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Work Motivation

Past, Present, and Future

Edited by

Ruth Kanfer • Gilad Chen • Robert D. Pritchard

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The Three C's of Work Motivation: Content, Context, and Change

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CONTENTS

At the broadest level, this book is about motivation as it occurs in the most common context of modern-day adult life, namely, the pursuit and execution of organized work. In particular, each of the chapters in this volume provides an overview of major advances, current concerns, and future research needs with respect to a specific aspect of work motivation. The purpose of this chapter is twofold. First, we provide a brief introduction to the field as a whole and highlight communalities among various topics addressed in this volume. Second, we introduce and discuss three broad themes—content,

context, and change—that we think both bind the field and offer important new directions for future research. Comprehensive reviews of work motivation theory and research, including, for example, reviews by Campbell and Pritchard (1976), Kanfer (1990), Latham (2006), Latham and Pinder (2005), Mitchell and Daniels (2003), Naylor, Pritchard, and Ilgen (1980), and Pinder (1998), and in-depth reviews of specific formulations by Locke and Latham (1990) and others (Ambrose & Kulik, 2004; Gagne & Deci, 2005; Kanfer & Ackerman, 2004; Kehr, 2004), already exist; our purpose in this chapter is not to duplicate this work but rather to organize and highlight themes drawn from the rich expanse of extant theory and knowledge.

Introduction

Among developed and developing countries, work represents arguably the most salient and enduring tasks of adult life. Work in adult life contributes to one's security and identity and may dramatically affect the individual's physical and psychological well-being. Over the life course, workforce participation may span a period of five or more decades. During this time, individuals develop and mature, learn new job skills, build domains of task knowledge and specific work competencies, and form, modify, and dissolve powerful relational attachments. As many of the chapters in this volume attest, the scope of work motivation research has shifted dramatically from the performance-centric view that dominated much of the 20th century thinking to a more integrative person-centric perspective that emphasizes how features of work, operating in the context of culture, nonwork demands, and employee characteristics affect an array of personal and organizational outcomes, including adult development, employee well-being, job performance, innovation, and work adjustment. In this maturation of the field, an individual's work motivation reflects not just the opportunity for improving organizational productivity, but also a window into the effectiveness of an organization's management of human capital in terms of promoting performance, adjustment, and growth at the individual, group, and organizational levels.

At the same time, scientific theory and research on work motivation have grown increasingly multifaceted. Renewed interest in motivational dynamics has spurred research on several new topics, including multiple goal regulation, typical versus maximum performance, task and contextual performance, and job withdrawal and burnout. As Dalal and Hulin (this volume) note, these developments highlight the importance of understanding how motivation processes influence not only the direction and intensity of action, but also persistence or continuity of action—over the workday, weeks, months, and years.

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Work motivation, like all motivational processes, is also subject to change as a function of the external forces that comprise an individual's world. The impact of the workplace environment on motivation is well recognized and provides the rationale for a host of organizational inventions designed to enhance employee motivation. Recent trends in economic globalization, new work technologies, and increasing workforce diversity, however, have led to greater recognition that work design and workplace conditions represent only one of many external forces that impinge on the individual (Ilgen & Pulakos, 1999). During the past 15 years or so, interest in understanding the nature of these external forces has led to the development of multilevel models that better delineate the different pathways by which societal culture, social and technical organizational and work unit systems, and personal circumstances influence motivational processes and their outcomes.

Corresponding to the rising interest in understanding the roles played by diverse external forces on work motivation, new theory and research has emerged to delineate the complex nomological network of biological, personality, and affective systems from which individual differences in motives, values, traits, and goals manifest. Recent evidence indicating the role of nonconscious processes and trait constellations on work motivation, for example, has led to the greater use of nonability measures in personnel selection, and to workplace interventions that aim to more effectively engage individuals and reduce stress and burnout.

Taken together, recent advances in work motivation offer a plethora of opportunities for scientists and organizational practitioners interested in the understanding, prediction, and remediation of issues pertaining to how, why, and when individuals engage and invest attention, energy, time, and other personal resources in their work.

Work Motivation: An Interstitial Definition

Work motivation is commonly defined as the psychological processes that determine (or energize) the direction, intensity, and persistence of action within the continuing stream of experiences that characterize the person in relation to his or her work (Kanfer, 1990). As many have noted, such a definition essentially describes operations in the small space that unifies cognition, affect, and behavior. Work motivation is not a property of either the individual or the environment, but rather the psychological mechanisms and processes that connect them.

Work motivation is also more precisely defined as the set of processes that determine a person's intentions to allocate personal resources across

a range of possible actions. This definition emphasizes the distributional aspect of motivation, and accounts for the critical process by which an individual exerts control over his behavior. As Pritchard and Ashwood (2007) note, motivational control over behavior is achieved largely through allocation of resources across actions. Abilities are relatively fixed; to change skill level, one must apply attentional effort and energy to relevant training tasks. Similarly, covert thought processes can be changed, but only by applying effort and energy toward different ways of thinking. Although emotional reactivity may be importantly influenced by biological and developmental influences, emotion control typically requires the application of effort and energy to internal or external actions that are presumed to influence those emotions. This line of reasoning suggests that although motivation entails both the determinants and execution of the resource allocation process, it is typically the distributional aspect of motivation that holds greatest sway in changing behavior. In other words, behavior change is achieved as a function of change in the allocation of resources, irrespective of the sources that instantiate or prompt the change. It also suggests that to change behavior, we must understand motivation.

Work motivation has long been recognized as an important determinant of personal and organizational accomplishments. The centrality of work to personal well-being is rarely debated, as exemplified by the relatively robust finding that general mental health is negatively related to the length of time an individual seeking work remains unemployed (McKee-Ryan, Song, Wanberg, & Kinicki, 2005). In particular, unemployment and underemployment appear to exert a negative effect on self variables and attitudes central to internal motivation (see Feldman, 1996). The centrality of work motivation to organizational accomplishments and productivity, however, is far more controversial. Clearly, work motivation is more likely to affect the bottom line in organizations that are labor-intensive and in work settings where employees have greater control over both the means and level of production. But the impact of work motivation on organizational accomplishments depends on more than just employee motivation. Market conditions, organizational strategy, and management practices, for example, may account for the lion's share of the overall variance in organizational effectiveness or profitability among organizations characterized by either highly motivated or indifferent workforces. Although prior research shows that motivational interventions can have a clear impact on organizational productivity at the work group level (Guzzo, Jette, & Katzell, 1985; Sawyer, Latham, Pritchard, & Bennett, 1999; Pritchard, Paquin, DeCuir, McCormick, & Bly, 2002), it is important to remember that to generalize such findings to the organizational level of analysis is not a straightforward issue.

Our general definition of work motivation is quite similar to the general definition of human motivation found in many life arenas and across

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the life span. That is, motivation is not directly observable, represents a complex set of closely coupled and reciprocal relations among cognitive, affective, and action processes, and must be inferred from analysis of person and situation antecedents and consequences. Nonetheless, two important features distinguish the study of work motivation. First, work motivation pertains to the determinants and consequences of organized work on the individual's cognitions, attitudes, emotions, and behaviors. Early theories of work motivation emphasized these inputs and outcomes as they occurred *in the workplace;* modern formulations have broadened the setting to include nonwork inputs (e.g., family demands) that may affect workplace outcomes as well as to consider the consequences of work life on outcomes that occur beyond the workplace (e.g., life satisfaction). In all formulations, however, characteristics of work, rather than family or social relations, are represented as "figure" rather than "ground."

The second distinguishing characteristic of work motivation pertains to the use of organizationally relevant outcomes as the primary means for deciding which aspects of the ongoing stream of behavior will be studied and what constitutes the appropriate unit of analysis. For example, core technologies for efficient production of goods and services have historically increased attention to different features of the criterion landscape, or what aspects of behavior we most need to predict. Work motivation theories dominant in the United States in the early to mid 20th century, during the period of heavy industrialization, tended to emphasize quantity and efficiency, rather than organizational citizenship behavior or employee adaptability. Organizational concerns related to the high cost of training, replacement, and turnover promoted the use of choice theories to predict retention. New technologies that demand the use of teams for positive organizational outcomes, such as occurs in military and medical settings, have begun to reset motivational analyses toward an understanding of how motivation processes influence outcomes such as communication, coordination, and cooperation. In this way, the ever-changing needs of societies, organizations, and individuals create discontinuities in our accumulation of knowledge.

Summary: Work Motivation Defined

With this discussion in mind, we can now summarize our definition and conceptualization of work motivation. At the broadest level, work motivation is a psychological process that influences how personal effort and resources are allocated to actions pertaining to work, including the direction, intensity, and persistence of these actions. More specifically, we note the following features:

- Motivation varies within and across individuals, and across situations for the same individual.
- Motivation is not directly observable and must be inferred from person and situation antecedents and consequences.
- Motivation is determined by the combination of individual and environmental characteristics and represents a set of psychological processes that connect and integrate these forces.
- Motivation is subject to change as a function of forces internal to the individual as well as external to the individual, either in the work environment or outside that environment.
- The primary feature of the motivational process is the coupling between intentions and the allocation of resources toward specific actions. Intentions and actions can change rapidly as a function of change in the individual or the environment, and vary in terms of scope, timescale, and complexity.
- Motivation as the allocation of resources to different actions includes the concept of self-regulatory or implementational processes.
- The dedicated allocation of resources to actions represents the primary means of personal control over behavior. Therefore, to change behavior, one must change motivation.

Work Motivation: A Cumulative Science

During the 20th century, substantial scientific progress in work motivation was made on several fronts. Early theories of motivation emphasized the motives for action as they influenced choice of activity and intensity of effort. Theory and research in personality and social psychology during the mid to late 20th century led to the consensual identification of major motive classes and the investigation of attitudes as a crucial determinant of intentions and goal choice. General theories of motivation, such as Atkinson's achievement motivation theory (1957) and Maslow's need hierarchy theory (1943), identified basic motives as well as the processes by which such motives affected the salience and choice of goals and behavior. In industrial/organizational (I/O) psychology, theories of work design, such as Hackman and Oldham's (1976) job characteristics theory, focused on the mediating and moderating roles of individual differences in basic motive-based variables. During the mid 20th century, research in cognitive and behavioral psychology offered new insights into the mechanisms, or circuitry, underlying choice processes and the entrenchment of condition-response relations. Vroom's valence-instrumentality-expectancy theory (VIE; Vroom, 1964) and Naylor, Pritchard, and Ilgen's theory of organiza-

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tional behavior (1980) offered versions of general expectancy theory tailored to analysis of motivational processes in the workplace. Toward the end of the 20th century, growing interest in the motivational processes by which individuals accomplished difficult or protracted objectives led to the use of goal-striving/self-regulation theories developed in the social-cognitive and clinical psychology literatures. Prominent approaches in this tradition include Locke and Latham's goal-setting theory (1990), Bandura's social-cognitive theory (1986), Carver and Scheier's cybernetic control formulation (1981), and Kanfer and Ackerman's resource allocation model (1989). Recent formulations by Dweck and Leggett (1988), Gollwitzer (1990), and others (e.g., Higgins, 1998) emphasize the link between goal choice and goal striving, and have been used to examine the common causes and the reciprocal nature of these processes as they affect different motivation outcomes. Late-20th-century theories have emphasized implicit and nonconscious motives (e.g., Brunstein & Maier, 2005; Kehr, 2004), multilevel, dynamic processes (e.g., Chen, 2005), and affective influences on choice and self-regulation (e.g., Weiss & Cropanzano, 1996). Results of this recent work have both broadened and deepened our understanding of the multiple forces that operate on motivational processes during goal choice and execution.

The popularity of different work motivation theories has waxed and waned over the decades, as basic tenets of the original theory have been empirically disconfirmed, or the weight of revisions necessary to fit the theory to the data was simply too great and the theory fell out of favor (e.g., Wahba & Bridwell, 1976). And in yet other cases, new findings or events prompted a paradigm change in which the old theory was replaced by a different formulation (e.g., Higgins, 1998; Kanfer & Ackerman, 1989; Latham, Erez, & Locke, 1988). Although these transformations have sometimes led to the conclusion that further progress in work motivation research was stalled, we argue that such changes represent evidence of real progress in the accumulation of knowledge. Indeed, all productive work motivation theories tend to share one important feature: a tendency to sacrifice completeness for precision. Such sacrifices are not inherently bad but must be understood for their purpose in contributing to the big picture, rather than representing the picture in its entirety. A broad review of theoretical and practical developments over the past century suggests that it has been a productive century for the field.

A Thematic Heuristic

A perusal of the work motivation literature suggests that motivation theories are like shoes. A few pairs seem to work well for most occasions, but

no one pair works for all situations. Some shoes are elegant but work only with certain outfits; other shoes are elegant but do not fit the feet well. Yet other shoes are ideal for specific purposes, like hiking. Great-fitting everyday shoes wear down and occasionally need repair; at some point, styles change and such shoes may be discarded in favor of newer styles. Selecting the right pairs of shoes to take when traveling requires careful consideration of what is needed and match to clothing style.

In work motivation, goal choice and goal-striving formulations occupy center stage in our closet of motivation theories. Nearly all other contemporary theories of work motivation make use of or contact with core constructs in these formulations, though in different ways and with different emphases. Constructs that form the foundation for this portion of the framework include expectancy, valence, instrumentality, goals, commitment, self-efficacy, effort, and feedback (see Klein, Austin, & Cooper, this volume; Mitchell, Harding, Lee, & Lee, this volume). The mechanisms by which goal choice and goal striving take place are specified by several well-established theories, including expectancy value theories (e.g., Vroom, 1964), social-cognitive formulations (see, e.g., Bandura, 1981; Locke & Latham, 1990), resource allocation models (Kanfer & Ackerman, 1989; Naylor et al., 1980), goal orientation theories (e.g., Dweck, 1986; Higgins, 1998), and implicit motive/neurocognitive approaches (e.g., Kehr, 2004; Diefendorff & Lord, this volume). Some perspectives are particularly suited to explaining how goals develop and are contoured; other perspectives explain how features of work, social relations, and time influence affect or behavioral engagement/disengagement.

In addition to these formulations, there are other theories that partially overlap with goal choice and goal-striving theories but highlight different aspects of work or the person that influence work motivation, including, for example, self determination theory (Deci & Ryan, 1985), organizational justice theories (Greenberg & Cropanzano, 1999), regulatory focus theory (Higgins, 1998), and leadership theories (Zaccaro, this volume). It is quickly apparent that there is no one theory (or intervention) that comprehensively explains (or remedies) all work motivation difficulties and fits all situations. Nor, as most scholars agree, is there likely to be one in the near future since, increasingly, newer models are designed to address a particular set of conceptual issues or problems. Like shoes, the selection of a work motivation approach appropriate for a given problem depends largely on three factors: (1) what exists in the scientific closet, (2) situational demands, and (3) the beholder's eye for a match.

Rather than try to map a "big picture" of all the major work motivation formulations, we propose that the field can be best conceptualized as a broad, embedded, and dynamic confederation of constructs and mechanisms that operate at different levels of analysis and on different timescales. Research within and across different theory/research clusters

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addresses the basic principles and processes governing the nature of relations among key constructs in a particular portion of the framework. What unites theories and clusters is their function—to explain the internal (e.g., cognitive, emotional, physiological) and external (e.g., social, technical) influences on the direction, intensity, and persistence of action.

Nonetheless, we believe that work motivation knowledge can be fruitfully systematized. Consistent with the chapters in this volume, we propose that such knowledge can be broadly organized along three broad themes: content, context, and change. In particular, the premise of this organization, and the key thesis of this volume, is that progress in the work motivation literature will likely involve better understanding of the content of work motivation, as well as understanding of how motivational constructs and processes operate across work-related and life changes, and how the context in which people work and live affects the content and function of work motivation. We suggest that future progress in content theories of work motivation will strongly depend on the extent to which we consider adequately context and change factors. Next, we describe these themes and how they are treated in this volume.

Content

Content refers to theory and research directed toward understanding the individual's internal mental structure and the operations by which the self and external events gain meaning and drive motivated action. Content determinants of work motivation reflect the impetus for action, are generally considered intrinsic, and may be "hardwired," "prewired," or learned. Research in this stream typically examines biological, cognitive, personality, and affective systems as they shape relatively stable individual differences in preferred actions, settings, and strategies. Perhaps the most well known of all approaches, content formulations provide the foundation for frequently studied individual difference determinants of motivation, such as needs, motives, traits, and values. These psychological variables have been repeatedly shown to exert substantial influence on the selection of work goals and patterns of goal striving.

Several chapters in this volume address abiding content issues. At the most basic level, the role of biological variables and their expression as individual differences in personality, affect, and cognition are widely recognized in the motivation sciences, though less well studied to date than the role of individual differences in personality, affect, and cognition. Many reasons may be offered for this state of affairs, including but not limited to the relatively more recent development of the field of cognitive

neuroscience compared with personality and emotion, differences in conceptual level and unit of analysis, and difficulties in scaling up findings from the psychophysiological and neuroscience literature to the complex behaviors of interest in work motivation. Nonetheless, as the chapter by Diefendorff and Lord (this volume) suggests, findings in the neurocognitive domain provide the foundation for understanding the cognitive architecture underlying nonconscious motivation processes.

Recent neurocognitive theories of personality and affect also provide growing support for contemporary theories of personality structure and affect that, in turn, serve as proximal internal influences on motivation processes. Substantial research, for example, shows general support for the biological basis of key personality traits, such as neuroticism and extraversion, and their mapping, at multiple levels of analysis, to a two-dimensional structure (see, e.g., Heller, Schmidtke, Nitschke, Koven, & Miller, 2002). In organizational research, a burgeoning literature exists on the impact of these personality and affective variables on both goal choice and goal striving. Chapters by Diefendorff and Lord (this volume), Klein, Austin, and Cooper (this volume), and Mitchell, Harmon, Lee, and Lee (this volume) address the important role of these variables across the motivational landscape. As these authors indicate, research using the Big Five model of personality as well as recent research investigating individual differences in motivational orientation (e.g., approach/avoidance, regulatory focus, goal orientation) have become increasingly precise with respect to tracking the influences of affective and dispositional tendencies on motivational processes.

Chapters by Klein, Austin, and Cooper (this volume) and Mitchell et al. (this volume) address the structure, function, and dynamics among goal choice and goal striving in motivational processing. As noted in both chapters, both individual differences and external forces contribute to what populates these structures and their organizational arrangement. In addition to more well-established models of goal choice based on variations of expectancy value theories, Klein et al. address advances based on recent trait conceptualizations, such as goal orientation and regulatory focus, that serve to condition goal deliberations and selection. Major issues in this area pertain to understanding the network of relations, how various portions of the structure gain and lose salience, and the mechanisms by which individuals manage multiple goal pursuit.

Context

Interest in the influence of context has burgeoned over the past two decades. Research on motivation can be found in almost every work life

setting, including school-to-work transitions, job skill training, job search and employment, socialization, on-the-job performance, employee development, work design, teams, organizational change, and career development. Chapters by Wanberg and Kammeyer-Mueller (on work life transitions, this volume), Parker and Ohly (on work design influences, this volume), Feldman and Ng (on career development factors, this volume), and Boswell, Colvin, and Darnold (on organizational systems influences, this volume) delineate the motivational issues and advances in many of these settings.

The effect of context on motivation has also been studied from cross-cultural/sociological, multilevel, and social-developmental perspectives that go beyond the task-specific setting to investigate how sociocultural, team/unit level, leader relations, and nonwork factors influence work motivation. In their chapter on nonwork influences, Kossek and Misra (this volume) outline many of the adult developmental tasks that compete for an individual's time and attention, and how such conflicts may influence work motivation, mental health, and performance. Chen and Gogus (this volume) examine motivation using a multilevel perspective to understand the influence of team activities on individual and team-level goal choice and goal striving. Zaccaro's chapter on leadership (this volume) takes a close look at how interpersonal relations with a supervisor, manager, or leader develop and alter work role engagement and persistence. Adopting a cultural perspective, Erez (this volume) describes how societal cultures shape individual values, organizational cultures, and the salience of different employee work goals and activities. In a global workplace, cultural conflicts can be expected to occur with increasing frequency and may exert unique and potentially deleterious effects on work motivation.

Change

Motivation is a dynamic process that occurs over time. Although all studies of work motivation implicitly recognize this dimension, relatively less attention has been paid to understanding the relations between motivational processes operating on different timescales and work outcomes. Nonconscious affective responses to work incidents, for example, may yield no immediate observable changes in work behavior but cumulate over time to alter motivational processes and longer-term performance patterns. Similarly, singular events, such as involuntary job loss, may modify long-term work goals and strategies for accomplishment.

Time also enables the entrainment of work motivation processes and well-being over the work lifetime. For example, studies by Frese and his

colleagues (Frese, Kring, Soose, & Zempel, 1996) on personal initiative in East versus West Germany vividly illustrate how long-term placement in sociocultural and workplace environments that severely constrain opportunities for self-directed action may exert detrimental influence on the development of action tendencies and self-regulatory strategies. Results of longitudinal research by Schooler and her colleagues (e.g., Schooler, Mulatu, & Oates, 2004) further indicate that individuals who perform more intellectually demanding and self-directed work show higher levels of cognitive functioning and a higher level of self-directed orientation across the work life span than persons who work in less complex or demanding jobs. These findings suggest that internal and external forces exert dynamic and reciprocal influences on work motivation throughout the work life span.

Advances in research methods, ranging from psychophysiological measures to experience sampling techniques, have made it possible to more readily access events and processes that occur in the stream of behavior that long eluded precise study. At the same time, advances in quantitative methods enable analysis of multilevel data and detection of lagged and sequential effects. Ployhart (this volume), in his chapter on measurement issues and strategies, addresses some of the problems and solutions for selecting the appropriate unit of analysis and modeling temporal influences. Related discussions of how to conceptualize change over time at multiple levels also appear in Dalal and Hulin (this volume), Chen and Gogus (this volume), and Mitchell et al. (this volume). The increasing popularity of multilevel models, as a means of understanding change in both the individual and external forces, as well as their cross-level and cumulative influences, represents an important new trend in work motivation research. We believe the temporal dimension offers an exciting new means by which to explain practically important phenomena, such as work withdrawal and attachment.

Summary and Overview

The three C's of work motivation represent the fundamental building blocks for progress in the field, and examples of progress in each area can be found in every chapter in this volume. The organization of chapters in this volume follows our heuristic scheme with a few exceptions. The first section, "Foundations," includes chapters by Ployhart, and Dalal and Hulin on arguably the two most pressing issues confronting work motivation science at present: how we conceptualize and study work motivation and our criteria. As these chapters suggest, we are entering a new era characterized by more complex designs, increased precision in model specifica-

tion, and a more person-centric view of motivation outcomes. The second section, "Person Constructs and Processes," focuses on developments in the content domain, with particular emphasis on individual differences and the core psychological mechanisms and processes involved in work motivation. Returning to our shoe analogy, research and discussion of goal choice and goal striving in these chapters indicate that basic formulations are undergoing revision to address contemporary questions related to nonconscious processing, goal formation, and multiple goal regulation.

Working outward from the individual, the third section of this volume, "Proximal Environmental Influences," is comprised of chapters that address local influences on action as they occur in the context of work, including chapters on the influence of work design, teams, leadership, and organizational practices. In each of these chapters, a prominent role is given to understanding how structural, social, and interpersonal aspects of work may influence work motivation and its outcomes. The fourth section of this volume, "Temporal and Distal Contextual Influences," addresses influences external to the immediate work environment, including influences that operate over age-related periods of work life (training, employee development, career transitions) as well as more pervasive and enduring personal and cultural influences.

The final section of this volume, "Future Prospects," recognizes the relationship between work motivation and allied fields of social science concerned with the individual and work. Essays by leading figures in legal, technological, economic, and sociopolitical arenas provide an understanding of how our knowledge about work motivation may inform progress in these areas and how recent trends in these areas presage new challenges in work motivation. In the final chapter, we review advances in the field and summarize promising new directions for theory and practice.

Taken collectively, we hope that the chapters and essays in this volume may set a stimulating stage from which to further advance our understanding of the complex interplay among multiple forces that influence and are influenced by work motivation. The centrality of motivation to organizational effectiveness, worker adjustment, and well-being, together with the centrality of work life in the modern world, accord such progress both scientific and societal importance.

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16

Work Motivation: Forging New Perspectives and Directions in the Post-Millennium

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CONTENTS

Work motivation represents one of the more enigmatic topics in work and organizational science. The chapters in this volume make it clear how complex this topic is. This concluding chapter is not meant to be a summary of these chapters. Instead, we offer a structure to help understand this complexity, identify major themes and future research directions, and present our thoughts on potential practical utility of this work. Scientific advances during the 20th century greatly improved our knowledge about the determinants, processes, and consequences of motivation related to work. Programs of research guided by expectancy-value theories, self-regulation and goal-setting formulations, social exchange and justice approaches, and self perspectives (e.g., self-determination theory), in turn, stimulated the development of new organizational and managerial practices to promote positive worker attitudes and enhance job performance. Yet, a quick perusal of the popular literature suggests that developing and maintaining a motivated workforce remains a major challenge in contemporary organizations. Why, in the face of so much progress, is the successful management of worker motivation so elusive? There have been attempts to describe motivation theory in ways managers can understand (e.g., Pritchard & Ashwood, 2007); however, in this chapter we propose that the principal reason for this state of affairs lies not (as is often suggested) in a basic disconnect between theory and practice, but rather in the complexity of the problem.

Motivation in Perspective

It should be clear from the chapters in this volume that work motivation covers an immense scientific territory. One way to put all this into perspective is to organize this territory in terms of four major foci: (1) basic

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motivation processes, (2) proximal person-situation antecedent influences, (3) motivation-outcome linkages, and (4) partly exogenous influences. Many research programs have been devoted to basic questions about the operation of motivational processes as they occur in the workplace (e.g., the goals an individual adopts, the intensity of action and effort devoted to job performance, the reliability of work behavior, and the tenacity of goal pursuit). Other basic research aims at understanding the influence of affective traits and states (e.g., anger) on motivational processes and their outcomes. A second foci of research investigates how personal attributes (e.g., conscientiousness) influence and interact with situational conditions to affect motivational processes. A third area focuses on elucidating the link between motivational processes and organizationally relevant outcomes, such as job performance, work attitudes, turnover, and employee well-being. Finally, a fourth line of inquiry investigates the impact of partly exogenous factors, such as culture, nonwork demands, and organizational events on motivational processes. Research in this area also includes studies of how job design and setting-specific contexts, such as job skill training, teams, and customer service work, influence motivation and setting-specific outcomes, such as learning, emotional exhaustion, and team performance, respectively. The breadth of the field is further complicated by the diversity of approaches that draw from virtually all areas of psychology, including cognitive science, affective neuroscience, social psychology, personality psychology, and life span development psychology, as well as allied fields such as sociology and communications. With so many approaches and issues, it is often difficult to keep up with new developments, much less to identify the appropriate conceptualization for a specific problem.

Motivation Approaches and Organizational Utility

From an organizational perspective, work motivation represents a key lever in maximizing the use of human capital for organizational success. Different approaches to work motivation often sort themselves out in terms of their potential utility for different organizational functions or objectives. Human resources personnel concerned with effective personnel selection, for example, often use personality trait measures to identify applicants who are more likely to be dependable, passionate about their work, and work well with others to attain high levels of unit performance. Trait-based research on work motivation, investigating the influence of individual differences in dispositions, work interests, achievement orientations, and interpersonal style preferences, is particularly useful in the context of selection, placement, and classification. In contrast, in the context of employee performance management, organizations have often looked to research on the operation of motivational processes. Research

on goal setting, self-regulation, work design, self-determination, and organizational justice focuses on the key mechanisms and architecture of motivational processing and helps to guide the development of managerial, leadership, and compensation strategies that foster employee commitment, high levels of individual and team effort, and task persistence in the face of obstacles. Extending Lewin's famous dictum that "there is nothing so practical as a good theory," it seems safe to assert that today's multiplicity of work motivation formulations offer organizations a wealth of practical strategies for improving motivation for work, skill development, and job performance in a variety of contexts. The problem lies in knowing which one to use when.

Identifying the appropriate scientific approach to address a real-world problem is further complicated by recent economic, technological, and demographic changes. Economic globalization has created a new world. In contrast to the industrial economies of the 20th century, post-industrial economies in the 21st century increasingly produce services rather than goods, and demand that organizations be nimble with respect to adopting new technologies, retooling work roles in response to new demands, and making more effective use of an increasingly diverse, self-directed, and sometimes scarce workforce. These changes pose stiff new challenges for theory, research, and practice in work motivation. For example, steady job growth in the service sector and the increasing use of teams has revitalized and extended research directed toward examining the impact of affect and interpersonal relations on work motivation and its outcomes. The continuous introduction of new technologies into the workplace has raised a host of questions about how best to motivate tenured and often older employees to undertake new skill learning. Workforce trends, characterized by a growing aging workforce, scarcity of talented younger workers, and increased gender and cultural diversity, require reconsideration of the extent to which motivational practices, developed largely from research using young adult male baby boomers, generalize to females, other ethnic groups, workers in different regions of the world, and older workers. Taken together, post-millennium changes in organizational needs, workforce characteristics, and worker wants, needs, and values, have created a wealth of potentially useful future research directions for work motivation theory and research.

Multiple Changing Influences on Work Motivation

A final consideration in understanding what makes work motivation such an enigmatic topic pertains to the sheer number of influences on work motivation. Sociocultural influences; economic conditions; the sociotechnical context of work; individual differences in values, interests, personality, emotion, and motives; abilities; and knowledge all operate simultaneously

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to affect an individual's choice with respect to work goals and the personal resource allocation strategies used to accomplish work goals. These influences also operate on different timescales that exert direct and lagged effects on motivational processes. Work conditions and worker attributes, for example, change naturally and by design, creating multiple paths of influence on work motivation. Changes in the nature of work, brought about by economic developments and shifts in organizational priorities, for example, exert indirect effects on work motivation by changing the value that organizations place on particular employee behaviors and by shifting the rewards that organizations provide for demonstration of those behaviors. In post-industrial economies, adaptability, initiative, teamwork, and affect regulation may be more highly valued by service sector employers than domain knowledge or technical skills. Development and evaluation of managerial practices that effectively motivate the acquisition and expression of these preferred stylistic behavior patterns represents a rapidly growing area of study.

Even on the job, task demands on an individual's motivation change over time. Tasks that are daunting at the outset often become less effortful with practice and the development of knowledge, skills, and behavior routines that facilitate performance. As task demands on motivation decline, individuals and organizations must forge personally meaningful challenges and rewards to sustain high levels of performance motivation and job engagement. Successful completion of a simple tax return typically demands a high level of resource allocation among novice accountants. With experience, however, such returns are easier and may become boring. Employee motivation must be sustained through additional support. Managerial practices must promote the adoption of valued new goals that correspond to organizational objectives, such as assigning more complex tax returns, learning new accounting procedures, or building new client relationships. Although contemporary approaches to work motivation recognize that an individual's motivation may wax and wane over short periods of time and is not always maximal, there is still lack of sufficient understanding of how managers can "energize" employees to sustain high levels of work motivation that will promote further skill learning and performance in response to changing task opportunities and demands.

At the same time, organizations must keep in mind intraindividual change over longer time spans. As adult intellectual and personal development unfolds across the life course, employee needs, wants, work and reward preferences, and capabilities change. Individuals acquire new knowledge and skills, develop new interests and passions, seek new opportunities and rewards, experience new constraints, and build and protect self-percepts of competence and professional identity. And although there is evidence of age- and cohort-related patterns of intellectual and personal development, large individual differences continue to exist in the trajecto-

ries of adult development. Identifying effective strategies to enhance work motivation and its outcomes in an increasingly diverse workforce with respect to age, nonwork demands, work experience, gender, cultural background, interests, and differing levels of socioemotional development is thus a formidable challenge for a growing number of organizations (Erez, this volume; Kossek & Misra, this volume).

Management practices to enhance work motivation among job incumbents have typically focused on broad principles of behavior change that have shown wide applicability across persons. These practices gain traction in the workplace by appropriate matching of organizationally controlled incentives to principles grounded in basic theory and research on human motives for action. As the workforce becomes more diverse, however, it becomes increasingly difficult to develop incentive schemes that correspond well to diverse employee motives and values.

Against this background of continuous change in person attributes and job demands, organizations enact planned and unplanned changes that also affect employee motivation (Boswell, Colvin, & Darnold, this volume; Parker & Ohly, this volume). The introduction of new technologies can change how work is performed, modify patterns of social exchange among workers, and require employees to engage in additional skill training. Implementation of new strategic objectives may entail organizational restructuring and necessitate layoffs that shift the dominant motivational orientation among employees from one of challenge or achievement to one of prevention and protection from threats to self-esteem and job loss. Changes in team leadership and supervision may introduce new, localized changes that affect work motivation, including, for example, the implementation of group or individual goal setting, changes in the content, frequency, or style with which employee feedback is given, and modification of the incentive structure for organizational citizenship behaviors.

Chapter Objectives

Accordingly, a principal objective of this chapter is to enhance the comprehensibility and potential practical utility of recent theory and research on work motivation in two ways. First, we return to the "three C's" organization of the field presented in Chapter 1 in order to review progress and abiding issues related to content, context, and change, respectively. Rather than reiterate previously described advances and future research needs identified in previous chapters, we focus on providing a broad and integrative view that will hopefully stimulate new thinking about the domain and innovation in how we study work motivation. We then employ an adaptation of Stokes's (1997) quadrant model of scientific research to identify current concerns in the field. According to Stokes, research may be organized into four broad quadrants on the basis of two areas pertaining

to the inspiration for the work: (1) quest for fundamental understanding and (2) considerations of use. Building on the three C's framework, we present a series of research questions organized in terms of their emphasis on science and use. In the final section of the chapter, we address a few remaining issues and provide a few final thoughts on the field.

The Three C's of Work Motivation

As described in Chapter 1, a large portion of research in work motivation focuses on delineating the impact of different personal characteristics (content) and situational conditions (context) on motivational processes and their outcomes. A heuristic model of work motivation as a function of these two themes is shown in Figure 16.1. Several features of this heuristic framework warrant note. First, the model builds upon well-established person-situation interactionist perspectives that emphasize the independent and interactive influences of person and situation factors on work motivation and behavior (see Diefendorff & Lord, this volume; Klein, Austin, & Cooper, this volume; Schneider, 1983). In the Figure 16.1 heuristic, however, the range of person and situation influences is considerably broadened to include nonconscious, biologically based influences as well as pervasive cultural, work unit, cohort, and non-work-life influences, such as caregiving, avocational activities, and social/community relations. Constructs within the content and context themes are further organized in terms of the proximity of their hypothesized influence on each other and motivational processes. Biological influences, for example, are conceptualized as distal inputs to motivational processes that operate largely

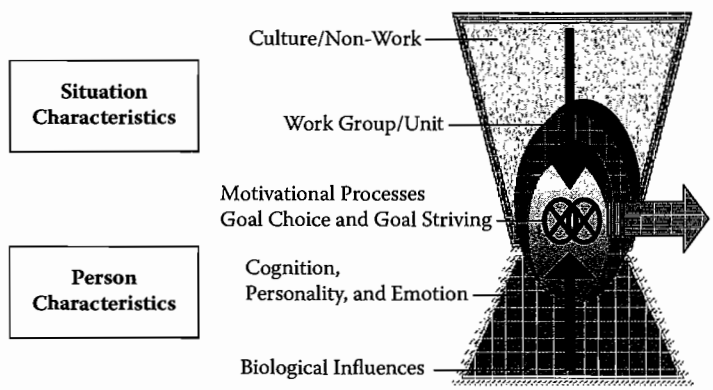


FIGURE 16.1
A prototypical person-situation interactionist model of work motivation.

through their influence on the development of individual differences in cognitive abilities, personality traits, and affective tendencies. Similarly, situational influences are organized in terms of the putative pathway by which they influence work motivation. Cultural and cohort variables, for example, are expected to affect characteristics of the work group or unit, including social norms and communication patterns. Although we assume that distal influences (e.g., biological influences) are mediated by proximal factors (e.g., personality and emotion), it is also possible that distal influences may exert direct effects on motivational processing as well. Changes in non-work-life conditions, for example, may affect goal choice directly, such as when hospitalization of a spouse temporarily reduces commitment to difficult performance work goals, irrespective of work group structure. Finally, as shown in Figure 16.1, motivation processes are conceptualized as lying at the person-situation interface and are encapsulated by person and situation influences. Consistent with extant theories, motivational processes are depicted as two interrelated systems governing goal choice and goal pursuit, or goal striving. The outcome of these processes influences attitudes, affect, and action, most often in the form of direction and intensity of personal resource allocations.

Change, the Third C

Most modern models of work motivation can be reasonably fit to the Figure 16.1 heuristic. But, as suggested in several chapters in this volume, the interactionist heuristic provides an incomplete account of work motivation phenomena. As depicted, the interactionist heuristic is static and does not account for temporal and cumulative changes in variables over time at multiple levels.

We suggest an expanded heuristic framework that incorporates the change dimension to redress these shortcomings. As shown in Figure 16.2, content and context influences continue to represent major input classes to the motivational system. The addition of the time/change dimension, however, permits explication of multilevel influences on different motivation inputs that potentially vary over time. In particular, the addition of a change dimension to the person-situation interactionist model suggests that content and context influences operate in a continuous, dynamic manner to influence motivation processes over time. That is, as indicated by the bold arrows in Figure 16.2, prior motivation, content, and context factors are posited to influence future levels of the factor. Although speculative, we also suggest that there may also be an asymmetry in the malleability of content and contextual factors. By definition, contextual factors represent conditions and events that originate as a consequence of experiences with a changing environment. In contrast, content factors refer to the more gradual development and entrainment of individual

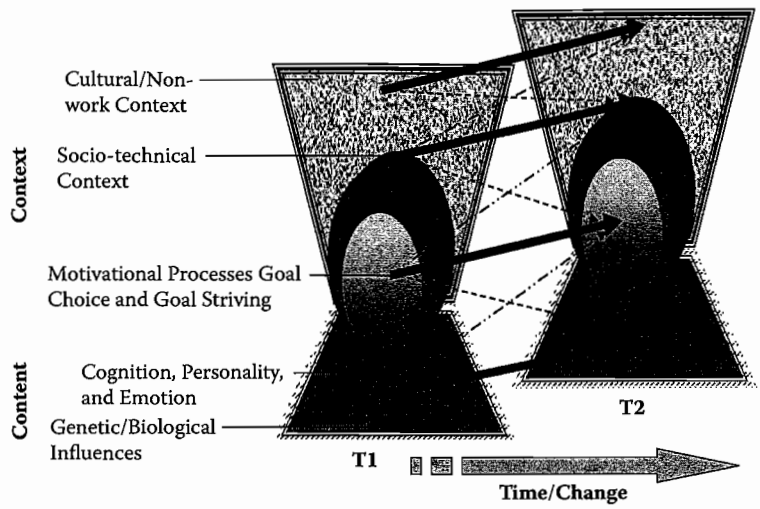


FIGURE 16.2
A heuristic model of work motivation as a function of context, content, and change.

differences in sensitivities and preferences that likely have a strong and relatively stable biological foundation. From a practical perspective, in the adult arena, organizations and individuals are more likely to change work motivation and behavior by changing the context than by changing person variables.

Second, as indicated in Figure 16.2, content, context, and motivation processes are also proposed to exert important cross-level influence over time. For example, an individual's goal choice and striving at T1 may exert a positive affective influence that is reflected in higher self-efficacy judgments at T2. The consequences of goal striving at T1 may also exert upward influence on contextual variables at T2, such as when an individual's goal progress is noticed and emulated by others, or changes the way that work is performed in the unit.

The proposed heuristic model presented in Figure 16.2 also provides a somewhat different perspective for understanding the impact of macro-level organizational events on individual-level work motivation. To illustrate how the heuristic model might be used in this integrative manner, we provide a brief example using an organizational change intervention. Figure 16.3 depicts the impact of an organizational change intervention, such as an organizational merger. As shown, the impact of organizational change is proposed to exert unique effects on contextual and content variables that, in turn, influence motivational processes. In a merger, for example, individuals may experience a disruption of their work environment as old teams from previously distinct firms are dissolved and new, integrated teams and work roles are created. However,

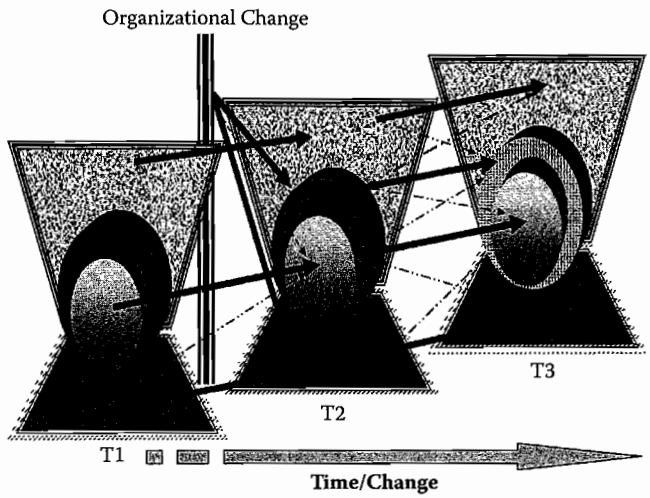


FIGURE 16.3
Influence of organization change program on work motivation.

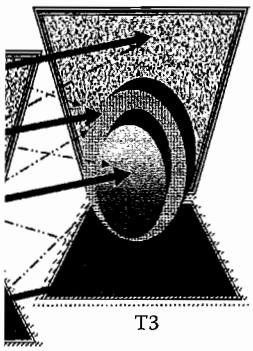
the impact of the change program on work motivation through changes in contextual factors is likely to lag behind the influence on motivation through the changes in personal factors. Organizational change communications regarding workforce needs, for example, may exert a direct influence on goal choice by shifting the individual's goal orientation for job performance from accomplishment to avoiding job layoff. In addition, consistent with expectancy-value models (e.g., Triandis, 1980), the implementation of an organizational change program can elicit cognitive-affective reactions to new work role demands. In contrast, changes in contextual variables, such as work conditions, are likely to exert greater influence on motivational processing over time as the impact of these changes on nonwork demands and the social context of work unfolds and alters employee expectations for performance-contingent outcomes.

Our heuristic conceptualization suggests several important issues for future research in work motivation that are briefly summarized below.

Content

Extant Self-Report Measures of Individual Differences in Nonability Traits and Preferences

Extant self-report measures of individual differences in nonability traits and preferences may fail to capture important person influences on motivational processes. Extant theories of work motivation focus almost exclusively on purposive or explicit goal choice and goal striving. However, as Diefendorff and Lord (this volume) indicate, research in neuroscience and



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e, research in neuroscience and

social psychology provides strong evidence for the important role that implicit, nonconscious processes play in motivation. An emerging body of research, including recent work by Lord and his colleagues (e.g., Johnson, Lord, Rosen, & Chang, 2007; Lord & Moon, 2006) and Stajkovic, Locke, and Blair (2006), show that implicit, automatic processes influence motivational states and explicit motivational processes.

A related line of research investigates implicit motives. In contrast to explicit motives assessed in self-report measures, implicit motives represent individual differences in preferences that are closely linked to emotional processes, are activated by action experiences, and are not consciously accessible (i.e., cannot be assessed through self-report) (cf. Michalak, Puschel, Joormann, & Schulte, 2006). McClelland (1987) proposed three implicit motives—achievement, affiliation, and power—and argued that individual differences in these motives are distinct from explicit motives. Subsequent theorizing and research, for example, by Brunstein and Maier (2005), Schultheiss and Braunstein (2001), and Spangler (1992), indicate that implicit motives influence explicit motivational processes. Kehr (2004) also suggests that implicit motives may interfere with conscious goal striving. Although the evidence to date is largely in terms of motivation and action in the context of relatively narrowly prescribed tasks, the impact of nonconscious processes and motives on work motivation represents a very promising area for future research. For example, individual differences in implicit relational motives (e.g., affiliation and power) may influence the need and effectiveness of conscious attempts to regulate behavior and emotions in jobs that involve extensive interpersonal contacts.

To date, most research on the influence of individual differences on work motivation has investigated differences that can be captured through self-report measures of personality, affect, interests, and values. Identification and valid measurement of nonconscious motives represents a critical first step in this new area (e.g., James, 1998).

Intraindividual Differences in Nonability Traits and Action Tendencies

Most work motivation theories emphasize interindividual differences on work motivation, but do not consider the role of intraindividual differences in person determinants over time. Although interindividual differences (rank order) tend to remain relatively stable across the life span, within-person differences do not. A growing body of research provides evidence for developmental, intraindividual change in work goals, personality traits, and emotion regulation skills across the life span (see, e.g., Kanfer & Ackerman, 2004).

Organizations currently face a host of personnel challenges related to the changing composition of the workforce. Graying baby boomers, increasing age-diverse work groups, and the scarcity of young new entrants into the

workforce have increased attention to age-related issues in virtually every domain of human resource management. Indeed, workers aged 45–65 are the largest-growing segment of the workforce. In the context of motivation, relatively little is known about the origins, developmental processes, or consequences of age-related changes in work values, motives, goals, and goal pursuit. New knowledge in these areas is needed in order to develop evidence-based programs that will motivate older workers to remain in their jobs longer, to participate in intergenerational knowledge transfer, and to update and learn new job skills. Increased knowledge about adult development influences on work motivation will also enable organizations to develop tailored incentive plans and job design systems that enhance work motivation across age and cohort segments of the workforce.

Recent studies by Caldwell, Herold, and Fedor (2004) and Treadway et al. (2005) suggest that organizational change and politics may have a stronger negative effect on work attitudes of older workers than younger workers. Research on job embeddedness (Mitchell, Holtom, Lee, Sablynski, & Erez, 2001) also suggests that older workers may be less likely to leave their job if leaving the job entails loss of important social relations. Such research, however, implies that organizations may keep older workers by making turnover more aversive. We think an alternative, more constructive approach is to better understand what facilitates work motivation (rather than discourages turnover) among this age/cohort group. Kanfer and Ackerman (2004) suggest, for example, that work motivation among older workers may decline as a function of three types of person-job misfit: misfit driven by age-related declines in key person abilities and skills, misfit driven by boredom and lack of challenge, and misfit driven by the absence of meaningful performance incentives. Presumably, motivation should be enhanced by organizational programs that correspond to the type of misfit experienced. For example, self-directed learning sabbaticals and role flexibility may provide a meaningful incentive for older workers who are bored with their job. In contrast, integrated work role/job redesign may be useful for older workers (e.g., pilots) for whom previous high levels of performance become difficult to sustain, despite increased effort.

For some older workers, the decision to remain on the job is driven primarily by financial considerations. Kanfer (in press) suggests that different motivational interventions may be needed for older workers with salient security concerns. For these workers, altering job conditions to reduce age-sensitive barriers to work (e.g., work schedule flexibility to facilitate health care or caregiver nonwork demands) may be most beneficial. Research is needed to identify the constellation of person-work conditions that contribute to different forms of work motivation decline and the efficacy of program components on performance, retention, and work attitudes.

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Reconceptualizing Individual Differences in Nonability Traits

This volume does not include a chapter devoted solely to the influence of individual differences in nonability traits. However, numerous reviews of the literature exist. Guion and Gottier (1965) and Weiss and Alder (1985) provide qualitative reviews of evidence on personality-performance relations through the mid-20th century. Qualitative and meta-analytic reviews of the empirical literature on the influence of broad personality traits on work behaviors and job performance through the late 20th century can be found in Barrick and Mount (1992), Barrick, Mount, and Judge (2001), Hough and Schneider (1996), Kanfer, Ackerman, Murtha, and Goff (1996), Kanfer and Kantrowitz (2002), Latham (2007), Locke and Latham (2000), Naylor, Pritchard, and Ilgen (1980), and Mitchell and Daniels (2003). Reviews of the recent literature specifically directed toward examining the influence of personality traits on work motivation variables and processes are provided, for example, by Ambrose and Kulik (1999), Austin and Klein (1996), Judge and Ilies (2002), Kanfer (1990), Latham and Pinder (2005), Kanfer and Heggestad (1997), Ng, Sorensen, and Eby (2006), Payne, Youncourt, and Beaubien (2007), and Pinder (1998). Although early reviews of personality-performance relations were less positive, a perusal of late-20th-century reviews provides consistent support for the notion that individual differences in select nonability traits exert nontrivial influence on work motivation processes and outcomes.

Three trends in theory and research on the effects of individual differences in nonability traits on motivational processes and outcome warrant note. First, the history of progress in identifying key nonability trait influences on work motivation is largely the history of progress in social-personality psychology. Early-20th-century theory and research in personality psychology focused on the role of individual differences in single motivational traits, such as the need for achievement. Findings by Atkinson (1957) and many others (see Heckhausen, 1991) showed that individuals with higher levels of need for achievement were more likely to adopt more difficult goals and more effective self-regulatory strategies than persons lower in need for achievement. Corresponding to these findings, theories and research in the work and organizational psychology domain often specified individual differences in achievement-related variables as an important determinant of motivational processes (e.g., Hackman & Oldham, 1976; Locke, Shaw, & Saari, 1981).

With the rise of the Five-Factor Model (FFM) in social-personality psychology during the early 1980s, interest in the role of nonability traits burgeoned and work motivation research also shifted toward examination of how Big Five trait constructs, such as conscientiousness, influenced work motivation and job performance. Although conscientiousness incorporates individual differences in achievement, the factor encompasses a constellation of closely related personality traits (e.g., dependability) that

tend to go together. Consistent with earlier findings in the achievement motivation literature, findings obtained using the FFM indicate a positive relation between trait conscientiousness and motivational processes in the context of work (Barrick, Mount, & Piotrowski, 2002; Barrick, Mount, & Strauss, 1993; Colquitt & Simmering, 1998). In the late 20th century, new social-personality formulations by Dweck and Leggett (1988), Higgins (1998), and others (Elliot & Thrash, 2002; Kanfer & Heggestad, 1997) prompted organizational research attention to the differential impact of individual differences in approach and avoidance motives for work-related action (e.g., Wallace & Chen, 2006; VandeWalle, 1997). Although the pursuit of theoretical advances in social-personality psychology has proved quite useful, work motivation researchers have tended to neglect potentially important advances in other individual differences research domains, including intellectual development, developmental psychology, and vocational psychology.

Second, the burgeoning interest in the role of nonability traits in work motivation complements a broader trend toward the development of person-centric formulations of work motivation. Person-centric formulations are best suited for understanding work motivation and performance in the context of "weak" situations or ill-defined work roles that characterize many modern jobs. However, the boundaries of such conceptualizations are not well specified. Further research investigating the factors that alter context strength, for example, by extending recent work by Johns (2006), appears needed to determine when and how individual differences in nonability traits influence work motivation and its outcomes.

Third, and perhaps most importantly, individual differences in nonability traits represent propensities in behavioral consistencies, or action styles, not action per se (cf. Kanfer & Ackerman, 2005). Although it is common to refer to individuals as motivated or unmotivated, such descriptions represent the perceiver's correspondence between the individual's action propensities and a presumably fixed environment—not an attribute of the individual per se. Programmers with a high need for achievement, for example, may show high levels of effort in an important team project, but show substantially less effort on a similar task assignment that is perceived to be boring or meaningless. To facilitate motivated action, individual differences in behavioral consistencies must be aligned with perceived affordances in the work environment. As such, individual differences in conscientiousness (or some other broad person attribute) do not represent motivation, but rather the individual's propensity to behave in particular ways under particular perceived contextual conditions. Turbulence in the job context and influences on how the individual perceives the job context in light of such turbulence plays a critical role in determining when a propensity for action will be expressed in behavior.

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Research to date also indicates that there are important individual differences in the character of behavioral consistencies, and that these consistencies affect motivational processing and its outcomes. For example, there appear to be important individual differences in the amount and direction of attention that is directed to various features of the work environment. Individual differences in motivational orientation related to approach and avoidance tendencies likely capture at least part of this individual difference in environmental sensitivity. Individuals who are approach oriented, or promotion focused, for example, may be less vigilant or affectively reactive with respect to workplace events that have negative downstream implications, more likely to interpret difficult goals from a challenge perspective, and more likely to interpret error feedback and failures independent of the self. In contrast, individuals who are avoidance oriented tend to show greater negative affective reactivity to workplace events, are more likely to perceive difficult goals from a threat perspective, and often interpret negative feedback in connection to the self system. Although psychophysiological research provides support for the existence of distinct motivational systems differentially oriented toward appetitive and aversive events, it remains a task of future research to clarify whether and how these physiological differences in sensitivity scale up to stable tendencies in how individuals interpret interpersonal interactions or changes in the work environment.

A second aspect of behavioral consistencies that is often combined with the first pertains to individual differences in response characteristics. For some individuals, high levels of motivation are accompanied by a pattern of increased vigor and initiative. For other individuals, high levels of motivation may be accompanied by increased cognitive activity or tighter control over self-regulatory processes, particularly emotion regulation. Such differences may also conceivably be a function of which propensity is activated—approach or avoidance dispositions. That is, individuals who are high in approach orientation may respond with vigor, whereas individuals high in avoidance motivation may respond with increased cognitive activity. To date, relatively little is known about the patterns of physiological, cognitive, affective, or self processes activated with different action propensities or inter- and intra-individual differences.

A third general attribute of action styles of particular importance for work motivation researchers pertains to the potential relations among seemingly disparate individual differences, including cognitive abilities, personality traits, vocational interests, and self variables. To date, work motivation research has focused largely on personality traits. But, as Ackerman (1997) notes, the development of personality traits must be interdependent to some degree with ability development, the development of

vocational interests, and self conceptions (e.g., self-concept, self-efficacy). Following this line of reasoning, several researchers (e.g., Ackerman, 1996, 1997, 2001; Holland, 1959; Mischel & Shoda, 1995) have suggested theoretical conceptualizations of the person space in terms of cross-domain trait complexes that operate in an integrated manner to affect motivation and performance. Ackerman and Beier (Ackerman & Beier, 2006; Beier & Ackerman, 2005), for example, provide evidence for higher-order trait complexes that offer incremental predictive validity of domain knowledge and achievement.

For present purposes, the cross-domain conceptualization of individual differences in terms of personality, interests, abilities, and self variables offers a promising new alternative to personality trait studies in work motivation. The first step in such a line of inquiry is to identify basic motivational trait complexes. Previous research in personality psychology (see, e.g., Hogan & Shelton, 1998) and achievement motivation (see, e.g., Kanfer & Heggestad, 1997) provides evidence for the existence of three broad but distinct motives for action in the workplace; accomplishment/mastery, communion/affiliation, and striving/dominance (Barrick et al., 2002; Judge et al., 2001). These motives may also be linked to the three implicit motives proposed by McClelland (1985) through dimensions of self-concept. Research is needed to investigate the viability of trait complexes organized in terms of these three motives. The next step is to examine the unique and differential predictive validity of each trait complex for motivational processes (e.g., self-regulation) and work outcomes. In our view, research is also needed to elucidate how various person attributes (e.g., achievement, interests, abilities, self variables) relate to different aspects of action styles. For example, ceteris paribus, individuals who are high on an accomplishment-oriented trait complex may respond with more planning than individuals who are high on a communion-oriented trait complex.

In summary, the empirical evidence provides support for the widely held notion that individual differences in nonability traits make a difference for work motivation, particularly in the weak work situations characteristic of many post-industrial jobs. Future research is needed in two areas. First, a broader organizational scheme is needed for organizing the full array of relevant person attributes. A cross-domain trait complex approach, which identifies historically disparate variables that go together, seems very promising. Second, research is needed to explore the association between different attribute constellations and different aspects of action styles, such as vigor, affect regulation, and planning. Findings from such research have potential implications for broadening our common understanding for how individual differences in behavioral consistencies are expressed in the workplace.

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Context

Contextual Influences on Work Motivation

Contextual influences on work motivation span more than the immediate work environment. Work motivation theories have traditionally regarded the workplace as the epicenter for contextual influences, and have looked at how organization-driven changes in work design, conditions, and worker relations influence work motivation. In this paradigm, the broader context in which work occurs has been largely ignored. Over the past few decades, there has been mounting evidence to suggest the need for a revised paradigm that includes consideration of both the societal and personal context in which work occurs. Culture, work unit (e.g., teams), cohort, and non-work-life norms, activities, and demands condition the interpretation and value that individuals place on work conditions, workplace relations, and workplace policies. As workforce diversity increases, implicit assumptions about common culture, values, and the primacy of work in an employee's life may diminish the success of workplace design interventions and managerial strategies on work motivation that do not take into account characteristics of the person and the communities in which work occurs. Recent work by Mitchell et al. (2001) on job embeddedness, for example, suggests that community links represent an important determinant of motivation for remaining at a job. Future research is needed to examine the impact of cultural norms, group-based values, and national socioeconomic policies as they affect employee perceptions of work design features and motivation to remain in the organization.

Impact of the Sociotechnical Context of Work on Work Motivation

The impact of the sociotechnical context of work on work motivation may have stronger effects on the entrainment of distinct motivational strategies than on short-term motivational processes and outcomes. Field evidence for the effectiveness of work redesign interventions on employee motivation and performance is typically found through measures of work attitudes and job performance obtained within a year or so after the intervention. However, such evidence often does not address how the design intervention affects employee attrition or changes in goal striving among remaining employees. Over the life course, workplace experiences exert important cross-level influences on person factors that influence work motivation. Individuals who work in high-performing teams, such as crisis response and project teams, for example, may develop interests, values, motives, and capabilities that facilitate high levels of work motivation uniquely suited to that context. In contrast, individuals who work independently or in isolation, such as writers and customer call operators, may develop motivational strategies that are less effective in

a highly organized team context. The entrainment of motivational goal-planning and goal-striving strategies as a function of long-term experience in a particular sociotechnical context remains a significant topic for future research, with potentially important implications for personnel recruitment, selection, and work design.

Change

Fluidity of Work Motivation and Changes Over Time and Conditions

On the one hand, the malleability of an employee's motivation provides the rationale for many managerial practices designed to increase the efficiency of human capital. On the other hand, although work motivation is widely recognized to vary across time and conditions, surprisingly little is known about the determinants of motivational variability. Over the past decade, there has been growing interest in the determinants, characteristics, and consequences of variations in the intensity of work motivation over time (Dalal & Hulin, this volume). Studies investigating the effects of time on task generally show positive relationships between time on task and feelings of fatigue, boredom, decreased motivation, and lower performance (see Ackerman & Kanfer, 2007). At a more macro-level, research by Sonnentag and her colleagues (Sonnentag & Frese, 2003; Sonnentag & Kruel, 2006; Sonnentag & Fritz, 2007) demonstrates the beneficial influence of off-job recovery activities on reducing perceived job stress and improving well-being.

A second line of theorizing and research on variability examines the impact of an individual's future time perspective on motivational processes, including intrinsic motivation and patterns of self-regulation. Research by Raynor and Entin (1982), for example, shows that the intensity of task effort changes over time as a function of time to task completion and the interrelationship of task components. More recent integrative findings by Simons, Dewitte, and Lens (2004) further show that future time perspective influences intrinsic motivation and self-regulatory strategies in student achievement settings. In this perspective, individuals alter their allocation of attention and effort to a task as a consequence of interindividual influences (i.e., future time perspective).

Nonetheless, there is a lot more to learn about variability in work motivation. Perhaps the most basic question pertains to the unit of analysis. With few exceptions (e.g., Weiss & Cropanzano, 1996), work motivation theories regard motivation as a continuous stream. As Dalal and Hulin (this volume) note, however, tasks and goals often serve to demarcate motivation over time. Little is known about how these episodic markers may influence basic motivational processes, including goal choice, goal striving, and goal disengagement (Ployhart, this volume). And, as Mitchell et al. (this volume) note, little is known about the influence of multiple,

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concurrent task assignments on motivational processes. Identifying naturally occurring within-individual and situational motivational episode markers over time represents an important next step in helping to account for motivation over time.

Emerging research on variability in work motivation relies on resource formulations that stress the limited nature of personal resource allocations. Baumeister's theory of ego depletion (Baumeister, Bratslavksy, Muraven, & Tice, 1998; Muraven, Tice, & Baumeister, 1998), for example, proposes that the motivational processes involved in self-regulation represent a limited resource that is consumed and depleted with sustained use over time. From a somewhat different perspective, Hobfoll's (1989) conservation of resources theory proposes that individuals seek to maximize personal resources. Under conditions of job stress, individuals experience resource loss and are motivated to engage in activities that may prevent further resource loss (i.e., resource conservation). Both formulations suggest a negative relation between resource loss and work motivation. Both formulations also suggest that interventions that reduce resource consumption (e.g., job redesign) or permit resource replenishment will enhance motivation and performance. Ego depletion theory focuses primarily on resource losses associated with sustained self-regulatory activities; conservation of resources theory focuses more broadly on resource losses associated with job stress. Since job stress typically initiates self-regulatory processes, the two conceptualizations appear to overlap in the proposed loci of resource loss. A question for future research, however, is the extent to which the theories can also be used to understand how motivational resource capacity can be enlarged or refueled "on line." For example, Hobfoll's theory suggests that work conditions, such as supervisory support, may buffer the negative impact of resource losses associated with sustained self-regulation. As Bakker, Hakanen, Demerouti, and Xanthopoulou (2007) note, research is needed to examine multiform resource depletion and accumulation. For example, Kanfer and Ackerman (1989) found that individuals with higher levels of attentional resources (i.e., cognitive abilities) reported fewer resource-consumptive off-task cognitions during skill acquisition than individuals with lower levels of attentional resources. Similarly, features of the workplace, such as supervisory and co-worker support, may provide individuals with additional resources that buffer or even obviate the impact of self-regulatory resource depletion. In emergency situations and high-risk teamwork, for example, individuals often demonstrate high levels of sustained motivational intensity over long periods. Investigation of how interpersonal interactions may enhance an individual's resource pool appears a promising avenue for future research.

Meta-motivational Developments Over Time: Transformation and Accommodation

As noted previously, most theories of work motivation regard motivation as relatively malleable. But little is known about contextual influences that may facilitate or hinder work motivation as a whole. Research in developmental psychology and neurobiology, for example, suggests that observed variability in complex processes, such as vision, may arise as a consequence of entrainment or transformation of component forces in interaction with each other over time. Research by Frese, Kring, Soose, and Zempel (1996) on personal initiative among East German workers, for example, shows an association between decades of work in highly structured, low-autonomy positions and low levels of personal initiative and persistence in the face of obstacles. Similarly, work environments that create affectively charged incentives for action may transform motivational orientation. Meta-motivational developments that shape regularities in motivational processing take time, and the key features of the individual and environment that contribute to their development are largely unknown. Accommodation (changes in the work environment to accommodate personal needs and motives) and transformation (changes in the person to accommodate the work environment) represent two potential meta-motivational developments, but there may well be others. Exploratory research is needed to identify and delineate the key parameters surrounding the development and resilience of such meta-motivational structures and their potentially unique influences on motivational outcomes.

Work Motivation in Pasteur's Quadrant: Thoughts on Practical Utility

The previous section identified major themes and future research directions with respect to gaps in our scientific knowledge about the determinants, mechanisms, and processes involved in work motivation. According to Stokes (1997), the aim of such research is to improve our scientific understanding of the phenomena. Stokes named this pure research quadrant after Niels Bohr, a Danish physicist who won the Nobel Prize in 1922 for his theoretical and research contributions to understanding the structure of the atom.

Few would argue that scientific knowledge is not valuable, but for most work and organizational professionals, such progress represents only part of the reason for conducting research. Work and organizational psychology professionals are frequently asked to help address workforce management issues brought about by opportunities, constraints, and

changes in the external marketplace as well as the organization itself. Some issues are immediate, such as how best to motivate layoff survivors, and other issues are longer term, including how to manage an age-diverse work unit. Research inspired by these real-world problems uses scientific knowledge to evaluate solutions and potentially add to the body of scientific knowledge. In Stokes's model, such research lies in what he calls Pasteur's quadrant, or the realm of research inspired by both a desire for basic understanding and consideration of use. Stokes named this quadrant after Louis Pasteur, a French chemist whose theorizing and research led to the development of germ theory and the process of pasteurization. As Stokes notes, Pasteur's work shows commitment both to the fundamental understanding of microbiological processes and to controlling their practical effects on humans. Stokes further distinguished research in Pasteur's quadrant from pure applied research (Edison's quadrant), in which the purpose of research is to successfully apply scientific knowledge for mass production or commercial gain.

Stokes's conceptualization of the research enterprise eloquently shifts emphasis away from the old and tired debate on the value of basic versus applied research and toward a more useful understanding of how scientific and societal progress is made. We suggest that progress in work motivation over the past century and likely through much of the 21st century has and will rely heavily on theorizing and research that falls in the Bohr and Pasteur quadrants. Following Stokes's conceptualization, we focus next on describing salient current concerns and emerging questions about work motivation inspired by real-world problems. We further organize these concerns into two broad categories based on our informal analysis of recurring issues raised by consulting and human resource management professionals. The first category of organizational concerns pertains to why work motivation strategies are not readily generalizable across all segments of the workforce and occupational fields. The second category of concerns pertains to why and how changes in the nature of work and workforce affect work motivation.

Workforce Diversity and Work Motivation

Globalization and demographic trends have increased workforce diversity in the United States and other developed countries. Not surprisingly, organizations have become increasingly concerned about how to attract, manage, and retain talented employees in an increasingly diverse workforce. Two issues arise in connection with workforce diversity. The first issue pertains to how best to promote work motivation in growing segments of the workforce, such as aging workers. Across much of the developed world, organizations have begun to focus greater attention on their ability to meet future labor needs and prevent critical loss of talent and

organization-relevant knowledge associated with older worker attrition. Although social and economic policies discourage early retirement in many countries, the age structure of the workforce in many organizations has led to substantial employee turnover associated with retirement. In some sectors, the dearth of younger, educated workers has led organizations to develop policies targeted explicitly to increase the attractiveness of work among older workers. Some organizations, for example, permitolder workers to match their geographic workplace to their seasonal residence pattern (e.g., working in Arizona during the winter and New Jersey during the summer). In other organizations, the aging of the workforce is creating concern about how best to motivate intergenerational knowledge transfer. Still other organizations seek to attract aging workers for positions that demand behavioral dependability and strong interpersonal skills.

Gender diversity is also now prevalent in many developed countries, with nearly half the workforce in these countries now comprised of women and women increasingly constituting the majority in service sector teams. Although gender differences in basic motivational processes have not been demonstrated, it is not clear how gender influences work-related motive structures, motivational orientation, and motivation for work. A related concern pertains to the effects of gender diversity in teams as it affects team-level motivational processes. Likewise, work life influences on motivational processes may differ across gender. For instance, men and women with children may differ when it comes to pursuing jobs and careers that require long and inflexible work hours as well as travel.

The second workforce diversity issue relates to facilitating work motivation in workforce diverse teams that may be comprised of young and older male and female workers, and employees with different cultural backgrounds, values, and expectations. Interpersonal conflicts and communication difficulties are often cited as major impediments to individual and team motivation. In addition, leaders may need to apply different motivational interventions to manage culturally heterogeneous teams versus culturally homogenous teams, and further, cultural values such as collectivism and power distance may interact with leadership interventions to influence individual and collective motivation (Chen & Gogus, this volume).

In sum, much remains to be learned about basic motivation processes and applied issues pertaining to motivation-related interventions in a context of an increasingly more diverse workforce. Incorporating diversity dimensions such as employee gender, age, sexual orientation, cultural background, nationality, and disability into basic and applied research on individual and collective work motivation will practically advance our knowledge of work motivation in years to come.

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Work Motivation in the Context of Work and Adult Life

The issues discussed in this volume support the view that work continues to figure prominently in adult life. Nonetheless, there are signs that the meaning and function of employment is changing as individuals live longer and enjoy better health, change jobs and careers more often, and place more emphasis on personal development and relationships. As noted by Toossi (2005), young adults, on average, are electing to obtain higher levels of education during early adulthood and entering the workforce at a later age than previous generations. With the rising age of full-time entry into the workforce, the greater likelihood of at least one brief unemployment spell during the adult years, the mean age of workforce participation withdrawal near age 70, and average life expectancies over 80, today's young adults can expect that work will occupy little over half their lifetime, compared to nearly two-thirds the lifetime of their working parents. Such subtle shifts in the centrality of work in adult life have far-reaching implications for both motivation *to* work and motivation *at* work.

One consequence of this shift pertains to what individuals may want from work in the future. Work motivation theories have long recognized the importance of linking personal resource expenditures at work to the attainment of both intrinsic and extrinsic rewards and outcomes. As work comes to represent but one aspect of adult life, it seems reasonable to expect that individuals will increasingly regard careers as a series of jobs that utilize acquired knowledge and skills in different organizations, rather than as a series of jobs that develop firm-specific knowledge and skills within one organization (see Feldman & Ng, this volume; Wanberg & Kammeyer-Mueller, this volume). This perspective suggests that the incentives and rewards that workers seek in a job may also change. Classic extrinsic rewards, such as pay and promotion, may become relatively less important in the future than opportunities to perform intrinsically satisfying and enjoyable tasks, and opportunities that permit workers to increase their domain knowledge, technical skills, and contextualized interpersonal competencies, and so gain competitive advantage in their job search (see, e.g., Chen & Klimoski, 2003).

The changing nature of work in developed countries has received more attention than the changing nature of adult life, but the implications of such changes for work motivation also remain largely unexplored. As the number of jobs in the manufacturing sector continues to decline, the number of jobs in the professional/technical and service sectors continues to rise. In these growing occupational sectors, technological advances have made many kinds of work portable, affording employees increased flexibility in where and when work is performed.

But the nature of job demands in these two sectors suggests that there may be substantial differences in the type of motivational strategies required and their effectiveness. In service sector jobs, for example, nega-

tive affective events occur with regularity and require employees to engage in emotion and behavior regulation to avoid undesirable conflicts with customers. Motivational strategies to prevent the occurrence of unwanted emotions and behaviors in response to affective events are notoriously difficult to enact and have historically been only moderately successful. In contrast, professional/technical jobs typically demand accomplishment of production goals, such as timely completion of a new product design or technical drawing. In these jobs, employees must engage emotion and behavior regulation to promote and sustain task effort over time. Such strategies are generally easier to implement and environmentally support. As such, job demands may serve as powerful moderators of the effectiveness of explicit motivational interventions and processes to enhance performance across different occupations and jobs.

The increased use of teams in both professional/technical and service sector organizations has also placed emphasis on the importance of team-level motivation for unit success. In the professional/technical sector, teams are often comprised of individuals with different technical skills who must work together in a coordinated manner to accomplish the team objective. In these contexts, an individual's motivation is a necessary but not sufficient condition for successful team performance (Chen & Kanfer, 2006). Team-level motivation is required to guide and support individual team member behaviors in ways that promote team performance (Salas, Kosarzycki, Tannenbaum, & Carnegie, 2004). In health care, for example, surgical team performance is a function of the individual team member motivation to perform his or her role, as well as motivation to devote personal resources toward the execution of team-level action patterns. Motivation in these teams involves both downward and upward cross-level influences. In certain service sectors (e.g., retail), however, teams are often comprised of individuals with similar job skills, and team-level performance reflects the simple aggregate of individual performances. In these contexts, cross-level influences between team- and individual-level motivation may be less pronounced.

A Few Final Thoughts

Work motivation is a bit like the elephant in the tale of the blind men and the elephant. Because work motivation is not directly observable, we can only know it by studying its parts. Each stream of research portrays a different picture of the phenomena, depending on what was studied. Each researcher is right in a certain sense, but none are able to fully describe the phenomena, since no one can see work motivation or study it in its

entirety. One main purpose of this volume was to describe work motivation from a variety of perspectives for the purpose of developing a comprehensive framework that may inform and stimulate new ideas about the nature and function of work motivation in the broader context of human experience within and outside the realm of work.

In preparing this volume, we encountered a few provocative concepts that we believe may prove particularly helpful for future theory development and research in work motivation. The first concept pertains to the emergent nature of motivation and its outcomes. Research in the neurosciences suggests that emergent phenomena, such as vision, reflect the consequence of interactions among simple elements that operate on different timescales at different levels of analysis. We think that applying the concept of emergence to work motivation may prove quite useful. In particular, we envision developmental processes and economic and sociocultural conditions as basic elements that interact, but operate on quite different timescales. Developmental processes across the life span exert gradual change in knowledge, skills, and abilities, and dominant motive tendencies. Socioemotional development processes influence relational tendencies that may promote, conflict, or disrupt work motivation. Economic and sociocultural conditions experienced during young adulthood will also form work values and interests that will continue to operate over decades. During early adulthood these factors importantly influence job choice and motivational orientation toward work. Over the life course, however, work histories may entrain attitudes toward learning, the acquisition of new job-related skills, and relational behaviors (cf. Schooler, Mulatu, & Oates, 2004). In the post-millennium, the greater use of teams, for example, may encourage the development of more collaborative interpersonal relations and more collectively oriented conceptions of achievement and power.

At a different level of analysis, organizational practices, conditions of work, and workplace events and co-worker relations influence which tasks an individual takes on and the intensity of effort allocated to job performance over time. At the micro-level of analysis, affectively charged events influence momentary emotional states that affect the way an individual copes with obstacles to goal accomplishment. Work motivation and its outcomes at any point in time reflect the interaction among these multilayered processes as they operate simultaneously at different levels of analysis and timescales. That is, the complexity of work motivation stems from the fact that it is local and global, personal and situational, as well as stable and malleable.

It is common to distinguish theories of work motivation in terms of their level of analysis. Social psychological approaches seek to explain the influence of group processes on collective motivation processes and performance. Individual differences in self-efficacy, for example, are aggregated to identify collective sense of efficacy. Most theories of work motivation are

grounded at the individual level of analysis, but do not specify a temporal period or the timescales of factors that contribute to individual motivation during the period under investigation. Most research on work motivation encompasses a relatively short time span that is often bounded by organizational conventions (e.g., quarterly performance, training period) rather than episodes or epochs in work life (e.g., employee's probationary period). To study work motivation from an emergence perspective, we will need to develop multiscale models that specify the timescale of key determinants in the context of more natural work life episodes.

A second issue pertains to the distinction between motivation to work and motivation during work. The motivation to work is relatively well modeled by expectancy type formulations that emphasize explicit choice processes among alternatives that differ in value. However, motivation during work is less well explained by these formulations. Theories of self-regulation have been used to understand how individuals manage their thoughts, feelings, and behavior in the pursuit of conscious goals, but extant theories do a relatively poor job of explaining goal disengagement, goal conflicts, or their resolution. Recent evidence further suggests that these conscious motivational processes represent only part of the motivational system. Research to support the existence of a second, nonconscious, affectively driven motivational system, and evidence to indicate how it operates and interacts with explicit motivational processes may provide the answers to these questions and spur a fundamental change in the way we think about and promote work motivation.

The importance of work motivation to organizations and individuals is undeniable. Organizational success demands a capable and motivated workforce; neither alone is sufficient, and the task of developing and sustaining employee motivation for performance that contributes to organizational objectives occupies a central place in organizational planning. Similarly, a growing body of evidence supports the idea that an individual's motivation for and at work importantly contributes to personal well-being and health. Past research has yielded important new knowledge that has been used to improve organizational practices and increase organizational effectiveness. As the chapters in this volume attest, current research on content, context, and change determinants of work motivation continues in this tradition and has broadened the scope of study to include new knowledge that may be used to improve personal well-being. We are enthusiastic and confident that future research in work motivation has the potential to yield even greater knowledge of importance—not just for organizations and the individuals who populate them, but for social policy makers and society as well.

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