was that sense of ‘What are we going to be told?’” Pat reported that people asked questions of the manager. “Some who normally wouldn’t speak up and ask things were asking questions. It was a very interesting meeting [laugh].” Even though not much information was disclosed, Pat could see a connection, a group identity, among her colleagues: “I haven’t seen our teams really coming together quite like that in a while. . . . I was surprised by it.” But Pat did not have that same level of membership feeling and identity with the group and the organization: “I was the one that was sitting back. Everybody was leaning forward. Everyone, the entire room was, was leaning forward towards the person who was speaking.”

With her attention more on the environment than on the central action, Pat was able to report specific elements of the scene: no papers, no phones, none of the usual distracting devices people use in a meeting if they feel their attention drift and they get fidgety.

> It was all eyes on that manager, and what she was saying, for almost an hour. Just hanging on every word. Nobody was looking at each other. There was no one making eye contact or eye movement with another person. Everybody’s eyes were [on the manager speaking]. That person was the one who had the full command of the meeting.

No one cared “what anybody else’s opinions were. It was completely about what that person had to say.” Pat also reported details about how the manager delivered the news, such as the uncharacteristic use of notes rather than the spontaneous facilitation skills that the leader normally practiced so expertly. “I was really surprised to see her look back at her notes and making sure that she either stayed on the message or that she didn’t leave out any parts of the message.” Pat read her attitude from her nonverbal as well as her

verbal expression and perceived the leader to be shrugging off the bad news: “So she seemed obviously disappointed, because people put in a lot of hours, a lot of money, a lot of effort, a lot of time towards winning.” She was already in a state of acceptance that “this is the way it is.” Pat inferred from the leader’s performance that there existed an unwritten corporate policy of using scripted communication as a means of avoiding inclusion of the workers in the full strategy and information related to it. Pat began to view the company leadership (including her manager) as on opposite sides with her—as an opponent rather than a team. “I guess um [pause] maybe just that sense that obviously the company’s going to have their way, and she’s on that side of the fence with the company. Right now I’m on the other side [laugh].”

Combined with Pat’s sense of being on the outside of corporate membership and identity was the breach of the support relationship she had had with her manager. “She’s been my biggest advocate: ‘You’re a star. You’re great. This, that, and the other.’ And now the work’s not coming through and suddenly what was fantastic just 2, 3 weeks ago is not good enough.” Pat had a sense of a “divide.” Pat had already felt that sense of distance, even before she came to the meeting. From the beginning of the meeting, Pat, seated in the back, was far removed from the central focus—the manager leading the meeting. She observed the audience as well as the manager-leader. The uncustomary formality of the manager in reading from prepared notes and the lack of substantive information left Pat feeling even more alienated from the organization than she had been before. Pat’s frustration in dealing with younger-generation employees because of political correctness also had elements of identity and alienation.

Draining chains of energy experiences. The energy-draining effects of work incidents are increased by the residue of past energy-drain experiences. This creates a chaining effect. The current incident is all the more draining because it elicits memories of past episodes, and the past experiences are relived though and amplify the current experience. For example, Steve's frustration with the stereotyping of his native culture made him all the more wary, and less willing to interact with coworkers who brought up his cultural identity, even in what they may have thought were complimentary ways. "Eventually they'll ask me if we still live in teepees." Although he reported being energized by learning new things, he tended to shun group learning because of so many past experiences in which his attention was constantly drawn by people who wanted to talk about his native culture. There were many other examples of this process, such as Dave's conflicted interactions with a manager from another discipline, Peter's experience with inspection events, and Pat's experiences in the iterative layoffs and cost-cutting changes in organizational work structure.

Energy-Gaining Processes

Ken's energy-increasing interaction occurred in a series of events in which his volunteer work team traveled to a poor country to install a water filtration system and teach villagers to maintain it. It was hard work in arduous conditions, but Ken reported that even when he was exhausted and sore at the end of the day, he was eager to go back to work because he knew what a difference the work could make to the quality of life for the people, especially the children. The children were learning to wash their hands, and the villagers were taking ownership of the maintenance of the system. Ken talked about the significant increase in attendance at school that the teachers reported, now that the

children weren't getting sick from the water. They anticipated a drop in childhood mortality rates from the observed 40%. Ken talked about a brief interaction in the village: "So there's that pride. There's the joy in knowing that we have brought them clean water, and education. That they know how to wash their hands—that they have taken ownership, so it's sustainable." The silent interaction with one of the children benefiting from the water and Ken's team's work illustrated this powerful, though wordless interaction, membership, and identity process: "A little boy or girl will come up and grab your hand and walk down the street with you. And they look you up in the eye, and you just kind of melt. It's pretty amazing."

Ken became overwhelmed and incapable of speech, even in the retelling. It was still affecting him. The energy was resident and resonant within him. Ken was visibly moved by the experience, reliving it as he described it. The pride, the sense that the community was joining in the effort, and the melting of his own identity as he met the eyes of the child were clear indications of a successful interaction ritual and a sense of identity with the child and with her village. So, while Ken was aware of the external context of his work, during the successful interaction with the child, he lost awareness of the external, as his identity melted and merged with the identity of the child gazing up at him. His focus was on the central internal point of merged identity.

Gaining chains of energy experiences. Ken's experience with the villagers and children resonated with his past experience as a volunteer emergency management technician, where he and his team were able to arrive quickly and resuscitate a woman whose heart had stopped. As a result, the woman was able to keep her full human functioning and enjoy her new role as a grandmother. As Ken reported, he felt so good

that day that nothing could disturb his joy. His descriptions of human energy at work included infinite warmth and love, a good heart.

As a counterpoint to his draining energy interaction chains, based on Steve's remarks, the series of initial interactions with his supervisor began the construction, over time, of a chain of events generating trust in one another's competence, mutual interests in science, and good will. Steve conveyed a sense of membership with his supervisor ("circle of friends," "we clicked") as people who could communicate higher theoretical concepts and question what was real. In that membership, the sense of a distinction from the others who did not discuss such concepts became stronger, and the sense of a chaotic mess outside the relationship got "bigger." This chain of energy-gaining experiences, which amplified energy-gain experiences in their subsequent interactions up to the interview period, served to solidify the working relationship and friendship. It constituted an energy-gaining chain of interactions. There were many examples of energy-gaining interactions in the data, including from participants Ken and Steve. Wendy's interactions over time with the police force had the macro effect of beginning to change the way culture deals with stress to a healthier response.

Past and anticipated accomplishments and feedback also played a role in the chain of energy-gaining interactions, as did readiness and proximity of adequate resources, such as tools (e.g., Wendy, Scott, Elizabeth). Familiarity with the patterns of past experience and having an inventory of tools, equipment, and solutions kept disorientation and surprise to a minimum and kept energy in a steady but rising state, meeting challenges as they emerged (e.g., Scott, Paul). Past experiences in similar situations provided a sense of familiarity and competence as well as the availability of a toolbox of

resources (e.g., Carla and Dave), routines and procedures (e.g., Nancy, Paul, Scott, Peter, and Elizabeth), skills and knowledge (e.g., Steve, Ken, and Michael), or therapies (e.g., Pat, Wendy). Scott attributed some of the calm, competent energy and action to innate preferences as well as to training and structure. Ken also credited the success in his paramedic work to the resident energy resource of training. Having a range of options and resources upon which to draw expanded the sense of autonomy to decide on action based on what the environment presented (e.g., Paul, Scott, Elizabeth, Carla). Trust, based on past interactions, in the competence and supportive relationship of one's colleagues also added to the energy for work and made the expenditure of energy more efficient (e.g., Carla, Scott, Steve, and Paul). Colleagues could be depended upon to anticipate what needed to be done and to do it, so that tasks were performed or creative solutions arose exactly when needed (e.g., Michael, Scott, Paul). Sometimes relationships appeared once one took action (e.g., women executives emerging once Carla announced the Meet and Greet).

Energy Management

Normal work energy—what Carla called "steady state" and "battle rhythm" and Nancy called "calm" energy—doesn't pull on one's attention, but lets one flow into the task. These are forms of rhythmic entrainment. When draining or gaining perturbations occur, it becomes essential to manage one's energy well: to keep it flowing in spite of resistance and to keep it focused, even in moments of elation, on working toward the goal. All the participants managed their own energy in some way, and some, whether as leaders or as colleagues, managed others' energy. However, the techniques used varied among participants for the most part.

Games helped to reduce the resistance energy Peter felt when responding to blood donor feedback forms. The goal of getting back a tested, safe donor and his confidence in his persuasive writing competence spurred Peter to take on the task, even though it involved a lot of "groveling" and reading bad news when mistakes happened. Besides the energy gained from valuing the goal, Peter found that varying the order in which he did each response (complimentary and then complaints, complaints and then compliments, or as they come) made the task more tolerable. In addition, when something did go wrong, as bad as that felt, Peter saw the opportunity to turn it into a teachable moment with his staff.

Preparing the work environment ahead of time for tasks, such as the night before, made it easier to glide into the task when time presented, Peter reported. Similarly, starting a client project with broad information gathering about the problem and then narrowing the focus to the client's need helped Nancy manage her energy. Paul used self-talk and self-coaching when he had to do a task that he really did not want to do. Allowing for a minority opinion to be included in task plans and reports helped Dave to manage his interaction energy with a colleague from another discipline who had frequently objected to his decisions about the project.

The Creation of Energy-Generating Environments

Participants reported how their leaders and they, as leaders, created energy-generating and sustaining environments. Six examples follow.

Goals and other structures. All participants reported the energy-generating effect of goals. One participant (Peter) reported the SMARTER rubric as effective in managing and focusing energy, with its guidelines for specific, measurable, achievable,

results-focused, and time-bound goals, followed by the steps of evaluate and reevaluate. Some reported being more energized by compelling goals and by achieving goals. Other structures, in addition to goals, generated energy. One such structure was procedures—particularly updated procedures that reflected changes in work structures or exigencies that made action more energy-efficient and more effective. For example, Nancy reported that having a checklist helped her keep her focus on the situation and not on recalling procedures, as they were stepped out for her in the checklist. She also reported an energy increase when, as a result of issues discovered in the earthquake response, the organization changed its evacuation procedures.

Teamwork. Dave reported that when in dialogue with his work team to ask and answer questions, get answers and feedback from the team, and give feedback to the team, a "spirit" entered the room that uplifted the energy. Similarly, assembling a good team that worked hard together, interacted well, and collaborated smoothly and effectively was energizing for Michael, Steve, Scott, and Paul, and Nancy also implied it in her description of working with colleagues on a project. Carla was energized by the competence of the managers that could get things done in the organization. Paul structured meetings to optimize the leader's energy and generate support for the leader's decisions related to the project and its goals.

Valuing the individual and his/her autonomy. Ken was energized by finding that the owners of his company cared about employees, listened to their requests, and granted those requests when possible and within reason. Paul needed autonomy "to live" in an organization, and he gave autonomy in selecting project tasks. He responded to employees' concerns and conveyed optimism—seeing the good even when things went

wrong in the project. Nancy's manager sought employees' and customers' input, even when they were of low rank, and respected competence, built self-esteem, and was willing to negotiate and compromise on some creative decisions. Michael's "good" project leader believed in establishing a friendly, happy, confident, appreciative, sharing, and communicative environment, and as a result, "great stuff would get done." He was jovial and forgiving, even though he expected professional work and had to deal with more hassle when someone made a mistake. "He projected being a good person and having a good feeling about people." And he provided his scientific advisory team broad latitude in making decisions about funding projects.

Small changes. Leaders can increase energy by changing the work environment from time to time, Nancy reported. Nancy found from a Department of Defense study of her critical care nursing unit that even little changes in the environment can increase energy and refresh attention to important details. Under stress and constant repetitive action, one can lose sight of important factors that are in plain view. Moving some things around brings the environment back into sharper focus.

Positive reinforcement. Several participants reported praise and appreciation as energizing. Paul reported that one can get a lot of energy from others if one shares credit and thanks people for their contribution. Pat's manager increased Pat's energy with praise: "You're a star." Peter reported that his manager raised his and others' energy by praising and appreciating the competence and achievements of the staff. Elizabeth's energy shifted from very low to high when she received praise and appreciation from the client team for the work her team had produced. Dave, too, gained energy from client leader praise.

Trust. Scott stressed the importance of having a team whose competence he trusted and whose loyalty would not leave him flailing if he needed their help. Carla trusted leaders who "get things done." Michael's supportive managers trusted him enough to share their organizational concerns with him, and he trusted them to advocate for him to have opportunities and not to be cavalierly moved around.

The Creation of Energy-Draining Environments

Participants reported their leaders as creating energy-draining environments in a variety of ways. Three examples follow below.

Abusing workers. Michael's abusive manager criticized ("dressing down") and insulted highly skilled and accomplished scientists openly in meetings, which not only drained Michael's energy but repelled him, and he left the project. Dave found working under an abusive leader and watching others' pain and conflict under that leader to be intolerable and energy-draining, and he was glad to be leaving the project. Another of Dave's energy-draining leaders was a credit hoarder, which took away from employees their sense of accomplishment from all the work they did.

Inconsistency in goals. Participants described energy-draining leaders who, for various reasons (e.g., ignorance of the work, distraction by sales pitches, lack of clarity, etc.) made impossible demands, then changed abruptly to entirely different demands, and then disparaged the team's competence when they couldn't deliver. Michael had to get away, and Elizabeth forced herself to drive to work every day. Carla was deenergized by such leaders.

Violating procedures and ethical standards. Elizabeth, Carla, and Ken experienced energy drains when they were subjected to inappropriate pressure to conform

on non–work-related matters. Carla and Elizabeth reported that unethical behavior on the part of their leaders caused them as workers to lose energy. Elizabeth, having been subjected to sexual abuse by a manager, found no institutional support when she made a complaint—a very energy-depleting situation—and left the employer.

Critical Incident Tables

To protect as effectively as possible the identities of participants and yet give contextual information for the data referenced in this chapter, two tables are provided here to summarize relevant data points from the textural descriptions and the structural descriptions: one for critical incidents with a predominance of energy *gain* (Table 5.1) and one for critical incidents with a predominance of energy *drain* (Table 5.2).

Table 5.1
Critical Incidents with a Predominance of Energy Gain

Participant	Incident	Questions	Energy factors
Carla	Meet and Greet	• What do I need to do legally? To get permission? • Whom do I need to speak to?	• Strong response: "This is something that is really needed." • Felt happy, excited, looking forward. "Oh my goodness!" • "First time we were able to organize a group of women." • Finding female executives who respond and support. • Expressions of gratitude and acknowledging the need: "Smiling. Everybody was excited [about this first time organizing women]."
Steve	Conversation with new supervisor revealing common professional expertise, scientific and engineering knowledge, interests, friendship	• "What's he after?" • Why is he standing here questioning me? • "I was curious": What does he know about network protocol, astrophysics, quantum reality,	• Respect of his professional identity: "Whole different perspective—started talking to me about engineering." • The role of friendship in strengthening working bonds and allowing communication shorthand (understood "the same things that I understood"). • Providing "the camaraderie of

Participant	Incident	Questions	Energy factors
		existentialism? What does he know about network protocols?	people working together toward a goal.'
	Breakthrough learning	• Implied: What is this thing "regular expressions" and SQL, how does one use it, make it work? • What is the return on investment for me to learn this? • "That's it? That's all there is? This is a lot easier than" people make it.	• Learning something new that I've been curious about, which is "like a flash of light" that "covers a whole industry." • The mastery breakthrough "like an explosion, going further up, up." "Voilà." • "New things that empower the nervous system" to "move along in the work." • Work coming "more from a sense of being." • New learning and experience, which are like "a little burst of energy that triplicates into different areas of endeavors" and become mechanisms or training tools.
Scott	Ramping up to respond to and then taking action to respond to emergencies, e.g., Superstorm Sandy at the time	• "Who's available, where they are, where the disaster's supposed to be?"	• Highly functional and flexible structure, trusted teamwork. • The right people (skills and preferences). • "A feeling of readiness, of being comfortable making decisions in the midst of unknowns, and a sense of 'we know disaster,' 'this is what we do.'" • Routine and novelty.
Dave	Series of client meetings in a 3-year software development project	• "What capabilities are we trying to implement here?" • "What should it look like?" • "What can [the system] do, and what can't it do?" • If we can't do it the way we want, "what's the next best thing we can do?" What can't we do in the way we originally imagined?	• "People volunteering, jumping into the conversation" thinking about why something would work or not work, not requiring prompting; open, spirited debates among the team. • Finding out early what the team couldn't do and working step-by-step with the client: "This is the overall concept. This is what I think your needs are. Tell me whether I'm right or not." • Understanding limits as a part of moving forward; okay for Dave to be behind the scenes as long as "it was handed off to me" and he had comfort with the nominal leader, less constraint, was credited for his

Participant	Incident	Questions	Energy factors
			accomplishments and responsiveness, and had direct contact with the client, to keep him/her informed.
Peter	Photos of bees	• Implied: How does "the light play around with the lenses"? • What is "just the right focal points so you could see the details"? • "How much pollen their wings could throw, even as they're landing." • Why have I liked taking very close-up photos, even before it was easier to do it?	• Fascination: e.g., "tremendous amount of energy in a bee's wings." • Freedom: With digital cameras, it's now easier to take thousands of photos for one picture, with no increase in cost. • Enjoyment: "I just have a lot of fun doing that." • Interest and enjoyment: "The more interest and enjoyment I get out of them, the more energy I will put into them." "Things I don't like to do, I don't think I'm very energetic about [laugh]." • Process: I wonder if I can. I think maybe I can. I did!
	Playing violin: getting interesting sounds, growing in skill	• Implied: How do I get the frequency of tones and overtones? Why is it that when played on the A-string, the frequency vibrates the D string on its own?	• Fascination with tones and spontaneous overtones. "I'm intrigued by that energy." • Being able to generate the interesting sounds. • Enjoyment: "I love to mess around and play the violin." • Teacher approval, celebration.
	Developing others	• Implied: Will the quality manager that I've handed the task off to be able to deliver the presentation well?	• Some stress on his part. • "Excited" for her. Gave reassurance to her. Uncertainty detracts from his energy, but knowing he is "leading her down that [leadership] path" is exciting and energizing.
Paul (Many incidents; main ones described here.)	Increasing his energy to make major last-minute revisions to proposal	• "How can we reuse segments [and] get done quickly?" • "Who do I have to ask tomorrow to get these [special] things done?"	• Self-coach, self-reward. "It feels good." "You approach it with enthusiasm."
	Dealing with bureaucratic processes	• As statements: "Why do we need these people?" • "What are they going to do?"	• Answering these to an audience who wants to say no. It is important to get the client ready to hear no. Say, "Good! They said no. As we predicted." Then go to the next

Participant	Incident	Questions	Energy factors
		• "How many hours will they do it?	step, and keep pursuing yes.
	Recouping energy from derailment	• "Could you stay afterwards and we could just finish this up?"	• Announced they had all the information they needed, thanked the group, then met with a few people afterward. Kept the momentum.
	Using energy processes in managing meetings	• "What kind of meeting is this?" • "What is the real purpose of the meeting?"	• Put people on the agenda who will support the leader's idea when announced; this ensures they're in the room, at the table. • Observe actions, not content. Manage your own actions to encourage what you need from others and discourage unhelpful response.
Pat	Colleagues asking about health issues	• About contract work, stated as "I wonder why we bother or what the value will ever be."	• "People *care* about each other. The work of things, not so much sometimes." • "I love to teach." When answering health questions, "I like to teach or to talk through it with them." "It gives people information they can do something with [laugh]."
	Colleague interruption—to pleasant and productive effect	• "What are you going to do about work?" • "What am I going to do?" • "How am I going to make 'what's next' happen?"	• Initial annoyance at the "unwelcome" interruption in her momentum with a challenging, urgent task. • Quick change to: "Great conversation. Glad that this person came by. It completely redirected my thoughts and emotions . . . to look at this as a good thing." • Focus on actions that she needed to take: Turning a job search into a project to manage—her area of competence. "Not difficult! I do this for a living!" "Made me relax about the bigger underlying concern." • Finishing the urgent task was then easier. Felt lighthearted. Felt good. Stepped back. "Took a breath." "Sense of hope," "ability." Felt energized to complete the task and other tasks, including new bid.

Participant	Incident	Questions	Energy factors
	Colleague suggesting a bid and working to help her get it	• "Maybe that will be my next job. Who knows?"	• Approached new bid opportunity with more energy after the enlightening interruption. Instead of usual "Ehh, I don't know," was energized to quickly update a resume and submit. It was well received, with a note: "You're a star, and they love you."
Elizabeth	Down time—introverting, "checking out of the net" (watching DVDs, driving long distances, going for a walk)	• Implied somewhat in uncertainty: Do I get any energy from people? (Source statement: "I don't think I get energy from people.")	• "It's just relaxing." "I pull back" from all "the evaluative things going on in my head" so that "I can think my own thoughts." "Or I'll just pull back and do my mindless things: the cleaning, organizing, sorting." "It's calming," then "rejuvenating." "It's almost like plugging in a plug and the charge slowly comes up." "You don't really realize it's going on." "2 or 3 hours later, I can re-engage." "I can reconnect with a group or a person, and I'll be fully there." Likes to link everything to a structure, and her life structure is her home. • When having to extrovert—especially with people with mores she is unfamiliar with—she loses energy to the point of being depleted and withdrawn. Her fiancé tells her: "You're there. You're there. You're not there."
	Positive feedback from both the difficult client manager and the nice client leader	• Implied question mark in the uncertainty: "Maybe we are hitting the mark. Maybe this is okay."	• "It is energy building to get positive feedback." • "Positive feedback about the overall "work, team, my work, what we bring to the mix," "and it does increase my energy." "It gives you a sense of well-being." • "Happy. You just have the energy to go back and do it some more, because you're achieving something."
Nancy	Information-gathering work	• Implied: How can I slice and dice the customer's data so that it makes sense to them and they can see it all in a cumulative way?	• "The whole process" is interesting, challenging, not stressful. • Reading of work on therapies that can help turn around some phenomena—"potentially earth-shattering." • The sense of accomplishment by

Participant	Incident	Questions	Energy factors
			those in her field—"we"—as the body of knowledge was "pushed forward" brought Nancy "real excitement" and made her "feel good."
	Collaborating on a proposal	• Implied: What is the best overall solution, the main point of the proposal related to the client's needs?	• "There will be three of us putting this together." "It will grow and expand and become more on target because of the other people's thoughts and process." "You can see many more variables and many more targeted situations to really help it." "I hang on, waiting for their feedback." "We're trying to build towards the same solution. It's in that triangle" [starting with broad base of ideas and narrowing to a main point to meet the client's needs, "eliminating the poorer choices"]. Out-of-the-box thinking is enhancing, not distracting.
	Observing her supervisor's positive effect on others	• "If we could find a way to infuse energy into people who simply can't find the ability to use any energy, it would be miraculous." Implied: How could we?	• People who energize others are "positive, upbeat, full of pep and energy themselves, enthusiasm, [pause] a belief in something that's pretty strong." • "When you're around somebody like that, it's contagious." "My supervisor can infuse energy into any room and/or individual." "If a roach walked across the room, my supervisor would find something positive to say about the roach." • "To be extremely in touch with people, make everyone feel better about themselves." Not sympathy. Spoke to Michael [with non-functional arm] and you could just see him puff up a little bit because he felt better" and had "a sense of pride that he'd contributed."
Ken	Manager/mentor announcing retirement (because of having to deal with a cancer recurrence)	• "What's going on?" "Is everything okay?" Implied: What is Sam's status? • What is happening in that closed meeting he's	• This was "the other, messier circumstance here" [at the workplace]. Concerned that "it would probably kill [Sam]" if he stopped working. • The owners shared that Sam wanted to and would continue to work 3 days a week, and that was

Participant	Incident	Questions	Energy factors
		having with the owners that is causing this meeting to start late?	good for the company and good for Sam, and that they, the owners, were happy. • "I was very happy that [Sam] had decided to continue working, and I expressed that, looking to see if others shared that. . . . Everyone except probably one did."
	Counseling/ coaching a subordinate of Ken's subordinate	• "What is this picture [I drew of the interaction saying]?" • "How can we turn this around, or how can we use this in a more positive direction to have a more positive outcome?" • His inferences about the employee's thoughts: "What is going to happen?" "He was genuinely concerned: 'Next week, when I'm gone, how is this going to get covered?'"	• Initial energy loss was followed by at least some gain in energy. • Ken felt a need to assure the employee that a specific employee would cover his customer's program. Also, Ken took responsibility and needed the employee's participation. Shaped it as: The manager needs to learn differently, and the team can help George get where he needs to be professionally. • Ken's goal/strategy was "taking the energy and turning it from one direction . . . to . . . another direction, and not letting what [the employee] saw as an obstruction get in the way of getting the work done." • "I think we both felt a lot better at the end of the discussion." • "I see that one part of my job is to listen and learn—share ideas and clarify/manage expectations . . . to turn negative energy in a positive direction to achieve more work required by our customer."
	Experiencing the result of the election	• In a sentence: "I was wondering, did Santa Claus come/did Obama win?" • "What happened in the House and the Senate?"	• "Comfort" with the news that morning. The House and the Senate results were "disappointing" to Ken, but he "was very pleased that Obama had been reelected." "I would have been okay with Romney." Ken did not feel politically polarized. "It wasn't like my life depended on it. But I was very, very happy."

Participant	Incident	Questions	Energy factors
	Saving a life	• Implied: "If we succeed in reviving her, will she be able to function in her life?"	• "She's a grandmother, not a vegetable, . . . an operating, conscious, caring, be-able-to-do-everything-again person." "And that was a really, really, really wonderful experience. And I remember going into work that day, telling people, 'I don't care what you do, you can't ruin my day.'" "Talk about getting energy: very positive, joyous, whatever." • "The training kicked in." We got "several hundred hours of [medical] training, so it was rewarding to have had that training, be able to apply it and have a positive outcome."
	Installing water filtration systems and training villagers in poor South American villages to use them	• Implied: Will the villagers take ownership and maintain the systems? Will they wash their hands? Will it be sustainable?	• It's "a lot of fun. I enjoy it. It's a passion of mine. It's a blast. I mean, it's a lot of work." • "We probably walked 8 miles a day at an altitude of about 5,000 feet, so you're very tired, but very, very, very energized. Very able and willing to get up and do it again the next day." • The fun is "more in the accomplishment of knowing you're changing lives for the better." "Pride. Accomplishment. Joy. . . . It was like Christmas. You know, giving a gift. The children will be able to go to school" [instead of being sick from the water and missing school]. • "A little boy or girl will come up and grab your hand and walk down the street with you. And they look you up in the eye, and you just kind of melt. It's pretty amazing. . . . [Quietly:] Make me cry."
Michael	Prototype process for rapid development for cures for incurable infectious diseases	• "If it works, do you think a poor, heavily populated country will respect a commercial patent?" Implied: What is the	• "I was ready to do [that project] for the rest of my career. Absolutely." "I came into that project because I was asked about a specific technical area that I'm really excited about." "I don't get excited in a vacuum. There has to be a purpose to it. And that's what

Participant	Incident	Questions	Energy factors
		business case for a corporation to develop cures? • Who but government is appropriate for this work? • How can these brilliant scientists work in such dangerous conditions?	excites me: There's a purpose." • "There are lots of things I can perform at a high level. And it wouldn't have made me sad not to exercise those, if I were participating in a project that seems meaningful to me, and that I could make a genuine and great contribution to, in three dimensions out of five." • "These were world-class researchers who were passionate about that. They spent their whole lives studying this stuff." Not as arcane subject matter, but "because it was about people's lives. It was about human health. And so, yeah, . . . it was very energizing."
	Being and working outdoors in natural environments using natural materials	• Implied from statement: What's considered fun?	• A lot of what he considers fun is hard work: Building his home from a couple walls of an older home, growing vegetables, walking the dog, splitting firewood, planting and growing an orchard, canning the fruit and vegetables, building a garage. • "It pleases me that I know the ins and outs of that [house]. And it's well built. That pleases me."
	Fun at work	• "Why don't you take this piece? • "I can do this piece," implying: "Okay?"	• "Being on a great team. I like it." "A good team of people that are hard working and good at what they do" and interact well. All staying on task, working at a high skill level. "That is the most exhilarating thing for me in life, is to be working in unison with other people and staying focused on a task. That I like better than anything else. That's fun. Not going to the bar," etc. • In building the house: "They were skilled, so they anticipated that you needed to move the board over there. You didn't have to tell them." They were thinking and staying on task. "I don't know any other feeling like that."

Participant	Incident	Questions	Energy factors
			• "I advocate for my old team members" in sending their way work related to their expertise, "and I would hope they would do the same for me." • "Having a clear task that, for me, especially, requires technical depth."
	Computational direction of his company	• "Why am I here, in a company that doesn't do stuff?" • "How do you even describe what the solution would be, when it's so complex and computationally based?" • "If you do an outstanding prototype, and actually it's running with real data and whatnot, then can't you just keep on going?"	• "The company has become more computational as time has gone forward." • "The company is actually coming more in my direction. So, I'm more optimistic about finding something interesting to do, and they now have a really big computational facility that we're trying to get together and get in front of clients. So, I'm vaguely, generally optimistic." • But, "having a vague sense of comfort that the company isn't going to dump me is not as good, doesn't energize me like having a concrete goal does."
	Working under a "good" leader (Examples: A client leader; his leader in his employing organization)	• Implied: Will this person advocate for me, have my personal interest at heart? • Am I valued for my expertise and contribution?	• "Where I function best is where I have a person of extremely high caliber who is the boss and I'm the valued expert who works for the boss." • The project leader "thought that the way to make the project work and be successful was for everybody to be friends . . . and create a community that would get this great stuff done." "He had no idea about the science. . . . He would say that all the time. He was just trying to organize it . . . in a way that made great things happen." • "He was forgiving" as long as you were making a meaningful contribution and the work was progressing at a good rate. "We delivered . . . very high quality stuff . . . and on time."

Participant	Incident	Questions	Energy factors
Wendy	Counseling an overvigilant military veteran/police officer	• Inferred by her concern in hearing his remarks: Why is this officer so demanding of himself and his supervisor?	• The client was "very critical of himself because he was a veteran. . . . He said to me, 'I never make the same mistake twice.'" "Finally he put the pieces together that in combat you may have to strive to be perfect or someone might die, but probably not in the police department for every single thing." • "When he had put this piece together, he was like: 'Oooh [indicating light bulb moment]. I have such unreal expectations of supervisors. And I have such unreal expectations of myself. I no longer have to live like this.'" He appeared to be lighter and relieved, saying: "I don't have to carry this burden anymore." • "I know I took a big breath then. . . . I probably mimicked his behavior." • "It takes a lot of energy to just be vigilant, and that can be exhausting. But I think there can be a good energy in saying, 'I don't have to do that anymore. It's more: just feels good to kind of chill, but I think it's still energy. . . . It's good energy."
	Participating in trauma counseling class	• "How can I use this?" • "How you could move through your grief, how you recover, if you recover."	• An overall energy gain and focusing factor, but the topical matter of the experience was an energy drain. • During the class: "Even though I was working and paying attention and was very focused, I felt low energy. I just felt quiet. My brain was going because I was struggling to record the important things so that I wouldn't forget them, and then continually thinking about various clients, and how I could apply what I was learning with them." • "You were excited to be learning stuff because he was teaching you. He was good, and he was teaching you some very good things."

Participant	Incident	Questions	Energy factors
			• "People weren't wiggling around in their chairs. I'm very preoccupied with my body. I couldn't tell you how my body felt yesterday. We were all looking forward." • "You know there's something about contact and energy and that energy is not just within me, it's between us. I responded to his—what I thought was good, nice, warm energy."

Table 5.2
Critical Incidents with a Predominance of Energy Drain

Participant	Incident	Questions	Energy factors
Carla	Budget cut meeting	• Will there be more? • What do the regulations say? • So, we got the explosion, so now how do we rise above it? • How can we survive this crisis? • What can we do to lessen this burden we have to take? • Is this the only round?	• Initial panic mode with physical symptoms. "Like a huge explosion and dust cloud." • Spotlight on me. Struggle to stay focused. Moved into questions (internal and external), thinking logically. Then resource mode: This is what we can do; panic cloud gets smaller [energy increasing]. Then fighting mode: This is what we have to do [decision]. Avoid emotion and personal interest-based decisions. Fighting mode to action, battle rhythm/heart rhythm, and battalion mode.
Steve	Stereotyping (good or bad)	• "What are they after?" • "Are they going to ask me, do we still live in teepees?"	• People are just selling themselves and their agenda. • Note: Steve was suspicious that the study could be designed to trick or test. He asked a lot of questions about it, and then became interested in it.
Scott	Interpersonal meeting with an aggrieved employee and with his own manager	• Now what am I going to do? • What is the issue? How do I support the employee? • Do I defer or invite the manager to join?	• Doing activity that one least prefers drains energy; there is a hyperfocus, implying a hypervigilance. • Even if a successful outcome generates some energy, it doesn't make up for the energy loss.
Dave	Titular project manager	• "This is a terrible situation. What should we do?"	• "Intolerable" situation working under a manager "who had no idea how to relate to people and took from people

Participant	Incident	Questions	Energy factors
	taking credit for Dave's accomplish-ment	• "Why are we here?"	whatever he/she could take with no thought of impact on other people."
	Occasional communica-tion conflicts with valued manager from another discipline	• Implied: What exactly is the other client contractor proposing as a solution? Less strongly: Is my colleague really understanding the proposal? • Implied: Is he/she unhappy that I sided with the others? "But what am I supposed to do?"	• Frustration in trying to find a way to move forward on the project in spite of objections of colleague. • Concern about "kicking" the issue higher. • Relief in solving the problem by permitting a minority opinion.
	Experiencing the firing of a valued team member	• What exactly is going on [in the meeting between management and our colleague]?	• Colleague said, running his finger across his neck, "I've been fired." • A "very disturbing" thing had happened. • "Some fear about what was happening to the overall team." • Physical tension, tightening up.
Peter	Responding to donor survey remarks/ working to turn around dissatisfied donors and bring them back to donate	• "Are we sure we're following everything and doing the right thing?" Implied: How can I solve that problem? • How can I get that unhappy donor to come back?	• This task is very draining but success could be energizing. • Energized by the importance of the job and the challenge to be persuasive. • Deenergized by dreading repetitive tasks, like responding to donor survey remarks. "Involves a significant bit of groveling" and can become robotic. Need to stay focused and sincere. • Did not like doing repetitive, routine work. "Things I don't like to do, I don't think I'm very energetic about [laugh]."
	Repetitive report of problems to be solved	• "Why do I even have to run that report?"	• 'Those are the things that never change, and if it's something I've been trying to change for a year, I think to myself: 'If the numbers were bad last month, I haven't solved those problems. They're still going to look the same.'" • "There's definitely a threshold. Some things that I don't like to do, if I get them started, I'm okay with it."

Participant	Incident	Questions	Energy factors
	Government agency compliance inspection	• "What if I open the file cabinet, and [the document I know we have] is simply not there" for the inspector? • "Is there going to be something wrong with that date?" • "Why didn't we see that?"	• Concern for the organization's survival (even though it was nowhere near that point). "Moments of panic" and "apprehension" about possible organizational failings. • Confidence in his manager's knowledge and confidence that "we," the organization, were "going to survive this whole thing, too."
Paul	Frustration with bureaucracy	• "What does this meeting have to do with the mission?" • "Why are we going broke?" • "How do you then channel all that emotion into making something happen in your client work?	• Frustration. Things are wrong. He's a doer: "If you just wallow in frustration, you're not going anywhere."
	Grief (personal loss)	• No questions here. "I'll give myself 5 days to grieve, and then I'm back to life."	• Expressions of unspeakable grief. "I'm really, really, really bad about that" and his daughter says, "It's okay." And then he goes another 6 months or so and it happens again.
	Outburst in meeting from leader	• "Why?" [Did he interject himself into the meeting when he had representatives there?]	• Initial burst of anger, followed by realization that the leader's strategy is to derail. He's in general a derailer. Energy resumed when colleague and he took action to keep momentum.
	Routine, boring but important tasks	• "Why don't I do it better?" • "Why are we doing this?"	• "They've made it impossible for me to be compliant." "A management controlling issue." "I hate it. I don't like doing it. I don't like being managed. I want to do what I want to do." But I'll do it.
Pat	Working in areas in which she feels less expert	• Implied: Will I make the [performance] mark on this project? • How will I come up with the missing recommendations, in the absence of the person covering that area?	• Trepidation, fear, hesitation. • "In the end, I felt like, frustrating as it was, I was finally starting to make some headway. Then I got interrupted."

Participant	Incident	Questions	Energy factors
	Diminishing work at her company, more layoffs	• What am I going to be doing 2 weeks from now? • "What direction [do you have] to go on without the information?"	• Underlying concern over her future in the company and for her employees as she worked to meet deadlines on current and ending projects. She needed time to find new work, but was busy on the waning projects. • "You're in a stalemate." • "A good analogy": "People are bleeding everywhere."
	Managing younger-generation employees	• Implied: What do I need to know to be able to develop the competence of younger employees "so they can . . . take on stuff that maybe they thought they couldn't before"?	• Dismay. Frustration that it seemed to be politically incorrect to give constructive feedback to younger employees.
	Information meeting about loss of a contract	• "What are we not being told?"	• Hanging on every word. • Sense that the leader's remarks were, uncharacteristically, scripted gave Pat the sense that information was being carefully managed and that employees were on one "side" and managers on another. "A divide." • Waste of her precious work time.
Elizabeth	Any incident in which she had to deal with clutter, chaos, or backlogged work	• "I missed a bill. What else have I missed?"	• "When I don't have things in order, and I can't step things out, then it feels like I'm out of control and bad things happen." • Clutter: A sense of "I can't breathe in that kind of mess."
	Sexually harassing and otherwise unethical supervisor	• Implied: Is there any value in staying and fighting?	• "It was definitely not a female-friendly environment. I already knew it would be an uphill battle." "I knew that, against [a person in a high position in] the organization, they weren't going to do anything." "I didn't see any value in staying and fighting."
	Difficult, abusive client manager	• "Do you like it like this, or do you like it like that?" • "I get conflicting information" from the two of you. "How would the two of you like me to	• Lack of clarity and consistency of direction from one manager, with that manager giving conflicting instructions compared with client leader. Manager was rude. • Worked in an "environment of criticism" that "makes me mad, ratchets up my pulse." She was "just

Participant	Incident	Questions	Energy factors
		proceed?" • "We're going to do this, this, and this, right?" • To accountant: "Do you think I can retire?"	so fed up with this job!" • Accountant said: "You need to buck up." "Not sure I can do this. I'm just too miserable." • Will self-talk: "Easier to keep a job than find a job." And a good day helps. "My energy level goes up and down."
	Complex project with interrelation-ships beyond her full grasp	• Implied: How do the technical pieces fit with the overall strategy and client needs?	• "It doesn't matter how much I buck up. Too many moving parts." • "Lack of control saps my energy." What the client wanted was nebulous and it was uncertain whether the product that her team member was providing was hitting the mark. • Being responsible but not able to control was energy-sapping. "You can't get it done." "The more you know about how all the pieces fit, the more control you can have, the lower your anxiety, the more your energy can stay up. But if you feel like you have to climb out of a hole to understand the basics of the technical piece, it's daunting."
	Promotion of a less professional person over her, after she had brought in record revenue	• "You're going to put this person in charge?"	• "I didn't want to work for her." "I just didn't think it was fair." "I pled my case." They gave their decision. "They were disloyal." "I had given a lot, made them a lot of money, and now that they're going to put someone in a higher position, it's not me. I'm not happy with that [laugh]."
Nancy	Preparing and delivering presentations for high-level clients	• "Why, what for, who, where, when?" [in regard to a site access issue that emerged just prior to the presentation event] • "Is the proposal that we're putting forth to do it this way the best way?" • Implied: Are they getting all the points and understanding them? • Implied: Is	• The stress of making sure that they're getting the points and understanding them is "probably the most energy-using experience that I do." Factors that drained her energy: • "You're going to do it in front of others." "Your product and your mouth is going to own in and speak it." "A bit more trepidation," especially about whether we have the right solution. • There is some tension in the preparation in that a couple days before, "I had to scrap that one and turn around and start again with a different concept and a different

Participant	Incident	Questions	Energy factors
		everything correct and will it make the grade?	approach." • Tension in "the potential of it being rejected." • "It's also fun, because it's challenging. And it's fulfilling when 'Okay, I can put this to bed."
	Earthquake (gain then drain)	• From others: "What is it? What do we do?" Implied: What is everybody doing? • Is it the right thing to have them wait it out? • Hearing the alarm: Is there a fire? • Will we be okay?	• I had knowledge and experience of earthquakes; if you wait it out, all will be fine in the end. • It was longer than usual, and I wasn't sure we were all going to be okay. It was stressful because we "had no communication with our emergency or facilities people." • Afterward: "I sat down on the curb. I definitely felt drained and just a loss of energy. I've had the adrenaline rush, and now you're 'Whew!'" • "I hope we don't have to climb up six flights of stairs, 'cause I'm not going to have the energy [laugh] to do that. I'm just done." • "I wasn't completely calm, but at least everybody on my floor was out, and safely. We're all good." • In the aftermath, there was the larger fear of aftershocks and the uncertainty about how much of the country was affected.
	Violence threat to company	• "Did this person threaten with a bomb, a gun, a fire, a personal assault on any employee, a threat to the leadership, the building, or known friends of their former employment?" • "Hey, what do you think about this?" • "Should we be scared?" • "Is he going to pick us off one by one as we leave here?" • "Or is it [that somebody might be]	• "All people around me are concerned; there is an increase in energy that consists of fright and fear." "The main cause of the consternation is not outright terror; it is fear of the unknown" and frustration. The company did not share information with the employees about the nature of the threat. • "Since we do not know, our energy is high, and it is not on our client work, but on the uncertainties of this situation and fear of harm." • "This change in energy came by way of the [notices]. We went from a quiet [working] group to one of people in halls, asking each other for escort, speculation of the issue, and what others' plans for tomorrow are. I am tense, nervous, and slightly

Participant	Incident	Questions	Energy factors
		in the parking garage, and that's why they're saying, 'Get somebody to escort you'?"	frightened. • Once the man was apprehended, there was "a visual relaxation of everyone's fears." Work returned to routine and calm. "There was a decrease in human energy with the resolution with a lessening of tension, and a happiness to return to routine." • "A lot of us would have been able to take this more in stride had they given us the benefit of the doubt instead of totally protecting the company.
Ken	Meeting about impacts of sequestration of funds (and blaming it all on the election results)	• Implied: Why are they acting surprised? • Why are they connecting the budget cuts with the election, when either way the election went, the budget issue would likely stay the same? • Why aren't they sticking to the bottom-line task at hand: preparing for the cuts?	• Owners unfair in imposing their feelings about the election results and in casting sequestration as an election consequence, when it was already in play and he had briefed them. Their surprise about the cuts and their connecting the two was bewildering. Ken's body language was demonstrating, in his words, "a pulling in" but "not turtling." • The owners' "trying to shape others' [employees'] opinions" was not consistent with their usual fair behavior. "When [the owners] speak, people listen. I won't say they control the energy in the room, but they influence it based on their state of mind and their energy levels."
Michael	Working in a brutal environment caused by an abusive leader	• "Why would you even stay in the room" [while the leader abused you in public]? • "This is like a world-class scientist. What the hell are you doing, guy?" • "How does a person like that get along in life?"	• "I've never met a person as abusive as this guy was." He would insult world-class scientists in front of their peers. • He came in to scrap the project. He made impossible goals, impossible deadlines, and then changed his mind—sometimes just because he had heard a sales pitch for a solution, with no idea whether or not it would work. • "I wanted so badly to get away from the new client that I applied for" [a research grant].
	New manager and new human resources applications were not valuing his	• "What am I, chopped liver?" Implied: Am I a valued member of the organization? • "That's it? Is that enough detail? Is	• The manager "never contacts me to ask me any technical things. All [the managers] before would use me as a sounding board. This one, I talk to once every 3 months." The others trusted me enough to confide in me. • "She doesn't have work for me," and

Participant	Incident	Questions	Energy factors
	contribution or recognizing or fitting his needs as an employee	that going to help you decide anything?" [About a web-based application for career and talent management]	is probably glad I have a research grant right now. "The new person thinks of me as a resource, and resources you can shift around. And I'm an expensive resource, so I'm a problem." • Career application: "I feel a diminishing of personal relationships with my management hierarchy by these web apps and this formulaic approach to human resources management." • With the web application, "It's like I'm nobody. Cold and impersonal and formulaic. That's one side about it: that I want to interact with people. People are what matter to me. Not your web app. Or your rules." • "I don't want to climb the management ladder. I want to be a world-class technical expert. You don't have a role for me to do that."
	Newer, younger scientists in Michael's field of expertise avoiding him, maybe hoarding information competitively	• "Why aren't they asking me if I was interested in this work?"	• "These other three [younger] guys are working for a client in this area, but I think it's about the pay scale, . . . what the client is willing to pay." • Despite his advocating to move the company in a more computational direction, the younger, new hires were being treated like "the core of people at the company interested in this technology. And I'm like, 'So, hi, hello! What about me?'" • "You want to be a person that people think of when they have a question. You want to be essential, . . . useful and productive and valuable. . . . Not only did they not ask me if I wanted to do this work, they just went out and hired their people to go do this work without asking me at all."
Wendy	Taking a class where the instructor disparaged the mentally ill	• Implied: How can I give my full attention to what this person is saying when I don't trust his values or, therefore, what he is teaching?	• "Whereas the bulk of what he said was interesting—and he came across as a really nice person—he was careless about the mentally ill, and I was sort of like having a negative reaction . . . to what he was saying. I was able to say something to him about it, and he took it in good spirit,

Participant	Incident	Questions	Energy factors
			and I said it in a nice way. But I was working to make it a good energy between us." • "I was not as engaged and I was actually irritated with the speaker. . . . I squirmed that whole day."
	Her client told her he was going to "go public" about his posttraumatic stress disorder to help others	• "Am I going to be able to sleep, thinking about this?" • "I need to know: What is the worst thing that could happen from this?" • "What is my responsibility in this? • "How much can I say? What can I say?" • "How much is his decision?" • "What do I have to do ethically?"	• This incident had energy gain and drain. • "I initially plummeted—to the point where I put my hands over my face and went: 'oh no.' Because I was so worried about him going public with this. And I'm running through all the ethical dilemmas in my head." • "I felt jittery inside, but it was excitement. And it was good excitement about how well this might turn out for the future. But also a little fear of—'Oh, my gosh!' This has to work! This can't go bad for him!" • "You need to be thinking about [the worst thing that could happen from this] before you make this decision to go ahead. . . . It was big for me—and it was big for him."
	Presenting a suicide prevention class for police officers	• "Were they snickering?" • "What was I going to say about that?" Implied: Why are they laughing and talking and not paying attention to this presentation on this topic so important to their own lives?	• "I'm thinking, 'Well, they just wanted to get out of here. Well, they don't want to talk about suicide.' And I was distracted by my thoughts. . . . And I wasn't getting much positive feedback from the group, and so I certainly wasn't enjoying it." • "I was just like, 'I don't want to expend the energy here. I want out. Let's just get this over with.'" • "Some of the younger female officers just seem to have something to prove." "Usually . . . I feel kind towards them. And this time I was put off by them." • "Frustration with myself. . . . 'Gosh, I wish that I could do what I do when I'm really doing a good job!'" • "I have to remind myself at those times: 'Take a deep breath.'" • "I didn't feel engaged. I wasn't enjoying it." "I started looking at my slides and short-cutting everywhere I could—to get it over with."

Summary

This chapter has provided a cross-sample analysis—what I found to be the essences and meanings of the experience of energy at work. These included a life-centered human energy definition, a life-based description of human energy, the internal and external interaction conditions under which individuals recognize changes in their energy, and steps in interaction processes by which individuals experience energy changes. The chapter included tables summarizing the energy-gain and energy-drain incidents reported by the participants. The next chapter provides an overview of how the primary findings of this study contribute to key social science literature on human energy at work and in work organizations, as individuals experience it; it then offers conclusions, implications, and recommendations that follow from the findings.

CHAPTER 6:

INTERPRETATIONS OF FINDINGS, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

In this study of how individuals experience human energy at work, I invited living, working human beings to describe their experiences of energy. This study drew upon the rich data and insights of human beings experiencing energy at work, using the individuals' own language describing the experience, identifying the structural patterns in those descriptions, describing the overall dynamic patterns and themes for each participant, and then intuitively integrating the structures into the essence of the human experience of energy at work.

Chapter 5 presented the combined, overlapping, and extending horizons of all the participants in this study, as a cross-sample analysis of the textural descriptions and structural descriptions of each participant. A composite textural-structural description of the meanings and essences of the experience of human energy at work is provided in Appendix E. This chapter begins by discussing how these meanings and essences relate to the three research questions:

1. How do individuals define and describe human energy? This overarching question is two-pronged, seeking a definition and a description.
2. How do individuals experience human energy, especially in the workplace? In essence, this is the overarching phenomenological question guiding the study. Three subsidiary questions further unpacked the experience of energy under Research Question 2:
    a. How do individuals recognize human energy as experienced at work?

b. What external conditions are present as individuals experience human energy at work?

c. What internal conditions are present as individuals experience human energy at work?

3. How do individuals experience human energy changes at work?

The findings are explored and interpreted in relationship to existing theory and research. This section is followed by conclusions regarding our understanding of human energy at work and implications for theory, research, and practice.

Interpretation and Findings

RQ 1: Participants' Definition and Description of Human Energy

For the most part, participants constructed their definitions during interviews. Their definitions tended to include descriptions of the experience of human energy, of its presence. They also described low energy or the lack of energy.

At the highest level of abstraction, incorporating all definitional horizons in the sample, the composite definition of energy for the participants in this study is that human energy is a life force, a good, sacred thing that encompasses the material and the spiritual. (While participants on occasion referenced specific energy experiences as positive or negative, overall they characterized energy as good and as essential to their getting things done.) It is with this force that a human being steps forward and works, acts, changes, and becomes accomplished and experienced. Human energy is derived from conscious being: identity as a living individual aware of self-existence in interaction with similar, but discrete, other human beings and with the living and nonliving environment.

In contrast to this study's findings and participant reports, Quinn et al. (2012) identified human energy as having a physical component and a preceding component they called energetic activation, which they defined as "'the subjective component of a biobehavioral system of activation' (Thayer, 1989; Watson et al., 1999, p. 847), experienced as feelings of vitality, vigor, or enthusiasm" (p. 342). While the experience of vitality and enthusiasm is consistent with participants' reports in this study, Quinn et al. (2012) did not address as human energy the tense activation experienced in stressful or threatening situations, and that is *not* consistent with this study. Rather, in this study, participants reported energy—often high levels of energy—from emergency and stressful situations, followed by feeling depleted of energy. Further, Quinn et al. (2012) asserted that energy originates exclusively as affect, which is applied in physical, mental, and spiritual activity. This study's findings did not support that the lived experience of human energy is exclusively an affective experience. Figure 6.1 illustrates the Quinn et al. (2012) model of human energy constructs.

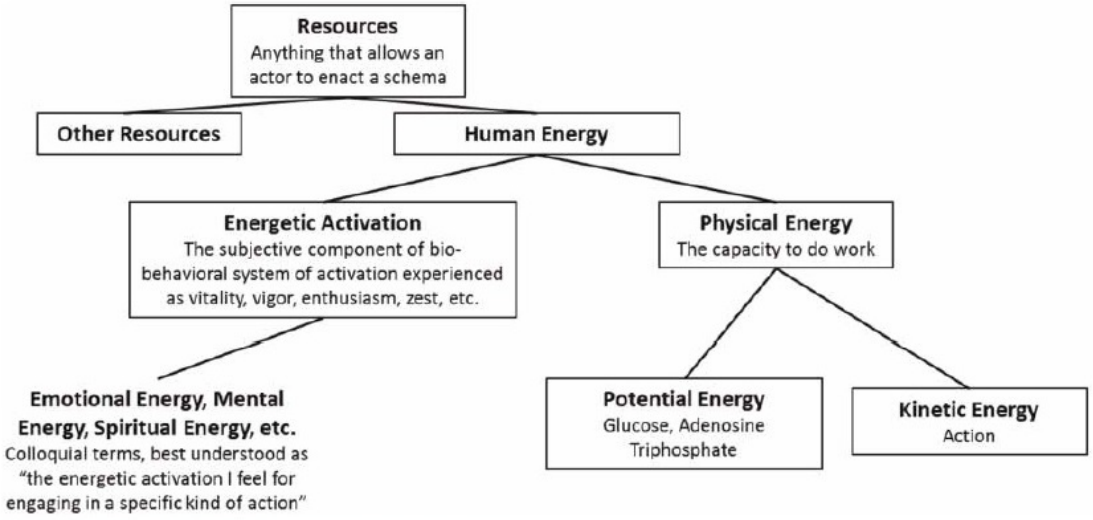

Figure 6.1. A hierarchy of energy constructs (Quinn et al., 2012, p. 341).

The presence of human energy was described in terms of life or health (e.g., well-being, comfort) and action-ready cognition and emotions (e.g., desired reality, valued goal, competence, and confidence). This is the steady, rhythmic, cool to warm (but not extreme) energy described as the preferred state for work. Life-supporting energy is moderate levels of energy that is readily focused and applied to the task or goal, in a more laminar, rather than turbulent flow. This energy is a sustained, goal- or task-focused flow of energy.

Participants reported another kind of high energy, often in the context of an overall energy-draining incident at work. This peaking and then depleting energy, on the other hand, was an energy increase in response to a threat of some kind—whether to life and health (e.g., earthquake, threats from a hostile former employee, or loss of income for basic food, shelter, and health care) or to identity validity (e.g., attacks on one's competence by an abusive leader, firing a high-performing employee for no apparent job-related reason, depriving an employee of the recognition of his/her work and assigning the credit to someone who did not do it, etc.). In such cases, energy increased, often involving a rush of adrenaline, increased heartbeat, and hyperawareness—a flight-or-fight stress response (National Institute for Occupational Safety and Health, 2014). Once the threat was resolved or defeat was accepted, the participant's energy immediately vanished and they reported feeling depleted.

Quinn et al. (2012), in their model of human energy, distinguished energetic activation from tense activation and thereby excluded tense activation as energy. Nevertheless, they indicated that tense activation is a form of adaptive response, but only in its effects on focus of attention. They emphasized that high levels of tense activation

can lead to hyperfocus and other behaviors. Yet they did not acknowledge as a form of energy the tense activation [their term] that enabled these behaviors. In their model, the authors equated positive emotions with energy, and they categorized negative emotions as something other than energy. In addition, emotions can be ambivalent (Tappolet, 2005). For example, the scenario of a person paying to watch a horror movie involves both attraction and revulsion. Experiences of energy are often not purely positive or negative.

In contrast to the rejection of tense activation as a form of energy in the model of Quinn et al. (2012), the participants in this study reported tense activation, such as from fear or perception of a problem or threat, as energizing them to act quickly and to experience an increased alertness to and awareness of what was happening (including their own behaviors), and they indicated that once resolution occurred, their energy was depleted, requiring recovery before any further energy response would be possible. Recovery could involve a short break for a breath of air, rest overnight between work days, weeks or months of adjustment, or even leaving a project or an employer. A project exit or employment exit, the latter of which was preceded by an attempt to voice (Hirschman, 1970) and resolve the issue through established procedures, was necessary because the participants felt repelled by the environment. This implied that staying and being subjected to continued threatening stimuli did not permit recovery, but rather could have led to deteriorating or disastrous health or career conditions. The energy response, however, emerged in the data as a life-protective response.

High human energy. At the micro level, participants experienced high life-supporting energy as a pleasure. The core human energy experience was joy, often

accompanied by pride, excitement, confidence, lightness (of weight) and flashes of light (insight, mastery), competence, exhilaration—a looking forward, feeling more alive, drive, an uplift in spirit, good. These descriptions are consistent with Collins's theory of how individuals describe high energy (Collins, 1981, 1990, 1993, 1998, 2004). Work situational contexts included using or challenging one's (or the team's) capacity (e.g., performing at scales and under conditions most people would avoid), having fun, having interesting work, being appreciated, recognizing the potential to do more, breakthrough learning, developing others, and saving lives (consistent with Elliott & Dweck, 1988; Hobfoll, 1989; Thompson, 2007). These work situational contexts were volitional (James, 1914, 1931, 1950) in nature, in that participants "signed up" for them by electing that employment (e.g., information technology systems in emergency response settings) or by engaging with the task (e.g., incurable infectious disease project). A desire to move into closer union or to move toward others or toward action (Carmeli & Spreitzer, 2009; Collins, 1981, 1990, 1993, 1998, 2004; Swann & Bosson, 2010) was expressed by phrases such as "love to or like to," "love or like how he/she," "all eyes were on her or him," and "hanging on every word." Physical expressions included a strong voice; animated action; expansion of body posture; and moving arms or legs or head outward and upward, in a relaxed, open manner. These comport with descriptions of interaction ritual entrainment, as did descriptions of moving in heart rhythm or battle rhythm (e.g., Carla). The intersubjectivity of individuals focused on a central figure or action space, in which they interacted rhythmically in ritual patterns, experiencing a heightened sense of solidarity and emotional strength culminating in a decision regarding moral good that charged the interaction and any symbols of it with a sacred, sacrosanct meaning and

energy for the individuals actively drawn up in the ritual (Collins, 1981, 1990, 1993, 1998, 2004; Quinn et al., 2012; Summers-Effler, 2007). The moral good or moral power (Collins, 1981, 1990, 1993, 1998, 2004; Weick & Quinn, 1999) could be meeting a human need (tripartite needs in self-determination theory, Ryan & Deci, 2000; stable identity, authentic self, Swann & Bosson, 2010), a sense of health and well-being (pragmatic for survival) (Carmeli & Spreitzer, 2009; Ryan & Deci, 2000), or a sense of pleasure (which could also derive from a sense of moral or healthy good and being alive) (animation, aliveness, Sheets-Johnstone, 2009).

Distinguishing low human energy states. In this study, participants described low energy, a lack of energy, and depleted energy. The study did not target the distinction between energy that was diminished or depleted from hard work on a valued project and energy that was diminished or depleted from threatening or stressful peaking-depleting energy experiences. Consequently, sorting manifestations of low energy or absence of energy was difficult. Nevertheless, I attempt to do so here.

Many descriptions of low or no energy were the result of a peaking-depleting type of energy in the participants' work incidents, such as stall (e.g., from inadequate resources or freedom to act or move), stomach knots, headaches, depletion, sleep disruption, darkness, being inside a hole, feeling "a drop in my psychological well-being," diminished capacity, being pulled down, apathy, shut down, severe depression, feeling bad. Emotional terms used to describe low energy were disengagement, unhappiness, sadness, and giving in. Social experiences included being on the outside of the work and conflict. Mental experiences included aimlessness, confusion, and disorientation. Physical expression included lowered voice, difficulty catching a breath,

tension, jerky movements, frowning, lowered shoulders, and body generally closing inward. Situational contexts were described as stressful, hateful, intolerable, terrible, disparaging of others, demoralizing, tedious, chaotic, uncertain, frustrating, and obstructing. Such instances *implied* a larger range of possible recovery requirements, such as days, weeks, or months to recover and removal from the threatening or hostile environment. Schönpflug (1985) included medication or hospitalization as possible recovery scenarios in such cases.

When "bad" related to a moral or ethical matter, to a threat to life, health, or safety, or to a highly unpleasant experience (which could be related to any of the foregoing), participants also described a peaking-depleting energy process. When these experiences of low energy or the absence of energy occurred after a peaking-depleting energy experience, it was often characterized by an intensity turned inward (as though cringing or self-protection or bracing for a blow). Participants tended to report feeling repelled from the event, work group, project, or organization. This description comports with Collins's (1981, 1990, 1993, 1998, 2004) and Summers-Effler's (2007) descriptions of the effects of failed interaction rituals and failed chains of interaction rituals. These situations were perceived and experienced as negative or bad, uncomfortable, painful, hurtful, or harmful. Participants who did not leave the work environment adapted through disengagement and reduced interaction or through learning new skills and acquiring higher educational or certification credentials. Schönpflug (1985) characterized both responses as adaptive, rational alternatives to preserve resources.

Less severe experiences of peaking-depleting energy served as human energy-management tools for participants. When participants reported working better with a

deadline, setting challenging goals, creating games in their work (which could involve competition with past performance), and self-rewards, they were using the boosting effect of stimulating peak energy. These self-initiated stimuli were not reported as approaching the severity of depletion that was experienced in threatening or demeaning behavior from others, especially from those in authority over them.

Low human energy as it appeared in the data at times indicated a cyclical lack of energy, such as from having used up all of one's energy and needing rest or nourishment and fresh air or some time in a peaceful, calm, orderly, or satisfied state in order to restore energy. In the study, lack of energy could also occur from illness or from facing a daunting amount of work (even when on a valued project) or an unpleasant task. These were not the typical low energy incidents reported by participants in the study, however. And participants did report great ease in recovering from work (and even joy in resuming it) when they were engaged in tasks to which they were emotionally or spiritually committed.

Cyclical low energy descriptions emerged in descriptions like emptiness, stagnation, standstill, crashing (as in retreating under the bedcovers or mindlessly watching TV reruns), total exhaustion, and feeling like "somebody closing the coffin on me." These could simply denote fatigue after sustained arduous but not unpleasant or threatening activity. Such instances implied that a short rest, such as a night's sleep, would be sufficient for recovery (Schönpflug, 1985).

Feeling or thinking, or both. Participants described human energy as feeling *and* thinking. Participants recognized in their experiences the mutual influences of emotion and cognition. When they felt emotion overwhelming clear thinking, they focused on the

cognitive task and not on the emotional elements—putting the emotions "in a box" or setting them aside to attend to later (e.g., Elizabeth "bucking up"). Participants also used emotion as the focal point in decisions, especially when ethical matters or threatening behaviors were concerned. In those conditions, for example, participants reported feeling a need "to get away" or "get out of there"—even participants who had expressed a high value for stability in employment.

Scholars have sought to differentiate and analyze aspects of human energy along agreed-upon constructs, however. Typically in recent social science scholarship, human energy has been characterized as either affective or cognitive. In neuroscience, a distinction between cognition and affect was proving difficult to make empirically (Burgdorf & Panksepp, 2006; Panksepp, 2003, 2005a; Pessoa, 2008; Tucker, Derryberry, & Luu, 2000). However, more recently, Panksepp (2008) put the cognition-affect differentiation issue into this perspective:

> Although affect and cognition are completely blended in mature psychological experience . . . we must differentiate neuroscientifically between cognition and affect, since they reflect substantially different, albeit interactive, aspects of brain organization (Ciompi & Panksepp, 2005; Panksepp, 2003b). (pp 47-48)

In organisms' neural systems, "emotions establish global, non-linear dynamic control over perceptual processes, memory and learning, and cognitions can trigger and regulate emotional processes" (Ciompi & Panksepp, 2005, p. 23; see also Lieberman, 2013). Emotion and cognition are "fully interactive" in the organism, and "each can control the other" (Ciompi & Panksepp, 2005, p. 23; see also Lieberman, 2013). Ciompi and Panksepp (2005) did devote some discussion to the "energetic dimension of emotions" (p. 39) and its neglect in social science and neuroscience research, but did not characterize emotions as the exclusive source of human energy. Franks (2007) asserted

that “all academic fields have experienced difficulty in defining emotions as one general class of distinctive phenomenon” (p. 41).

Social scientists and other scientists have also been working on that differentiation (e.g., Dweck, 2012; Schwarz, 2012). Klinger (1995) indicated that thought and other cognitive processes are influenced by “protoemotional processes that appear intertwined with the microstructure of cognition” (p. 268). Carstensen and Mikels (2005) studied and reported on how the interaction of emotion and cognition vary with age. Olsson and Ochsner (2008) are studying and reporting what areas of the brain are involved in various kinds of social cognition and emotion. Collins (2004) characterized emotional energy as “the social emotion par excellence.” Although Collins’s model of interaction ritual chains, the main theoretical framework for this study, is based on human energy as consisting of emotional energy, other scholars (e.g., Ellis, 1962, 1979, 1995; Parsons, 1968/1937, 1978) contend that thought, cognition, and information are also forms of human energy. The findings of this study are more consistent with the empirical findings of social science and neuroscience that describe the intertwinement or blending of the cognitive and the affective.

Including physical and spiritual energy experiences. We have reified cognition, affect, spirit, and the physical as separate because we use language to make distinctions from the whole and therefore see separation in the continuity of lived experience that presents to us (LeDoux, 1996; Maturana, 1988/1986; Tallon, 1997; Wheeler, 1936). The findings of this study of the lived experience of human energy at work require adding the physical and the spiritual as also intertwined with affective and cognitive energy. In participants’ reports of their experiences, they attended to various

aspects of the energy experience over other aspects. Participants reported finding it necessary at times, especially in the presence of strong emotions, to "compartmentalize" emotions in order to focus on cognitive aspects of the situation and the work at hand. Michael affirmed that emotional experience could affect the experience of physical energy, and physical experience could influence sensory-emotional experience, even to the extent that when he was in severe back pain for extended periods, he could no longer perceive color or scent, which normally brought him joy. And, as much as Peter loved to play the violin, some evenings he was too tired to even think about playing.

This is consistent with Thompson's (2007) integrated "enactive" approach to human action. Thompson pointed out that "emotion is a prototype whole-organism event, for it mobilizes and coordinates every aspect of the organism" (p. 363). Thompson described how emotion uses all of the brain in addition to the body's visceral and motor processes and the ionic communication networks of the nervous, somatic, immune, and endocrine systems. The cognition system and the emotion system use the same physical systems and overlap anatomically. The global states generated by emotion also include cognition, resulting in "appraisal-emotion amalgams, in which appraisal elements and emotion elements modify each other continuously" (p. 371). Pessoa (2008) offered a similar view. LeDoux (1996, 2002, 2003) described the interconnectedness of emotion, thought, body, and soul and defined the self as "the totality of the living organism" (2002, p. 26). Panksepp's work (e.g., Ciompi & Panksepp, 2005; Panksepp, 1998, 2003, 2005b, 2008, 2012, 2014) also described "emotional processes" as "large-scale energetic states of brain and body that reflect evolutionary adaptive action systems of the internal world" (Ciompi & Panksepp, 2005, p. 23). Sheets-Johnstone (2012) explained it this way:

> The key concept is *animation*: we are essentially and fundamentally animate beings. In more specifically dynamic terms, we are animate forms who are alive to and in the world, and who, in being alive to and in the world make sense of it. We do so most fundamentally through movement, unfolding a temporal-spatial-energetic dynamic, a kinetic awareness that is in play throughout the course of our everyday lives from the time we are born to the time we die. Our kinetic aliveness and sensemaking are apparent in our initial explorations of the world and in our curiosity about it to begin with. They are apparent, in other words, in the dynamic congruency of movement and emotion (Sheets-Johnstone, 1999a): we move in ways coincident with our feelings, which is to say that our bodily attitudes are affectively as well as kinetically resonant. (p. 30, italics in original)

The spiritual aspects of human energy tended to be reported as affecting the other experiences of energy (e.g., even though physically tired, the joy and spiritual power of the water filtration work gave Ken the energy to keep working). Participants described physical and spiritual effects of emotion and mental images and thoughts and also the effects of the body and spirit on emotion and cognition. Whether human energy was perceived as emotional energy, mental (cognitive) energy, physical energy, or spiritual energy depended on where the individual was focusing attention at the moment or primarily over time.

Rhythm and energy. Human energy experienced moderately and in regular episodes, like a periodic oscillation, was reported as conducive to effective and efficient work. Irregular rhythms were not conducive to work and not preferred energy states. Examples of work-conducive states of human energy were heart rhythm, the rhythm of a battalion on the move, and normal heartbeat and respiration. In contrast, reported energy states not conducive to healthy work were a sensation of not being able to breathe, the need to catch a breath, and irregular heartbeat. These findings are consistent with what neuroscience is discovering about the energetic state of consciousness. For example, Llinás (2002) described the hierarchies of oscillation in the organism and its nervous

system: in the minute voltage variations at the cellular level, the neuronal level, up into the thalamo-cortical recursive looping that creates the global consciousness of the organism, or mindness state. The variant, hierarchical, rhythmic oscillation "confers a great temporal agility to the system" (p. 9), and new sensory inputs enter "very selectively, with the result that we can focus consciously on only a few things at once" (Ross, 2003, discussing Llinás' presentation).

Self as unified human energy. Perceptions of self emerged as a unifying factor for the various human energy experiences reported by participants—whether they felt comfort or discomfort, valued or "like chopped liver," or whether energy was taking them closer to who they wanted to be. This unification of energy processes emerging as a sense of self was reflected in the description of neuroscientist Ashcroft (2012) of an individual's sense of self deriving from electricity acting on the structures of the brain and body: "For thoughts and emotions, *our feelings of self* reflect a maelstrom of electrical signals whirling around the brain" (p. 284, italics added).

Similarly, Ross (2003) reported Llinas' presentation describing consciousness, which also supports the self as a unifying energy mechanism. The concept is that loops between the cortex and the thalamus give rise to consciousness, which Llinas viewed as a process generated by this recursive looping:

> He talked wide-eyed about cells with "personality" and "points of view" and mentioned polarized and depolarized states of the thalamus. Roughly speaking, polarized means you're "on" and depolarized means you're "off." When there was no electricity flowing, there was no *you*. The gamma-band activity of the cells is related to cognition and consciousness. (p. 79, italics in original)

The experience of human energy is, therefore, that of an individual human being aware of being a living self.

How did Collins (2004) address consciousness of self in his theory, as it relates to this study of human energy in the workplace? He began with, and then distinguished from, a Meadean point of view:

> Mead's basic concepts, "I," "me," and "Generalized Other," are not so much roles that one plays in an inner conversation, as theorist's categories for designating the various kinds of structures, or better yet, structured processes, which make up the human self. . . . It is possible to analyze the capacity for taking the role of the other. . . . It is important not to reify this concept, for the role-taking varies . . . not just developmentally but across situations. . . . Having an internalized standpoint of other people makes it possible to formulate a self-conception, which sociologists might want to designate as "me."
>
> The same kind of thing should be said about Mead's "I," which he formulated as an unsocialized self, an impulse to action. For Mead, the "I" has no content, since it is pure action: once it has taken action, or formulated a thought-statement, it now becomes visible for inspection as a "me," but has lost its spontaneous quality as the "I": "I cannot turn around quick enough to catch myself" (Mead 1934, 174). . . . But this formulation of the "I" mixes two points: that the self is organized around a viewpoint in the ongoing present; and that there is a spontaneous impulse to action. That *the self is an ongoing viewpoint of consciousness*, and as such is analytically distinguishable from everything else, appears to be true. But this hardly means that *the self, as impulse to action*, is unamenable to further analysis. Impulses to action vary a great deal, in their energy forcefulness, confidence, or in lethargy and timidity. From the point of view of IR [interaction ritual] theory, the "I" is emotional energy. Thus it is far from being an autonomous element irreducible to anything in the social situation: one's "I" is called forth in varying strengths by present interactions and past symbolic residues, magnetically attracted to some situations and repelled by others. And this dynamic operates, as I have tried to suggest, in the inner chains of situations that make up sequences of thought. (pp. 204-205)

RQ 2: Participants' Experience of Human Energy, Especially in the Workplace

This second research question explored three subsidiary issues. First, are individuals aware of their energy at work, and under what conditions do they recognize it? Second, what external conditions are present during energy incidents at work? Third, what internal conditions are present during energy incidents at work?

Conscious and unconscious human energy. In addition to physical, emotional, cognitive, and spiritual conscious experiences of human energy, the individual has unconscious energy influencing his or her behavior, and he or she will not be aware of that energy until it emerges into consciousness and attracts the individual's attention. Scholars have proposed that much and possibly most of the activity in the human being takes place at the unconscious level (Bargh & Morsella, 2008; Franks, 2007; Lakoff & Johnson, 1999; Rudrauf et al., 2003; Thompson, 2004; Weick, 2005). This helps explain why participants reported not being aware of their energy on a normal basis unless it changed.

Re-cognizing human energy at work. In this study, I asked participants about conditions under which they noticed their energy—how they cognitively became aware or conscious of it or re-cognized it. None of them reported being aware of their energy from moment to moment. But they did notice it when there was a change or a gap, such as an increase or decrease in energy, or a need for energy when they perceived it as unavailable. As subtle as the energy of the human body is at the cellular level, the participant could detect his or her energy as a global experience, at the body consciousness level, when detecting that it was necessary for action.

Participants' experience of only noticing their energy during changes or gaps in energy is consistent with Collins's (2004) mention of the undramatic emotions of mundane reality and with Garfinkel's discussion of feelings about oneself experienced on a routine basis, both of which take work to maintain. This would be Carla's "steady state" as she went about doing what needed to be done for work, home, community groups, and school. If she stopped to think about all she had to do and what her energy level was, it

would drain her energy. It would also be like the blue or green levels of moderate energy, calm water canoe-like energy that Nancy liked for her workday. This energy involved nothing that drained her, like a sudden earthquake emergency, or that distracted her. It was also like the laminar flow described by Ken. The steadier and smoother the flow, the less one was aware of the energy or the work; rather, one was engrossed in reaching the goal or in fascination with learning about new techniques. While maintaining this steady state took work (expenditure and transformation of energy), it was when energy changed that participants reported becoming aware of their energy status. They reported incidents where a shift occurred. It got their attention.

While this study began with a focus on the quadrant of Collins's (2004) model of interaction ritual chains concerned with emotional energy in the individual, the data suggested that the entire Collins model is at play in the dynamics of the participants' experiences of energy. For example, questions about the external and internal conditions most specifically related to Collins's (2004) model of interaction ritual chains, as depicted in Figure 6.2.

As evident from Collins's (2004) model, an interaction ritual requires the copresence of human bodies and barriers to outside involvement. Using RQ 2b and 2c, I sought and analyzed data on these aspects of the experience of human energy at work. In brief, successful interactions resulted in entrainment of focus on the central action (internal to the interaction) and little or no awareness of peripheral action (external to the interaction). Failed interactions repelled the participant from the central action, and the participant was often aware of external action and often felt himself or herself more external to the action than central to it.

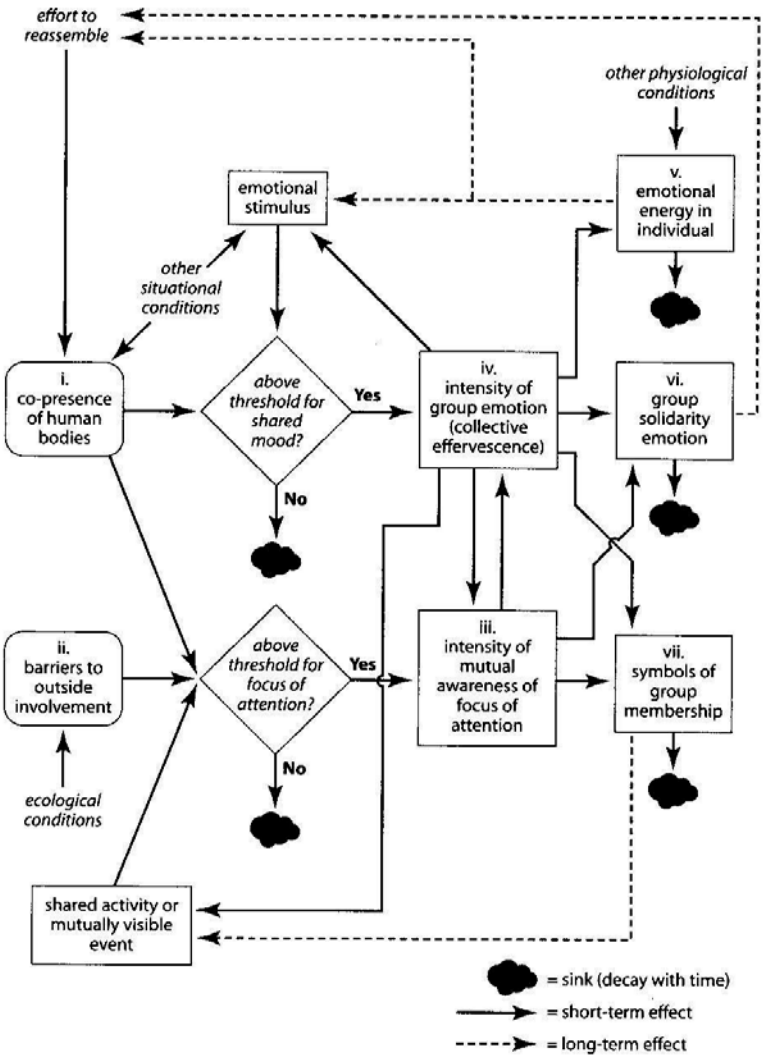

Figure 6.2. Collins's (2004, p. 147) flowchart of interaction ritual.

External conditions present during the experience of human energy at work. Some interview questions aimed to explore what the participant noticed in conditions external to himself or herself and, further, external to any interaction ritual the participant described. Interview questions explored how the participant's action (which could include thoughts and feelings), focus, and experience moved concentrically from external perceptions inward (to the self) or outward (from the self) to external conditions, as

described in Collins's (2004) model. In Collins's (2004) model, if an interaction ritual is successful, the participants become less and less aware of what is happening outside the ritual circle and more intensely aware of what is occurring central to the interaction.

A pattern emerged in that data indicating that, overall, undesirable external conditions were noticed and cited in low or decreasing human energy incidents. For the participants in this sample, most of whom were contractors and one a federal employee, most of the external conditions, at the macro level, were threatening to employment security because of the sequestration of budget by the federal government. All participants were very aware of those conditions and were focused on those conditions, some very strongly. These threatening external conditions impacted interaction rituals and led to failure of the rituals if no reassuring or compensating resolution was provided in the ritual. For example, with severe budget cuts reducing work acquisition for her company, Pat felt herself to be more and more on the periphery of meetings, more disappointed in the lack of information provided in the meetings, less engaged in the work going on with others' projects, more alienated from membership in the company or identity with its leadership, and very low in energy (feeling like she was in a black hole, away from the sunshine). Under similar external conditions, Michael kept asking himself, "Am I chopped liver?" and saying, "It's like I'm nobody." They were still keenly aware of events happening in the center of rituals in which they were present, but did not feel part of them. Collins's (2004) model does not address situations in which external conditions influence or intensify failed interaction rituals.

In unsuccessful rituals that repelled participants from the interaction, the ritual conditions became like an external object that the participants wanted to flee. Central

participants became “they” and “he” or “she”—aloof and detached from oneself and even on opposite sides, as though in a conflict. Wendy perceived many of the police officers in the class to be emotionally distancing themselves from the unpleasant topic of suicide prevention for themselves and their coworkers and employees. For Michael, the infectious disease project he had welcomed generated in him what Collins (2004) described as a “strong steady emotional [energy] lasting over a period of time” (p. 134). Michael enjoyed getting out of bed to go to work on the project. Yet, when it became a hostile environment under an abusive client project leader, Michael reported that he had to get out of there. Included in the external conditions of energy experiences that participants reported were ethical and moral dimensions. For example, Elizabeth got a new job with a different employer because of her experience of sexual harassment and other unethical behavior, such as lying, by her superior.

Some external conditions did not have any discernible effect on the interaction rituals reported. Superstorm Sandy was affecting the middle and northeastern coasts of the United States, which affected and was the focus of two participants: one of whom was preparing emergency response as part of his work, and the other whose home was severely affected—uninhabitable for months. The one who was preparing the emergency response reported a normal level of energy buildup as he and his team were ramping up to do what they do—provide technology services on a huge regional scale in disaster areas. The other study participant, though very tired and just returning from personal leave to attend to his habitation needs, did not report any effect of the storm—other than as a sporadic topic of conversation—on interaction rituals in his workplace.

In examples of successful interaction rituals, participants did not report conditions external to the immediate interaction focus, which implied that they were largely unaware of activities surrounding them. Ken's description implied a sense of privacy, even as people walked by, even though, he joked, no "cone of silence" came down over him and his employee. While Steve was painfully aware, normally, of the noisy "chaotic mess" of colleagues arguing and calling out over cubicle walls, he gave no details on external conditions surrounding the series of conversations he had with his supervisor—what could be considered, because of the closer sense of membership that resulted, a successful interaction ritual chain.

Internal conditions present during the experience of human energy at work. External conditions manifest within the individual, and the individual responds with internal images and mentally voiced or heard remarks in a discontinuous dialogue or external expression, and often both, at least in the form of body language and micro-expressions of internal processes (Collins, 2004; Mead, 1967/1934; Sharrock & Tsilipakos, 2013).

There were many rich examples in the data from this study that illustrated internal processes during interaction rituals, but also included details external to the participant (Sharrock & Tsilipakos, 2013), because there are dynamics of flow in all directions (i.e., external-internal, internal-external, internal-internal, and external-external) often alternatingly and sometimes simultaneously. There is the internality of each participant's personal circle of space, including thoughts and feelings, which is joined to or occurs in union with the internality of the larger circle of interaction attention space. Steve, for example, recalled details of what his supervisor said, how he stood, and what Steve

himself said, but also what thoughts went through Steve's mind as the interactions unfolded. But, consistent with Collins's (2004) model, even after probing questions, Steve did not describe or report any awareness of conditions external to the bounded interaction circle.

The series of successful interactions that Steve had with his supervisor resulted in Steve considering his supervisor to have become a member of Steve's, as he put it, "circle of friends." Steve and his supervisor, as they realized and developed a shared identity through interaction ritual chains, became closer in their relationship. According to Collins (1981, 1990, 1993, 1998, 2004), individuals mutually attuned in this rhythmic entrainment experience solidarity and group membership with one another, and, possibly, if sufficiently entrained, experience a collective effervescence and come away with emotional energy that remains charged in memories and membership symbols. Each successful interaction ritual links with previous resonant experiences, creating chains of stored human energy. Steve's example, along with Pat's identity alienation from her frustration about not being able to give younger-generation employees constructive feedback, illustrates the role of identity in internal conditions present in interaction rituals. Pat's generational issue can be characterized through Kunze and Bruch's (2010) work as an age-based faultline, which can affect productive energy, but can be overcome with transformational leadership.

A different example was Scott's hyperfocus during a meeting with an employee and a new manager. Hyperfocus, which requires constantly monitoring the reactions of yourself and others, especially when there is the potential of coming under attack, was the most energy-draining aspect for Scott. The highly focused conditions that Scott reported

would be indicative of a successful, energy-increasing interaction ritual in Collins's (2004) model, but were actually very draining for Scott. But this does not fit Collins's (2004) description of a failed interaction ritual. Scott was not on the periphery; all participants in the ritual were central in the space and entrained on the problem at hand. In addition, the problem was ultimately resolved. Another perspective could characterize it as an unsuccessful interaction ritual in that his hyperfocus was more in the form of a constant monitoring of others' and his own actions and reactions. In this most internal of focuses, Scott may have, throughout the interaction, perceived himself to be on the periphery, which is supported by a defensive posture implied in some of his narrative. This would place Scott's experience into the forced ritual category:

> Forced rituals are energy-draining, not EE [emotional energy] creating, and the experience of going through many forced rituals will tend to make the individual averse to these kinds of ritual situations, even creating what appear to be anti-social personalities. But forced rituals differ from successful IRs [interaction rituals] precisely by having an unnatural, overly self-conscious, mutual focus and emotional entrainment. Thus, instead of participants becoming naturally charged up by emotional entrainment, they have to put energy into giving the impression that they are charged up. (Collins, 2004, p. 53)

Internal conditions inherent to the individual may militate against any social interaction rituals being energizing for some people. Scott reported interpersonal interactions to be draining for him, as opposed to hands-on material work, which he preferred. Elizabeth reported that, as an introvert, even though she needed some interaction, she was always drained of energy from interactions with others. In such cases, Collins's (2004) interaction ritual chains model does not hold. However, in Elizabeth's case, chains of interaction rituals that permitted her to become familiar with the mores of the interaction members could, in later encounters, slow down the onset of

energy depletion for her. This supports the chain effect of interaction rituals in Collins's model.

RQ 3: How Individuals Experience Human Energy Changes at Work: Processes

Participants narrated many incidents in which their energy changed at work. As discussed under RQ 2, participants reported being aware of their human energy at times when it changed, usually in intensity, but also in other characteristics. An incident might result in lost energy overall, but with some increase in energy from an insight gained. In all overall energy gain incidents, there were moments of some energy decrease, and in all overall energy drain incidents, there were some transient or minimal energy increases. Peter's tense energy loss as he monitored the subordinate manager taking the leadership role he had given her was a small dip compared with the great energy increase he received from having a role in developing her and his employees. The energy gained from successfully dealing with an issue raised by an uncomfortable valued employee did not, though, compensate for the energy lost in Scott's hyperfocus during the interaction and follow-up emails and from not being able to do the hands-on, non–people-focused work he loved. Wendy experienced joy and excitement at a client's decision to use himself as an example of how employees with posttraumatic stress disorder could get counseling and still come to work and function well, but at the same time, she was very concerned for his welfare and worried that making his status public could have negative repercussions for him—so much so that she wondered whether she would be able to sleep for the thought of his risk.

Interaction ritual chains process. Patterns emerged in the data that resonate with the interaction ritual chains model (Collins, 1981, 1987, 1990, 1993, 2004). I discussed

above the internal conditions described in Collins's interaction ritual chains model and how those conditions were demonstrated in this study. In Collins's model, internal conditions refer specifically to the immediate environment bounded off by the entrained focus of the participants participating in the interaction. The circle of private attentional space permitted an individual by his social group is sensed by the individual as well (Goffman, 1967). In this space, the individual builds his or her personal stores of self-worth energy (Goffman, 1967; Hobfoll, 1989; Swann & Bosson, 2010), containing "all the comfort, elegance, and nobility that his wit can muster for him" (Goffmann, 1967, p. 43). When engaged in an interaction ritual, such as a conversation at work in which one is absorbed, the circle of attentional space expands and focus shifts from oneself to another self. A bounded conversational circle of attention emerges. Internal conditions, then, are conditions within the field of influence in that bounded circle of interaction ritual (Brown, 2011; Collins, 2004; Goffman, 1974). A typical internal condition in a successful interaction ritual is the focus of participants' attention on a central person (e.g., the host of a party, a speaker in an event) or a central social action (e.g., a game of basketball). Entrainment is evidenced by sustained focus on the central action and rhythmic bodily response to the action, including conversational tempo and turn-taking (Collins, 2004).

This entrainment does not require spoken conversation, but can occur in a solitary work task (Collins, 2004) or in appreciation of a work of art. The energy of the self (body, mind, emotion, and spirit) expands (Summers-Effler, 2007), opens to, and unites with the focus of attention (Swann & Bosson, 2010). This is consistent with our developing understanding of the self in neuroscience (e.g., LeDoux, 2002, 2003; Llinás,

2002; Panksepp, 2008). Varela and Depraz (2004) cited the example of letting oneself go into the music, a state in which, though concerned with one's own being, one feels oneself aligned with the world—in a world-to-self direction, allowing the world to emerge within oneself. I see this as an opening up of the self-identity boundary and letting the world, to some degree, enter into one's consciousness of being.

When participants entered into the circle of their workspaces and interacted with a work task or a project team, they were opening up their attentionally private space of self—of face (Goffman, 1967)—to the energies of the work environment. If those energies emerged in actions (such as speech or body language) from others—especially those in control of the environment and of the participants' status position in the job, which constituted a threat to the participants' career or work effectiveness or social reputation—then the threat to the well-being of each self generated a peaking-depleting energy experience in the individual. If, on the other hand, the energies of the work environment emerged in actions that reinforced the individual's sense of status or career stability or security in the job, then the participant experienced life-supporting energy. For example, Peter described how his supervisor effectively used positive reinforcement of her managers (such as Peter) and her employees. Peter reported that her endorsement of his taking on the task of responding to donor comments, based on his abilities as a persuasive writer (acknowledged in an interaction), continued to be a source of energy for the time-consuming task.

The dynamic patterns found in the interactions of participants of this study manifested aspects of interaction ritual chains theory (Collins, 1981, 1987, 1990, 1993, 2004). Collins (2004) described an interaction ritual as "an emotion transformer"

(p. 107). In this study, an interaction ritual as an "emotion transformer" was reflected in Pat's major increase in energy—which had been low and labored as Pat struggled with a frustrating task—after a funny and professionally meaningful interaction with a colleague. An opposing example is that of Elizabeth losing energy as she struggled to interact in a group where she was unfamiliar with their mores. Elizabeth narrated how her fiancé would tell her, "You're there. You're there. Then you're not there," as though Elizabeth withdrew to the extent that she seemed to cease to be present in the room.

The self in its private circle of self-worth is a form of identity: attention toward oneself (Goffman, 1967; McKendree, 2010). While Collins (2004) discussed identity in terms of group solidarity, as an outcome, he rarely mentioned identity, and even less as an input. When he addressed identity as an input, it was in the context of a group identity, such as ethnic identity, but not in an individual self-identity. This is logical, given that Collins is a sociologist, viewing energy from a social lens. And while the self is formed by interaction with others (Dewey, 1922; Mead, 1967/1934), each individual human being begins with unique biological characteristics, has a history of *being* and *experiencing life* in a unique person's womb, which is in a specific environment. Stored histories—conscious and subconscious—comprise, but not exclusively, the identity of that self. Interaction ritual chains do not address the personal preferences that arise in participants' reports of their energy increasing when such preferences can be enacted and decreasing when forced to act in contradiction to their preferences (e.g., Peter, Scott).

The findings from this study strongly support that failed interaction rituals, as predicted in Collins's (2004) model, result in a decrease in human energy. Chains of failed rituals can lead to greater and greater drains in identity-energy and lead to poor

psychological and physical health, as Swann and Bosson (2010) confirmed. The ultimate result can be death and the end of *being* for that individual. Summers-Effler (2007) confirmed the contraction effect. A shift in focus away from one's position, whether the result of the action moving or the result of simply moving one's gaze away, will engender a feeling of contraction. This contraction and its accompanying detachment slow down the sense of action—the energy felt.

An ongoing contraction process, like an ongoing expansion process, is a vortex. The contraction vortex leads to a smaller and smaller span of energy. The expansion vortex leads to a larger and larger span of energy. Individuals who are attracted to and, through focus and mutual entrainment, unite their energy in action toward a higher inclusive other will amplify their energy into a global whole that is greater than the parts together and will self-organize and self-govern toward accomplishing the intended action. As Steve described, it is like the camaraderie of people working together toward a goal.

The energy change process revealed in the study's findings. Frequently, when participants were struck by a strong human energy change, such as a shock, a surprise, or a golden opportunity to test their skill at something they loved, the next step after being awash with emotion was to begin a questioning process—whether an internal thought-based questioning or an externally posed set of questions to others. Every participant reported at least one energy change incident in which questions arose in attempting to manage and adapt. There is a *delta* (as participant Paul explained) between the situation as it was and the situation the way it is. The potential (for good or bad outcome) increased in a way that grabbed one's attention. The rush of energy was experienced as emotion as attention focused on the perturbation. Whether the emotion was high in life-

supportive energy (e.g., excited), of moderate intensity and neutral or attracted valence (engaged), or high in threatening, peaking-depleting energy (alarm), the individual's focus shifted to cognition. Questions arose (e.g., Can we build it this way? What do the regulations say? Why is he coming here and talking to me? What is he selling?). At this step in the logic of action, questions alternated with resource-seeking (e.g., Pat's search for an appropriate team member), action options (e.g., Dave's identification of feasible ways to meet the client requirements), stakeholder perspectives (e.g., Paul's identifying who should be on the meeting agenda to support the leader and who should not be on the agenda and therefore be likely to sit on the periphery or not show up), and possible moderation of energy extremes (e.g., Carla's, Elizabeth's, and Wendy's compartmentalizing emotions to think more clearly about the presentation, the task, and the client's needs). Focus varied based on initial conditions. If the initial emotion was alarm, participants expended hyperfocused energy. If the initial emotion was engagement, focused human energy was normal. When the initial emotion was excited, sustained focused energy was reported.

The move to question during an energetic experience may relate to a natural epistemology in individuals. For example, Kruglanski (2012) credited some of his initial interest in the theory of lay epistemics to "Karl Popper and his notion that the construction of scientific knowledge is similar in essence to the construction of lay knowledge" (p. 202). In Kruglanski's theory of lay epistemics, the need for cognitive closure requires an answer to a question. It can be "any firm answer as compared to confusion and ambiguity or a specific desirable answer to a question" (p. 204). Schwarz (2012) had a similar view: "What people conclude from a given feeling depends on the

epistemic question on which they bring it to bear" (p. 289). Tallon (1997) described Pfander's description of "the ego-center (will) 'listening inwardly or mentally [*Geistig,* spiritually]. This mental listening contains a questioning intent [*Zielung*] or attitude [*Haltung*]. . . . The ego lives in this practical questioning attitude" (p. 130). Maturana (1988/1986) asserted that "the only criterion with which we assess cognition is our assessment of adequate action in a domain that we specify with a question" (p. 26) and that "any interaction with a living system can be viewed by an observer as a question posed to it, as a challenge to its life" (p. 26). Ellis's (1995) description of psychological and neurological processes addressed the formulating of questions and could also provide more insight into the interaction ritual process:

> 'Representation' in the realm of non-conscious information processing becomes *representation* in a *conscious* sense when *motivational* feelings lead us to 'look for' that which is considered *important* for the organism. . . . [The 'focusing' process] begins in the limbic region, leads to generalized arousal in the reticular activation system, sets up neuronal gating in the hippocampus, and activates the prefrontal region to *formulate questions* about what we need to experience or think about to meet the emotional need of the moment. (p. 28, italics in original)
>
> We shall see that the main way in which desire meets representation is in the process of *formulating a question* (in humans, primarily a function of the pre-frontal cortex). (p. 29, italics in original)

This description could apply to Carla's sudden state of panic just as readily as it could to Peter's being drawn to take photos of the bees in his garden—each generating questions or question-like wonderings. These questions and wonderings are examples of counterfactuals (What if . . . ? If only she had . . .) and intuitive imagination, according to Ellis, and are an indication of consciousness.

According to this study, if the initial emotion was in response to a threatening situation, the result of the action process would be work, but after the work, human

energy would be depleted and recovery or flight from the environment would be necessary. If the initial energy was in response to a life-supporting situation, then after the work, human energy would be, to varying extents, retained or possibly even gained. Implied by what participants reported of the "flow" of their normal work routines and by the literature, after the work, there was a moderate amount of energy attrition that was restored through the normal means of an occasional break, a night's rest, etc.

Then, as participants reported, came planning (e.g., actions "stepped out"), coordinating (e.g., I can do this portion, and that task is in your skill area), executing (e.g., shooting many photos of the bees on the flowers), and evaluating (e.g., client leaders praised the results our team achieved in the milestone). At that point, the emotional state was at a rhythmic steadiness appropriate for experimental action and work.

Contributions of This Study

This study has provided a definition and description of human energy based on the lived experience of human energy in the workplace as reported by the study participants. Energy was defined as life, vitality, feeling of aliveness or feeling a little more alive, and a state of being, including being authentically who one is. It has the quality of a field: the Force, life force, force that propels us forward to act, an aura one gives off or senses in others, drive of motivation (as in impulse to act, not rationale), a vibe, a buzz, a feel-good place, a good heart, infinite warmth or glow. As a field, human energy extends beyond oneself and can encompass and affect others, including the universality of others and all that exists to a "great sacred thing." This is consistent with Collins's (2004) discussion of Durkheimian collective effervescence, intersubjectivity,

and sharing of a common mood or emotional experience. The presence of energy was described as feeling more alive and a sense of well-being and good, and enlivened emotions of excitement, enthusiasm, confidence, and joy characterized this energy. An absence of human energy was described in terms of a diminished self and was characteristically reported as tiredness, exhaustion, and depletion and an inability to function. Descriptions of energy further included dichotomous dimensions such as drive or stall, laminar or turbulent, and focused and distracted. Because of inconsistency in the meanings assigned to the terms positive and negative from participant to participant (and even within a participant's reports), positive or negative energy was not found to be a useful dichotomous description. Supporting this finding, the confusion that arises from using labels of positive affect and negative affect in the circumplex of emotions were described by Larsen and Diener (1992). However, Collins (2004) described various manifestations of high or low energy using a variety of emotions as examples.

This study's findings partially support Collins's theory that human energy is experienced as emotional energy, in the discrete sense that we apply to the affective domain (emotions, moods, dramatic emotions, etc.) as distinguished from the physical, cognitive, and spiritual domains of human experience. Human energy was experienced or noticed as physical, emotional, mental, or spiritual experiences, depending on the context.

Participants in this study were not aware or conscious of their human energy on a normal basis unless the energy changed. The study supports Collins's (1981, 1987, 1990, 1993, 2004) theory of interaction ritual chains in that entrainment in successful interaction rituals did result in increases of energy, feelings of membership, and solidarity with other entrained interactors and that awareness of external conditions during

entrainment would fall away. As Collins predicted in his theory, study participants experienced a decrease in energy, often feeling distanced from and even repelled from unsuccessful interaction rituals. This study extends Collins's theory in that during unsuccessful interaction rituals, participants reported awareness of factors in the external environment that amplified the energy loss or repulsion, such as an increased sense of alienation when, in the midst of reduced revenue and lay-offs, a debrief meeting failed to deliver any actionable information about the future status of employees.

This study found that individuals experienced energy changes in response to both life-supporting situations (resulting in varying degrees of energy retention and, in some cases, energy increase) and life-threatening situations (resulting in a peaking of energy followed by a depletion of energy, necessitating varying degrees of recovery). In some reports of peaking-depleting energy, human energy remained encoiled in the depleted sense of self (e.g., dread, grief, or stomach knots). The human energy change process began with a focus of attention (Collins, 1981, 1990, 1993, 1998, 2004) on a stimulus that generated emotional salience of varying degrees. This emotion became moderated and transformed by cognition in the form of questions and data gathering, which extends and supports sensemaking theory (Weick, 2005) and is consistent with findings in neuroscience: "Cognitions can trigger and regulate emotional processes" (Ciompi & Panksepp, 2005, p. 23). (Emotions can also modulate and regulate cognition [Lieberman, 2013; Pessoa, 2008], but that is not relevant to the discussion here.) In moderate emotion instances, focused energy was sufficient to produce work and energy loss that individuals could recover from through normal means. In alarm contexts, hyperfocus expended a great deal of energy quickly, and this left the participant depleted of energy, sometimes

requiring the participant to exit the work environment permanently or for the long term. Schönpflug (1985) and Hobfoll (1989) also reported a greater toll after heavy resource investment in the form of energy, compared with lower resource investment, on a goal that failed. Initial excited emotion generated sustained focus, work was achieved, and human energy was retained in varying degrees and even gained from the work. This is consistent with Collins's (2004) prediction that energy is gained in successful interaction rituals.

Quinn et al. (2012) pointed out the need for future research into how work can restore human energy. There are several examples in this study of participants being energized by their work. A common thread in such work was service to a higher human purpose, as the individual saw it, such as saving a life, providing water filtration systems for clean water to a poor village, working on finding faster methods for developing cures for currently incurable diseases, and providing technology in disaster areas to lessen the harm experienced by those living in those areas.

Implications for Theory

While this study's findings support to a large degree Collins's (2004) interaction ritual chains theory, a few aspects of the theory were not supported. For example, interaction ritual chains theory does not address hyperfocus situations in which the participant feels threatened and expends great energy in closely monitoring behavior of self and others. External awareness of the periphery of action falls away, and focus on the central action is extreme. But energy is depleted rather than gained in the interaction. This is not the same as the forced ritual described by Collins in which a participant is forced to attend and must give the appearance of being charged up. Also, Collins's (2004)

interaction ritual chains theory does not take into account that some individuals always lose energy in rituals, and the best they can hope for is less loss of energy if the ritual is with people they are familiar with and comfortable with.

This inability of Collins's (2004) interaction ritual chains theory to deal with individual preferences and idiosyncrasies misses a large segment of data in this study that indicates that individual preferences are a major factor in energy increase and decrease. These idiosyncratic factors relate to the problem identified by Stets and Turner (2008), that "ritual theories do not include an adequate conceptualization of the self" (p. 41). Boyns (2006) pointed out that the concept of an emotionally centered self is consistent with the theory tradition on which Collins (1981, 1989, 1993, 2004) built his interaction ritual chains theory, yet he also noted that Collins rarely addressed self. Boyns (2006) suggested that Turner's (2002) emotional core to the self would complement interaction ritual chains theory. Turner's (2002) theory, as described by Boyns (2006), would also address identity. It would also be consistent with Panksepp's (e.g., 2008) proposition of a core self as affect. As this study's findings suggest links among social interaction, self, identity, and human energy, a theoretical framework that linked Collins's (2004) interaction ritual chains theory with Turner's (2002) layered emotional core of the self and identity theory, as suggested by Boyns (2006), would provide a fairly comprehensive explanation of the human energy experiences and processes described in this study by participants, along with the definition of energy derived from this study's findings. Self-determination theory, a self-focused theory and a needs-based theory that includes a concept of energy, can also contribute to a more consistent and comprehensive theoretical framework for the phenomenon of human energy. Neuroscience-based theoretical

development by Ellis (1995) and Lieberman (2013), as well as Kruglanki's (2012) lay epistemics, might be a fruitful area to explore.

Also to that point, this study's findings and the literature in neuroscience (e.g., Ashcroft, 2012; Llinás, 2002; Panksepp, 2005b, 2008; Ross, 2003) suggest that energy is a unitary force of self and is experienced globally in conscious being. Theorizing and researching on this basis can most usefully identify how energy manifests at the various levels of analysis as emotional, physical, mental, or spiritual phenomena and how these might interact and to what effects.

Consistent with this need to address the individual self in a theory of human energy, Collins (2004) asserted that "from the viewpoint of IR [interaction rituals] theory, the 'I' is emotional energy" (p. 205). Collins mentioned in this context "actor viewpoints" (p. 204) and how Mead formulated his 'I' "as an unsocialized self, an impulse to action. For Mead, the 'I' has no content, since it is pure action; once it has taken action, or formulated a thought-statement, it now becomes visible for inspection as a 'me'" (p. 204). This 'I' in action could explain the day-to-day energy that participants reported being unaware of in this study. They weren't aware of energy levels, but they were aware of themselves in action: I come in to work, I check my email, then I go to the meeting. Could it be that 'I' in action is energy in action?

Collins's (1981, 1987, 1990, 1993, 2004) model of interaction ritual chains and the model of energy process derived from participants' reports of human energy experiences at work need confirmation, clarification, or extension by further theory and research. How these models integrate with other models of energy needs to be determined. More information is needed on the factors and the sequences in each process

and any overlap and interaction of sequences or factors. Combining the above theories will facilitate moving from the individual to collective levels of analysis.

Participants reported periods of questioning in their human energy processes, evoking a kind of sensemaking process. Are these energy processes described in this study also sensemaking processes? Is questioning an essential element of sensemaking?

The findings of this study suggest that theorists use more specifically descriptive terms than ‘positive’ or ‘negative’ to distinguish energy experiences. One might speak of a positive or negative experience, positive and negative emotions, and positive psychology, but, when describing human energy, such terms are confusing and need to be avoided.

Implications for Research

Currently there is a focus on developing and retaining workers for the STEM occupations: science, technology, engineering, and mathematics. All but one of these occupations, mathematics, was represented in the participant sample. But inclusion of more people in a broader array of these occupations and others, including mathematics, is needed to obtain a fuller understanding of the experience of human energy at work. If we want to recruit, develop, and retain these and other workers, we need to understand what energizes, deenergizes, and focuses the energies of such workers effectively toward our most important goals. More studies like this one, and studies that take different approaches, are needed.

Research can focus on obtaining a more specifically descriptive distinction of dichotomous dimensions of human energy. This study found that threatening situations generated energy too. Death avoidance is life supportive. Can attractive, apparently life-

supportive situations entail risks to life and energy? More theory and research are needed to understand the differences and any complementarity or analogous functioning of life-supportive energy and peaking-depleting energy. Research on how to mitigate the depleting effects of this energy is also needed.

More research into energy-increasing and -decreasing processes is needed. This study, while providing some useful insights, does not begin to exhaust what we need to know about energy. Calm and tense energy, for example, appear to be qualitatively different. Are there other distinguishable qualities of energy? What other dimensions of energy are there? This study provides some descriptions of intensity of human energy, the duration of energy, and the effects of energy on body, mind, emotion, and spirit, but are there other dimensions not addressed here? Can we measure some of these dimensions on scales, or it that inappropriate or infeasible? Means of gauging human energy intensity and energy gain used in contrast to recovery periods and recovery techniques after energy expenditure could provide valuable insights into managing energy in workplaces.

There are some paradoxes in individuals' experiences of human energy. For example, Elizabeth was always depleted by interaction, but if she went for long periods without interaction, she also became depleted. Michael wanted to keep his personal life separate from work, but, for his energy, he needed to feel that his supervisor took a personal interest in his success. What can we learn from others' experiences of those paradoxes, and are there other paradoxes?

This study's findings could be extended by research that obtains data on normal, day-to-day energy processes, as participants reported not being aware of their energy in

such a context. Collins (2004) described a process that might be useful, using audio files of a study's participants at work in routine interactions:

> By applying Fast Fourier Transform analysis (FFT) to conversation recordings, Gregory and his colleagues (1993, 1994) show that acoustical voice frequencies become attuned as conversations become more engrossing. This is rhythmic synchronization at a level much more fine-grained than the 0.2-second segments of which humans can be consciously aware. The micro-frequencies of voice tones in high-solidarity conversations converge on a fundamental frequency in a region of sound spectrum below the range in which cognitively meaningful information is carried. (p. 77)

By removing the frequencies that carry the content, the low-pitched sound left is a buzzing that is "quite literally," as Collins (2004) put it, the "sound of solidarity" (p. 77). This potentially nonintrusive means of data collection could provide evidence of human energy of which participants themselves might not be consciously aware. This would be an indication of social energy, rising above the individual level of analysis.

Lieberman (2013) and his colleagues have used functional magnetic resonance imaging (fMRI) to study how social processes (e.g., social pain) are manifested in various regions of the brain. Such studies could combine collection of data about subjective energy states that accompany the social feelings and brain energy patterns. Researchers might find it interesting to determine through fMRI studies whether the prefrontal activity accompanying social feelings could, at least to some degree, coincide with the subject thinking of questions as part of an energy change process. We would expect it to (Ellis, 1995; Lieberman, 2013). Finding that and other such corresponding points of brain activity could help us begin to find common trends in subjective human energy processes. Further, newer, far less costly technology, such as functional near infrared spectroscopy (fNIRS), in which subjects wear a headband device with light emitters that permit

researchers to detect activity levels in regions of the brain, can permit measurement of neural responses as subjects participate in social interactions (Lieberman, 2013).

Further research is needed to understand energy sources that individuals may be less ready to discuss, such as Collins's (2004) assertion that order-giving is energizing and order-taking is de-energizing. Such a study could also examine any energizing effects (and the accompanying processes) of aggression, anger expression, or higher rank or class in the workplace, as well as the opposite conditions.

Similar studies to this one are needed to support, challenge, or elaborate upon the findings reported here. Do questions show up consistently in the energy-gaining and energy-losing processes as individuals experience energy at work? Is the human energy process also a sensemaking process, or vice versa?

Because participants were, for the most part, able to describe the energy processes they experienced when a change of energy was involved, research about many psychosocial phenomena could benefit from inclusion of questions about how a subject's energy changed while experiencing the phenomenon of interest. One example may be research into experiences of gender identity, ways of knowing and being, professional identity, or socioeconomic status. Just as wires in a machine or in an electrical grid reveal the pathways of energy and even suggest the location of electromagnetic fields, participants' reports about their human energy and how it changes within any other phenomenological experience can reveal important paths and processes in that phenomenon.

Microdevelopment or microgenesis (Werner, 1978/1957), coupled with the dynamic skills analysis framework (Schwartz & Fischer, 2005, 2006) that

microdevelopment scholars have derived from their findings, focuses on the process of learning and development at the micro level—short time studies (minutes to months in range) of learning and development as they are taking place (Flynn & Siegler, 2007; Gelman, Romo, & Francis, 2002). These techniques for tracking learning processes, if applied to the study of energy processes, could yield valuable insights into energy processes and possibly relationships between learning processes and energy processes.

This study focused on the individual level of analysis, but more study is needed of how groups experience human energy at work.

Implications for Practice

Practitioners can benefit from a clearer understanding of human energy as defined and described based on this study's findings. As Steve affirmed: "Life is energy. Energy is life." Without human energy, there is no work. This study's findings illustrate how organizational behaviors, especially those of leaders, can generate, sustain, and focus energy and thereby create organizational efficiency. The findings also illustrate how organizations and leaders can, through their actions, rapidly deplete human energy and even repel employees from the workplace. The study provided six examples of how leaders can create environments that generate, sustain, and focus the human energy of their workers: structuring, facilitating teamwork, valuing the individual and his or her autonomy, making small changes in the environment, using positive reinforcement, and building trust. The study provided three ways that leaders drain their workers' energy and drive them from the work environment: abusing workers, having inconsistent goals, and violating procedures and ethical standards. With this in mind, practitioners can use human energy concepts in the design of training and development programs. Practitioners

can use a human energy approach to management to make some psychosocial-neurological concepts more pragmatic, accessible, and compelling. These concepts include the importance of affect (e.g., Hochschild, 1983) and quality interactions (e.g., Dutton, 2003), which some managers have heretofore eschewed as "too touchy-feely" and a bunch of "psychobabble." Who would eschew the idea that energy is necessary to work? The tripartite model of autonomy, competence, and relationship in self-determination theory (e.g., Ryan & Deci, 2000) is a well-researched, well-reasoned, self-based energy (Ryan & Deci, 2008) related theory of intrinsic motivation that can inform managers' efforts to generate, protect, and focus energy in employees.

In practice, organizations need to consider the need for recovery when energy-depleting experiences become severe. Work schedules, task sequences, autonomy, teamwork, or colleague assistance could be managed to allow time and space for recovery. Relationship support, such as praise for endurance and persistence or a chance to debrief or to be heard in how the depletion could be lessened or avoided in the future, could also facilitate recovery from the current drain and possibly prevent unnecessary depletion in the future.

This study offered several compelling examples of how work that serves a higher human purpose is energizing. Ethical behavior was important to participants, and some left their projects or their jobs when faced with unethical behavior. Many organizations exist to make a profit. Profit-seeking organizations that can serve a higher human goal in an ethical manner, then, have the potential to realize the most work accomplished, products developed and produced, and missions accomplished with the human energy of their employees. The work of the positive organizational scholars (e.g., Carmeli &

Spreitzer, 2009; Carmeli et al., 2009; Fritz, Lam, & Spreitzer, 2011; Heaphy & Dutton, 2008) and self-determination theory scholars (e.g., Ryan & Deci, 2008; Ryan & Frederick, 1997) shows that generating such vitality can result in a greater sense of well-being, thriving, more innovation, better job performance, and more energy and aliveness.

Managers can benefit from understanding and applying the key energy factors found in the scholarly literature and supported by this study's findings:

- Successful interaction rituals (e.g., Collins, 2004) are energizing interactions and draw in and focus an employee's attention and identity. Conversations, meetings, and even large convocations are means for generating collective effervescence and solidarity in employees and leaving them with emotional energy manifested in confidence and genuine enthusiasm and stored in the form of symbols, memories, and artifacts. Conducted poorly, these same interaction rituals can be unsuccessful and result in draining employees' energy and even repelling them.
- Constructing work processes to permit employees to experience autonomy, competence, and trusted, supportive relationships can increase employees' energy and sense of well-being. Goals that lend themselves to intrinsic motivation, such as those that benefit the community or mankind, improve relationships, or permit personal learning and growth, facilitate health and well-being and are energizing (Deci & Ryan, 2012; Dweck, 2012; Elliott & Dweck, 1988; Locke & Latham, 2006; Ryan, 2009).
- Stress is depleting, and stressful conditions, such as concern for others' or one's own emotional safety or job safety, will draw upon one's energy resources and drain them (Hobfoll, 1989). Managers need to minimize such stress and promote

well-being, as the energy of one or many workers is essential to the accomplishment of organizational work. Minimizing energy-depletion of this stress may require providing as much specific information as possible in revenue-constrained times regarding job status. It may require establishing managerial performance goals related to professionalism in managing employees, require counseling, and, if necessary, require removing (from the project or the organization) managers who treat employees abusively (e.g., Latham, 2003; Locke & Latham, 2006; Tepper, Moss, Lockhart, & Carr, 2007).

Conclusion

To be a fully functional human being is to know—as much as possible—about the world of work and how to thrive in it. Energy is a vital part of life and work. This study has provided a framework and some tools for theorists, researchers, and organizations and their members for understanding the experience of human energy at work so that individuals and their organizations can thrive. Based on this study's finding that participants defined and described human energy in terms that focus on life and who they are and who they want to be, one can conclude that individuals have more energy available for work when they feel that their environment supports their healthy living and who they want to be. Given the finding that individuals lose energy dramatically when they feel that they are not supported in their lives and who they want to be, one can conclude that threatening environments, rather than generating more energy, ultimately (and sometimes very quickly) deplete individual human energy and even repel the individual from the workplace.

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APPENDIX A:

RESEARCHER'S PERSPECTIVE AND SUBJECTIVITY STATEMENT

The reader of this dissertation needs to understand and be able to recognize the bias of the researcher. Therefore, the reader needs to know the research perspective of the researcher, which itself is a limiting factor—a bias. In addition, in accordance with the views of Moustakas (1994), the researcher needs to make herself aware of her own biases and preconceived notions of the experience of energy in the workplace. Consequently and subsequently, the researcher should share those insights with the reader so that the reader can make judgments regarding how successfully the researcher has bracketed those notions from the research process.

Research Perspective

This researcher identifies herself as a critical pragmatist. The critical aspect of this identity is an appropriate disposition for use of transcendental phenomenology as a methodology because that methodology requires researchers to continually question—be critical of—whether one is viewing through fresh, unbiased, and open eyes or state of mind (Moustakas, 1994). The pragmatic perspective is based on an understanding that early pragmatists also practiced critical inquiry (Crotty, 2003/1998). After more than 3 years' study of research philosophies and methodologies, I have come to the pragmatic opinion that the methods one uses should be determined by the research objective being pursued at the moment.

Another reason for my proclivity for pragmatism is my life experience working in organizations. Trying to make a living in the world of work requires me to be careful

about expressing opinions that challenge power and the status quo. Clearly, such a proclivity can be in conflict with my desire to pursue critical inquiry and practice bracketing and epoché.

On the other hand, I have tried to be introspective throughout my life. In addition, in my own personal time I have pursued issues that I care about, and in my work I have expressed myself as being somewhat independent-minded and not afraid to be eccentric, while trying to be supportive of all the people I work with. In my ideals, values, and interests, I see myself as a critical inquiry proponent and a poststructuralist interested in the power of language. Nevertheless, I would say that, for the most part in recent years, my critical inquiry and poststructuralist tendencies have been stealth factors in my work, if not in my worldview. Consequently, I would, for the most part, characterize myself as a critical pragmatist. While these aspects may appear to be at war with one another, I have found them to work reciprocally so that, usually, I can find a balance. Sometimes, however, when my values are violated by the workplace, I do find myself experiencing internal conflicts.

Historical Context

The reader can get a better idea of my research perspective if I present my understanding of the historical development of research approaches and distinguishing aspects that I perceive among them. Therefore, I will attempt here a brief review of literature dealing with philosophical and theoretical approaches to knowing and to scientific research. It seems that philosophical writings and writings in the natural sciences began with theoretical descriptions based on observations and speculations, such as inductions based on a collection of specimens (Creswell, 2007; Kuhn, 1977, 1996).

Over time in scientific study, various paradigms emerged, became established, and were eventually overturned (Kuhn, 1996). The philosophical paradigms underpinning scientific approaches have shifted more slowly and seem to coexist as new ones enter the picture, making their influence felt in social science and organizational life (Burrell & Morgan, 1979).

As scientific study developed, the positivist theoretical perspective, based on the writings of Auguste Comte, became the predominant theoretical perspective (Crotty, 2003/1998). The epistemological assumption or presupposition of positivism is that there is an objective reality in the universe (existing outside of consciousness) that consists of objects having truth and meaning in themselves and that follow universal laws and concepts that can be discovered through the use of or extension of the senses (Creswell, 2007; Crotty, 2003/1998; Lichtman, 2006). This underlying assumption is referred to as objectivism (Crotty, 2003/1998). Positivists use quantitative methods and seek to identify the causal factors of objects and their effects and seek the underlying laws revealed in the relationships, claiming that these methods remove or limit subjectivity. Postpositivists recognize that total objectivity is impossible and therefore aspire to be more cautious in their claims of causality and objectivity and utilize qualitative methods when they deem it appropriate for their study (Crotty, 2003/1998; Lichtman, 2006).

Constructionism is an epistemology that has also been grounded in an objectivist view of the world (that objects exist independent of human consciousness), although it has more recently been eroded by proponents of subjectivism appropriating the constructionist viewpoint (Crotty, 2003/1998). Constructionism, as distinguished from positivism, also holds that there is a legitimate subjective component in the meaning we

associate with objects, and that meaning, rather than being a property of objects, is a social construction of human consciousness (Crotty, 2003/1998; Larkin, Watts, & Clifton, 2006.). Social constructionism is concerned both with meaning and power and therefore incorporates a variety of points of view, including pragmatism and critical inquiry (Larkin et al., 2006).

Interpretivism is a theoretical perspective that, in contrast to positivism, seeks to understand human and social phenomena or reality and to explain it in the context of cultural and historical settings (Crotty, 2003/1998). The interpretive perspective comprises several communities, including postmodern, feminist, critical theory, and critical race theory, queer theory, and disability theory (Creswell, 2007). Crotty (2003/1998) presented three historical streams in interpretivism: hermeneutics (which "reads" human phenomena and data using exegetical and/or literary criticism techniques), phenomenology (which has critical elements and a suspicion of culture in its original manifestation), and symbolic interactionism (which situates its understanding of human meaning as it is generated in culture). Pragmatics can be found among the hermeneutic perspective (Shalin, n.d.) and social interactionist perspective (Crotty, 2003/1998), which may be a reason why Crotty found interpretivism to be predominantly uncritical.

Critical inquiry, on the other hand, is, as its name suggests, a theoretical perspective that looks at social order that places itself in opposition to what it sees as the prevailing power structures in society, pointing out what needs changing and analyzing the forces at play and how human beings can change them (Creswell, 2007; Crotty, 2003/1998). Researchers set out to use the power of their words and their research to identify and, in many cases, to take social action (Creswell, 2007). Critical inquiry

typically concerns itself with the structures overlaying the economic substrate from which they see dominant power deriving and the effect of these structures on the human beings oppressed by them, resulting in alienation from their own work and their own value and the identity of themselves as human beings (Crotty, 2003/1998).

Postmodernism has been one of the hardest concepts for me to grasp since I first heard of it a decade or two ago. I always thought of modern as something that related to the latest "thing." Everyone wanted all the modern appliances in their home, which meant the latest version. I came to think of it as contemporary. Crotty (2003/1998), too, indicated some variety in the way the word "modern" is used and settled on it referring to industrialization and the human society that it brought into being, which seemed to have stages to it. We still live in that "modern world" that is characterized by a rational or instrumental reason-focused primary feature, evidenced in the precise control over nature, science, and production and resulting in the exaltation of autonomy and independence of the individual. Crotty conceived of "postmodern" as a rejection of these features and values and an embrace of factors such as relativism, ambiguity, and fragmentation and values of play, irony, and dispersion of power or control. Creswell (2007) viewed postmodernism as a family of theories. The claim to what is knowledge requires consideration of context, particularly with respect to a variety of perspectives, including gender, race, and group identity and group discourse. Lichtman (2006) described postmodernism as characterizing European scientific and philosophical conceptions of truth to be constructions of society and history that covertly empower dominant members of society at the expense of the less economically advantaged.

A key proponent of poststructuralism was Foucault. Foucault analyzed discursive works not for their truth but for their historical or social origins. He contended that how we study and discuss a topic shapes what we know of it and how we perceive it. He gave the example of how sexuality has been analyzed and discussed as a mystery and as an instinct, and that such an approach has resulted in humans thinking of their own sexuality in that way, rather than as natural and familiar (R. Jones, 2008). Transcendental phenomenology, which I have embraced in this study, seeks to return to the natural, unadulterated experience of the phenomenon (Moustakas, 1994).

It seems to me to be folly to think that our measures and statistical formulas can free us from biases and errors in our perceptions. We understand ourselves to live in a three-dimensional, and possibly four-dimensional (counting time), universe. However, mathematicians and scientists have postulated 10 or 11 possible dimensions, and some even considered the possibility of over 100 dimensions. Consequently, we must rely on our intuition and imagination to try to reconstruct dimensional insights beyond what we perceive of the material universe. Transcendental phenomenology (Moustakas, 1994), with its valuing of intuition and reflection, provides a scope of vision that might inform a study of a powerful, important, and elusive phenomenon such as energy.

Subjectivity Statement

I grew up in a working-class family in southern New Jersey. I think that at one time it would have been classified socioeconomically as lower middle class. Neither of my parents had completed high school. My dad worked two jobs to try to sustain us. He had an injury from World War II and sometimes had to be out of work for long periods after surgeries. Six of us lived in a very small two-bedroom home to which my parents

had a dormer added and which never seemed to get finished, in spite of their efforts to do so. I say "six," even though I had four siblings, which makes seven family members. We were always only six because one of my brothers died at age 8 from complications of the mumps. That still grabs my throat as I write it. My youngest sister had many health problems, and I remember trying to pray through the night for her not to die. I spent a lot of my youth worrying about my parents' and siblings' health and about whether there would be enough money for my parents to pay their bills.

My parents sent us all to Catholic school, but I was the only one to want to stay. While I remember hearing some of their friends and some of the parents of my own friends saying things like, "It never pays to educate a girl," I never heard my parents say that, and they never gave any indication of agreeing with their friends. They sacrificed a lot to help me through Catholic grammar school and then high school. I remember having to stand up when names were called of people who had not yet paid their tuition money or book money. Perhaps because of these experiences as well as the social action elements of my Catholic upbringing, I have a strong reaction against economic and social factors holding back individuals from living whole, healthy lives and reaching their full potential.

It was in my family household that my first impressions of energy and work were formed. Although supportive of my education, my parents, and sometimes my siblings and extended family, would make remarks in disparaging tones about my being lazy and always having my "nose in a book." My mother could have used more help from me. Because of having a lot of homework and being slower at completing it than many of my peers, I was often excused from a lot of the housework. Although I took some pleasure in

cleaning and organizing things, I often did not do well at doing things the way my mother wanted them. There were phrases in common use in my family and in the neighborhood families, such as “lazy, good-for-nothing” and “quit mopping around.”

In addition, we were relatively poor and lived in a small, crowded house. My mother worked very hard, but the house always looked crowded and somewhat shabby by the standards of the neighborhood and, especially, television. I did help with my younger siblings, and my mother seemed to appreciate that. My father worked the two jobs, so his time and energy for helping at home were limited. When he was home, he would often be trying to nap on the couch before going to his other job. Because of his war injury, he had several surgeries. I remember someone bringing him home when his leg gave out. He would sit with his foot in a bucket of Epsom salts, hoping to get some relief and worrying about how he would continue to work. He never said that, but I could see it in his face. I used to think that I needed to get a good job and help support my family, the way my father did when his father had died very young in a work accident.

In the eighth grade, during a trip to Washington, DC, I bought a laminated holy card of St. Joseph the Worker. I still have it. Well into my adult life, I said the prayer on that card to ask St. Joseph to help me to be a good worker. Today, my family marvels at how steadily I have worked throughout my adult life and pursued school, while raising four children. They say that I’m not lazy. But I am keenly aware of having said every day that I can remember my whole life how tired I am. I see others always doing a lot and having a lot of energy and want to know why it seems so easy for them. I have found work to be easier and energy to come more evenly and readily in my later years as I have developed more confidence in myself and can look upon some of my accomplishments as

evidence that I have energy and am a hard worker. At a deeper level, I am beginning to think that maybe I am not lazy and have worth—that I am good for something.

I married a Vietnam War veteran who had become disillusioned with the political system in the United States when he saw atrocities committed by our allies and how the government lied to the public. He is very patriotic. He benefited from the GI Bill in getting his college degree, and we both benefited from student loans, which we paid back entirely. (Now I am accumulating much bigger student loans, which I hope to repay by working a second career after I retire from the government.) I taught for a while in an inner-city Catholic school and then in public junior and senior high schools that were supposed to be "rough." I was active in the teachers' association and found teaching to be hard but very rewarding.

When we moved to Virginia with our four children, I went to work for the federal government because I was finding it very hard to raise four children while devoting a lot of my energy educating others' children. I had always brought a lot of work home when teaching and tended to do the same as a federal employee. There was a lot of work and pressure. The job was a benefits program that had always been seen as problematic. Every day many congressional inquiries would come in, and even occasional television camera crews and reporters. It had been voted the worst job in the federal government. Although I was recognized as very knowledgeable in this complex job and a quality worker, the volume of work was overwhelming. I was taking work home at night and on weekends, even though my children needed my attention at home. I joined the union to try to make things better. The pressure put on me by the job and by management as a result of my union activity resulted in a bout of depression and stress reaction. It would

take me 2 hours to go to sleep, and then I would wake up a half hour later and struggle another 2 hours to go to sleep again for only a half hour. I began to spend most of my time crying. An attorney with whom I interacted told me that if I ended up in St. Elizabeth's, I would be no help to anyone. I had to leave my federal job for a while and undergo counseling. My sense of worth as a worker and as a person had been challenged, but, with additional support from peers who worked in that environment, I came to see that the work environment was a toxic one. It took me several years to come back from the nearly total exhaustion I experienced after leaving that job. Over time, I got into training, and that took me out of the bargaining unit. I am now a supervisor.

Along the way in all of these life events, I was intermittently active in community and political issues: forming a tenants' association, registering voters, working for campaign finance reform and to get initiative and referendum rights for Virginians. As an English teacher and activist, I appreciate the conscious and unconscious dominating and liberating effects of language.

In my college years, I remember the descriptions in my Black American history course about the many people who died in the middle passage, often willing themselves to die. My father-in-law had been a prisoner of the Japanese during World War II, and he described how many men died, apparently from willing themselves to die out of desperation. In both American slavery and in the prisoner-of-war experience, energy was conserved and life prolonged by slowing down one's responsiveness (Daws, 1994; Stewart, 1874). I have come to realize that for all but this most recent sliver of human history, work has been accomplished through a system of slavery. My husband, a labor lawyer, tells me that the labor laws are based on the servant-master relationship of many

centuries ago. I've come to wonder whether the ways we talk to one another, even in our families, are based on a slavery approach to human work.

I want to make the workplace more human. That is why I want to write a book about how managers and supervisors need to care about and manage people in ways that generate and focus their energy and not diminish it. If energy is the source of work, and supervisors and managers work through others, then managing workers' energy is the job of the supervisor and manager. So, for pragmatic and critical reasons, I began working on my doctorate in hopes of getting credentials and of beginning the foundational writing of books, articles, and workshops that might make workplaces more human and less debilitating. I realized that the study could radically change my views of what managerial behaviors affect worker energy.

To undertake this research in a pure ego state that sees the phenomenon of energy freshly, I must set aside my motivations to prove anything to myself or others about my own worth or the worth of human beings. Rather, I must freshly reflect upon my own human experience of energy, how I experience it, what its qualities are, and how I come to be aware of them. As I undertook this research, I kept a journal of my own experiences of energy, describing its texture and its structure.

APPENDIX B:

RECRUITMENT LETTER

This letter was sent to potential participants for the study.

Dear _____,

I am a doctoral student at The George Washington University, working on my dissertation, and am recruiting participants to be part of this study, "Defining Energy at Work: How Human Energy at Work Has Been and May Be Defined." Specifically, this research explores the meaning, processes, and dimensions of human energy, both individual and collective as perceived by individuals, in the workplace.

I understand that you may be willing to participate and meet the criteria for this research, and I appreciate your consideration. Please review the following background information to decide if you are interested and believe you may qualify to participate.

1. What are the criteria?

I seek from 10 to 20 participants for my study. To participate, the person must

- ☐ Have studied or worked in fields that have established frameworks for defining and describing energy in general, such as physics, chemistry, engineering, technology, and electronics and in human experience, such as medicine, psychology, and human resources.
- ☐ Be at least 21 years old.
- ☐ Be reflective and self-aware.
- ☐ Be willing to participate.

To maximize perspectives on this topic and thereby increase the richness of the data, I am seeking a variety of points of view and personal backgrounds (such as age, gender, ethnicity, etc.) for this study.

2. What do you mean by "human energy"?

For this study, an initial, core definition for human energy is the force or power of human movement, action, change, or being. Human energy is controlled, triggered, and focused by both conscious and unconscious physical and mental activity and is manifested in behaviors during interactions, including workplace interactions.

3. What is the role of each participant?

Potential participants will be provided with sufficient information to choose to be involved in the study, and they may change their mind and withdraw at any point without consequence. Participation includes two in-depth semistructured interviews, approximately 90 minutes each, to discuss their experiences of human energy in the workplace. Participants will also be asked to do one between-interview activity in a medium of his/her choosing reflecting on and describing an intervening energy experience at work. Interviews will be taped and transcribed, and participants will review the transcripts to ensure accuracy and completeness after each. In addition, participants will be able to examine findings and contribute to additional conclusions. Confidentiality will be respected. Numbers, and not participants' names, will be used in the transcript, and aliases, not participants' names, will be used in the dissertation written from this study. All hard copies of transcripts will be kept in a locked container and electronic files will be secured by an encrypted firewall using continuously updated security. Participants will receive no payment for participation in this nonsponsored study.

4. What are the potential risks or benefits of the study?

Participating in this study should not involve any physical risks, although it is possible that responding to questions and reflecting on energizing or de-energizing experiences could give rise to emotional discomfort. Participants can withdraw at any time from the study. While confidentiality cannot be guaranteed, every effort will be made to maintain the anonymity of participants; they will not be identifiable in the study. The benefit to participants could include increased self-awareness and a deeper personal understanding of their own energy and circumstances that affect the energy of others. The study will make contributions to knowledge in the realms of social psychology, social interactions, and organizational behavior.

5. What is this study about?

This study examines past definitions of human energy and the importance of energy and the role it plays in organization productivity and work environment and in human action. It seeks systematically to enhance past understanding and identify an operational definition of human energy that can be consistently applied across social science in future studies, and, conceivably, provide consilience or contrast with our understanding of energy in other sciences.

6. If I'm interested and I believe I qualify, what is the next step?

If you are interested in participating, the next step is a brief telephone interview to answer your questions and establish that you meet the criteria for the study. Please feel free to contact me with any questions or to schedule a telephone call at 703.430.4198 or 703.200.8057 or by email at mttaylor129@verizon.net or mttaylor@sprynet.com.

7. Do you know someone else who might be interested in participating?

Please feel free to pass along this study outline to another who you feel may meet the criteria and could be interested in participating.

Thank you for your consideration.

Sincerely,

Mary Theresa Schmidt Taylor
Doctoral Student
The George Washington University.

APPENDIX C:

RESEARCH CONSENT FORM

Defining Energy at Work:
How Human Energy at Work Has Been and May Be Defined

GWU IRB number: 081113
Principal Investigator: Mary T. Taylor, Telephone number: 703.430.4198

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1. Introduction

You are invited to participate in a research study under the direction of Mary T. Taylor of the Department of Human and Organizational Studies, The George Washington University (GWU). Taking part in this research is entirely voluntary.

2. Why is this study being done?

You are being asked to take part in this study because you indicated that you have studied or worked in fields that have established frameworks for defining and describing energy in general, such as physics, chemistry, engineering, technology, and electronics, and in human experience, such as medicine, psychology, and human resources; are at least 21 years old; are reflective and self-aware; and are willing to participate.

The purpose of this study is to explore the meaning, processes, and dimensions of human energy, both individual and collective as perceived by individuals, in the workplace. The research interviews will be conducted at a location that is mutually convenient. A total of up to 20 participants from throughout the U.S. will be asked to take part in this study.

3. What is involved in this study?

If you choose to take part in this study, you will participate in two in-depth semistructured interviews exploring experience of human energy in the workplace—with a focus on the reflection on both conscious and, to the extent possible, unconscious physical and mental activity preceding, during, and after workplace interactions. You will also be asked to do one between-interview activity in a medium of your choosing reflecting on and describing an intervening energy experience at work.

Each interview will be digitally recorded and then transcribed, and you will be asked to review the transcripts to ensure accuracy and completeness. Once the interviews are completed, the investigator will analyze the interview transcripts from all participants, performing a phenomenological reduction of the texts to explore the essence of their experiences.

When the dissertation is completed, recordings, transcripts, and study materials will be retained and secured for possible audit and for future studies. In future studies, audio or

(if submitted by participants) video files or tapes may be used for sound and movement analysis for indications of energy levels or qualities. If at some point the researcher determines that the study materials will not be used in future studies, they will be destroyed (e.g., files will be erased, hard media will be shredded, paper copies will be shredded or burned).

The following activities are specifically research related: interviews and review of transcripts. The total amount of time you will spend in connection with this study is approximately 3 hours.

4. What are the risks of participating in this study?

There are no physical risks associated with this study. Participating in this study poses no risks that are not ordinarily encountered in daily life. There is, however, the possible risk of loss of confidentiality. Numbers, and not participants' names, will be used in the transcript, and aliases, not participants' names, will be used in the dissertation written from this study. All hard copies of transcripts will be kept in a locked container and electronic files will be secured by an encrypted firewall using continuously updated security. Every effort will be made to keep your information confidential; however, anonymity cannot be guaranteed.

It is possible that responding to questions and reflecting on energizing or de-energizing experiences at work could give rise to emotional discomfort. You may refuse to answer any of the questions, and you may take a break at any time during the study. You may stop your participation in this study at any time.

5. Are there benefits to taking part in this study?

You will not benefit directly from your participation in the study, though the interviews and questions about your experience of human energy at work may be useful and interesting to you in terms of greater self-awareness and a deeper personal understanding of your own energy at work and circumstances which affect the energy of others.

The benefits that might result from this study are threefold. First, the study seeks to identify an operational definition of human energy that can be consistently applied across social science in future studies, and, conceivably, provide consilience or contrast with our understanding of energy in other sciences. Second, this study may provide insights into the circumstances that enhance and focus human energy at work, or diminish and scatter it. These insights could be explored in other studies of energy at work or in other contexts. Third, this study may inform management practices in the workplace and the development of managers to facilitate more energizing experiences for employees and avoid practices that diminish energy or transform it into counterproductive forms.

6. Will I receive payment for being in this study?

You will not be paid for taking part in this study.

7. Can I be taken off the study?

The investigator can decide to withdraw you from the study at any time. You could be taken off the study for reasons related solely to you (for example, not following study-related directions from the investigator) or because the entire study is stopped.

8. How will my privacy be protected?

If results of this research study are reported in journals or at scientific meetings, the people who participated in this study will not be named or identified. GWU will not release any information about your research involvement without your written permission, unless required by law. Audio recordings of interviews, written transcripts, and other research records will be handled carefully to support confidentiality. Recordings will be erased once the dissertation is completed. Participants will be assigned an alias; no actual names will be used in the analysis documents, final dissertation or subsequent publications. Direct quotes will be used using only the alias assigned; participants will not be identified by actual name.

9. Problems or Questions

The Office of Human Research of The George Washington University, at telephone number 202-994-2715, can provide further information about your rights as a research participant. If you think you have been harmed in this study, you can report this to the Principal Investigator of this study. Further information regarding this study may be obtained by contacting Andrea Casey, Principal Investigator, at telephone number 202.994.1152. For problems arising during evenings or weekends, you may call Mary T. Taylor at 703.430.4198 or email mttaylor129@verizon.net .

_____
Print Your Name

_____ _____
Your Signature Date Signed

***Please keep a copy of this document in case you want to read it again.**

APPENDIX D:

INSTRUCTIONS FOR THE ACTIVITY BETWEEN THE TWO INTERVIEWS

Here are the instructions regarding the between-interview activity, which will also help me to understand your experiences with energy at work. If you have any questions, you may contact me: email, mttaylor129@verizon.net; phone (H), 703.430.4198; phone (C), 703.200.8057.

Please select a human energy experience at work that you have between this interview and our next interview and communicate that experience to me in the most effective way you can think of. You can use any medium that works for you, *such as a drawing, painting or sculpture, a video of you dancing or acting out energy experiences, a poem, etc. It may include a written description in your own words about the experience*. **Note: If you use voice, photo, or video that includes other individuals, you will need to get each person's signature on the GWU audio video release form available at http:www.gwumc.edu/research/human/inside/forms/files/Audio_Video_Release_Form.doc.**

Use these interview questions to help you notice everything you can about the energy, and also include any other information that the questions don't address.

You may use any medium you find useful in conveying to me your experience of human energy in the workplace. It will be effective if you can use the medium to help you recall and communicate to me your experience.

Interview Questions

For the purpose of this study, energy is defined as *"the force or power of human movement, action, change, or being"* (Taylor & Casey, 2010, p. 2; Taylor & Casey, 2011, p. 4).

RQ1.	How do you define or describe human energy? (Describe how you experience awareness of your energy.)
RQ2.	• I'd like you to tell me a story in which you experienced energy and then experienced a noticeable **change** in human energy in the workplace. Please describe the outcomes or products of the human energy in the workplace story. • Looking to future situations like this, how would you plan or prepare for your experience?
RQ2a.	• How did you recognize or notice the human energy you perceived before you experienced the change in energy? • How did the energy first come to your attention? • How did the **change** in energy come to your attention? (What was different about it?)

RQ2b.	• What can you tell me about the human energy? What are all the ways you could describe it? What actions did you notice? • What effects did you notice? • Please share your thoughts, feelings, and actions about that energy. • What can you tell me about the change in energy: the actions, effects, thoughts, feelings that changed when the energy changed?
RQ2c.	• What was happening around you as you experienced the human energy? • *If a social interaction is described:* What was happening around or external to the group or two-person interaction in which you experienced the human energy? • What was happening around you as you experienced the **change** in human energy? • What was happening around or external to the group or two-person interaction in which you experienced the **change** in human energy?
RQ2d.	• What was happening inside you as you experienced the human energy? • What are all the ways you could describe it? What actions did you notice or take? • What effects did you notice? • Please share your thoughts, feelings, and actions about that energy experience. • *If a social interaction is described:* What was happening within the group or two-person interaction in which you experienced the human energy? • What are all the ways you could describe it? What actions did you notice or take? • What effects did you notice? • What do you think were the others' thoughts, feelings, and actions about that energy experience as they took part? • What do you think were the thoughts, feelings, and actions of those who were outside the interaction, observing it? • Please share your own thoughts, feelings, and actions about that energy experience. • Now, let's go through those same questions in regard to the **change** in human energy.
RQ3.	• Now, if you haven't already done so, in the story you just told me, I'd like you to focus on and describe the noticeable changes of human energy in the workplace. • **Note: The change question is explored above using the same scenario the participant described for Research Question 2.**

APPENDIX E:

COMPOSITE TEXTURAL-STRUCTURAL DESCRIPTION

Energy emerged at work (and in general) in a conscious identity and sensemaking process in interaction with the environment to sustain be-ing.

Energy is a life force. Awareness of that life force—the sense that one has energy available to apply to a purpose—requires consciousness of oneself as a living, conscious being, conscious of identity as an individual that is part of the larger group of human beings and still larger group of living beings, situated in a larger universe of apparently unconscious, non-living existences.

Greater energy is expressive and expansive. The individual being is more competent and autonomous to act and feels more connected to self, humanity, living entities, the universe.

In this sense of larger beingness, the individual's focus (conscious attention) moves toward centrality with (not as opposed to) the larger self. The individual and larger selves fuse in identity. There is no loss in energy, but, rather, an increase in energy. Expanded self-identity can reach to close others (such as family, lovers, friends), to groups of which one is a member, and to larger entities, such as nation or social class. The connected identity of being is fundamentally human. The link to the level of humanity is the fundamental leap. Interaction with other levels or clusters of group or social identities will either draw upon or repel the human identity of the individual. Depending on interaction with the environment, the individual will feel drawn centripetally into closer identity with the organization or group and as an expansion of self, a sense of union with the whole, or will be repelled centrifugally from the sense of

membership with the organization or group, and drawn more inward, into the self, for protection and conservation of energy resources.

The more the human identity of the individual is drawn upon and valued, the more expansive and expressive energy will be felt and available to the individual to do the work necessary to achieve the goals of the group and the more efficiently it will be used. The individual will feel drawn to the work and the workplace and will feel joy, satisfaction, and empowerment working there.

The less valued one's human be-ing, contribution, and membership, the more repelled and withdrawn the individual will become. The individual will feel himself or herself to be limited or diminished in relationship, autonomy, competence, and energy and will shrink from interactions. Focusing one's energy on a goal at work will become harder—requiring more energy and wasting some of it in hyper-vigilance and guardedness. Even going in to the workplace will incur drag as the individual feels a centrifugal force and a sense of danger and hyper-vigilance associated with work, even in his or her thoughts outside of work and even when attempting to relax and sleep.

Diminishing energy is experienced as a constriction of the self in a descending spiral of self-doubt, isolation, and impotence, resulting in a reduced state of well-being and life process. At its lowest point is depression and, ultimately, death.

The process for interacting with one's environment is a combination of sensemaking, food- (goal-) seeking, and uniting in central identity through entrained, rhythmic interaction. Sensemaking is part of every consciously attentive encounter with the environment—assessing the nature of the other and its safety or threat, its utility or uselessness for food or goal. Assessment takes the form of questioning and answering,

within self and in interaction with others. In the current state, the individual identifies a lack—either a lack of food fuel or a lack of accomplishment fuel—assesses factors in the distance between food or goal and current status, identifies actions and resources required to close the gap, and then executes the action steps necessary, reassessing with each step and taking new action until the goal is reached. In social interaction, the individual approaches others with desired status—whether food or other resources such as information, wisdom, self-ness (identity)—and seeks to draw closer into a central space. Interactions will become rhythmic, like a heartbeat or precision marching or rhythmic music. If any part of the interaction becomes invalidating of the value of self or the others, repelling from the center will occur, as described above.