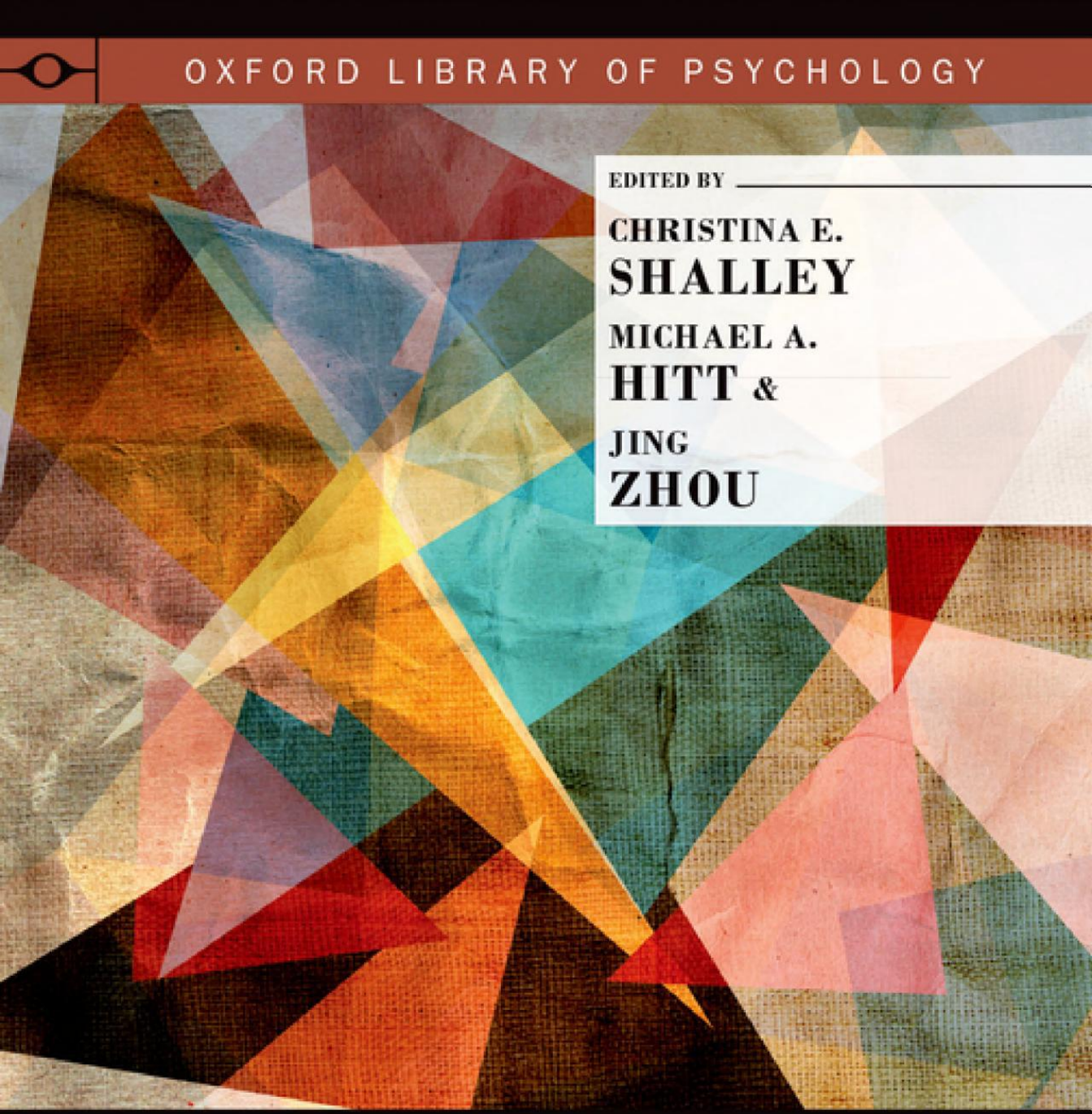


# The Oxford Handbook *of* CREATIVITY, INNOVATION, *and* ENTREPRENEURSHIP

OXFORD LIBRARY OF PSYCHOLOGY

*Editor in Chief* PETER E. NATHAN

# The Oxford Handbook of Creativity, Innovation, and Entrepreneurship

*Edited by*

Christina E. Shalley, Michael A. Hitt, and Jing Zhou

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# SHORT CONTENTS

Oxford Library of Psychology vii

About the Editors ix

Acknowledgment xi

Contributors xiii

Contents xvii

Chapters 1–522

Index 523

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Peter E. Nathan
Editor-in-Chief
*Oxford Library of Psychology*

# ABOUT THE EDITORS

**Christina E. Shalley**

Christina E. Shalley is the Thomas R. Williams–Wells Fargo Professor of Organizational Behavior at the Scheller College of Business, Georgia Institute of Technology. She received her Ph.D. from the University of Illinois, Urbana-Champaign. Her research focuses on the effects of various social and contextual factors in enhancing creativity for both individuals and teams of employees. She has published a number of articles in such scholarly journals as *Academy of Management Journal, Academy of Management Review, Journal of Applied Psychology, Journal of Management, Organization Science,* and *Organizational Behavior and Human Decision Processes*. She is co-editor of the *Handbook of Organizational Creativity*. She is a Fellow of the Society for Industrial and Organizational Psychology and the Association for Psychological Science.

**Michael A. Hitt**

Michael A. Hitt is currently a University Distinguished Professor at Texas A&M University and holds the Joe B. Foster Chair in Business Leadership. Michael received his Ph.D. from the University of Colorado. He has coauthored or co-edited twenty-seven books and authored or coauthored many journal articles. In 2010, *Times Higher Education* magazine listed him among the top scholars in economics, finance, and management. He was recently listed in an *Academy of Management Perspectives* article as one of the top two management scholars in terms of the combined impact of his work inside and outside academia. He is a former editor of the *Academy of Management Journal* and a former co-editor of the *Strategic Entrepreneurship Journal*. He received the Irwin Outstanding Educator Award and the Distinguished Service Award from the Academy of Management. In 2014, he was listed as a *Thomson Reuters Highly Cited Researcher* and as one of *The World's Most Influential Scientific Minds*.

**Jing Zhou**

Jing Zhou received her Ph.D. from the University of Illinois Urbana-Champaign and is currently Houston Endowment Professor of Management and Director for Asian Management Research and Education at the Jesse H. Jones Graduate School of Business at Rice University. Her research centers on creativity in the workplace, and she has published articles in top journals including *Academy of Management*

*Journal, Journal of Applied Psychology, Journal of Management, Organizational Behavior and Human Decision Processes,* and *Personnel Psychology.* She has served as an associate editor of *Journal of Applied Psychology* and as an editorial board member of *Academy of Management Journal* and *Academy of Management Review.* She has been elected a Fellow of the American Psychological Association, the Association of Psychological Sciences, and the Society for Industrial and Organizational Psychology.

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# CONTRIBUTORS

**Howard E. Aldrich**
Sociology Department
University of North Carolina
Chapel Hill, North Carolina

**Elizabeth J. Altman**
Harvard Business School
Harvard University
Boston, Massachusetts

**Teresa Amabile**
Harvard Business School
Harvard University
Boston, Massachusetts

**Raffi Amit**
Wharton Business School
University of Pennsylvania
Philadelphia, Pennsylvania

**Kathryn M. Bartol**
R. H. Smith School of Business
University of Maryland
College Park, Maryland

**Robert A. Burgelman**
Graduate School of Business
Stanford University
Stanford, California

**Kris Byron**
Martin J. Whitman School of Management
Syracuse University
Syracuse, New York

**Alexzandra Caldwell-Wenman**
Kim Elsbach's
University of California
Davis, California

**James Carlson**
Texas Tech University
Lubbock, Texas

**Xiao-Ping Chen**
Department of Management and Organization
Michael G. Foster School of Business
University of Washington
Seattle, Washington

**Cristina Cruz**
Department of Entrepreneuship
IE Business School
Madrid, Spain

**Dionysios D. Dionysiou**
ALBA Graduate Business School
The American College of Greece
Athens, Greece

**Kimberly D. Elsbach**
Graduate School of Management
University of California at Davis
Davis, California

**Shainaz Firfiray**
Organisation & HRM
University of Warwick
Coventry, United Kingdom

**Greg Fisher**
Kelley School of Business
Indiana University
Bloomington, Indiana

**Raghu Garud**
Smeal College of Business
Pennsylvania State University
University Park, Pennsylvania

**Lucy L. Gilson**
School of Business
University of Connecticut
Storrs, Connecticut

**Paul W. Gilson**
Department of Business Administration
Eastern Connecticut State University
Willimantic, Connecticut
**Mary Ann Glynn**
Carroll School of Management
Boston College
Chestnut Hill, Massachusetts
**Luis R. Gomez-Mejia**
Mendoza College of Business
University of Notre Dame
Notre Dame, USA
**Wei He**
School of Management
Huazhong University of Science and Technology
Wuhan, China
**Constance E. Helfat**
Tuck School of Business
Dartmouth College
Hanover, New Hampshire
**Giles Hirst**
Department of Management
Monash University
Melbourne, Australia
**Michael A. Hitt**
Mays Business School
Department of Management
Texas A&M University
College Station, Texas
**Matthew J. Karlesky**
Ross School of Business
University of Michigan
Ann Arbor, Michigan
**Geir Kaufmann**
BI Norwegian Business School
Department of Leadership and Organizational Behaviour
Oslo, Norway
**Shalini Khazanchi**
Saunders College of Business
Rochester Institute of Technology
Rochester, New York
**Suresh Kotha**
Foster School of Business
University of Washington
Seattle, Washington
**Donald F. Kuratko**
Kelley School of Business
Indiana University
Bloomington, Indiana
**Dong Liu**
Scheller College of Business
Georgia Institute of Technology
Atlanta, Georgia
**Fiona Lee**
Department of Psychology
University of Michigan
Ann Arbor, Michigan
**Kwok Leung**
Department of Management
Chinese University of Hong Kong
Hong Kong
**Hyoun Sook Lim**
School of Business
University of Connecticut
Storrs, Connecticut
**Robert C. Litchfield**
Department of Economics and Business
Washington and Jefferson College
Washington, Pennsylvania
**Aleksandra Luksyte**
Department of Management and Organizations
University of West Australia
Crawley, Australia
**Charalampos Mainemelis**
ALBA Graduate Business School
American College of Greece
Athens, Greece
**Marianna Makri**
School of Business
University of Miami
Miami, Florida
**Pier Vittorio Mannucci**
Department of Management and Human Resources
HEC, Paris
**Jeffrey A. Martin**
University of Alabama
Department of Management
Tuscaloosa, Alabama

**Martha A. Martinez**
Department of Sociology
DePaul University
Chicago, Illinois
**Ronald K. Mitchell**
Rawls College of Business
Texas Tech University
Lubbock, Texas
**Michael H. Morris**
Warrington College of Business Administration
University of Florida
Gainesville, Florida
**J. Keith Murnighan**
Department of Management and Organizations
Northwestern University
Evanston, Illinois
**Frank Nagle**
Harvard Business School
Harvard University
Boston, Massachusetts
**Jill Perry-Smith**
Goizueta Business School
Emory University
Atlanta, Georgia
**Ryan Raffaelli**
Harvard Business School
Harvard University
Cambridge, Massachusetts
**Michele Rigolizzo**
Harvard Business School
Harvard University
Boston, Massachusetts
**Jeffrey Sanchez-Burks**
Ross School of Business
University of Michigan
Ann Arbor, Michigan
**Christina E. Shalley**
Scheller College of Business
Georgia Institute of Technology
Atlanta, Georgia
**Shung Jae Shin**
School of Business Administration
Portland State University
Portland, Oregon
**J. Brock Smith**
Faculty of Business
University of Victoria
Victoria, British Columbia, Canada
**Jeffrey A. Stamp**
CEO
Bold Thinking Institute
Minneapolis, Minnesota
**Pamela Tierney**
School of Business Administration
Portland State University
Portland, Oregon
**Mary Tripsas**
Carroll School of Management
Boston College
Chestnut Hill, Massachusetts
**Philipp Tuertscher**
Department of Entrepreneurship and Innovation
WU Vienna
Vienna, Austria
**Michael L. Tushman**
Harvard Business School
Harvard University
Boston, Massachusetts
**Kerrie L. Unsworth**
Department of Management and Organizations
University of West Australia
Perth, Australia
**Andrew H. Van de Ven**
Carlson School of Management
University of Minnesota
Minneapolis, Minnesota
**Daan van Knippenberg**
Rotterdam School of Management
Erasmus University
Rotterdam, The Netherlands

**Jie Wang**
Nottingham University Business School
The University of Nottingham
Ningbo, China

**Long Wang**
Department of Management
College of Business
City University of Hong Kong
Hong Kong

**Justin W. Webb**
Belk College of Business
University of North Carolina
Charlotte, North Carolina

**Xiaomeng Zhang**
Kogod School of Business
American University
Washington, D.C.

**Jing Zhou**
Jesse H. Jones Graduate School of Business
Rice University
Houston, Texas

**Christoph Zott**
Department of Entrepreneurship
University of Navarra
Barcelona, Spain

# CONTENTS

Introduction: Integrating Creativity, Innovation, and Entrepreneurship to Enhance the Organization's Capability to Navigate in the New Competitive Landscape 1
*Christina E. Shalley, Michael A. Hitt, and Jing Zhou*

**Part 1 • Organizational Creativity**

1. Leadership and Creativity: The Mechanism Perspective 17
   *Shung Jae Shin*
2. Empowerment and Employee Creativity: A Cross-Level Integrative Model 31
   *Xiaomeng Zhang and Kathryn M. Bartol*
3. Rewards' Relationship to Creativity, Innovation, and Entrepreneurship 47
   *Kris Byron and Shalini Khazanchi*
4. Entrepreneurial Creativity: The Role of Learning Processes and Work Environment Supports 61
   *Michele Rigolizzo and Teresa Amabile*
5. An Identity Perspective on Creative Action in Organizations 79
   *Pamela Tierney*
6. Psychological Bricolage: Integrating Social Identities to Produce Creative Solutions 93
   *Jeffrey Sanchez-Burks, Matthew J. Karlesky, and Fiona Lee*
7. The Role of Antagonism in the Identities of Professional Artistic Workers 103
   *Kimberly D. Elsbach and Alexzandra Caldwell-Wenman*
8. Play, Flow, and Timelessness 121
   *Charalampos Mainemelis and Dionysios D. Dionysiou*
9. The Mood and Creativity Puzzle 141
   *Geir Kaufmann*
10. Does Passion Fuel Entrepreneurship and Job Creativity? A Review and Preview of Passion Research 159
    *Xiao-Ping Chen, Dong Liu, and Wei He*
11. Creativity in Teams: A Key Building Block for Innovation and Entrepreneurship 177
    *Lucy L. Gilson, Hyoun Sook Lim, Robert C. Litchfield, and Paul W. Gilson*
12. Social Networks, Creativity, and Entrepreneurship 205
    *Jill Perry-Smith and Pier Vittorio Mannucci*

13. A Cross-Level Perspective on Creativity at Work: Person-in-Situation Interactions 225
*Daan van Knippenberg and Giles Hirst*
14. Ethics and Creativity 245
*Long Wang and J. Keith Murnighan*
15. A Cross-Cultural Analysis of Creativity 261
*Kwok Leung and Jie Wang*
16. Is All Creativity Created Equal? Exploring Differences in the Creativity Processes Across the Creativity Types 279
*Kerrie L. Unsworth and Aleksandra Luksyte*

**Part 2 • Innovation**

17. Organizing Creativity: Lessons From the *Eureka! Ranch* Experience 301
*Ronald K. Mitchell, J. Brock Smith, Jeffrey A. Stamp, and James Carlson*
18. Business Innovation Processes 339
*Raghu Garud, Philipp Tuertscher, and Andrew H. Van de Ven*
19. Innovating Without Information Constraints: Organizations, Communities, and Innovation When Information Costs Approach Zero 353
*Elizabeth J. Altman, Frank Nagle, and Michael L. Tushman*
20. Product-to-Platform Transitions: Organizational Identity Implications 379
*Elizabeth J. Altman and Mary Tripsas*
21. Business Model Innovation: Toward a Process Perspective 395
*Christoph Zott and Raffi Amit*
22. Institutional Innovation: Novel, Useful, and Legitimate 407
*Ryan Raffaelli and Mary Ann Glynn*
23. Dynamic Managerial Capabilities: A Perspective on the Relationship Between Managers, Creativity, and Innovation in Organizations 421
*Constance E. Helfat and Jeffrey A. Martin*

**Part 3 • Entrepreneurship**

24. Prigogine's Theory of the Dynamics of Far-From-Equilibrium Systems: Application to Strategic Entrepreneurship and Innovation in Organizational Evolution 433
*Robert A. Burgelman*
25. Why Aren't Entrepreneurs More Creative? Conditions Affecting Creativity and Innovation in Entrepreneurial Activity 445
*Howard E. Aldrich and Martha A. Martinez*
26. Entrepreneurship as Emergence 457
*Michael H. Morris and Justin W. Webb*
27. Corporate Entrepreneurship: Accelerating Creativity and Innovation in Organizations 477
*Donald F. Kuratko*

28. Entrepreneurial Identity and Resource Acquisition: The Role of Venture Identification 489
*Greg Fisher and Suresh Kotha*
29. Socioemotional Wealth: An Obstacle or a Springboard to Creativity, Innovation, and Entrepreneurship in Family Firms? 505
*Cristina Cruz, Shainaz Firfiray, Marianna Makri, and Luis R. Gomez-Mejia*

Index 523

# Introduction: Integrating Creativity, Innovation, and Entrepreneurship to Enhance the Organization's Capability to Navigate in the New Competitive Landscape

Christina E. Shalley, Michael A. Hitt, *and* Jing Zhou

**Abstract**

The purpose of this *Handbook* is to serve as a catalyst for the integration of the research on creativity, innovation, and entrepreneurship. A significant amount of research has been devoted to each of these areas, and they exist fairly independently of each other. However, by their nature, these three research areas are interrelated. In order to successfully survive and thrive in our dynamic and competitive global marketplace, it is a necessity to more fully understand how creativity is related to innovation and the roles that both creativity and innovation play in entrepreneurship. By doing so, we can reap the benefits of the accumulated knowledge from each research stream to inform the others and move the field as a whole forward. This *Handbook* contains 30 chapters written by leading scholars that speak to the major topics within these research areas and examine multilevel linkages between creativity, innovation, and entrepreneurship.

**Key Words:** creativity, innovation, entrepreneurship, multilevel linkages, integration of areas

The top 50 firms in *Fortune's* 2014 ranking of "The World's Most Admired Companies" are described as "innovators, disrupters and companies that overcame adversity" (Fairchild, 2014, p. 123). These companies represent technology-based industries (e.g., Apple, Google, Intel, Cisco), consumer products (e.g., Procter & Gamble, Johnson & Johnson, Nestle), traditional manufacturing (e.g., Caterpillar, Deere, 3M, Volkswagen), services (e.g., FedEx, Singapore Airlines, Wells Fargo, Accenture, Netflix), and retailing (e.g., Starbucks, Costco, McDonald's, Nordstrom). Many of these firms are leaders in innovation within their particular industry or industry segment. A further testament to the importance of innovation is shown in the recent firing of the CEO of Symantec. Symantec is the current leader among the Internet security companies, but the board was concerned that it was losing its hold as the market leader because it was not innovating fast enough. Therefore, the CEO, Steve Bennett, was removed by Symantec's board of directors because the firm was not taking adequate initiatives to innovate, introduce new products, and exploit growth opportunities (Perlroth, 2014).

The early years of the 21st century have been marked by significant turbulence fueled by economic and political problems but also by ineffective strategic leadership (e.g., characterized by extreme hubris and greed) (Haynes, Campbell, & Hitt, 2014; Hitt, Haynes, & Serpa, 2008). This period has also been a time of technological advancement and disruptions. In this dynamic environment characterized by significant uncertainty, businesses that remain relatively static in terms of their products and services and the processes used to produce and provide them are likely in a "state of dying." In

2005, the US Council on Competitiveness issued a report developed by leaders from industry, government, and academia that concluded that US firms could maintain (or gain) market leadership only through innovation. In 2010, IBM reported the results of a global study in which 60% of chief executives named creativity as a top priority for their organization. To be innovative, firms must exercise creativity. And, creativity and innovation are necessary for them to be entrepreneurial.

There is a significant amount of research devoted to creativity, innovation, and entrepreneurship. However, much of this research has been bounded and focused, with work in each area conducted independently of the others. Because of their interdependence, there is a need to integrate research and ideas on creativity, innovation, and entrepreneurship. That is the purpose of this *Handbook*.

## Parallels Between Creativity, Innovation, and Entrepreneurship Research

As these three research areas have developed, four key parallel themes have emerged. First, central to each of the three areas is the importance of a new idea. Second, the process of coming up with ideas is pivotal to each area. Third, what kind of person is involved in being creative/innovative/entrepreneurial is much discussed. Finally, the overall context is also important for each area. Each of these themes is discussed in more detail here because the three fields could benefit from a discussion of shared research interests and findings that can inform each other.

With regard to developing or identifying a new idea, creativity involves the generation of ideas that are both novel and useful (Amabile, 1996; Shalley, Zhou, & Oldham, 2004). As such, creativity is a precursor of both innovation and entrepreneurship. Specifically, innovation involves the implementation of creative ideas (Zhou & Shalley, 2011). Although we commonly refer to creativity as idea generation and to innovation as the implementation of ideas, in reality creativity and innovation are not as clearly independent from each other as our disciplinary traditions seem to suggest. Also, if we think of entrepreneurship as a more specific form of innovation, one that relates to the development of new ventures, there are parallels here as well. Entrepreneurship refers to the application of creative ideas to new business ventures, which can include the creation of new markets, new products and services, and new firms (Eckhardt & Shane, 2003). Within the entrepreneurship literature, instead of focusing on the generation of creative ideas, scholars examine the identification of opportunities. Also, within the innovation literature, scholars discuss how important it is to get support for new ideas in order to be able to implement them, whereas in the entrepreneurship literature this is termed opportunity exploitation for new venture creation.

Some researchers (Gilson & Madjar, 2011; Madjar, Greenberg, & Chen, 2011) have proposed that creative ideas can be either incremental (i.e., modifications to existing processes) or radical (i.e., significant breakthroughs), with radical ideas occurring much less frequently. Parallel to the incremental/radical distinction in the creativity literature are the concepts of exploitation and exploration in the innovation literature. Specifically, exploration refers to firm behavior that is characterized by search, discovery, experimentation, risk taking, and innovation, whereas exploitation involves behaviors such as refinement, implementation, efficiency, production, and selection (He & Wong, 2004; March 1991). Finally, many true entrepreneurial activities and therefore many new business ventures by their nature may be more likely to involve a more radical type of creative idea or more explorative innovative behavior. However, this idea is contrary to Aldrich and Martinez's argument in this *Handbook* that, given institutional barriers and bureaucracy, entrepreneurs often develop only incremental rather than radical products, services, or new markets. The innovation literature and the creativity literature discuss the inherent tension between exploration and exploitation for units and firms or the potential benefits and costs of trying to develop more radical ideas (Gupta, Smith, & Shalley, 2006). Here the underlying issue is risk. Explorative innovations potentially have a higher failure rate than exploitative innovations. Similarly, incrementally creative ideas are more likely to be effectively implemented than their more radical counterparts. Finally, as pointed out by Rigolizzo and Amabile in this *Handbook*, successful entrepreneurs trying to deal with this dual tension should adopt a "fast failure" approach, which is a model based on rapid prototyping. This approach involves investing in trial and error for many ideas, but on a smaller rather than a larger scale, and not committing significant resources until after quick, objective feedback has been gained (McGrath, 2001).

Increasingly, research is examining creativity as a process (e.g., Gilson, Mathieu, Shalley, & Ruddy,

2005; Gilson & Shalley, 2004; Zhang & Bartol, 2010). The process of developing creative ideas involves a number of cognitions and behaviors that are more likely to result in creative outcomes. These can include challenging assumptions, broadly scanning the environment, recombining ideas from different areas, tolerating ambiguity, and making novel connections. For example, Unsworth and Luksyte argue in this *Handbook* that at times creativity requires being proactive (see also Unsworth, 2001), and Tierney argues that proactive creativity requires extending effort to widely scan the environment for potentially damaging problems that need solutions. This type of creativity is similar to what entrepreneurs do in trying to identify entrepreneurial opportunities. Also, entrepreneurs have to engage in these types of creativity-relevant processes to discover opportunities and exploit them. The creation, funding, development, and growth of new ventures all require a great deal of creativity. For example, entrepreneurs have to be creative in order to develop a new idea, seek venture capital funding, and pitch their idea to potential investors. Entrepreneurs have to engage in these types of processes to discover opportunities and then exploit them. As such, creativity is infused throughout the entrepreneurial process. Also, there is a rich literature on the capacity of individuals to combine ideas into new forms, which is fundamental to creativity and innovation.

Innovation may start from using new knowledge or reusing and combining existing knowledge (Anderson, Potočnik, & Zhou, 2014). The search for new knowledge may be induced by market discontinuities that can lead to new production. Similarly, entrepreneurial opportunity recognition is important because it enables entrepreneurs to meet a market need through a creative combination of resources to deliver value. Prior experience often helps entrepreneurs see patterns that others have missed, and pattern recognition is related to creativity. Creativity plays a role in recognizing novel associations or patterns across disparate data points. Creativity is often understood as a process of variation and selection (Campbell, 1960) in which it is important to generate a variety of ideas and then selectively retain those that are most promising. Similarly, entrepreneurs often come up with a number of ideas and may select one based on funding and the allocation of resources. And innovation involves selectively choosing from generated ideas for further development, refinement, and implementation.

The person also plays an important role in these three research areas. Creativity research has a long history of examining personal factors—such as being open to new experiences, being broad-minded, and being nontraditional—that are more likely to be associated with the propensity or ability of an individual to be creative (Barron & Harrington, 1981; Costa & McCrae, 1992; Feist, 1998). A number of personality characteristics (e.g., Creative Personality Scale, Gough, 1979) have been identified as being associated with individuals who are more creative than others. Also, individuals who are considered more creative tend to approach problem solving in ways that differ from those used by people who are less creative (Jabri, 1991; Kirton, 1976). Specifically, those who are more creative and innovative tend to be willing to take risks and to violate known paradigms and procedures in order to develop new ideas and solutions. Entrepreneurship research has long considered the role of personality in determining success as an entrepreneur and in differentiating entrepreneurs from non-entrepreneurs (Shaver & Scott, 1991). Also, although they receive less research focus, personal factors of innovators have been examined (e.g., Miron, Erez, & Naveh, 2004).

Paramount in Amabile's (1996) componential model of creativity is the role of intrinsic motivation. In this *Handbook*, Rigolizzo and Amabile discuss the role of synergistic extrinsic motivation for creativity, and Tierney discusses the important role of identity for creativity. The construct of creative role identity has been found to be associated with a greater degree of creativity among employees (Farmer, Tierney, & Kung-McIntyre, 2003). As discussed by Tierney, identity can also translate to innovation and entrepreneurship and should be further examined. For example, she mentions constructs such as entrepreneurial passion, founder role identity, and entrepreneurial identity aspiration as motivating behaviors. Also, Fisher and Kotha examine the critical role of individual identity for entrepreneurs. Chen, Liu, and He discuss the importance of passion for creativity, and Mainemelis and Dionysiou reference experiencing the state of flow. Entrepreneurs need passion and intrinsic motivation for new ventures in order to formulate a strategy and especially to implement it effectively (Hitt, Ireland, Sirmon, & Trahms, 2011). They deal with emerging problems, and this also plays an important role in innovation through idea elaboration and idea evaluation. Also in this *Handbook*, Zhang

and Bartol assert that empowerment of employees may influence their entrepreneurial behavior, such as taking risks, dealing with uncertainty, and enhancing innovation. Finally, Shin points out that entrepreneurs need to be effective leaders who can boost their teams' creativity and innovation. Leadership plays an important role for creativity and innovation as well.

Context also is significant for each of these three research areas. For example, within the creativity literature, contextual factors have been found to influence the occurrence of creative outcomes over and above personal factors (Shalley, Gilson, & Blum, 2009). According to a typology developed by Zhou and Hoever (2014), contexts may also interact with personal factors to influence creativity in a number of interesting ways. For example, a supportive context and a personal factor favoring creativity may reinforce each other and hence have synergistic effects for creativity. As another example, positive contexts may provide remedial resources that reduce or even reverse the potential negative effect of personal factors (e.g., Zhang & Zhou, 2014). A wide variety of contextual factors have been studied (Shalley et al., 2004), including rewards, relationships with coworkers, job complexity, and evaluation. There also has been work on the importance of the context for entrepreneurs and the munificence of the environment for innovation (Sirmon, Hitt & Ireland, 2007).

One area that is growing in interest is the role of the social context for creativity. As Perry-Smith and Mannucci point out in this *Handbook*, the lone creator or lone entrepreneur is no longer the norm; rather, we are embedded in a network of social relationships. Creators/Innovators/Entrepreneurs have to interact with a number of others as they generate, refine, and implement their ideas. The entrepreneurship literature has found that an entrepreneur's social networks matter for successfully launching new ventures and obtaining funding (e.g., Slotte-Kock & Coviello, 2010; Stuart & Sorenson, 2007). Research on social networks and creativity (e.g., Baer, 2010; Perry-Smith, 2006; Zhou, Shin, Brass, Choi, & Zhang, 2009) can shed light on how entrepreneurial network position may contribute to creativity, opportunity recognition, and new venture creation. For example, in order to have value creation, the results of creativity have to extend into the entrepreneur's social network. Also, the chapter by Aldrich and Martinez in this *Handbook* stresses the importance of entrepreneurs' belonging to multiple social networks, which generally enriches the diversity of viewpoints and information available to facilitate the creativity and innovativeness of their entrepreneurial ventures.

Increasingly in the creativity literature, more attention is being paid to team creativity (e.g., Gilson & Shalley, 2004; Hirst, van Knippenberg, & Zhou, 2009). Research has suggested that creative activity by employees can be prompted by intentionally establishing groups that are diverse in their makeup or by exposing individuals and groups to diverse experiences in an effort to increase knowledge transfer and enhance capabilities (Perry-Smith & Shalley, 2014; Shalley & Perry-Smith, 2008; Taggar, 2002). Teams are an important source of entrepreneurial competitive advantage. There is a substantial literature on individual entrepreneurs, but superior creative output could stem from having cognitive variety among entrepreneurial team members and from teams' ability to integrate and apply diverse thought processes. The entrepreneurship literature is starting to take a closer look at entrepreneurial teams, particularly during the period after invention and before startup. Less work has been focused on the composition and processes of top management teams that lead to innovation (Anderson et al., 2014). However, creativity is an integral part of top management teams' strategy formation and implementation. Porter (1991) noted that creative choices lie at the foundation of firm-level strategies driving skills and market position.

## Chapters Included in Handbook

The chapters in this *Handbook* are organized in three sections corresponding to the three main research streams covered: creativity, innovation, and entrepreneurship. However, although each piece may foundationally emerge from one of these research streams, the chapters also discuss how the topics covered may be related to the other areas as well. Thus, these chapters, and this *Handbook* in its entirety, represent the contributions of leading scholars in these fields toward an integration of the areas of creativity, innovation, and entrepreneurship.

### *Organizational Creativity*

We begin the section on creativity appropriately with a chapter that focuses on the most explored of the contextual factors thought to be important for creativity: leadership. The chapter by Shin focuses on the important question of how leaders provide the impetus for creativity in the workplace.

The chapter reviews the major works in the literature and argues that we need to understand the mechanisms through which leadership affects employees' creativity. Specifically, Shin proposes a mediator-based creativity model. Four mechanisms are proposed: motivation, affect, cognition, and context. In addition, he discusses several directions for future research. For example, future studies may want to consider leadership not only as a main effect but as a moderator. Also, he argues that we need to explore the cultural implications of leadership. Finally, implications of this chapter for future work on innovation and entrepreneurship are suggested.

The next chapter in this section is by Zhang and Bartol. They highlight the important role of empowerment for creativity and propose a cross-level model of empowerment and creativity and innovation. Specifically, at the individual and team level, they review the two major perspectives of empowerment: the psychological approach and the sociostructural approach. A multilevel conceptual model is developed for psychological empowerment and team empowerment for creativity and innovation at the individual and team levels, because there is evidence that empowerment shares similar meaning and relationships across levels. They propose some promising areas for future research. For example, they stress the need to identify team-level mediators that may have a direct cross-level impact on creativity and innovation at the individual level. Furthermore, they discuss ways to extend empowerment research to the study of entrepreneurship and argue that employee empowerment should positively contribute to the ability to be entrepreneurial.

The next chapter is authored by Byron and Khazanchi. They examine the role of rewards for creativity. This has been a controversial area within the creativity literature because, as they describe, prior studies have argued and found positive, negative, and no effect of rewards for creativity. They provide an overview of the theoretical rationales used for these effects, review the major research findings that support the major perspectives, and present results of a comprehensive meta-analysis on rewards and creativity. They also review the limited work that has focused on the relationship between rewards and innovation or entrepreneurship and suggest areas for future research. A major takeaway from this chapter is that we need to move away from examining the main effects of rewards for creativity and start to examine mediators and moderators. Byron and Khazanchi argue that it is important for models to include multiple cognitive, motivational, and affective mechanisms to explain the influence of rewards on creativity. Finally, they propose that the literature would benefit from a more comprehensive examination of the role of rewards for innovation and entrepreneurship.

The next chapter in this section was developed by Rigolizzo and Amabile and focuses on entrepreneurial creativity. Specifically, these authors propose that different stages of the creative process are supported by certain learning behaviors. The four stages they discuss are problem identification, preparation, idea generation, and idea evaluation and implementation. Also, they argue that both creative behaviors and learning behaviors are affected by different contextual conditions during each stage. Rigolizzo and Amabile discuss each stage of the creative process and its corresponding learning behaviors and use informative examples from entrepreneurial startups and other organizations. A key element is that they make the important distinction between intrinsic motivation and synergistic extrinsic motivation. They tease out the stages at which one or the other may be more critical for the creative process and how they can reinforce rather than undermine each other. Finally, they stress the importance of future research examining the boundaries of workplace learning for entrepreneurial creativity.

The following chapter, by Tierney, explores ways in which individuals' self-concept of their identity can influence their engagement in creative activities at work. This work reviews and integrates social identity theory and identity theory to discuss four main types of identity: personal, relational, collective, and role. Understanding which identities employees may hold, the relative strengths of these identities, and the identity target's orientation on creativity is an interesting contribution to the literature. This scholar goes on to consider how these four types of identity relate to different types of creativity, as well as motivational patterns for creativity. She also discusses the relevance of identities for innovation and entrepreneurship. A very convincing case is made for further considering the role of identity when discussing the important question of why individuals decide to be creative at work. Finally, Tierney discusses the impact of multilevel and cross-level effects of identity for creative engagement at work, and some promising avenues for future research are presented.

In a related chapter, Sanchez-Burks, Karlesky, and Lee introduce the concept of psychological

bricolage, which they define as the process through which an individual integrates previously unrelated knowledge to create novel solutions. As such, psychological bricolage essentially refers to the specific creative process in which previously unrelated knowledge or materials are integrated to result in novel outcomes. The authors argue that the integration of multiple or conflicting social identities facilitates psychological bricolage, thereby enhancing creativity. They discuss social identifies such as multiple cultural identities, gender identities, class and professional identities, and insider versus outsider identity in an organization. They review qualitative cases and quantitative studies that demonstrate the value of identity integration in facilitating psychological bricolage and creativity. Interestingly, the authors caution that emphasis on a strong and singular organizational identity may restrict identity integration, resulting in reduced psychological bricolage and creativity.

A third interesting and somewhat related chapter concerning identity and creativity is presented next. Elsbach and Caldwell-Wenman focus on the role of antagonism in the identities of professional artistic workers. Reviewing results from empirical case studies, they argue that professional artistic workers consistently signal their identities as artists and creators and suggest that they do not want to integrate their unique identity with a more "normal" identity such as being "professional" and "commercial." On the one hand, Sanchez-Burks and his coauthors suggest the value of integrating multiple identities, and Tierney discusses how the strength of multiple identities can vary and be integrated. On the other hand, Elsbach and Caldwell-Wenman observe that at least in the eyes of professional artistic workers, it is preferable to stick to the identity of being artistic rather than integrating it with the identity of being commercial. Together, these three chapters provide interesting implications for future research into the conditions under which identity integration is conducive to creativity, innovation, and entrepreneurship.

The chapter by Mainemelis and Dionysiou reviews and integrates the recent work on play, flow, and timelessness and their relation to research on creativity, innovation, and entrepreneurship. They define play as a broad construct that occurs in multiple ways, whereas flow and timelessness are more narrowly defined play states. Over the last few decades, these scholars argue, the way organizations and researchers conceptualize play has changed. Specifically, it has gone from being viewed as something either deviant or merely tolerated at work to something that plays an important role within the workplace for employee creativity and well-being. In particular, the authors discuss how some organizations have gone as far as trying to institutionalize play to reap its benefits. They point out areas where we know very little and also areas for future research. All in all, this is an emerging area within the field that could contribute some much-needed insights.

The chapter by Kaufmann aims to solve a prominent puzzle in creativity research: whether positive mood or negative mood facilitates creativity. Kaufmann provides a comprehensive review of the affect and creativity literature, starting chronologically with the initial body of work, focusing on the positive effects of positive mood on creativity, extending to later findings from laboratory and field research showing the positive role of negative moods in fostering creativity, and looking at a more recent and emergent stream of research suggesting that the dual routes of positive mood and negative mood can facilitate creativity. On the basis of this systematic and balanced review, and using problem solving as a general organizing framework, Kaufmann formulates a dual-process model in which positive mood and negative mood are said to promote the development of creative solutions in different aspects and different stages of problem solving. This model is important not only because it provides a plausible account of previous findings from both laboratory and field studies but also because it points to avenues for future research in creativity, innovation, and entrepreneurship.

The next chapter, by Chen, Liu, and He, focuses on the concept of passion. The authors first review the passion literature, covering issues ranging from the conceptual meaning of passion to the antecedents and consequences of passion. They then emphasize the role of passion in fueling individuals' creativity and the influence of entrepreneurial passion in promoting creativity and entrepreneurship. They point out major gaps in the research on passion for work and entrepreneurial passion; for example, the role of the occupational context has not been integrated theoretically with the construct of passion for work.

Moving to the team level of analysis, the next chapter is authored by Gilson, Lim, Litchfield, and Gilson. They first delineate the conceptual meaning of team creativity, defining it as both a process

and an outcome. Focusing on the most current work on team creativity, Gilson et al. use Rhodes' (1961) Four P's framework of creativity in reviewing aspects of team creativity: the creative person (e.g., team membership), process (e.g., cognitive processes), press (e.g., environment), and product (e.g., ratings of output). They then discuss the implications of their review for future research into team creativity, innovation, and entrepreneurship. For example, they argue that many of the team attributes that are desirable for creativity may not be the same as those needed for innovation.

The next chapter, by Perry-Smith and Mannucci, takes a social network approach to the study of creativity by stressing the importance of relationships, the pattern of connections, and the complexity of the social context. They categorize creativity and social network research into two perspectives: relational (e.g., strength of ties) and structural (e.g., global network structure). They discuss consistent and inconsistent empirical findings in this area and suggest some interesting avenues for future research. For example, they argue that it is critical to resolve the inconsistent results regarding weak and strong ties for creativity. This work also provides a convincing rationale for the importance of taking a social network perspective in researching entrepreneurship. Specifically, they highlight the combined importance of creative thought and social embeddedness for entrepreneurial success.

The chapter by van Knippenberg and Hirst proposes that creativity research should take a more cross-level perspective in studying the person-in-situation interaction. Specifically, they argue that cross-level interactions are more appropriate both conceptually and methodologically than an individual level of analysis. They use trait-activation theory to review results of previous work on the interaction of personality and other individual characteristics with situational influences. Both consistencies and inconsistencies in the results of prior research are indicated, and the authors call for further work to try to analyze why some of these contradictions exist. They discuss the importance of developing a person-in-situation perspective, because there is growing evidence that the influence of individual differences on behavior is better understood by focusing on moderating influences of certain contextual features. Finally, they call for consideration of a person-in-situation perspective to add value to research on innovation and entrepreneurship.

The chapter by Wang and Murnighan explores a relatively new area, that of the relationship between creativity and ethics. In organizations, both creativity and ethics have become increasingly important; therefore, it makes sense to consider how these two constructs are interrelated. Specifically, the authors define creativity as both an outcome and a process, and they discuss the role of ethics for each. They also discuss whether ethics comes more into play when one is considering the novelty or the usefulness of creativity (the two main dimensions of creativity). They make a convincing case for the role of ethics in evaluating the creativity of ideas and state that this issue may already be implicit when experts or knowledgeable others evaluate the social acceptability of new ideas. Overall, this chapter fits nicely in a newly emerging stream looking at the "dark side" of creativity. Finally, Wang and Murnighan discuss potential implications of ethics for entrepreneurship, an issue that has received little attention.

Turning to cross-cultural issues related to creativity, the chapter by Leung and Wang is particularly timely because businesses are global and organizations need to effectively manage for creativity and innovation in different cultural contexts. According to Leung and Wang, there may be important variations in how creativity is conceptualized across cultures. They provide a systematic review and analysis of cross-cultural issues related to creativity at the individual, organizational, and societal levels, with a focus on cultural values and antecedents of creativity. Further, they address the relationship between biculturalism and creativity and that between cultural diversity and team creativity. Their review and analysis suggest avenues for future research into the relations among culture, creativity, and innovation.

The final chapter in the first section of this *Handbook* is authored by Unsworth and Luksyte. They propose an expanded model of types of creativity by drawing on the original work from Unsworth (2001) and integrating it with work on creative outcome types. Specifically, they conceptualize four types of creativity that are theoretically distinct from the two levels of creative outcomes (i.e., radical versus incremental). By integrating the four types with the two levels of creative outcomes, they provide a more fine-grained description of the creative process. They follow the creative process from the point at which the individual problem solver becomes motivated to

potentially be creative, through the actual process of being creative, to the final outcomes, of which some will be creative. Finally, they suggest some interesting areas for future research and theorizing. For example, they propose that research should examine whether the types of creativity that they discuss also extend to "innovation types" or "entrepreneurial types."

### *Innovation*

We begin the section on innovation with a unique paper by Mitchell, Smith, Stamp, and Carlson, who link creativity with the development of innovation. Their work provides a good transition between the sections on creativity and the contributions on innovation by focusing on the use of creativity in new-product development teams to create innovation. They extend research on organizing creativity to the organizational level by using a deliberate practice model of organizational creativity, and they explain its value and use through a unique case study. The case study describes the development and growth of *Eureka! Ranch*, an organizational creativity consulting firm. It describes the process used by the organization to achieve superior creative outcomes. The authors end their chapter by suggesting directions for improving creative outcomes in organizations and for further research to validate this process.

The next chapter in this section describes business innovation processes and is authored by Garud, Tuertscher, and Van de Ven. They describe the business innovation processes as an ongoing set of activities including those that involve invention, development, and implementation. Invention consists of the development of novel ideas that have potential value. To realize this potential, however, the ideas must be developed further, often in the form of prototypes, and followed by the infrastructure designed to generate the value. The implementation of innovation is focused on gaining widespread adoption. The authors suggest that this undertaking is much more complex than the simple linear, sequential process that is typically noted. They use the Minnesota Innovation Research Program (MIRP) and the many studies on innovation processes that have been derived from it to undergird their explication of the innovation process. As they note, research has shown that most innovation processes do not unfold in sequential stages and orderly steps. Rather, some things occur in unpredictable and sometimes uncontrollable ways based on resources and requirements. They end their chapter with a discussion of the implications of their work for practice.

The next chapter was developed by Altman, Nagle, and Tushman. They focus on unique approaches to creating innovation as opposed to the more traditional sequential innovation process within an organization. They argue that changes in technology, particularly the dramatic reduction in information constraints and the availability of many other external inputs, enable organizations to engage many other people in developing innovation. In fact, they suggest that organizations can now obtain information and ideas from communities of developers, professionals, and even users of the innovation through a platform-based business and ecosystem. The dramatic reduction in information processing costs have affected organizational boundaries, the business models used, the interdependence of different units and ideas and organizations, leadership practices, identity and search processes, and intellectual property. The authors argue that these changes require revisiting much of what we know about organization theory in terms of structures, processes, and organizational boundaries. They conclude that the evolutionary process models, such as the one described in the previous chapter, may be changing to completely new models of how innovation is developed. Thus, this interesting chapter may describe the future of innovation development and processes.

Following from and building on the previous material, the next chapter, by Altman and Tripsas, discusses moving from product-based to platform-based businesses. The authors explain how platform-based businesses can harness the innovative capabilities of external parties that complement the organization's knowledge. Although platform-based businesses have been studied in economics and strategy, the organizational implications of transforming from a product-based to a platform-based business model have not been explored. The authors suggest that the traditional approach of using creativity to develop innovation within the organization is quite different from the approach of platform-based businesses, in which external parties are engaged actively in the process of creating innovation. An important contribution of this chapter is the exploration of the way in which organizational identity influences whether and how organizations become platform based. Organizations that question their existing identity are more likely to change to a platform-based

business than those with strong organizational identities.

The next chapter, by Zott and Amit, focuses on a unique form of innovation and one that has become highly important in recent years: business model innovation. As they suggest, business models have become critical for businesses, and innovation in business models is a major issue of concern for managers, entrepreneurs, and management scholars because it has been identified as a source of firm value. Little research has been conducted on the process of business model innovation, and this chapter addresses that gap. The authors link creativity at the individual and firm levels with innovation at the business model level of analysis. Thus, they propose a multilevel model of business model innovation.

The chapter by Raffaelli and Glynn focuses on a different type of innovation: institutional innovation. They define institutional innovation as novel, useful, and legitimate change that disrupts, to varying degrees, the cognitive, normative, and regulative strengths of an organizational field. An institutional innovation is novel and useful, similar to many other types of innovation, but it differs from other types because it is also legitimate and appropriate. Institutions are important because they, in a sense, provide structure and value to behaviors, roles, and relationships in a community. Institutions provide order for the activities and interactions within the community. Therefore, institutions tend to remain relatively stable and resistant to change. Yet, institutions can and do change and, therefore, institutional innovation is an important concept to understand. Raffaelli and Glynn explain the characteristics of institutional innovation that determine its legitimacy and explain the processes involved in creating it and its composition. They end the chapter with a brief description of the implications for theory and future research.

The final chapter in the innovation section of this *Handbook* is by Helfat and Martin. They focus on the influence of dynamic managerial capabilities on creativity and innovation in organizations. In effect, dynamic capabilities are the primary means by which organizations create change with the purpose of developing or sustaining a competitive advantage. Recent research has explicated dynamic managerial capabilities, but much more is needed. Their work explains how dynamic capabilities are used to create change, such as in orchestrating assets and developing new organizational capabilities or business model innovations. Overall, they present a model of dynamic managerial capabilities composed of managerial human capital, managerial social capital, and managerial cognition to create innovations and technology and business models. Perhaps even institutional innovation could be considered an outcome based on the focus of the previous chapters. Overall, it is an excellent chapter to end the section on innovation, particularly because it explains the manager's role in the innovation creation process.

### *Entrepreneurship*

The section on entrepreneurship in this *Handbook* has six interesting and unique chapters that describe various important aspects of entrepreneurship and explain how creativity and innovation play key roles in the entrepreneurship process. The first chapter, by Burgelman, explains how Prigogine's theory of the dynamics of far-from-equilibrium systems informs our understanding of organizational evolution. In particular, he focuses on how this Nobel Prize winner's work better explains the role of strategic entrepreneurship and innovation involved in organizational evolution. Therefore, this chapter provides an interesting and valuable transition from innovation to entrepreneurship. It provides a basic understanding of Prigogine's theoretical insights and how those insights, based on work in the physical sciences, actually inform our understanding of social systems. Burgelman explains how stochastically emerging innovations are incorporated into a system's deterministic relations, allowing it to continue to evolve. He then explains how this contributes to the development of a model in strategic management. The model he describes distinguishes between autonomous and induced strategic processes that relate to the development of internal innovation and entrepreneurial behavior. Burgelman also looks at how that activity helps an organization adapt to its external environment in order to evolve and enhance its longevity.

The next chapter is authored by Aldrich and Martinez. It provides a very interesting premise about entrepreneurship; namely, that entrepreneurs often do not develop highly creative and radically innovative products or new markets. Because of institutional barriers and bureaucratic mechanisms, they are often constrained to only incremental advances in the current products and services, a situation that stifles unique innovation. Alternatively, they note that there are opportunities for more creative and innovative actions derived

from the complexity of the institutions and the multiple audiences involved. They also argue that the social networks of entrepreneurs can facilitate creativity and innovation because they often provide quite different and unique viewpoints, information, and ideas. Of course, such outcomes depend on how the entrepreneur forms that network and the other networks in which he or she chooses to participate. On the whole, the authors offer an interesting view of entrepreneurial activity, quite different from the norm.

Morris and Webb present a different perspective of entrepreneurship, that of entrepreneurship as emergence. They suggest that the emergence perspective complements other perspectives of entrepreneurship, such as the seeking opportunities perspective. They describe emergence focused on the venture, the opportunity, and the entrepreneur. They suggest that creating ventures is a process in which an individual entrepreneur has to cope with many unpredictable and uncontrollable events. These may include such activities as obtaining a patent, gaining resources from investors, and hiring and trying to retain key employees, as well as identifying customers and selling products or services. They suggest that venture creation alone is a creative process, and, by definition, it can radically disrupt other routines, operations, and existing markets. Therefore, Morris and Webb explain how entrepreneurship emerges to create ventures. They present a theoretical foundation for the process of emergence and how this perspective can be integrated with other entrepreneurship perspectives to advance the scholarly understanding of entrepreneurship. Therefore, this chapter provides a base for future research and an evolution in our understanding of entrepreneurship.

In recent years, there has been a renewed emphasis on creating innovation in organizations, which is often called corporate entrepreneurship. Kuratko's chapter describes corporate entrepreneurship. He explains how creativity and innovation are necessary in organizations in order to engage in corporate entrepreneurship. He suggests that firms must consciously develop a strategy to engage in corporate entrepreneurship that is based on creativity and innovation to exploit opportunities for growth and gain a competitive advantage. In fact, Kuratko argues that corporate entrepreneurship is critical to gaining and sustaining competitive advantages, which are likely to take the form of a series of temporary advantages. This chapter provides an excellent overview and description of the corporate entrepreneurship process, its value, and outcomes. It also provides a good base for future research by suggesting new research questions on corporate entrepreneurship.

The next chapter, by Fisher and Kotha, describes an interesting process of resource acquisition in entrepreneurial ventures. As explained in the chapter, many have argued that resource acquisition is one of the most critical activities in which entrepreneurs engage. In fact, it plays a key role in the potential survival and success of a new venture. Fisher and Kotha argue that the individual identity of an entrepreneur and the organizational identity of the investors play a major role in determining the potential for a new venture. When these identities closely match, investors are more comfortable in providing resources to a new venture. Fisher and Kotha argue that the identities of the resource providers and the entrepreneur merge over time to create a venture identity. A venture identity is important to the organization's ability to gain legitimacy. This chapter explains the cognitive and affective mechanisms involved in venture identification. The authors also suggest that the uncertainty of a venture moderates the relationship between venture identification and resource acquisition. They present a model that explains how the integration or overlap of entrepreneurial identity and resource provider identity create a venture identity that in turn influences the probability of gaining resource support. Furthermore, the salience and centrality of the identities moderate the relationship between the match of entrepreneurial identity with resource provider identity and venture identity. Finally, the uncertainty involved in the venture affects the extent to which venture identity influences the probability of gaining resource support. In fact, under conditions of high uncertainty, the venture identity is even more critical in gaining resource provider support. Overall, Fisher and Kotha provide a different and, we think, highly valuable view of resource acquisition. It should provide a base for understanding of how entrepreneurs gain resource support for their ventures and spur future research on this important process.

The final chapter, by Cruz, Firfiray, Makri, and Gomez-Mejia, explains creativity, innovation, and entrepreneurship in a particular form of business, the family firm. Although it is distinctive, it is a critical form of business ownership and governance because it is the most common type of business throughout the world. Therefore, it is

highly appropriate for this chapter to end our discussion of how creativity, innovation, and entrepreneurship are integrated. The authors explain how socioemotional wealth provides an obstacle to and facilitates entrepreneurial activity in family firms. Although some research has shown that family firms tend to take less risk than other types of firms and therefore develop lower levels of innovation, Cruz et al. have a different view. Whereas some argue that the family's emphasis on socioemotional wealth is the primary reason that family firms take fewer risks to produce economic returns, these authors suggest that socioemotional wealth goals lead family owners to favor certain types of entrepreneurial outcomes that provide rewards for the family and enhance their socioemotional wealth. Yet, they also acknowledge that family ownership tends to have a negative effect on a firm's capacity to innovate. Much like Helfat and Martin, they take a dynamic capabilities perspective of family operations, suggesting that dynamic capabilities allow them to be more entrepreneurial. Certain dimensions of socioemotional wealth facilitate innovation, whereas other dimensions serve as an obstacle to the creation of innovation. These authors view the entrepreneurial process in terms of sensing (identifying opportunities), seizing (exploiting opportunities), and then transforming. They explain that family dynamics can facilitate or constrain the seizing and transforming capacity of the firm. They argue that these characteristics and a family's emphasis on socioemotional wealth make family businesses more likely to start new businesses and enter new markets alone, rather than forming alliances with other organizations or seeking external resources to help them do so. Of course, the unwillingness to seek the external resources constrains their ability to start new businesses and likely constrains the size of their entrepreneurial activities. Cruz et al, also argue, however, that families with a strong identity and intent to maintain an ongoing firm for future generations are more likely to engage in research and development and to formulate unique innovations that help the company sustain or create new competitive advantages. These arguments present a unique view of family firms and their engagement in entrepreneurial activities. The chapter provides a base for understanding of family entrepreneurial processes and the types of entrepreneurial activities that are facilitated or constrained by the structure and family dynamics in those businesses.

## Areas for Future Research

As stated earlier, we hope that this *Handbook* serves as a catalyst for a much-needed movement to integrate these three research areas. Each of these areas is important alone, but research that gleans knowledge from each area and integrates it with the others promises to provide the understanding to enable organizations to create, innovate, and be entrepreneurial, thereby thriving and being competitive in the global marketplace. Each of the chapters in this *Handbook* identifies a number of important areas for future research. Rather than simply reiterating some of the more promising ones here, we highlight a few general areas that warrant future research. It is our hope that this *Handbook*, together with the scholarly research reviewed, and in particular with regard to the areas for future research presented, will set the stage for a more comprehensive integration of the research areas of creativity, innovation, and entrepreneurship in the future.

First, we argue that more research should be focused on how entrepreneurs, managers, and organizations in general can cultivate the interest of their employees in being more creative/innovative/entrepreneurial. Just because it is to the organization's best interest to continue to be creative/innovative/entrepreneurial does not mean that employees will see the value of behaving in ways that facilitate these outcomes or be motivated to engage in behaviors that lead to them. As Kuratko states in this *Handbook*, it is critical to develop an organizational environment that can cultivate employees' commitment to creativity/innovation/entrepreneurship. As such, more research is needed to determine what personal or contextual factors will cause employees to be more interested in creating and innovating, to be persistent in the face of obstacles and incidents of failure, and to continue to strive to be entrepreneurial on a regular basis. Creativity research has explored some of these issues (e.g., Anderson et al., 2014; Shalley et al., 2004; Zhou & Shalley, 2011), but there is much more that could be achieved in this area. For example, more work is needed taking a contingency perspective and identifying different mediators and moderators of personal and contextual factors (Zhou & Hoever, 2014). In addition, this *Handbook* contains three chapters that discuss different issues regarding the important role of individuals' identity for creativity/innovation/entrepreneurship. In the future, more emphasis on the role of identity, the interplay of multiple identities, and the importance of the strength of identity is needed. Also, it is critical to pinpoint the underlying cognitive,

motivational, and affective mechanisms driving certain relationships (Zhou & Shalley, 2011). Research in this area needs to be multilevel or cross-level to provide a more accurate model of the relationships at different levels of analysis (Zhou & Shalley, 2008). Identifying the particular management practices that are needed in order to encourage employees' commitment to being creative/innovative/entrepreneurial is important. Finally, at the organizational level, we need to look at how the importance of this issue can be effectively communicated down the different levels of the organization.

Second, within the creativity literature there is the well accepted interactional approach to creativity (Woodman, Sawyer, & Griffin, 1993), which looks at how the interaction of personal and contextual factors influences individual, team, and organizational creativity. A recently formulated typology of the nature of the interactions may further fuel this line of research (Zhou & Hoever, 2014). This approach could be readily expanded to the innovation and entrepreneurship literatures. Recently, research on the entrepreneurial process at the individual, group, and organization levels seems to have increased. However, is it possible that entrepreneurs with certain personal characteristics may be more likely to create or recognize opportunities under certain contextual conditions? Creativity can be helpful for entrepreneurship in developing ideas and selling them to others to gain legitimacy, funding, and support and to commercialize and grow a new venture. More work on the interaction of individual differences and the context for individual entrepreneurs and entrepreneurial teams as they discover, evaluate, and exploit opportunities could add value to our knowledge in this area. Also, there has been relatively less work in the innovation literature that examines the effect of context and how it might interact with personal factors, so it would be worthwhile for future research to address this area as well.

Third, there should be more emphasis on examining the various stages of the creative/innovative/entrepreneurial process and identifying what is most facilitative at each stage. For example, Perry-Smith and Coff (2011) found that the mood states of teams varied with each stage of the creative process (i.e., idea generation and idea selection). For example, an activated and pleasant mood had a positive influence on variance generation, whereas idea selection required a different mood. There is a rich literature on the capacity of individuals to combine ideas into new forms—the process of conceptual recombination that is fundamental to creativity and innovation. The creative process involves a variety of cognitions and behaviors (Smith, Ward, & Finke, 1995) that are aimed at discovering new patterns or combining familiar ideas, routines, and mental models; these could be the engine driving entrepreneurial discovery, because the search for patterns, when induced by market discontinuities, can form the basis for new ways of production. For example, creativity research (Reiter-Palmon & Illies, 2004) has found that the means of initially formulating problems can influence the creative process. So, further examination of how innovation and entrepreneurship are approached in their beginning stages may be highly useful.

The chapter in this *Handbook* by Mitchell et al. describes the creative and innovative process used at the *Eureka! Ranch* to achieve highly creative outcomes. This could be helpful for thinking more about what is necessary at different stages of the process. Also, Shalley and Perry-Smith (2008) discussed the emergence of team creative cognition, which is a shared repertoire of cognitive processes among team members that provides a framework for how the team approaches problems creatively. They proposed that the entrepreneurial team evolves over time, from working together, to coming up with an idea for a new technology, to commercialization. In addition, how ideas evolve and progress from one person's mind to another was conceptualized. These researchers argued that team creative cognition is particularly critical for entrepreneurial teams because creativity is not only a one-time event in discovering entrepreneurial opportunities; rather, it is important throughout the entire startup process. For example, they suggested that there is a window of opportunity during which creative cognition can be infused within the team. In particular, in the pre-startup phase of an entrepreneurial team, the members may be the most open to considering unique approaches to thinking. In the future, if more research is focused on examining the stages of the creative/innovative/entrepreneurial process, we may be able to develop a more comprehensive understanding of the desirable behaviors at certain points of the process.

The work of Altman and Tripsas and that of Altman, Nagle, and Tushman in this *Handbook* suggest that innovation is not constrained to organizational boundaries. In fact, the substantial technological progress of the last 2 decades now facilitates the involvement of communities of professionals in the creativity, innovation, and entrepreneurship processes of an organization. Actually,

all of these processes can take place outside the organization. Beyond the enhanced amount and potential diversity of knowledge that can be brought to bear using many external parties, we need to understand how the involvement of external parties can occur safely (e.g., guarding and controlling intellectual property) and efficiently.

One of the most prominent forms of business globally is the family business. Our understanding of how creativity is used to create innovations in these firms and how innovations are used to spur entrepreneurial actions in family businesses is important. Cruz, Firiray, Makri, and Gomez-Mejia explain that some attributes of these firms help them to be more entrepreneurial, whereas others constrain the creativity and innovation. There is clearly a need to understand the type of governance structures in these firms that promote the use of creativity, the creation of innovation, and the engagement of entrepreneurial behavior. The sheer economic impact of these types of firms worldwide suggests the importance of this research. Furthermore, the integration of creativity, innovation, and entrepreneurial behavior in family firms must be better understood and encouraged.

Finally, if creativity is expected as a part of every organizational member's job, there is no reason to exclude organizational decision makers and top management from creative endeavors. There has been some work on the microfoundations of strategy and dynamic capabilities (e.g., Teece, Pisano, & Shuen, 1997) that could be related to creativity, and each literatures could inform the other. Dynamic capabilities require that executive teams identify creative ways to adapt to a changing environment and develop creative solutions to problems that arise. Executive teams and their group dynamics play a central role in enabling such capabilities. For example, in this *Handbook*, Helfat and Martin present a model of dynamic managerial capabilities composed of managerial human and social capital, as well as managerial cognition to create innovation. Also, Raffaelli and Glynn discuss institutional innovation, which provides structure and value to behaviors, roles, and relationships. In addition, Zott and Amit explain the importance of business model innovation. Their work suggests to us that creative, innovative, and entrepreneurial actions are important in all areas of organizational functioning. Future research should continue to pursue these promising avenues.

In conclusion, we believe that the chapters included in this *Handbook* provide an effective review of cutting-edge research on creativity, innovation, and entrepreneurship. Furthermore, each of these chapters poses valuable ideas for future research. Our goal is that this *Handbook* will represent the first entry in a movement to more fully integrate these research streams and to provide valuable knowledge for individuals, teams, and organizations striving to be creative, innovative, and entrepreneurial.

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PART 1

# Organizational Creativity

CHAPTER

# 1 Leadership and Creativity: The Mechanism Perspective

Shung Jae Shin

**Abstract**

During the last couple of decades, there has been a surge of interest in the literature on workplace creativity regarding the relationship between leadership and employee creativity. In particular, leadership and creativity scholars have conducted extensive research on the roles of supportive, transformational, and empowerment leadership, as well as leader–member exchange, in boosting employee creativity. Despite such efforts, however, our understanding of the relationship between leadership and employee creativity is far from complete. The purpose of this chapter is to provide a review of the mechanisms by which leadership has influence on creativity. The author asserts the importance of understanding such mechanisms for further theoretical and practical improvement in this area of research and guidance for future studies is provided.

**Key Words:** workplace creativity, innovation, leadership, creativity mechanisms, moderators for leadership

## Introduction

In an effort to understand how to boost employee creativity, scholars have studied determinants of creativity in the workplace, focusing mainly on personal and contextual factors (e.g., Oldham & Cummings, 1996). Given that employee creativity is influenced by the perceived work environment (Amabile, Conti, Coon, Lazenby, & Herron, 1996; Woodman, Sawyer, & Griffin, 1993) and that leadership often shapes the work environment, leadership has been studied as one of the major contextual factors that significantly influence employee creativity (for review, see Shalley & Gilson, 2004; Tierney, 2008). In particular, researchers have suggested that leaders influence employee creativity not only by boosting their psychological states (e.g., Shin & Zhou, 2003; Tierney, 2008; Zhang & Bartol, 2010) but also by providing social contexts for creative processes such as problem identification, information gathering, and idea generation, evaluation, and modification (Amabile, 1996).

An increasing number of empirical studies have looked into the role of leadership in enhancing creativity by considering the impact of different types of leadership, such as supportive leadership (e.g., Scott & Bruce, 1994), empowerment leadership (e.g., Zhang & Bartol, 2010), and transformational leadership (e.g., Shin & Zhou, 2003). Nevertheless, it is still not well established how leadership affects employee creativity. As discussed in the following section, only a few studies have investigated possible mediators for the effects of leadership on creativity. Without understanding how leadership influences employee creativity (i.e., studying mechanisms), it would be hard to draw a complete picture of the leadership role in boosting creativity and innovation. This line of research requires additional accumulation of empirical findings, theories, and, most of all, an overarching framework for studying the role of leadership in boosting employee creativity (Tierney, 2008).

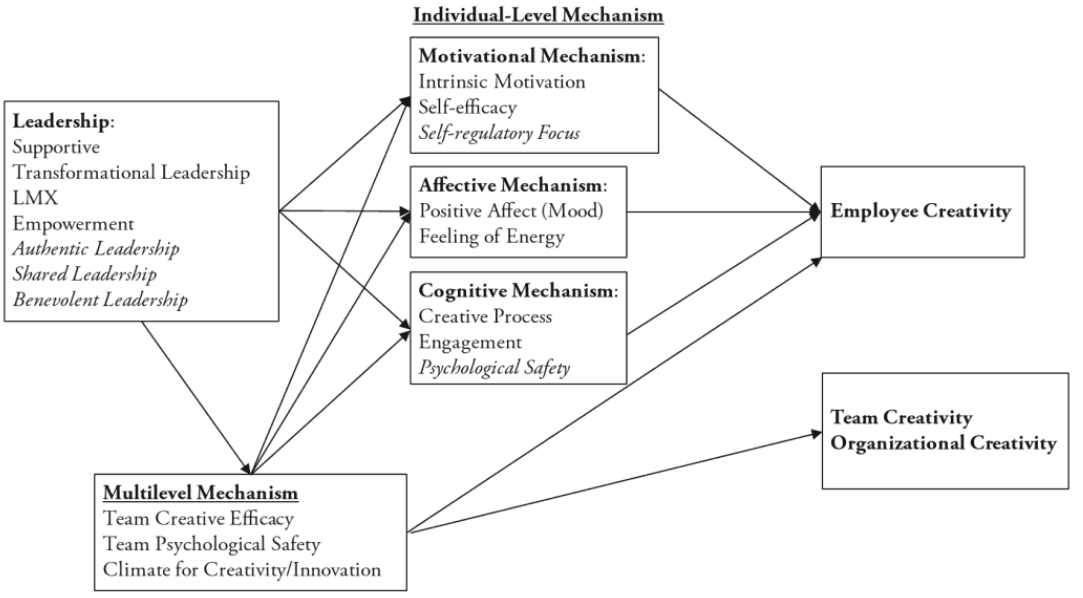


**Fig. 1.1** Leadership Mechanism Model.
*Note.* Italics indicate suggestions for future studies.

The primary focus of this chapter is the following research question: How do leaders provide the impetus for creativity in the workplace? To date, there has been a paucity of studies empirically investigating mechanisms by which a leader influences employee creativity. In addition, leadership is a social influence and therefore is expected to impact employee creativity on multiple levels (e.g., Drazin, Glynn, & Kazanjian, 1999). At the individual level, a leader can directly affect employees' motivational, affective, and cognitive processes (e.g., Madjar, Oldham, & Pratt, 2002; Shin & Zhou, 2003; Zhang & Bartol, 2010). At the team or organizational level, a leader can create social contexts that support or inhibit individual creativity (Mumford, Scott, Gaddis, & Strange, 2002) and may affect creativity also by motivational, affective, and cognitive mechanisms. As depicted in Figure 1.1, the proposed model suggests that identification of these mechanisms is vital to the study of the relationship between leadership and creativity. In fact, when introducing the three-mechanism framework for creativity, Zhou and Shalley (2010) asserted that all motivational, affective, and cognitive mechanisms for employee creativity should be investigated in order to more deeply understand how to boost employee creativity. Such investigation is important not only in theory, to identify specific mediators and the appropriate leadership style or behavior, but also in practice, to train managers to engage in specific behaviors that boost employee creativity.

In this chapter, I propose a mediator-based leadership–creativity model and present a review of the last 20 years of research on leadership and creativity (and innovation to some extent). I begin by reviewing the literature on the impact of motivational, affective, cognitive, and multilevel mechanisms on creativity. Then, I suggest future studies to better understand how leadership affects employee creativity and innovation. Despite the fact that this chapter primarily deals with leadership and creativity, I also review limited research on leadership and innovation. The recommendations are not limited to leadership and creativity but extend to entrepreneurship and innovation as well.

## How a Leader Affects Creativity

A leader can influence employee performance by demonstrating certain types of behavior, combinations of which we call leadership styles. One of the most frequently studied leadership styles in relation to employee creativity is the supportive leadership style. It has often been asked how supportive leadership can boost employee creativity. Whereas Oldham and Cummings (1996) responded to this question by investigating the role of intrinsic motivation and Tierney and Farmer (2002) explored the role of creative self-efficacy, Madjar et al. (2002) examined an affective mechanism (i.e., mood

states). As suggested by these differing research approaches to the same fundamental question, the same leadership style may influence employee creativity via different mechanisms. Therefore, in this section, I review the literature on leadership and creativity by focusing on the mechanisms rather than on specific leadership styles or behaviors.

In addition, although there have been fewer studies on team creativity than on individual creativity, I review the literature on leadership and team creativity as well. At the team level, leadership may influence team processes and emergent states (Marks, Mathieu, & Zaccaro, 2001), all of which may relate to motivational, affective, and cognitive mechanisms at the team level.

### *Motivational Mechanism*

***Intrinsic motivation.*** Several studies have examined the motivational mechanisms by which leadership affects employee creativity. This can be attributed to the perceived importance of intrinsic motivation in the workplace. According to the componential model of creativity (Amabile, 1996), intrinsic task motivation is one of the most important factors deciding creative performance. Specifically, supportive leadership, empowering leadership, and transformational leadership have been proposed to have an impact on follower creativity via increasing levels of intrinsic motivation. Previous studies have suggested that supportive leaders may increase the intrinsic motivation of followers by providing them with more choices and informative positive performance feedback (Oldham & Cummings, 1996). Furthermore, Zhou's work (2003), based on cognitive evaluation theory (Deci & Ryan, 1985), indicated that controlling supervisor behavior (e.g., close monitoring) had a negative influence on employee creativity, whereas informational supervisor behavior (e.g., developmental feedback) had a positive influence on creativity. Even though these studies did not empirically test the mechanism, they both suggested the mediating role of intrinsic motivation in the relationship between supervisory style (such as supportive and noncontrolling leadership style) and creativity (Amabile, 1988; Shalley, 1991).

Moreover, Zhang, and Bartol (2010) found, using survey data from professional-level employees and their supervisors in an information technology company, that empowering leadership had a positive influence on creativity via increasing intrinsic motivation. Here, empowering leadership includes leader behaviors such as emphasizing the significance and meaningfulness of the employee's job, providing more autonomy, and encouraging employees to have self-efficacy (Ahearne, Mathieu, & Rapp, 2005).

The transformational leadership style has also been studied for its effect on creativity (e.g., Jung & Avolio, 1999; Shin & Zhou, 2003, 2007). The four dimensions of transformational leadership (i.e., inspirational motivation, idealized influence, intellectual stimulation, and individualized consideration) are likely to boost the intrinsic motivation of followers by energizing them to perform beyond expectations, developing their capabilities, giving them discretion, and encouraging them to be playful with ideas (Shin & Zhou, 2003). Using a sample of employees and supervisors engaged in research and development (R&D) from 40 new venture companies and 6 established companies, Shin and Zhou (2003) found that intrinsic motivation partially mediated the contribution of transformational leadership to creativity. So far, however, only a few studies have empirically examined this mediation effect when studying the influence of leadership on creativity. Given the importance of intrinsic motivation for employee creativity, it is surprising that very few studies have actually investigated this mechanism.

***Self-efficacy.*** Efficacy belief is another key element in motivational mechanisms for creativity. Scott and Bruce (1994) found that supervisors' high expectations for subordinates' innovativeness and high-quality leader–member exchange (LMX) actually led to subordinates' higher innovative behavior by increasing their perception of a climate for innovation. Even though the role of efficacy beliefs was not explicitly examined in their study, the perception of climate for innovation seemed to increase the employees' self-efficacy in innovation (Tierney & Farmer, 2002).

Ford (1996) suggested that self-efficacy beliefs are a key motivational mechanism for individual creativity. Tierney and Farmer (2002) proposed the idea of creative self-efficacy, which is "the belief one has the ability to produce creative outcomes" (p. 1138). They suggested that creative self-efficacy is an efficacy belief specific to creative performance, and they found that supervisor support (role modeling and verbal persuasion) was positively related to creative self-efficacy. Even though they did not formally test whether creative self-efficacy mediated the relationship, it was implied theoretically. Since then, a few studies have sought to formally investigate the mediating role of self-efficacy in the relationship

between leadership and creativity. One such study by Farmer and Tierney (2004), using a sample of R&D employees, showed that creative self-efficacy mediated the effects of supervisor creativity-supportive behavior (e.g., creative work facilitation, interpersonal support, creative goal emphasis) on employee creativity. Similarly, Choi (2004), using longitudinal data from 386 business school students, found that supportive leadership had a positive effect on creativity via creative self-efficacy.

Furthermore, with a sample of employees from an insurance company in Taiwan, Gong, Huang, and Farh (2009) showed that transformational leadership had positive effects on employee creativity through creative self-efficacy. They argued, based on the work of Bandura (1986), that transformational leaders tend to affect the efficacy beliefs of their followers by serving as a role model for proactive thinking and by verbally persuading followers to be more confident in their ability to produce creative outcomes, which in turn leads to higher levels of creative self-efficacy.

In a more general study, Liao, Liu, and Loi (2010) used longitudinal data from 828 employees on 116 teams to investigate the connection between LMX and self-efficacy. They found that the quality of LMX had an indirect, but significant, effect on employee creativity via general self-efficacy. They argued that high-quality LMX is likely to provide employees with positive expectations and to encourage the undertaking of challenging tasks (Bandura, 1986). They noted, however, that general self-efficacy is different from creative self-efficacy in terms of specificity. In particular, it is a more general belief in one's abilities and boost motivation by increasing self-confidence. Since the introduction of creative self-efficacy (Tierney & Farmer, 2002), self-efficacy beliefs have been viewed as one of the main mechanisms for the relationship between leadership and creativity.

### *Affective Mechanism*

As suggested by Conger (1991), arousing followers' emotion is an important outcome of inspirational leadership. Similarly, other studies have asserted that managing followers' emotions is an important component of effective leadership (Goleman, 1998; Zhou & George, 2003) and that leaders can minimize the impact of negative events on employees' emotions through their behaviors (Pirola-Merlo, Hartel, Mann, & Hirst, 2002). Combined, these studies suggest that leaders are one of the main sources for employees' affective experiences in the workplace. Several studies have illustrated that positive affect may lead to better creative performance including fluency, flexibility, and originality (for a review, see Isen, 1999). A more recent meta-analysis indicated that there is a positive relationship between positive moods (e.g., happiness) and creativity and a negative relationship between negative moods (e.g., fear, anxiety) and creativity (Baas, De Dreu, & Nijstad, 2008). Further, Amabile, Schatzel, Moneta, and Kramer (2004) implied that followers might have an affective reaction to their leaders in addition to a perceptual or motivational reaction. In particular, leaders may have significant influence on employees' affective states such as emotion and moods in the workplace because they have a huge impact on the social lives of their employees at work. Following this logic, we can easily see the affective mechanisms by which leadership impacts employee creativity.

First, leaders can influence employee creativity by helping their affective states to be oriented toward creative behavior. For instance, the work of George and Zhou (2002) and Zhou and George (2001) showed that employees' negative moods resulting from job dissatisfaction could lead to greater creativity if their affective states were well managed by their leader. This phenomenon results when a leader with a high level of emotional intelligence who is aware of the emotions of his or her followers enables them to channel those emotions toward the desired creative processes. In addition, George and Zhou (2007) found that when a leader provided supportive contexts such as maintaining a level of developmental feedback, interactional justice, or trustworthiness, then both positive and negative moods were jointly and positively related to creativity. Even though this study did not test the mediation by an affective state per se, it implied that leadership can help employees utilize their affective states for positive creative performance.

Second, positive emotional or mood states created by a leader could lead employees to be more creative in their work. Madjar et al. (2002), using survey data from three Bulgarian knitwear companies, found that support for creativity from a supervisor and coworkers led to employees' experiencing positive moods and, in turn, to higher creativity. This finding suggests a plausible mediating role of emotion in the relationship between leadership and creativity. Additionally, Atwater and Carmeli (2009), in a longitudinal study, found that high-quality LMX led to feelings of energy (i.e., affective states encouraging individuals to pursue

creative paths), which in turn increased creativity. Although there have been very few empirical studies investigating this affective mechanism, partly because of the difficulty of measuring emotion (i.e., state) in a longitudinal research design, the affective mechanism must be considered when we look into the relationship between leadership and creativity.

Finally, the emotional intelligence of leaders can help employees have better emotional experiences, allowing for better engagement in cognitive and creative processes (Zhou & George, 2003). Because creative activities are affect-laden, if emotional states are well managed, employees are likely to engage in more creative behavior. In this regard, leaders with high emotional intelligence are able to help shape their followers' emotional experience such that engagement in the creative process is enhanced. Here, creative processes include identifying problems, questioning existing relationships, formulating ideas, and having a discussion with others (Torrance, 1988).

### *Cognitive Mechanism*

Creativity requires extensive and effortful cognitive processing (Amabile, 1996). Leaders can affect followers' creativity, not only through the motivational and affective mechanisms, but also by facilitating cognitive processes involved in creativity (Reiter-Palmon & Illies, 2004). The important roles that a leader can play in facilitating employees' creative processes are providing access to diverse information, encouraging team members to share information and ideas, creating an environment for their indulgence in creative processes, and proactively encouraging them to engage in creative processes (Reiter-Palmon & Illies, 2004). A handful of prior studies have suggested positive links between specific team leader behaviors and creative process engagement by subordinates. In one such example, Shalley (1991) suggested that setting creativity goals may lead employees to engage in more creative processes.

The connection between leader behavior and creative process engagement was also highlighted in a study by Zhang and Bartol (2010), in which they investigated not only intrinsic motivation but also creative process engagement as the mechanisms by which leadership influences employee creativity. Their study found that empowering leadership had a positive influence on creativity through increasing both intrinsic motivation and creative process engagement. They also found that enhanced psychological empowerment led to higher levels of intrinsic motivation and creative process engagement when leaders encouraged creativity. Such findings are of great importance because they imply that leadership may affect creativity via not only motivational but also cognitive mechanisms. Although a greater accumulation of findings is required to draw a clearer picture of the cognitive mechanism, existing research indicates that a leader can boost followers' creativity through influencing their cognitive components for creativity.

### *Multilevel Nature of the Mechanisms*

Leadership influence is not an isolated event; rather, it can manifest at multiple levels (Kozlowski & Klein, 2000), not only at the dyadic level but also at the team level and at the organization level. For instance, Scott and Bruce (1994) suggested that a leader can influence employees' perception of organizational climate, which in turn influences their motivation to engage in creative behavior. In addition, leaders can create social contexts in which employees better engage in creative processes (Reiter-Palmon & Illies, 2004). That is, a leader can also affect employee creativity indirectly by forming a work environment in which creativity is supported. Furthermore, a leader may have simultaneous influences on teams' emergent motivational states (e.g., team creative efficacy), team cognitive processes (e.g., information and idea sharing), and team emotional states (e.g., team moods). These multilevel mechanisms may have influence not only on organizational or team creativity but also on individual creativity.

Given the important role of leaders in affecting work environment characteristics such as organizational climate and culture (e.g., Mumford et al., 2002), it is reasonable to believe that leaders can create or maintain a creativity-stimulating climate while removing inhibiting aspects through their leadership influence. A study by Jung, Chow, and Wu (2003) supports this assertion because it showed, by measuring the transformational leadership behavior of 32 Taiwanese CEOs, that transformational leadership had a positive correlation with an innovation-supporting organizational climate. Gumusluoglu and Ilsev (2009) found similar results within data collected from 163 R&D personnel and managers at 43 small Turkish software companies. Their data showed that transformational leadership was highly related to the perception of support for innovation. Research by Sarros,

Cooper, and Santora (2008) also supports the role of transformational leadership in creative climates. Their survey of 1,158 managers in the Australian private sector showed that transformational leadership had a positive correlation with a climate for innovation. Even though none of these studies tested the influence of the climate for innovation on creativity or innovation, they showed that leaders can play a critical role in creating a climate for creativity or innovation at the organization level that inherently affects employee motivation, cognition, and emotional states.

At the team level, a few mechanisms through which leaders influence team or employee creativity have been proposed. One group of scholars proposed that transformational leadership has a positive influence on team creative performance through affecting teamwork processes (e.g., Bass, 1998; Dionne, Yammarino, Atwater, & Spangler, 2004). Examples of teamwork processes affected by transformational leadership are group cohesion, team communication, and conflict management. Each process is important for creativity because group cohesion is a critical motivational factor for team processes (Weaver, Bowers, Salas, & Canon-Bowers, 1997); team communication (e.g., information and idea sharing) allows team members to share their ideas and have a constructive dialogue (Nemiro, 2002); and conflict management helps awaken members to alternative viewpoints and emotional processes (Bassett-Jones, 2005). Hülsheger, Anderson, & Salgado (2009) also discussed team process variables. These included team cohesion (Woodman et al., 1993) and communication (Keller, 2001); vision, participative safety, support for innovation, and task orientation/task reflexivity (i.e., concern for the quality of task performance in relation to the shared vision or "process in which the team reflects upon the team's objectives, strategies, and procedures, and evaluates each other's work to improve team effectiveness and outcomes" [p. 1131]); and task and relationship conflict. Their meta-analysis on team-level behaviors showed that communication, vision, support for innovation, task orientation, and cohesion had the strongest relationships with creativity and innovation. Their analysis further suggested that the relationships were stronger for team rather than individual creativity and innovation. These studies suggest that motivational (e.g., cohesion, vision, support for innovation, task orientation), affective (e.g., relationship conflict), and cognitive (e.g., communication, participative safety, task reflexivity) mechanisms significantly relate to creativity and innovation at the team level.

Another group of studies has also examined team-level motivational mechanisms. For example, Shin and Zhou (2007), using 75 R&D teams in 44 Korean companies, found that transformational leadership was significantly and strongly related to team creative efficacy (i.e., "we believe we can be creative as a team"), which led to higher team creativity. As the study suggested, in a highly collectivistic team specifically, high team creative efficacy could be an important motivational team context for team member creativity. In a similar vein, with a sample of 163 work groups involving 973 employees in twelve Chinese companies, Zhang, Tsui, and Wang (2011) found that transformational leadership had indirect positive effects on group creativity via collective efficacy among members within the group. Eisenbeiss, van Knippenberg and Boerner (2008), using a sample of 33 R&D teams from five organizations, showed that transformational leadership had an indirect effect on team innovation through building of a team climate in support of innovation. Finally, Hon and Chan (2013) found that empowering leadership had indirect effects, via team self-concordance (i.e., value-based intrinsic motivation) and team creative efficacy, on the team creativity of 52 teams in hotel companies in China. Together, these findings imply that transformational and empowering leadership can create team contexts or processes from which team member creativity increases as a result of motivational mechanisms.

A significantly smaller number of empirical studies exist on either affective or cognitive mechanisms for leaders' influence on team creativity and innovation. Pirola-Merlo et al. (2002) examined affective climate as a mechanism for the interaction of obstacles and both transformational leadership and facilitative leadership on team performance based on affective events theory. They suggested that these leadership styles might help teams better deal with affective events for their performance. In a study of 136 primary care teams, Somech (2006) found that participative leadership had a positive influence on innovation in functionally diverse teams via team reflection (i.e., questioning, debating, planning, learning, analyzing, divertive exploration, making use of knowledge explicitly, and viewing team overtime with new awareness). Further, West, Borrilla, Dawson, Brodbeck, Shapiro, and Haward (2003) examined the role of leadership clarity (i.e., team

members' consensual perceptions of clarity of leadership of their teams) on team innovation in health care teams. They found that high levels of participation mediated the positive influence of leadership clarity on team innovation. However, before a conclusion can be drawn about leadership influence on team-level affective and cognitive mechanisms, more empirical investigations will have to be conducted on these topics.

Another topic rarely studied is how leaders affect individual creativity via team- or organization-level mechanisms. Whereas organization-level mechanisms such as climate have largely been studied as conditions (i.e., moderators) for certain managerial practices (including leadership) to have an influence on employee creativity (e.g., Wang & Rode, 2010), the literature has lacked empirical testing of these mechanisms as a mediating variable. With respect to team-level mechanisms, also largely untested, it would be interesting to investigate how individual employees react to the team-level processes and emergent states. For example, depending on individual characteristics such as creative self-efficacy, team members may react differently to the same team context (Shin, Kim, Lee, & Bian, 2012).

### *Interdependence Among the Mechanisms*

The three mechanisms for boosting employee creativity may interrelate. For example, George and Zhou (2007) did an interesting study on the interaction between supervisor behavior (developmental feedback, interactional justice, and being trustworthy) and employee mood states on employee creativity. The results implied that the interaction may have a positive influence on creativity by facilitating positive creative processes such as focusing on useful ideas for improvement, sharing knowledge and information, accepting the risk of failure, and recognizing problems for creative solutions. This study showed not only that creative activities are affect-laden (e.g., tension, conflict, debates and disagreement resulting from introducing new ideas and/or changing the status quo) but also that emotional states influence individuals' cognitive processes. These findings are further supported by prior work of Zhou and George (2003) proposing that the leader's emotional intelligence might be helpful in awakening employee creativity through effects on their cognitive processes including identification, information gathering, and ideation.

In addition to emotional states' having a potential impact on cognitive processes (Schwarz & Clore, 1983), motivational mechanisms may influence cognitive processes by energizing employees to work harder in engaging in creative processes. Further, emotional states may increase or decrease the level of creative self-efficacy or vice versa (Bandura, 1997). Thus, there would be no doubt that these mechanisms are interrelated. However, the research question here is not what the relationships are among the mechanisms but how leaders can affect employee creativity: Which mechanism will be triggered by certain leadership behaviors? Given the interrelatedness among the mechanisms, we should investigate precisely which mechanisms are directly influenced by a given leadership style or behavior.

## Discussion and Suggestions for Future Inquiry

In the previous sections, I have reviewed the existing literature on the types of mechanisms (motivational, affective, and cognitive) by which leadership affects employee creativity. Based on the literature review, we can draw the following conclusion: There is a paucity of studies examining the mechanisms by which leadership affects employee creativity. Only a few studies have examined motivational mechanisms, fewer still have examined the affective mechanism, one study examined the cognitive mechanism, and no empirical studies have examined team- or organization-level mechanisms for individual employee creativity. Without an understanding of how leadership influences employee creativity, we cannot further develop theory in this area of research. Furthermore, understanding of the mechanisms would allow us to better identify how and when to intervene in the relationship between leadership and creativity.

In this section, I discuss a number of issues in the literature and propose directions for future studies based on the proposed leadership–creativity mechanism model. In particular, the issues addressed are (1) fit between leadership style and mechanisms, (2) moderators (fit between mediation and moderation), (3) cultural congruence of leadership, (4) main or moderating effect, (5) multilevel sequential mediation, and (6) other leadership styles and mechanisms. Finally, I discuss some future directions for leadership, entrepreneurship, and innovation based on the proposed model.

### *Fit Between Leadership and Mechanisms*

When we study the influence of leadership on creativity, there should first be a match between a leadership style and the mechanism by which the leadership style affects employee creativity. Without establishing such a fit, any theoretical development would be in vain, because it would be hard to find significant indirect effects of leadership on creativity empirically. To determine the appropriate mechanism by which a leader can influence employee creativity, we should first theoretically identify mediators that link specific leadership styles and creative performance. Based on the existing creativity literature, we should identify the most appropriate mechanism (i.e., motivational, affective, or cognitive) given the nature of the leadership style of interest. For instance, empowerment leadership is likely to increase employees' intrinsic motivation, which in turn tends to have a significant influence on creativity. Alternatively, intellectual stimulation, one of the components of transformational leadership, is likely to encourage followers' engagement in creative processes and, ultimately, their creative performance.

Second, to better establish the fit, we should investigate a more fine-grained leadership style. Studies by Shin and Zhou (2003) and others have shown the relationship between overall transformational leadership and employee creativity, partly because the four subdimensions of transformational leadership have been highly correlated with each other in empirical studies based on the available measuring instruments (e.g., the Multifactor Leadership Questionnaire). However, each of the four subdimensions of transformational leadership might have different effects on the different mechanisms. For instance, whereas inspirational motivation may have a strong direct influence on intrinsic motivation, intellectual stimulation may have a more significant relationship with the cognitive mechanism (e.g., creative process engagement) by encouraging employees to consider different perspectives and diverse information (Bass, 1998).

Third, when developing a leadership style that is effective in boosting or intervening in employee creativity, we should choose specific mechanisms first (i.e., which mechanism would be the most effective and efficient to impact employee creativity given the situation) and identify or create a leadership style that exerts significant influence on the specified mechanisms. For instance, as an entrepreneur, if you want to boost your employees' creativity, you should figure out which mechanism (e.g., motivational, affective, or cognitive) would be more important for them to generate novel and useful ideas for launching a new business. If their intrinsic motivation and self-efficacy seem to be already high enough, then perhaps you should find the most appropriate leadership behavior for activating or boosting the cognitive mechanism. In doing so, you could not only enable employees' cognitive resources such as social ties with experts in various areas but also encourage them to engage in more creative processes.

### *Conditions for Better Fit*

The relationship between leadership and creativity is not always clear cut. For instance, the measured effects of transformational leadership on creativity have yielded mixed results (for review, see Herrmann & Felfe, 2013). Although it is important to identify the conditions under which a specific leadership style has a relatively larger positive effect on employee creativity, very few studies have investigated these conditions. For example, employee rating on the Creative Personality Scale (Gough, 1979) interacted with supportive leadership (Oldham & Cummings, 1996); employee cognitive style interacted with quality of the LMX (Tierney, Farmer, & Graen, 1999); conservation interacted with transformational leadership (Shin & Zhou, 2003); empowerment role identity interacted with empowerment leadership (Zhang & Bartol, 2010); creative role identity and job autonomy interacted with benevolent leadership (Wang & Cheng, 2010); and identification with the leader and organizational climate interacted with transformational leadership (Wang & Rode, 2010).

The first three studies looked into individual characteristics as moderators, whereas the others concerned contextual influences. This first group of studies implies that the effectiveness of certain leadership styles depends on the traits of the focal employee. That is, the effectiveness of a leader relies on how employees respond to the influence based on their own personality, cognitive style, and values. The latter group of studies implies that organizations or managers create and maintain the context that helps employees to perceive or have goals, role identity, autonomy, and encouragement so that they can get more benefits out of the leadership influence. These findings suggest two things. First, as a leader, if you want to significantly boost your employees' creativity, you have to select only those who have the traits aligned with your leadership style. Second, selection is not the end of the story;

you can also enhance the effectiveness of your leadership by creating a context that helps employees to better respond to your leadership influence.

A commonality in all of these studies, excluding Shin and Zhou (2003) and Zhang and Bartol (2010), is that no mediator was included (i.e., the mechanism that the condition moderates was not identified). The drawback in not considering mediation is that it may lead to a lack of understanding of how the moderators work. We may be able to identify more accurate and powerful moderators if we begin with how the leadership style influences employee creativity (i.e., what the mediators should be).

To further develop this area of research, we need to study not only first-stage moderators (i.e., interaction between leadership and a moderator on a mediator) but also second-stage moderators (i.e., interaction between the mediator and a moderator on creativity) (Edwards & Lambert, 2007) in relation to the leadership–creativity mechanism of interest. For example, Shin and Zhou (2003) examined follower conservation as a condition (i.e., a first-stage moderator) for the effect of transformational leadership on creativity, arguing that only those following their leader's influence are likely to have the benefits of transformational leadership. Here, follower conservation is a condition for the effectiveness of transformational leadership on intrinsic motivation, but not on creativity, making it a first-stage moderator. Zhang and Bartol (2010) investigated the moderating role of leader encouragement of creativity (i.e., a second-stage moderator) to show that psychological empowerment would have a more positive influence on creativity when combined with leader encouragement of creativity. As illustrated by the given examples, with more specific knowledge of the conditions (first-stage, second-stage, or both), we may be able to achieve a better fit between the mediators and the moderators.

### *Cultural Congruence of Leadership*

To enhance the effectiveness of leadership, managers must also consider the cultural context of both the company location and the individual employees. Given the general business trend toward globalization, many organizations have multicultural teams operating across multiple countries. Because the effectiveness of certain motivational tools depends on the societal or cultural context (Adler & Gundersen, 2007), we have to consider the issue of cultural congruence in leadership. For instance, employees from different cultural backgrounds may have different expectations about leadership (Gerstner & Day, 1994) and may perceive the same leadership behavior differently. In support of this concept, a study by Jung and Avolio (1999) found that students from a collectivistic culture generated more ideas with a transformational leader, whereas those from an individualistic culture generated more ideas with a transactional leader. They further observed that collectivists tended to have higher levels of loyalty and commitment to their leader, whereas individualists tended to put priority on personal rewards. By highlighting the response to certain leadership styles within a specific culture, they showed the importance of cultural congruence for leadership effectiveness on creativity. In the literature, however, there have been very few studies that empirically test this cultural moderation in the relationship between leadership and creativity.

It is important to consider the mechanisms of leadership in creating a more fine-grained cultural leadership model. For example, if creative self-efficacy (i.e., one of the motivational mechanisms) is regarded as the most relevant mechanism in a certain context, then, depending on the cultural values (e.g., collectivistic versus individualistic), the leadership style (e.g., transformational leadership) should be aligned accordingly. Whereas the leadership style should perhaps promote collective creative efficacy in a collectivistic culture, it may be better to emphasize creative self-efficacy in an individualistic culture (e.g., Shin & Zhou, 2007). Furthermore, additional considerations such as psychological safety may be important when considering a fine-grained cultural leadership model. An example is the importance of factoring in the ability to "save face" in Asian countries. Psychological safety and respect are paramount if leaders want to encourage creativity in Asian employees.

### *Leadership: A Moderator or a Main Effect?*

Because, mathematically, the components of an interaction term can be either a main effect or a moderator, it depends on the theoretical rationale whether leadership, as a component of an interaction, is a moderator or a main effect for employee creativity. Some studies (e.g., Oldham & Cummings, 1996; Shin & Zhou, 2003; Zhang & Bartol, 2010) have investigated leadership as a main effect on creativity. Given the proposed mediator, they argued that supportive, transformational, and empowerment leadership would have positive effects on creativity. Other studies, such as Shin

et al. (2012) and Van Dyne, Jehn, and Cummings (2002), investigated transformational leadership and LMX quality as a moderator. Shin et al. (2012) showed that team cognitive diversity had a positive relationship with individual team member creativity only when team leaders exhibited higher levels of transformational leadership and argued that transformational leadership helped team members to better utilize the benefits of team cognitive diversity. Van Dyne et al. (2002) found that LMX moderated the effects of strain on creativity such that the negative relationship between the level of strain and creative performance weakened when the quality of LMX was high. They argued that high relationship quality could protect employees from distractions from work caused by the work environment itself or by family strain.

Investigation of leadership as either a moderator or a main effect can be determined by the mechanism of interest. When there is a close relationship between a leadership style and a mechanism (motivational, affective, or cognitive), we could, theoretically, propose leadership as the main effect. On the other hand, when a construct of interest seems to have an effect on the mechanism and a leadership style helps the manifestation of its effect on the mediator, we can investigate the leadership style as a moderator. Therefore, I propose that if we seriously consider the mechanism (i.e., how leadership influences creativity), we can build a sound theoretical model for leadership and creativity. Without considering the mechanism, we may end up arguing that the main effect of leadership is its moderating role in boosting creativity, or vice versa. Thus, when we theorize about the role of leadership in creativity, we should be clear about whether it is being evaluated as a main effect or as a moderator in the consideration of the mechanism.

### *Multilevel and Sequential Mediation*

A leader may have influence on employee creativity not only via parallel mediation but also via sequential mediation. For instance, Zhang and Bartol (2010) showed that empowerment leadership indirectly affects employee creativity via motivational and cognitive mechanisms at the same time (i.e., parallel mediation). In addition, different types of mediators may be sequentially interrelated to each other. For instance, Amabile, Barsade, Mueller, and Staw (2005) outlined an overarching theory of affect and creativity in organizations, proposing that positive affect facilitates cognitive variation and cognitive associations. Likewise, emotional components such as positive affect tend to increase motivation level and help individuals play with ideas and think more divergently. Therefore, to accurately determine how a leadership style affects employee creativity, we should design future studies to ascertain which mediator is directly influenced by the leadership style.

Further, it is plausible that leadership influences employee creativity via multilevel mechanisms sequentially. For example, transformational leadership may positively affect intragroup processes (i.e., team-level context) such as sharing ideas and information, discussing and testing ideas, and providing constructive feedback (e.g., Zhang et al., 2011). In turn, the improved intragroup processes may be helpful for the cognitive mechanism, which then leads to higher employee creativity. In addition, when viewed as a contextual influence, leadership can create and maintain a positive working environment, which may influence employee creativity through the proposed individual-level mechanisms. By considering the contextual mechanism and its influence on individual-level mechanisms, we can draw a fuller picture of how leadership influences employee creativity. Therefore, a study that examines multilevel and sequential mediations would be helpful for determining how the mechanisms work. That is, considering both levels at the same time would lead to a better understanding of how leadership affects employee creativity.

### *More Leadership Styles and Mechanisms*

In the existing literature, as reviewed earlier, most of the studies have focused on supportive leadership (e.g., Oldham & Cummings, 1996), transformational leadership (e.g., Shin & Zhou, 2003), LMX (e.g., Scott & Bruce, 1994; Tierney et al., 1999), and empowerment leadership (e.g., Zhang & Bartol, 2010). However, there could be other leadership styles that provide the impetus for creativity by boosting the motivational, affective, and/or cognitive mechanisms.

For instance, authentic leadership may increase the motivation level of followers by supporting their self-determination and intrinsic motivation (Ilies, Morgeson, & Nahrgang, 2005) or by increasing positive effect (Rego, Sousa, Marques, & Cunha, 2014). As one study found, authentic leadership encourages positive self-development through leader behavior emphasizing self-awareness, moral perspective, balanced information processing, and relational transparency (Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008). The same

authors argued that authentic leadership promotes trust and identification, which in turn increases perceived psychological safety (i.e., the degree to which individuals believe the context is safe for interpersonal risk-taking; Edmondson, 1999) and creativity. Given the theoretical rationales for the mechanisms (i.e., intrinsic motivation, psychological safety, and positive affect), it seems that authentic leadership is a promising leadership style for fostering employee creativity. Future studies should look into the individual components of authentic leadership, for each of the proposed mechanisms, to get a more accurate picture of the relationship between authentic leadership and creativity.

Other leadership theories that have been briefly studied for their impact on employee creativity are shared leadership and benevolent leadership. Shared leadership (Pearce, 2004) may have a positive influence on employee creativity based on the proposition that mutual influence among team members improves participation and information exchange. This enhanced team discussion provides cognitive resources for individual team member creativity, suggesting that shared leadership may have an indirect effect on creativity via the cognitive mechanism. Another interesting leadership style for employee creativity, benevolent leadership, is rooted in traditional Chinese societies, is prevalent in Chinese organizations, and can be represented as individualized care in a work or non-work domain (Farh, Liang, Chou, & Cheng, 2008). For example, Wang and Cheng (2010), using a sample of 167 supervisor–subordinate dyads, found that when creative role identity or job autonomy was high, the positive relationship between benevolent leadership and creativity was stronger. Although benevolent leadership originated from the Chinese culture, it could manifest itself in any country. For this reason, benevolent leadership would be another good candidate for future studies on leadership and creativity.

Finally, there seem to be other, lesser studied mechanisms by which a leadership style could affect employee creativity. One such mechanism is psychological safety. Although psychological safety has been proposed as a plausible antecedent of creativity (Edmondson, 1999), very few, if any, empirical studies have looked into it as a mediator. The difficulty of finding a significant correlation between psychological safety and creativity may account for the lack of research. Psychological safety may lead to more active participation in team discussion, but other conditions may be needed for it to be effective in increasing creativity, such as high levels of team cognitive diversity (Shin et al., 2012). Transformational leadership (in particular, individualized consideration), authentic leadership, and benevolent leadership may increase employees' perception of psychological safety. Therefore, when theorizing and testing these leadership styles on creativity, we should consider not only psychological safety as a mechanism but also the conditions under which this mechanism can be effective.

Another under-studied motivational mechanism is self-regulatory focus. Kark and Van Dijk (2007), by integrating the literatures on motivation and leadership, implied that leaders can influence the self-regulatory focus of their followers. Self-regulatory focus (i.e., either promotion or prevention focus) has been proposed to have significant influences on creativity via a nurturance or ensuring gains approach (promotion focus) versus a vigilance or ensuring no losses approach (prevention focus) (Higgins, 1997). Individuals with a promotion focus are likely to engage in a processing style that increases creativity through taking risks, seeking novelty, and favoring exploration (Friedman & Förster, 2001). Further, it has been suggested that one's regulatory focus (e.g., a promotion focus) can be brought about by situational cues (Higgins, 1997). Thus, leadership, as a contextual influence, can have an impact on the self-regulatory foci of employees (Kark & Van Dijk, 2007). Micromanaging, for example, can prime employees to be prevention focused, whereas individualized consideration and empowerment may lead followers to have a promotion focus. Theories about leadership and other psychological states are continually developing, as demonstrated by the emerging discussion on the aforementioned styles and mechanisms. To advance our understanding of how leadership affects employee creativity, we must integrate those new developments into the creativity literature.

### *Leadership, Entrepreneurship, and Innovation*

An entrepreneur is not just a business person introducing a new product or service to the market; an entrepreneur is also an effective leader who can boost his or her team's creativity and innovation. Like the leadership literature, the entrepreneurship literature originally focused on the characteristics that a successful entrepreneur should have. However, recent arguments suggest that the focus of the field should move from the characteristics of agents to entrepreneurial discovery (Eckhardt &

Shane, 2003). Rather than just postulating whether the creativity of entrepreneurs is important for their success, scholars are beginning to examine how entrepreneurs find entrepreneurial opportunities—defined as "situations in which new goods, services, raw materials, markets and organizing methods can be introduced though the formation of new means, ends, or means-ends relationships" (Eckhardt & Shane, 2003, p. 336). As we can see from the definition of entrepreneurial opportunities, creativity and innovation are critical components of entrepreneurial success. Therefore, learning how to boost creativity and innovation is critical for a successful entrepreneur.

Given that startups are typically composed of teams rather than individuals, entrepreneurs need to lead their followers to find and implement entrepreneurial opportunities. Because of the significant influence of leadership on creativity and innovation that we have found, boosting creativity and innovation should be one of the most important roles an entrepreneur plays. To date, there have been very few studies on how entrepreneurs influence their teams' performance, but a recent study found that the lead founder personality traits (e.g., openness, neuroticism) had significant influences on new venture performance via task and relationship conflicts among top management teams. Whereas task conflict in the teams (positively correlated with the lead founder's openness) might have boosted creativity for developing new ideas, products, and strategies, relationship conflict (positively correlated with the lead founder's neuroticism) might have disrupted the team's cognitive processes (de Jong, Song, & Song, 2013). Although this study did not directly test any relationship between entrepreneurship and innovation, it implied that the behavior of entrepreneurs (partly determined by their personality traits) has significant effects on their followers' creativity and innovation, and in turn on the performance of their new ventures. I suggest that entrepreneurs are more likely to be successful if they have a clear understanding of how their behavior impacts their teams' creativity and innovation.

## Conclusion

Leaders have a strong influence on employees' motivations, affective states, cognitive processes, and the contexts to which they are exposed. Although leadership and creativity scholars have started to pay attention to the mechanisms by which a leadership style can influence employee creativity, the attention to date has been less than adequate. Without consideration of how leadership affects employee creativity, it is not only difficult to develop a robust theoretical model for leadership and creativity but also less clear how managers can intervene to boost employee creativity. Based on an extensive review of the literature focusing on these mechanisms, I suggest that when research is undertaken on leadership and creativity, the fit between leadership style and mechanism should be considered, as well as the conditions for better fit, such as cultural congruence. Also, the role of leadership (main effect versus moderation) should be clarified in the theory, and the possible parallel, sequential, and multilevel mediations should be considered. Finally, knowledge about leadership theories and the related psychological states that employees may experience from leadership influence should be constantly updated. Given that leadership is one of the most prevalent contextual factors in a work environment, research in this area is vital to answering the question of how to boost employee creativity.

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CHAPTER

# 2 Empowerment and Employee Creativity: A Cross-Level Integrative Model

Xiaomeng Zhang *and* Kathryn M. Bartol

**Abstract**

The ever-changing environment and heightened global competition have pushed the critical role of creativity and innovation to the forefront for the sustainable long-run growth and survival of organizations. Considerable research points to empowerment as one of the key determinants of employee creativity and innovation. This chapter reviews the literature on the relationship between empowerment and creativity/innovation. It focuses on building a multilevel conceptual model that connects both psychological empowerment and team empowerment to creativity and innovation at the individual and team levels of analysis. Future research directions, including the need for greater focus on entrepreneurship, are discussed.

**Key Words:** employee creativity, innovation, psychological empowerment, team empowerment

## Introduction

The hypercompetitive global environment and the rapid pace of technological advancement continue to provoke interest in the central roles of creativity, organizational innovation, and effectiveness for the long-term survival of organizations. Considerable evidence indicates that employee creativity—the production of novel and useful ideas by an individual or by a group of individuals working together—is essential and can fundamentally contribute to organizational innovation and effectiveness (Amabile, 1988, 1996; Shalley, Zhou, & Oldham, 2004).

Accordingly, the field of organizational behavior has witnessed an increased interest in understanding factors that promote employee creativity, and among those factors, several researchers have pointed to empowerment as one of the most important and powerful influences (e.g., Amabile, 1996; Seibert, Wang, & Courtright, 2011; Shalley et al., 2004; Tierney, Farmer, & Graen, 1999). Growing interest in empowerment comes at a time when adapting to dynamic change requires employee initiative, creativity, and innovation (Drucker, 1988). In response, many companies have undergone dramatic structural changes, transforming from traditional hierarchical management systems to empowered work team structures aimed at improving the overall efficiency and adaptability of organizations (Arnold, Arad, Rhoades, & Drasgow, 2000).

## The Concept of Empowerment

Two major perspectives on the empowerment phenomenon have emerged in the literature: the social-structural approach (Kanter, 1977) and the psychological empowerment approach (Spreitzer, 1995b). The social-structural perspective defines empowerment as a set of structures, policies, and practices designed to delegate authority and power throughout the entire organization (Kanter, 1977, 1983). This approach includes high-performance managerial practices such as open information sharing, decentralization, participative decision making, extensive training, and contingent compensation (Combs, Liu, Hall, & Ketchen, 2006; Liao, Toya, Lepak, & Hong, 2009; Pfeffer, 1998; Zacharatos, Barling, & Iverson, 2005); social-political support (Gomez & Rosen, 2001; Liden, Wayne, & Sparrowe, 2000; Sparrowe,

1994); leadership (Liden, Sparrowe, & Wayne, 1997; Yukl, 2010); and work design characteristics (Hackman & Oldham, 1980).

The second perspective, psychological empowerment, is conceptualized as an experienced psychological state or set of cognitions. Conger and Kanungo (1988) defined psychological empowerment as a process of heightening feelings of employee self-efficacy "through the identification of conditions that foster powerlessness and through their removal by both formal organizational practices and informal techniques of providing efficacy information" (p. 474). Thomas and Velthouse (1990) extended Conger and Kanungo's (1988) approach by arguing that empowerment is a multifaceted concept and specifying a more complete set of task-related assessments (i.e., meaningfulness, competence, choice, and impact) that determine intrinsic task motivation in workers.

To further capture the essence of empowerment, Spreitzer (1995b) refined the four dimensions of empowerment and developed and validated a multidimensional measure of psychological empowerment in the workplace. More specifically, Spreitzer (1995b) defined psychological empowerment "as a motivational construct manifested in four cognitions: meaning, competence, self-determination, and impact" (p. 1444). *Meaning* concerns a sense of feeling that one's work is personally important. *Competence* refers to self-efficacy or the belief in one's ability to successfully perform tasks. *Self-determination* indicates perceptions of freedom to choose how to initiate and carry out tasks. *Impact* represents the degree to which one views one's behaviors as making a difference in work outcomes. Spreitzer (1995b) presented evidence, later supported through meta-analysis by Seibert et al. (2011), that the four dimensions, while distinct, are reflective of an overall psychological empowerment construct. Thus, psychological empowerment is seen as an enabling process that enhances an employee's task initiation and persistence (Conger & Kanungo, 1988).

Scholars have also considered a version of psychological empowerment at the team level. Team empowerment refers to shared perceptions among team members regarding the team's collective empowerment (Chen, Kirkman, Kanfer, Allen, & Rosen, 2007). Evidence indicates that empowerment shares similar meanings and relationships across individual and team levels (Chen et al., 2007; Kirkman & Rosen, 1997; Seibert et al., 2011).

Spreitzer (2008) suggested that the integration of the social-structural and psychological perspectives on empowerment makes important contributions in terms of developing a more comprehensive theory of empowerment at work. In addressing this issue in their meta-analytic review of empowerment, Seibert et al. (2011, p. 2) argued that "Current scholars now view these factors [referring to structures, policies, and practices that constitute social-structural empowerment] as contextual antecedents of psychological empowerment, rather than as empowerment itself." We follow a similar approach in the present chapter, which focuses on building a multilevel conceptual model connecting both psychological empowerment and team empowerment to creativity and innovation at the individual and team levels of analysis. We also propose that this theoretical framework of empowerment may serve as the starting point to extend future empowerment research to entrepreneurship because, conceptually, employee empowerment plays an important role in influencing employees' entrepreneurial behaviors (Bratnicki, Kulikowska-Mrozek, Marzec, & Zbierowski, 2007). Although we acknowledge elements reflecting a social-structural perspective as contextual antecedents of psychological and team empowerment, detailed coverage of the relationships among social-structural antecedents and psychological and team empowerment is beyond the focus of this chapter. Instead, we concentrate attention on exploring the mediating and moderating mechanisms between psychological and team empowerment and the outcomes of creativity and innovation. For a meta-analytic review that includes some social-structural antecedents of psychological empowerment, please see Seibert et al. (2011).

Creativity has long been argued as the precondition for organizational innovation (Shalley et al., 2004). In fact, with its focus on generating novel and potentially useful ideas, it is often considered to be the first step in the innovation process. A second step, actual implementation of an idea, is then needed to produce innovation (Sawyer, 2012; Somech & Drach-Zahavy, 2013). With this two-step delineation, the presumption is that the presence of innovation presupposes that creative performance has occurred—that is, new and useful ideas have been created. Hence, in this review we consider innovation to include creativity, and we consider them equivalently unless a study has focused primarily on the implementation phase,

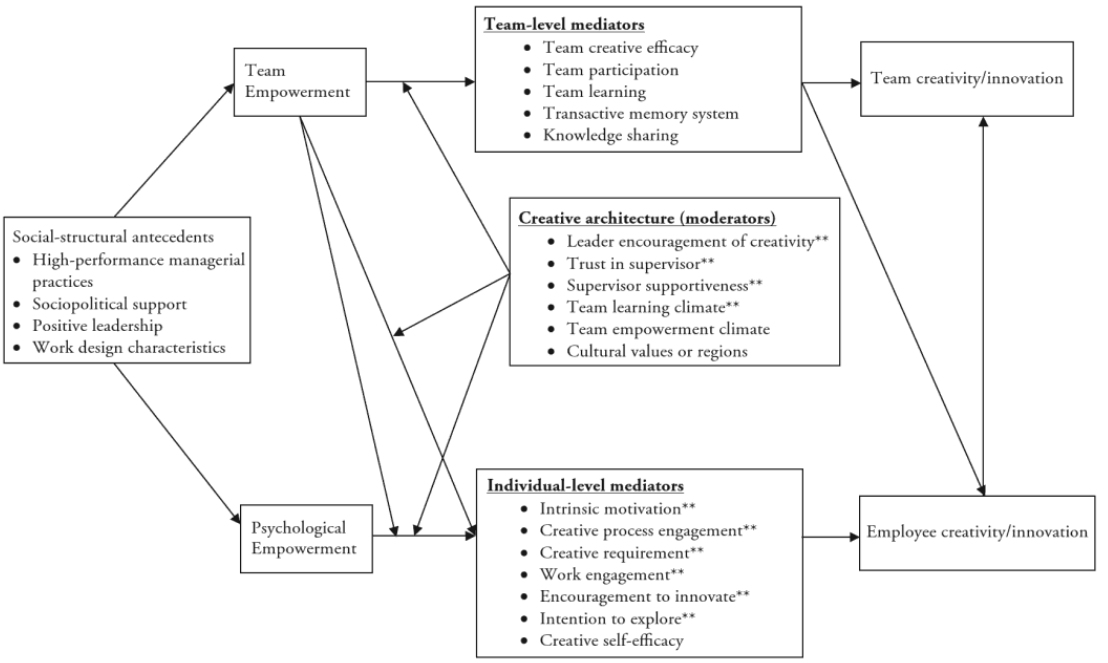


**Fig. 2.1** Conceptual Model.

which occurs after a creative idea has been identified. As is the case with creativity (Shalley et al., 2004), Yuan and Woodman (2010) indicated that research evidence regarding the psychological processes underlying innovation also remains underdeveloped.

In the following sections, we first address the relationship between psychological empowerment and both employee creativity and innovation, along with related mediating and contextual mechanisms at the individual level. This coverage is followed by a discussion of the relationship between team empowerment and team creativity/innovation and related mediating and contextual mechanisms at the team level. Finally, we propose suggestions for future research, including consideration of cross-level connections between empowerment and creativity/innovation. Figure 2.1 depicts the overall framework and conceptual model for our review.

## Literature Review

### *Psychological Empowerment and Employee Creativity/Innovation*

A key function of psychological empowerment is to release the potential within individuals (Seibert et al., 2011). Employees who are psychologically empowered are motivated to experiment with new ways of doing things and to try creative methods for solving task problems (Alge, Ballinger, Tangirala, & Oakley, 2006; Jung, Chow, & Wu, 2003; Sun, Zhang, Qi, & Chen, 2012; Zhou, 1998). Thomas and Velthouse (1990) argued that empowered employees are powerful, highly confident, and passionately committed to their goals; hence, they demonstrate initiative and creativity in fulfilling these goals. Specifically, when employees perceive that their jobs are personally important and their behaviors can make a difference in work outcomes, they are willing to immerse themselves in the jobs by searching for more information and generating a great number of creative alternatives (Gilson & Shalley, 2004). In addition, when employees believe that they have the ability to perform challenging tasks successfully, they are more likely to fully explore the activities and remain motivated throughout the process until satisfying ideas are realized (Bandura, 1997; Tierney & Farmer, 2002).

Furthermore, self-determination or autonomy is an important determinant of creativity because the increased control over tasks boosts individuals' intrinsic motivation, thus significantly inspiring creativity (Amabile, Conti, Coon, Lazenby, & Herron, 1996). Autonomy provides employees with flexibility. Individuals generate the most creative ideas when they work in a high task autonomy work environment (Zhou, 1998); on the

other hand, centralization (lack of autonomy and empowerment) is negatively related to organizational innovation (Damanpour, 1991). In sum, consistent findings exist for a positive relationship between psychological empowerment and creativity (Amabile et al., 1996; Spreitzer, 1996; Zhang & Bartol, 2010a). Despite this fact, in considering the role of psychological empowerment in facilitating creativity, only limited studies have directly explored the mediating and moderating mechanisms governing the relationship between psychological empowerment and creativity.

Similarly, considering innovation, Spreitzer (1995a) suggested that, conceptually, innovation may result from psychological empowerment, and she subsequently provided empirical support for this notion (Spreitzer, 1995b). Lari, Shekari, and Safizadeh (2012) also found a significant connection between psychological empowerment and employees' innovative behaviors. In addition, Çakar and Ertürk (2010) and Ertürk (2012) demonstrated that psychological empowerment is positively related to innovation capability, which involves a company's ability to mobilize the knowledge embodied in its employees and to combine it to produce learning that leads to creating new product or process innovation.

In the next two sections, we discuss the mediators and moderators that have been directly tested and point to additional factors that may serve as potential mediators and moderators between psychological empowerment at the individual level and employee creativity and innovation.

## MEDIATORS

Factors that have been directly explored as mediating mechanisms through which psychological empowerment influences creativity include intrinsic motivation, creative process engagement, and creative requirement. Tested mediators for the relationship between psychological empowerment and innovative behaviors or innovation include work engagement and encouragement to innovate.

***Intrinsic motivation.*** Intrinsic motivation refers to the extent to which an individual is inner-directed, is interested in or fascinated with the task, and engages in the task for the sake of the task itself (Utman, 1997). Thomas and Velthouse (1990) posited that psychological empowerment is "presumed to be a proximal cause of intrinsic task motivation and satisfaction" (p. 668). Considerable evidence indicates that intrinsic task motivation is critical to creativity in organizations, and research has reported positive associations between intrinsic motivation and employee creativity on a task (e.g., Amabile, 1987, 1996; Taggar, 2002). Zhang and Bartol (2010a) found that psychological empowerment positively influenced intrinsic motivation, which, in turn, was positively related to employee creativity.

***Creative process engagement.*** According to Amabile's (1983) componential conceptualization of creativity, intrinsic motivation is a necessary but not a sufficient condition for creative outcomes. Engaging in creative activities has an equal, if not more important, role in promoting employee creativity (Amabile, 1988, 1996; Amabile et al., 1996). Creative process engagement is defined as employee involvement or engagement in creativity-relevant cognitive processes, including (1) problem identification, (2) information searching and encoding, and (3) idea and alternative generation (Zhang & Bartol, 2010a). Psychological empowerment has important influences on an employee's willingness to engage in creative processes because empowered employees will expend more effort understanding a problem, searching for a wide variety of information, and generating a significant number of alternatives by connecting diverse sources of information. Consequently, psychologically empowered employees are more likely to take risks, explore new cognitive pathways, and generate creative ideas (Amabile et al., 1996). Research has indicated that psychological empowerment influences employee creativity, at least partially, through creative process engagement (Zhang & Bartol, 2010a).

***Creative requirement.*** Creative requirement is defined as "the perception that one is expected, or needs, to generate work-related ideas" (Unsworth, Wall, & Carter, 2005, p. 542). Creative requirement is the experienced, psychological aspect of both explicit requirements (e.g., being directly told to develop creative ideas) and other cues (e.g., responding to what appears to be needed in the task situation). The argument is that empowered employees who have discretion and autonomy in resolving daily issues are more likely to encounter situations that require idea generation. Thus, Unsworth et al. (2005) found that the creative requirement of the job partially mediates the relationship between empowerment as manifested in autonomy and employee creativity.

***Work engagement.*** Spreitzer (1995b) indicated that psychological empowerment may result in

effort, persistence, and behavioral engagement. Other previous research has suggested that psychological empowerment might be considered as an antecedent of work engagement (Macey & Schneider, 2008; Mathieu, Gilson, & Ruddy, 2006; Walumbwa, Wang, Wang, Schaubroeck, & Avolio, 2010). Work engagement is defined as "the extent to which an employee is cognitively, emotionally, physically and psychologically connected during the performance of his or her work roles" (Walumbwa et al., 2010, p. 90). Engaged individuals usually have high energy, are willing to invest effort on the job, and demonstrate high persistence in the face of difficulties. Recently, Bhatnagar (2012) identified and provided empirical evidence for work engagement as a strong mediator between psychological empowerment and innovation.

***Encouragement to innovate.*** Fernadez and Moldogaziev (2012) found that empowerment practices aimed at offering employees discretion to influence work procedures and outcomes and providing employees with opportunities to acquire job-related knowledge and skills promote innovativeness through employees' encouragement to innovate. Encouragement to innovate is defined as "an affective state of experience of feeling" associated with an inclination to innovate (Fernadez & Moldogaziev, 2012, p. 162). The authors pointed out that this concept should not be confused with motivation to innovate or actual innovative behavior because encouragement to innovate represents only one component of the motivational process; that is, the emotion or affect component. Caution should be used here because the authors used a one-item measure to capture the construct: "I feel encouraged to come up with new and better ways of doing things."

## MODERATORS

A factor that has been directly explored as a moderating mechanism influencing the extent to which psychological empowerment at the individual level effects creativity is leader encouragement of creativity. Factors that have been shown to moderate the relationship between psychological empowerment and innovation include trust in the supervisor and supervisor supportiveness.

***Leader encouragement of creativity.*** Several studies suggest that when individuals know the importance of creativity in their jobs they are more likely to actually be creative (e.g., Carson & Carson, 1993; Speller & Schumacher, 1975). For example, Shalley (1991, 1995) found that assigned creativity goals effectively enhanced employee creative performance (i.e., the production of creative ideas), whereas assigned performance goals (e.g., production quantity) actually detracted from creative performance. Along similar lines, evidence suggests that leaders can play an active role in encouraging creativity by articulating the need for creative job outcomes. Leader encouragement of creativity is defined as the extent of a leader's emphasis on being creative and on actively engaging in processes that may lead to creative outcomes (Zhang & Bartol, 2010a). Such emphasis is likely to direct employee attention and facilitate effort toward trying to be creative (Scott & Bruce, 1994; Wyer & Srull, 1980). Zhang and Bartol (2010a) found that leader encouragement of creativity strengthened the relationship between psychological empowerment and creative process engagement, as well as subsequent employee creativity.

***Trust in supervisor.*** Thomas and Velthouse (1990) indicated that the effectiveness of empowerment depends not only on employees' evaluations of their tasks but also on contextual factors such as trust in their superiors, peers, and subordinates. Trust in supervisor refers to the belief that the supervisor will act for the benefit of employees (Moorman, Blakely, & Niehoff, 1998). Ertürk (2012) found that trust in supervisor moderated the relationships between the psychological empowerment dimensions and innovation capability such that high levels of trust in the supervisor strengthened employees' willingness to accept greater responsibilities and improved the level of capability to be creative and innovative.

***Supervisor supportiveness.*** In organizational settings, employees rely heavily on their supervisors for information, resources, and sociopolitical support (Kanter, 1988). When supervisors respond to their innovative ideas in a supportive manner, employees are motivated to use their perceived influence (measured with items from the impact dimension of psychological empowerment) for the development and realization of their new ideas (Janssen, 2005). On the other hand, when supervisors are perceived as not being supportive of employees' innovative behaviors, employees high in perceived influence are less likely to exhibit innovative behaviors. Thus, Janssen (2005) found that supervisor supportiveness moderated the relationship between employees' perceived influence in the workplace and their levels of innovative behaviors. Interestingly, although the innovative behavior measure used

in the study included both creativity and implementation aspects, the items loaded on a single factor.

### *Team Empowerment and Team Creativity/Innovation*

Empowerment has been conceptualized at both individual and team levels of analysis (Kirkman & Rosen, 1997, 1999). Whereas individual psychological empowerment refers to how empowered the individual feels personally, team empowerment is defined as shared perceptions among team members regarding the team's collective level of empowerment (Chen et al., 2007; Seibert et al., 2011). Scholars have proposed that psychological empowerment functions equivalently across the individual and team levels of analysis (Chen et al., 2007; Kirkman & Rosen, 1997, 1999). Seibert et al.'s (2011) meta-analysis supported the proposed homology across levels because empowerment demonstrated relationships that did not differ in direction or magnitude at the individual and team levels.

At the individual level of analysis, the inclusion of innovation as an outcome (in the meta-analysis, innovation includes creativity, creative performance. and innovative behaviors) suggested that psychological empowerment is relevant to a broader range of behavior than is often investigated (Seibert et al., 2011). To our knowledge, no study in the field has examined the relationship between team empowerment and creativity or innovation at the team level. Seibert et al. (2011) suggested that future research should expand the criterion space of team empowerment to include other team outcomes, such as team creativity and team innovation.

In a closely related study involving technology, intention to explore was defined as individuals' willingness to explore a new technology and identify potential uses (Nambisan, Agarwal, & Tanniru, 1999). Intention to explore was conceptualized as an internal psychological commitment that indicates an individual is in effect trying to innovate. Maruping and Magni (2012) investigated how managers can promote greater innovation with technology in the workplace by creating a team empowerment climate and a team learning climate. Contrary to their expectations, they found that team empowerment climate—the extent to which team members have a shared perception of practices and behaviors that enhance information sharing and promote autonomy and responsibility (Seibert, Silver, & Randolph, 2004)—reduced employees' intention to explore the technology. Team empowerment climate was more strongly related to intention to explore when team learning climate—the extent to which team members have shared perceptions that the team emphasizes practices that promote innovation and risk taking—was also high. The limited measure of team empowerment climate used in the study may have influenced the results. The researchers suggested that managers should exercise constraint in allocating too many new responsibilities to team members when the team members are also expected to explore and exploit new technology, lest team members become overloaded.

## Suggestions for the Future

As reviewed in the previous sections, most research has been devoted to an understanding of potential mediators and moderators of the relationship between psychological empowerment at the individual level and employee creativity and innovation. Because psychological empowerment is functionally equivalent across the two levels of analysis, we expect that certain mediators at the individual level will also mediate the relationship between team empowerment and team creativity/innovation as long as the individual-level concept is theoretically meaningful at the team level (e.g., creative self-efficacy vs. team creative efficacy). Beyond that, a particularly valuable channel for future research is to explore team level mediators (e.g., team participation, team learning) that are likely to transmit the influence of team empowerment—not only creativity and innovation at the team level, but also as a direct cross-level impact on creativity and innovation at the individual level. In addition, future research may further examine team level moderators (e.g., team empowerment climate, cultural values) that may influence the relationship between psychological empowerment and creativity/innovation at different levels. We will discuss several possibilities in the following two sections.

### *Potential Mediators of Empowerment and Creativity/Innovation*

***Creative self-efficacy.*** A stream of research has suggested that employees tend to be more creative when they have high levels of creative self-efficacy, which is defined as the belief that one has the knowledge and skills to produce creative outcomes (Tierney & Farmer, 2002, 2004). Efficacy beliefs enhance intrinsic motivation by promoting

perceptions of self-competence (Bandura, 1986); therefore, creative self-efficacy may reflect intrinsic motivation to engage in creative activities (Gong, Huang, & Farh, 2009). Previous studies found that supervisor behavior, transformational leadership, and job complexity are positively related to creative self-efficacy, which in turn positively influences employee creativity (Tierney & Farmer, 2002; Gong et al., 2009). Because leadership and work design characteristics are important determinants of psychological empowerment (Spreitzer, 1995a), we would expect that creative self-efficacy may function as another mediator between psychological empowerment and creativity/innovation at the individual level.

***Team creative efficacy.*** Applying the concept of creative self-efficacy to the team level, Shin and Zhou (2007) defined team creative efficacy as team members' shared belief in their teams' capabilities of generating creative ideas. They found that team creative efficacy mediates the relationship between the transformational leadership and educational specialization heterogeneity and creativity in research and development teams. Research has indicated that transformational leadership or encouraging leader behaviors are positively related to team empowerment (Jung & Sosik, 2002; Kirkman & Rosen, 1999). In addition, Jung and Sosik (2002) found that team empowerment is positively related to collective efficacy (which refers to team members' shared perceptions on how capable their team is regarding a specific task; Bandura, 1997); collective efficacy, in turn, is positively related to team effectiveness. Thus, we would expect that team creative efficacy may mediate the relationship between team empowerment and team creativity/innovation. At the same time, team creative efficacy may inspire employee creativity of team members at the individual level, constituting a direct cross-level effect.

***Team participation.*** Team participation refers to team members' involvement, cooperation, and collaboration through influencing, interacting, sharing information, and generating ideas for new ways of working (Anderson & West, 1998). Team participation plays an important role in the team processes necessary for effective team outcomes (Mathieu, Maynard, Rapp, & Gilson, 2008). Zhang and Begley (2011) found that empowerment (the self-determination dimension in particular) is positively related to team participation. Conceptually, beyond the dimension of self-determination, other dimensions of empowerment could also have an influence on team participation. More specifically, when members of a team have a general expectation that the team can be effective, the attitude of confidence will facilitate interaction and collaboration among team members to accomplish their tasks. When team members believe that their tasks have great impact on others and that they make significant contributions to the organization, they are more likely to be proactive in exploring and discussing work-related issues. Because high team participation facilitates team members' interaction and knowledge exchange (Hansen, Mors, & Løvas, 2005) and helps team members to develop new ideas (Amabile et al., 1996; Anderson & West, 1998), we would expect that team participation will mediate the relationship between team empowerment and team creativity and innovation. Because of high team member involvement in the team interactions, such participation may also have a cross-level effect in influencing the creativity of individual team members.

***Team learning, transactive memory system, and knowledge sharing.*** As with team participation, three other variables—team learning, transactive memory system, and knowledge sharing—may be mediating mechanisms through which empowerment influences employee creativity and innovation. Team learning, the process by which team members integrate and convert individual knowledge into team knowledge, is essentially a collective cognitive process among team members (Argote, 1999). Team empowerment enhances team members' task motivation, which is derived from their collective and positive assessments of their tasks (Kirkman & Rosen, 1999). High levels of autonomy and potency can encourage team members to openly express ideas and suggestions, which can ultimately influence decisions that affect the team and provide opportunities for team members to collaboratively evaluate one another's suggestions (Locke, Alavi, & Wagner, 1997; Somech, 2006). As a result, team members may be able to learn from one another, and the interaction facilitates the process of knowledge integration. Teams that emphasize proactive learning continually refine knowledge and share information among members to develop new approaches to problem solving (Bunderson & Sutcliffe, 2003). The active use of different perspectives and diffused knowledge for solving problems may encourage team members to consider more alternatives, expand cognitive pathways for generating new ideas, and facilitate knowledge generation. Drach-Zahavy and Somech

(2001) found that the interaction process of team learning was related to team innovation.

Similarly, team empowerment may have an impact on a team's transactive memory system, which can be defined as shared cognition about the encoding, storing, and retrieving processes of information (Wegner, 1987, 1995). A transactive memory system helps employees in a team to be more aware of who possesses what specialized knowledge, to trust the reliability of the knowledge, and to coordinate the specialized knowledge effectively (Lewis, 2003). In an empowered environment, employees are more involved in key decision making and are more accountable for the outcomes in their team (Arnold et al., 2000; Kirkman & Rosen, 1999). The emphasis on self-determination and self-reliance encourages team members to rely on one another's knowledge and skills (Manz & Sims, 1987). This promotes the delegation of tasks based on members' expertise and motivates team members to become more specialized in their domains (Wegner, 1987). The collective belief that the team can be effective increases the expectation of responsibility and accountability, which motivates team members to deepen their domain-relevant expertise so that they can be trusted and accountable for the team outcomes. In addition, team empowerment promotes collaboration, which further encourages team members to freely communicate, interact, and exchange information about the team task (Dovey, 2002). Transactive memory systems have been shown to be associated with creative products (Wegner, 1987). Cohen and Levinthal (1990) suggested that the more team members develop an awareness of the capabilities and knowledge of others, the stronger the unit's absorptive capacity, which they argued is necessary for recognizing the value of creative ideas. In addition, the mutual accountability and assistance among members of teams using transactive memory systems enables the development and implementation of novel ideas (Eisenbeiss, Knippenberg, & Boerner, 2008). The effective coordination of a wide range of knowledge also facilitates team innovation because it provides the knowledge base for a quantity of high-quality new ideas, which are important for team innovation (Pirola-Merlo & Mann, 2004; West, 2002).

Related to transactive memory is knowledge sharing, which assists in the creation of shared mental models and the development of transactive memory, thereby enabling better coordination among team members (Srivastava, Bartol, & Locke, 2006). Knowledge sharing is a team process defined as team members' sharing task-relevant ideas, information, and suggestions with each other (Bartol & Strivastava, 2002). Srivastava et al. (2006) found that knowledge sharing mediated the relationship between empowering leadership and unit performance. The associated increase in knowledge among team members is likely to foster greater creativity and innovation.

### *Potential Moderators of Empowerment and Creativity/Innovation*

***Team empowerment.*** Team empowerment itself may potentially also have a cross-level impact on the relationship between individual-level psychological empowerment, various mediators, and employee creativity/innovation. For instance, Chen et al. (2007) found that in interdependent teams, team empowerment moderated the relationship between individual empowerment and performance in such a way that the influence of individual empowerment became less positive as team empowerment became more positive. To be more specific, when tasks were highly interdependent and the team was empowered, team empowerment seemed to be a greater influence on performance than individual empowerment. Thus, it appears that team empowerment may interact with individual-level psychological empowerment to influence employees' emergent states or creative processes and, consequently, to influence their creative/innovative performance. Achieving a greater understanding of the mutual impact of team empowerment and individual-level psychological empowerment and the circumstances influencing these relationships is an important area for future research.

***Team empowerment climate.*** Seibert et al. (2004) defined empowerment climate as a shared perception regarding the degree to which an organization incorporates structures, policies, and practices aimed at enabling empowerment. Conceptually, empowerment climate and psychological empowerment are distinct in at least two ways (Seibert et al., 2004). First, empowerment climate refers to the work environment, whereas psychological empowerment is defined as an individual's experience of intrinsic motivation or, at the team level, as shared perceptions among team members about their collective empowerment. Second, respondents for empowerment climate are asked to assess organizational structures, policies, and practices, whereas respondents for psychological

empowerment are asked to evaluate their own psychological states. Empirically, Seibert et al. (2004) have verified that empowerment climate and psychological empowerment are distinct constructs.

Team empowerment climate has been shown to be an antecedent of team empowerment (Chen et al., 2007), but it may play a cross-level moderating role as well. Ekvall (1996) argued that team empowerment climate, which includes 10 elements—challenge, freedom, support of ideas, trust and openness, vitality and liveliness, funny and humorous, argument, conflict, risk preference, and time looseness—promotes more creative behaviors and effective innovations. Sufficient empowerment climate within a team can potentially bring a higher level of trust among team members, more information sharing, and enhanced autonomy and team accountability (Randolph, 1995). As a result, team members may have a greater feeling of respect and a higher level of self-determination; this may lead to a higher level of intrinsic motivation and more creative performance at the individual level and, ultimately, the team level. Team empowerment climate may also moderate the impact of psychological empowerment by boosting its effects. On the contrary side, insufficient empowerment climate may leave individual team members lacking in intrinsic motivation and in the desire to take on greater responsibilities and risks (Randolph, 1995). Si and Wei (2012) found that team empowerment climate moderated the relationship between transformational and transactional leadership and employee creativity. Because transformational leadership has been found to be a contextual factor influencing psychological empowerment at both the individual and the team level (Avolio, Zhu, Koh, & Bhatia, 2004; Gumusluoglu & Ilsev, 2009; Jung & Sosik, 2002; Kark, Shamir, & Chen, 2003), we would expect team empowerment climate to function as a moderator for the relationship between empowerment and creativity at both individual and team levels.

***Cultural values.*** Zhang and Begley (2011) found that power distance moderated the relationship between empowerment and team participation, both of which are critical to innovative performance. Power distance refers to the degree of acceptance of an uneven distribution of power in an organization (Hofstede, 1980). Top-down decision making and hierarchical structure are typical characteristics of an organization with high power distance (Sagie & Aycan, 2003). In an organization operating with low power distance, employees feel comfortable interacting with others regardless of seniority and status (Cheung & Chow, 1999); therefore, they are more likely to form opinions and make decisions. On the other hand, in an organization with high power distance, empowered employees do not work effectively, because individuals higher in the organizational hierarchy make decisions and employees usually do not believe it is their function to initiate actions (Sagie & Aycan, 2003). Furthermore, previous literature suggested that employees with high levels of empowerment (e.g., determination and impact) may be perceived as threatening to supervisors in high power distance cultures and therefore may not be viewed as high performers (Eylon & Au, 1999; Spreitzer, 2008). Zhang and Begley (2011) found that low power distance strengthened the positive relationship between empowerment (the self-determination dimension in particular) and team participation. As discussed previously, we expect that team participation may serve as a mediator between team empowerment and creativity and innovation at both individual and team levels. Thus, we argue that power distance may function as a potential moderator in relationships between empowerment and creativity and innovation across levels.

Along these same lines, other relevant culture values, such as uncertainty avoidance, may also moderate relationships between empowerment and creativity/innovation. Uncertainty avoidance is defined as the extent to which employees feel uncomfortable in uncertain and ambiguous situations and try to avoid such situations by seeking guidelines and rules in the workplace (e.g., Dorfman & Howell, 1988). When uncertainty avoidance is high, psychological empowerment might not enhance employees' intrinsic motivation or creative self-efficacy as much as when uncertainty avoidance is low. Consequently, the effect of psychological empowerment on creativity and innovative behaviors might be weakened.

Relatedly, the meta-analysis conducted by Seibert et al. (2011) found that the culturally distinct geographic region moderated the relationship between psychological empowerment and task performance. More specifically, psychological empowerment was related to task performance more positively in Asia than in North America. They suggested that psychological empowerment might be more effective in collectivistic cultures. Therefore, cultural regions might be a factor to consider when conducting

cross-cultural analysis of psychological empowerment and employee creativity and innovation in the future.

Overall, previous empowerment research has focused mainly on investigating the antecedents and consequences of psychological empowerment and/or team empowerment. Despite the fact that some recent studies have begun to explore mediating and moderating mechanisms for the relationship between empowerment and creativity/innovation at either the individual or the team level, little research has addressed relationships at and across these two levels. Because psychological empowerment appears to be functionally equivalent across the individual and team levels of analysis, we would expect that team-level mediators proposed in the integrative model may mediate the relationship between team empowerment and both individual and team creativity/innovation. Moreover, it is possible that some mediators that have been investigated at the individual level, such as work engagement and creative process engagement, may also operate at the team level of analysis. We have already discussed this possibility with respect to creative self-efficacy and team creative efficacy. Finally, moderators proposed in the integrative model may interact with empowerment at both levels to influence the creativity and innovation of individuals and teams through the relevant mechanism at the proper level. Understanding these multilevel influences is an exciting area of great potential for future research on creativity and innovation.

### *Extending Empowerment Research to Entrepreneurship*

Recently, there has been greater interest in and emphasis on management that encourages entrepreneurial behaviors (Bratnicki et al., 2007). Entrepreneurship is considered an important driver of achieving and sustaining competitive advantage in the face of environmental uncertainty (Zahra, 1999). Entrepreneurs are able to take risks and effectively deal with uncertainty, and they are capable of enhancing innovation (Bratnicki et al., 2007). Sustained corporate entrepreneurship should rely on ensuring critical internal organizational factors such as autonomy and discretion (Kuratko, Hornsby, & Goldsby, 2004). With respect to entrepreneurship, previous scholars have suggested that it is important to examine the influence of empowerment, because empowerment removes restrictions and boundaries, provides autonomy, and encourages employees to realize their creative potential and initiative (Kuratko, Ireland, & Hornsby, 2001). To face entrepreneurial challenges, employees should be aware of their potential and feel free to use their knowledge, skills, and creativity while working together. As a result, they might be intrinsically motivated and willing to take entrepreneurial actions (Kuratko et al., 2001). Thus, employee empowerment can play an important role contributing to employees' entrepreneurship (Bratnicki et al., 2007; Eylon & Bamberger, 2000; Klagge, 1998).

Despite the fact that many researchers have pointed to a relationship between empowerment and employees' entrepreneurial behaviors, there is a general lack of empirical research directly examining this relationship (Bratnicki et al., 2007). Empowerment research in the field of entrepreneurship has been studied mostly in literature focused on minority or disadvantaged groups (O'Connor & Ramos, 2006). For example, Kantor (2002) suggested that empowerment should be considered when evaluating the success of women in South Asian micro-enterprise. In addition, Osborne, Falcone, and Nagendra (2000) studied an entrepreneurship intervention for unemployed individuals in the United States, and Martin and Wright (2005) explored how to empower female entrepreneurs in the United Kingdom through information and communication technology.

Sundbo (1996) proposed that innovation empowerment is related to corporate entrepreneurship, which is carried out by many managers and employees in the organization and stimulated by higher management (Kanter, 1983). In other words, corporate entrepreneurship is derived from empowerment whereby managers and employees are activated to operate as entrepreneurs in the innovation process. Sundbo (1996) suggested that although empowerment is critical to firms, it should not get out of control. Thus, it is important for higher-level management to develop an organized corporate entrepreneurship approach (in contrast to uncontrolled corporate entrepreneurship) to balance the encouragement and potential risks of empowerment.

Future research is needed to link psychological empowerment via creativity to entrepreneurship. The framework established for the relationship between empowerment and employee creativity and innovation in this chapter might be used as a

starting point to explore the mediating and moderating mechanisms for this relationship.

### *Other Areas of Future Research Interest*

Although most previous research has found positive outcomes of empowerment in the workplace, Speitzer's (2008) review piece on empowerment suggested that some trade-offs exist regarding empowerment. For instance, employees who reported high levels of the meaning dimension also reported a higher level of strain (Speitzer, Kizilos, & Nason, 1997). As a result, strain or emotional challenge may negatively influence employees' intrinsic motivation or work engagement, thus threatening to dampen creative outcomes. In addition, Zhang and Bartol (2010b) found that, although creative process engagement is positively related to creativity, there is a curvilinear relationship between creative process engagement and overall performance. That is, if employees spend too much time in the creative process, general performance might not be guaranteed or might even decrease. When employees are granted very high levels of empowerment, they may have greater discretion in terms of engaging in the creative process, which may put their general performance in jeopardy. Spreitzer and Quinn (1996) argued that employees who are overly empowered may become disempowered over time because their supervisors may become threatened by their empowerment. It is also possible that empowered employees may proceed in directions that are at variance with supervisor expectations and/or work needs. It would be of interest for future studies to explore changes (increases and/or decreases) in psychological empowerment, perhaps triggered by structural empowerment alterations, and the subsequent influences on employee creativity and innovation.

Future research may further explore the causality between empowerment and creativity and innovation. For example, exploring the reverse causality from creativity or innovation to empowerment might be interesting. More specifically, when employees are highly creative or innovative and generate numerous creative ideas, they may be granted a greater level of autonomy by their supervisors to take more innovative actions (Spreitzer, 2008). As a result, highly creative employees may perceive even higher levels of psychological empowerment, which then might further contribute to creative or innovative performance.

In the interest of parsimony, it would be useful for future research to assess the relative value of various mediators in terms of the variance accounted for when they are simultaneously considered. For example, although trust in supervisor and supervisor supportiveness are conceptually distinct, there may be some overlapping influence with respect to creativity and innovation.

As noted earlier, it is common to consider innovation to involve a creativity step and an implementation step (e.g., Somech & Drach-Zahavy, 2013). The research we have reviewed indicates that psychological empowerment, while clearly a factor in creative performance, also is related to innovation as a phenomenon. This latter connection suggests that it would be useful for future research to delineate the paths by which psychological empowerment may influence both the creativity stage and the implementation stage of innovation. Potential mediators and moderators of such relationships will also be important to explore. Such inquiries may be helpful in increasing the extent to which creative ideas are actually implemented in organizations.

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