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# An Integrated View of Personal, Relational, and Organizational Resources: How They Ignite Creative Behavior at Work

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**AN INTEGRATED VIEW OF PERSONAL, RELATIONAL, AND ORGANIZATIONAL  
RESOURCES: HOW THEY IGNITE CREATIVE BEHAVIOR AT WORK**

**Dissertation**

**By**

**Dilek Gulistan Yunlu**

**A Dissertation Submitted**

**in Partial Fulfillment of the  
requirements for the degree of**

**Doctor of Philosophy**

**in Management Science**

**at**

**The University of Wisconsin – Milwaukee**

**May 2013**

## **ABSTRACT**

### **AN INTEGRATED VIEW OF PERSONAL, RELATIONAL, AND ORGANIZATIONAL RESOURCES: HOW THEY IGNITE CREATIVE BEHAVIOR AT WORK**

by

Dilek Gulistan Yunlu

The University of Wisconsin – Milwaukee, 2013

Under the Supervision of Dr. Margaret Shaffer and Dr. Romila Singh

Individual creativity is an important antecedent of organizational innovation (Amabile, 1988; Woodman, Sawyer, and Griffin, 1993; Shalley, Zhou, & Oldham 2004). In the current hypercompetitive, global work environment, more managers recognize that in order to remain competitive, they need their employees to be engaged in their work and demonstrate creative behaviors (Mumford, Scott, Gaddis, & Strange, 2002). Therefore, it is important to understand the mechanisms by which individuals demonstrate creative behaviors at work, especially by utilizing the resources that are available to them to facilitate creativity and overcoming the demands that hinder their creative behavior at work.

Employing the Job Demands-Resources (JD-R) model, which states job demands and resources can be used to predict motivational processes, and consequently organizational outcomes, I suggested that personal, relational, and organizational resources will promote creative behavior via their influence on intrinsic motivation. In this study, personal resources are comprised of creative self-efficacy and resilience whereas bonding and bridging ties represent the relational resources. Perceived organizational support for creativity comprises the

organizational resource. Finally, I examined the moderating influence of a demand in the form of role overload; I proposed that role overload will moderate the relationship between resources and intrinsic motivation. Given the current tough economic times, role overload seems to have become an endemic feature of an employee's work life, and as such can be a meaningful job demand. I proposed that role overload will attenuate the positive impact of personal, relational, and organizational resources positive influence on intrinsic motivation, which in turn lead to creative behavior.

In order to test the hypothesized relationships, I collected data from a Fortune 100 organization; 126 employees from that organization filled out the survey and due to missing data 120 surveys were usable. I also collected 22 employee-supervisor dyads using existing validated scales for both groups. I used multiple regression analysis to analyze the data. Results indicated that both perceived organizational support and bridging ties are motivational resources. In addition, creative self-efficacy and bridging ties influenced creative behavior. Moreover, the results revealed that the relationship between bridging ties and creative behavior is mediated by intrinsic motivation. Finally, I observed that employees with bonding ties who experienced high role overload tended to have lower levels of intrinsic motivation.

In summary, my dissertation is an attempt to contribute to the creativity literature and Job Demands-Resources (JD-R) model. Specifically, this dissertation contributes to creativity literature by unifying several prominent resources in one study and examining their simultaneous influence on intrinsic motivation, which in

turn was found to influence creative behavior. Furthermore, I introduced and examined the influence of role overload, as an important contextual factor, which extended our understanding of its moderating influence. My dissertation also contributes to the JD-R model by actually bringing in intrinsic motivation as representing the motivational process, which leads to positive organizational outcomes; thus far, JD-R framework has alluded to its role by looking at engagement as a motivational mechanism for organizational outcomes and not directly examined the contribution of intrinsic motivation in this process. Furthermore, even though theoretically suggested, this study is the first to empirically test the role of resources and demands on creative behavior, thus expanding the boundaries of JD-R. Finally, I contribute to the JD-R model by including relational resources that go beyond the supervisor and co-worker social support by bringing in bonding and bridging relationships outside of the work setting that contribute to positive work outcomes such as creative behavior.

## **DEDICATION**

I dedicate this dissertation to my wonderful family. Particularly to my understanding and patient husband, Rafael, who has put up with many years of research and challenges, and to our amazing son Nicholas, who is the true inspiration and sunshine of our lives. To my brothers Cem and Oğuz, who have never stopped believing in me and supported me in every possible way. To my late father, Tevfik, who taught me how to be a fighter. Finally, I dedicate this work to my wonderful mother, Türkan Üstünbağ, who inspired me in every step of my life by being my true compass and instilling in me the value of diligence, perseverance, hard-work, curiosity and never ever giving up.

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## **CHAPTER 1: INTRODUCTION**

## Overview

Creative behavior is increasingly being recognized as an important asset both for individuals and organizations (George, 2007). The popularity of creativity both in academia and general literatures is evident in numerous review papers (see George, 2007; Klijin & Tomic, 2009; Runco, 1995; Oldham & Cummings, 1996; Shalley & Gilson, 2004; Shalley, Zhou, & Oldham, 2004; Zhou & Shalley, 2003). According to U.S News, numerous Fortune 500 companies have hired creativity consultants in order to help boost innovation. In addition, the number of business schools offering creativity classes has doubled in the past 6 years (Kotz, 2011). A 2010 study conducted by IBM's Institute for Business Value among 1,500 chief executive officers (CEOs) identified creativity as the No. 1 leadership competency of the future; organizations thrive on creative solutions and how leaders manage and promote the creativity of individuals is essential for organizational success (Arnold, 2010). Across a wide variety of tasks, careers, and industries, creativity has become an increasingly significant asset (Shalley, 2008) for organizations. Within these different domains, the importance of creativity and the intensity of creativity may differ, however, there is potentially room in most jobs for employees to perform more creatively (Shalley, 2008). In an inherently complex and global work environment, more managers recognize that in order to remain competitive, they need their employees to be engaged in their work and demonstrate creative behaviors (Mumford, Scott, Gaddis, & Strange, 2002). Many scholars agree that individual creativity lays the foundation for organizational creativity (Amabile, 1988; Woodman, Sawyer, and Griffin, 1993; Shalley et al., 2004). Therefore,

exhibiting creative behavior via generating novel and useful ideas, products, services, and processes may impact not only firm performance but also its survival (Nystrom, 1990; Kanter, 1988).

Two perspectives in the field of creativity research have been dominant in understanding the antecedents of creative behavior: Componential theory of creativity (Amabile, 1988) and interactionist perspective (Woodman, Sawyer, and Griffin, 1993). Componential theory of creativity (Amabile, 1988) is built upon the idea that intrinsic motivation is central to any creative endeavor whereas the interactionist perspective (Woodman et al., 1993) suggests that personal and contextual factors interact to influence creative outcomes. Scholars have made important advancements in our understanding of the important role of intrinsic motivation (Amabile, 1996; Zhang & Bartol, 2010), affect (Amabile, Barsade, Mueller, & Staw, 2005; George & Zhou, 2007), personality (Feist, 1999; Zhou & Oldham, 2001), cognitive styles (Tierney, Farmer, & Graen, 1999), social networks (Perry-Smith, 2006; Baer, 2010) and work contexts (Yuan & Woodman, 2010) in creative behavior. Nonetheless, the field of creativity continues to grow in multiple directions without a unified paradigm; new findings, constantly, are added but a clear destination lacks in the field (George, 2007).

### **Research Objectives and Context**

Thus far, creativity literature suggests that intrinsic motivation is an important predictor of creative behavior (e.g. Amabile, 1996; Grant & Berry, 2011; Zhang & Bartol, 2010). However, the antecedents of intrinsic motivation leading to creativity are not evident; this naturally raises an important question: what are the

factors that fuel intrinsic motivation such that it promotes creativity? It is, therefore, not surprising that numerous scholars have called upon researchers to conduct more empirical research in which the mediating role of intrinsic motivation is examined (George, 2007; Shalley et al., 2004; Zhou and Shalley 2003), but this call for additional research has not yet been addressed.

According to the JD-R model, resources induce a motivational process whereas job demands start an energy depletion process (Bakker, Demerouti, & Schaufeli, 2003). In addition, focusing on different types of resources as part of a greater dynamic process stipulates a comprehensive theoretical framework for examining resources as an excellent platform for thriving in the workplace and leading to optimal performance (Gorgievski, Halbesleben, & Bakker, 2011). In other words, examining various resources and demands within the creativity research affords us with a useful lens to disentangle the roles of these resources. Predicated on this central tenet of JD-R framework, I examine the effects of personal, relational, and organizational resources on creative behavior via a mediational pathway in the form of intrinsic motivation. In addition, I examine the attenuating impact of role overload on the relationship between the resources and intrinsic motivation (see construct definitions in Appendix C). The integration of several resources and their examination as antecedents of intrinsic motivation serves two purposes: first, it promotes an integrated perspective which ties independent strands together to provide a more unified approach to creative behavior, therefore satisfying the need that the creativity literature needs to have a more cohesive direction (see George, 2007) and, second, the mediating role of intrinsic motivation (see George, 2007;



Shalley et al., 2004) in the relationship between resources and creative behavior is examined.

Previous studies have studied some of the resources independently. For example creative self-efficacy, a personal resource, has been shown to be an important predictor of creative behavior (Tierney, 2002, 2004); however, resilience, an essential personal resource (Bakker & Demerouti, 2008), has been relatively absent in the creativity literature. Moreover, previous studies have examined the direct effects of resources on creative behavior rather than suggesting that resources may be crucial factors in initiating a motivational process. Therefore, introducing an integrated resources perspective and building on the previous studies, this study aims to simultaneously examine how personal, relational, and organizational resources facilitate creative behavior and explicitly examine the role of intrinsic motivation as an explanatory mechanism underlying the relationship between different resources and creative behavior. In addition, in light of the sparse information on the factors that hinder creative behavior at work, this study identifies a job demand in the form of role overload and examines its role in weakening the relationship between resources and intrinsic motivation. The perspective offered in this study is complementary to both componential model of creativity (Amabile, 1988) and interactionist perspective, and borrows elements from each while employing the JD-R (Schaufeli & Bakker, 2004) model as an overarching framework for exploring the personal, relational, and organizational resources as antecedents of intrinsic motivation. Personal resources comprise creative self-efficacy and resilience, bridging and bonding ties capture relational

resources; perceived organizational support for creativity represents organizational resources, and role overload is a hindrance job demand that is expected to indirectly hinder creative behavior at work.

In this study, I collected the personal, relational, organizational resources, intrinsic motivation, role overload, perceived organizational support for creativity, and creative behavior data from the employees in a self-report format along with the control variables such as age, gender, education, and tenure. However, in order to limit common method bias and obtain a more objective measure of individual creativity, supervisors assessed the creative behavior of employees as well. I collected 126 responses from employees, and 22 matched responses from employee-supervisor dyads from a Fortune 100 company. I used hierarchical multiple regression analysis to interpret the results of the surveys. I used scales that had been previously developed and validated in other studies.

### **Theoretical and Practical Contributions**

As mentioned earlier, employing the JD-R model this study provides an integrated perspective of resources and its impact on creative behavior mediated by intrinsic motivation, while the moderator influence of role overload is examined between resources and intrinsic motivation. Therefore, my attempt is to make several contributions to both creativity literature and JD-R perspective. First, I offer a cohesive perspective of resources by combining personal, relational, and organizational resources in one study. Prior studies have either alluded to the role of some of these factors or examined them in isolation. Looking at the simultaneous effects provides for a richer and more nuanced understanding of the relative role of

these different set of resources; scholars suggest that creativity research is springing forward into multiple directions and some of these strands need to be connected (see George, 2007). My second contribution is the suggestion that resources influence creativity because they initiate a motivational process. In other words, I clarify the role of intrinsic motivation by examining it as a potential explanatory mechanism for the relationship between resources and creative behavior. Doing so elevates our understanding of intrinsic motivation in that it can be enhanced or depleted based on access to a variety of resources. Third, I investigate the impact of role overload on the relationship between the personal, relational, organizational resources and intrinsic motivation. Role overload is defined as having too many responsibilities in light of time and resources available to individuals (Rizzo, House, & Lirtzman, 1970). Role overload represents an important dimension of job demands that can produce stress and strain, which in turn hamper the motivational aspects of performance (Jex, 1998) such as creative behavior (Tang and Chang, 2010). Role overload has been frequently cited as a stressor in the literature on burnout and other undesirable organizational outcome (e.g. Brown, Jones, & Leigh). However, its role in motivation, to date, remains unexplored. By bringing role overload to the forefront, and examining its moderating influence on the relationship between resources and intrinsic motivation, I identify a critical job demand that has the potential of depriving resourceful individuals from enhancing their intrinsic motivation, which in turn allows them to undertake creative behaviors at work. Additionally, I contribute to the JD-R model by investigating the impact of resources and demands on creative

behavior via a different psychological mechanism: intrinsic motivation. Thus far, JD-R model has employed engagement as the psychological mechanism between resources, demands and organizational outcomes such as turnover, absenteeism, and performance. In addition, I contribute to the predictive capability of the JD-R model by examining the impact of resources and demands on another important organizational outcome: creative behavior. Even though creativity has been theoretically proposed to be an important outcome in JD-R model, no empirical research has been conducted to support the suggestions. Finally, social support is presented as a job resource in JD-R framework, I expand the social support by introducing relational resources which include both work and non-work context, and formal and informal relationships which can play a critical role in creative behavior.

Beyond the theoretical and empirical contributions, this study has implications for managers as well. Specifically, it informs managers that different resources are important in evoking employee motivation that influences creative behavior. It is important then that organizations create an environment in which the personal, relational, and organizational resources can be accessed and enhanced. Additionally, organizations need to be aware that role overload can be detrimental to employee motivation. If employees have many roles they need to attend, they may stretch their resources and reduced resources may decrease motivation. Therefore, managers should consider controlling the number of work roles an employee has, especially when they are expected to contribute to their organization through creative behavior.

In summary, the current study offers a unified paradigm in order to examine the impact of resources and demands on individual creative behavior via intrinsic motivation.

### **Road Map**

This dissertation unfolds as follows. In Chapter two, I review the creativity literature. This review consists of definitions, theoretical perspectives, major predictors, and methodology. I, also, identify the gaps that exist in the literature. In Chapter three, drawing on JD-R model, I introduce my study and develop the hypotheses. In Chapter four, I present the methodology I use for testing the hypotheses and analyzing the data. Specifically, I discuss the study methodology which, includes discussing the study site, sample characteristics, psychometric properties of the scales used, and data analysis techniques used in the study. In Chapter five, I present the results of data analysis. Finally, in Chapter six, I discuss the results, theoretical and practical implications of my dissertation research, limitations of my study, and possible avenues for future research to consider.

**CHAPTER 2: LITERATURE REVIEW**

In this chapter, I review the literature for creativity in six sub-sections; first I provide a definition of creativity, second, I review the major theories and discuss other recent theoretical developments, third, I identify the major predictors of creative behavior, fourth, I explain the methods that are most frequently used in the creativity field, and finally, I critique the literature and conclude with a summary.

In 1950, J.P. Guilford, in his APA presidential address, invited psychologists to research then the much neglected field of creativity. Many researchers in diverse fields heeded his call, however, 60 years later the field of creativity is still emerging. In the last 10 years, there have been several review papers written and published (see George, 2007; Klijn & Tomic, 2009; Runco, 1995; Oldham & Cummings, 1996; Shalley & Gilson, 2004; Shalley, Zhou, & Oldham, 2004; Zhou & Shalley, 2003) by such major journals as the *Academy of Management Annals* and the *Journal of Management*.

Commenting on the haphazard nature of creativity research, George (2007, p. 440) stated that “Interestingly, and perhaps reflective of the nature of this elusive construct, theorizing and research on creativity is proceeding in anything but a linear fashion. Rather, just as new buds on a tree seem to sprout in seemingly random directions that nonetheless might have some underlying order that could be discerned, creativity research is developing in a variety of different promising directions that, while building from the common ground of the existing literature, are not necessarily reflective of a unified paradigmatic thrust. This is most likely a good thing given the very nature of creativity and given how little we currently know about it.”

### **Definition of Creativity**

Scholars agree upon the fact that creative behavior involves the generation of novel and useful ideas, processes and/or solutions (Amabile, 1983, 1996; Scott & Bruce, 1994; Shalley 1995; Shalley et al., 2004; Oldham & Cummings, 1996; George 2007). Therefore, to be deemed creative, ideas must be both novel and perceived as having the potential to create value for the organization in the short and long run (George, 2007). It is important to make a distinction between creativity and innovation; creativity is the generation of new and useful ideas by individuals or groups whereas innovation represents the successful implementation of the ideas at the organizational or unit level (Amabile, 1996; Mumford and Gustafson, 1988). The scope of creative ideas can range from incremental to radical; the creative outcomes may result in minor adaptations or in major breakthroughs in products or processes (George, 2007; Shalley & Gilson, 2004; Shalley et al., 2004). Furthermore, the definition of creativity assumes that creative behavior may be performed by employees in any job and at any level of the organization (Madjar, Oldham, & Pratt, 2002; Shalley et al., 2004).

### **Theoretical Perspectives**

There are two dominant models in regard to creativity in the workplace: The componential model of creativity (Amabile, 1988) and the interactionist perspective (Woodman et al., 1993). In this section, I will review each of these overarching theories, which have been prominent in the creativity literature, and I will also review some of the other theories creativity researchers have employed in explicating their findings.

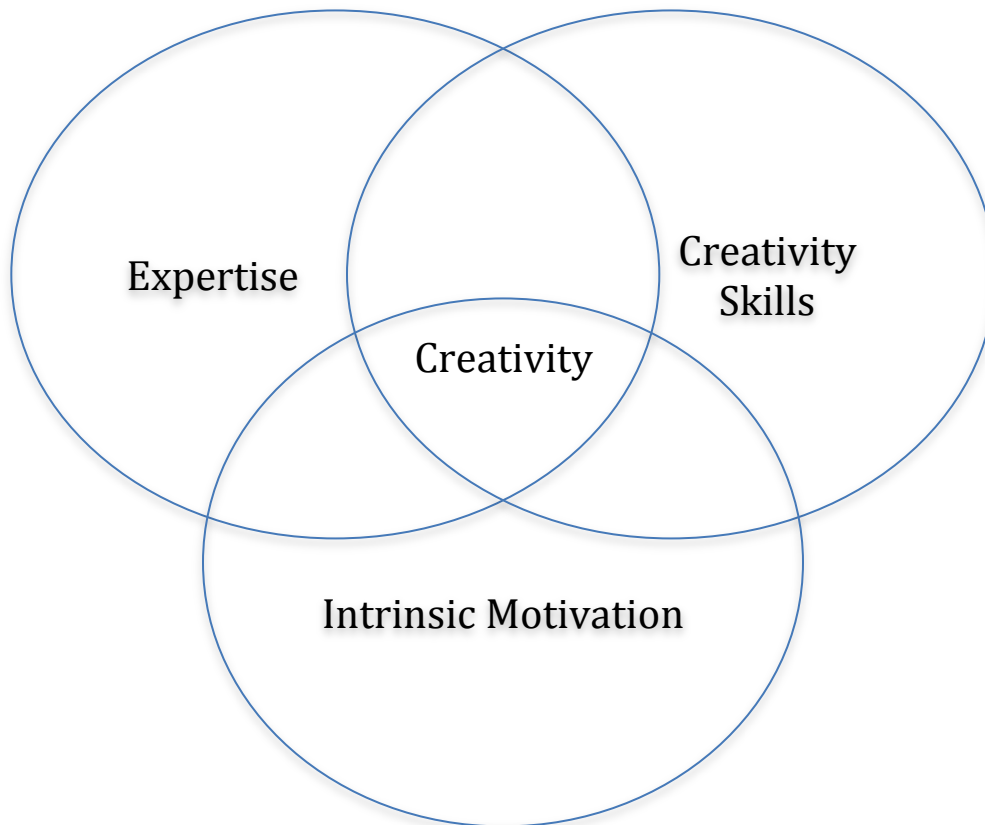


### *Componential model theory*

Amabile's (1988) componential model of creativity proposes that there are three key components of creativity: domain relevant skills, creativity relevant processes, and task motivation. These three components represent the individual elements and one component remains outside the individual that is the work environment. Amabile (1996) and Mueller (2008) expand on the work environment dimension in the later updates of the theory, and they suggest that a number of work and social factors such as time pressures, supporting supervisors, political environment can either enhance or hinder creativity. Domain relevant skills comprise of knowledge and expertise in a specific domain. These skills can be affected by formal and informal education, training, and an individual's cognitive and motor abilities (Amabile & Mueller, 2008). Creativity-relevant processes include knowledge concerning strategies for generating creative ideas, appropriate cognitive and work styles. Amabile (1996) suggests that training in creative skills, experiences of previous creative activities, and certain personality characteristics guide creativity-relevant processes. The last component of the model is task motivation and it has received the most attention in extant literature. Task motivation refers to the attitudes of an individual to a particular task (Zhou & Shalley, 2008). Motivation can be intrinsic (engaging in a task for the sake of the task) or extrinsic (outside forces pressure the need to complete the task) (Amabile, 1996); because intrinsic motivation is the driving force of the componential model theory, it is often considered an intrinsic motivation perspective of creativity (Zhou & Shalley, 2008). Empirical evidence linking intrinsic motivation to creativity is

ambivalent (Grant & Berry, 2011). Some studies have shown a positive relationship between intrinsic motivation and creativity (Amabile, 1985; Zhang & Bartol, 2010) while others have demonstrated weak or nonsignificant associations (Shalley & Perry-Smith, 2001; Perry-Smith, 2006). Still some other studies have revealed a positive relationship between extrinsic motivation and creativity (Eisenberger and Rhoades, 2001). In recent research, Amabile has revised her position in regards to intrinsic motivation and extrinsic motivation and their impact on creativity. Amabile and Mueller (2008) suggests that even though most extrinsic motivators appear to undermine intrinsic motivation and creativity, certain extrinsic motivators such as recognition of the value of the employees' work or providing them with resources to do their work effectively may enhance their intrinsic motivation and creative behavior. This process is called "motivational synergy" (Amabile, 1993). In summary, the theory specifies that all components must coexist. In other words, creativity requires a convergence of all components; creativity should be highest when an individual is intrinsically motivated with high domain knowledge and possesses high creativity skills and works in an environment that shows high support for creative behavior (Amabile & Mueller, 2008).

**FIGURE 1:  
Componential Model of Creativity**



### *The Interactionist Perspective*

This theory is built on the idea that both individual dispositional characteristics and contextual factors interact to predict creative performance (Woodman et al., 1993). The model is based on the interactional psychology (Schneider, 1983) and stresses the importance of the interaction between the person and the situation (Zhou & Shalley, 2003). Woodman and colleagues (1993) call for a systematic investigation of the individual and contextual influences on organizational creativity. They suggest that cognitive abilities, personality and intrinsic motivation are important individual characteristics to consider. The personal and contextual factors interact to promote or hinder creativity (Woodman et al., 1993). Even though both componential theory and interactionist perspective emphasize the role of the context, Woodman et al.'s (1993) model specifically calls attention to the interaction between the person and the situation (Zhou & Shalley, 2003). In addition, interactionist perspective is more concerned with the impact of cross-level influences of individual, group, and organizational characteristics that can stimulate or constrain creative behavior in a complex social system (Zhou & Shalley, 2003). In particular, individual characteristics include cognitive abilities, personality, and intrinsic motivation; group characteristics are norms, cohesiveness, size, diversity and task; organizational characteristics comprise culture, resources, rewards, strategies, and technology. Several studies have investigated and demonstrated personal and contextual factors do interact to predict creative behavior (see Shalley, Gilson, Blum, 2000; Zhou and George, 2001; Gilson, Matthieu, Shalley, & Ruddy, 2005). Interactionist perspective, particularly, looks promising

for bridging the gap between individual creativity outcomes and organizational innovation.

### **Other Theories**

Besides the two main theories of creativity explained above, there are several other theories that have been used in conjunction or separately to investigate the mystery of creativity. Here, I mention and briefly explain some of these other theories. Table 1 shows all the theories that are discussed in this paper.

#### *Cognitive evaluation theory*

According to cognitive evaluation theory (Deci & Ryan, 1985), individuals will experience high levels of intrinsic motivation toward a task when they feel competent and self-determining on a given task (Zhou and Shalley, 2003). All conditions tend to have two functions: informational and controlling. When individuals perceive an informational environment, they feel supported and encouraged which increase their intrinsic motivation (Deci & Ryan, 1985) and this results in higher creative behavior. However, when individuals feel the controlling aspect of the situation, they feel no longer in control and experience tight control of external environment, which decreases their intrinsic motivation, thus creative behavior (Zhou and Oldham, 2001).

#### *Self-Determination Theory*

Similar to cognitive evaluation theory, self-determination theory has been used to understand the role of motivation on creative behavior. Self-determination theory suggests that the satisfaction of human need for autonomy determines the

level of one's motivation (Gagne & Deci, 2005). Autonomy, which is defined as the freedom of choice to engage in activities, is the vital element in differentiating various types of motivation (Ryan & Deci, 2000) ranging from autonomous motivation (behaving with a full sense of volition and choice) to fully controlled motivation (complete pressure which emanates from external forces) (Deci & Ryan, 2008). Liu, Chen and Yao (2011) argue and find evidence that harmonious passion, which is the alignment of extrinsic and intrinsic motivation, provides an effective platform for creative behavior in the workplace for employees who work in team settings.

#### *Evolutionary theory of creativity*

Simonton's (1999) evolutionary theory of creativity is based on a process of variation and selective retention; the process of variation contributes to idea novelty whereas the process of retention contributes to idea usefulness. Since novelty is usually viewed as what separates creative work over what is useful, Simonton focused his theory on variation. Even though the original theory by Simonton (1999) doesn't consider affect as a source of variation for ideas, Amabile et al. (2005) suggest that since novelty is a function of cognitive variation, and anything that increases this particular variation can and should be connected to creativity, they propose that affect fits the criteria and is a source of such variation. Amabile and colleagues (2005) find evidence that positive affect has a linear relationship with creativity.

*Mood as information theory*

Moods provide people with information about situations (Schwarz, 2002; Schwarz & Clore, 2003). Therefore, the effects of moods on cognitive processes and behavior can be best understood in terms of their informative effects. In order for people to adapt to an environment and function effectively, their thought processes and behaviors need to be tuned to the information provided by their moods (George & Zhou, 2007). In particular, mood as information theory implies that alternating experience of positive and negative moods in the affective experience has the potential to foster creativity (George & Zhou, 2007). Positive moods signal that all is well and the environment is unproblematic, and this leads to looser and less systematic of way information processing, divergent thinking, novelty and playfulness (Kaufmann, 2003; Schwarz, 2002; Schwarz & Clore, 2003). Most studies support this reasoning; positive moods lead to divergent thinking, fluid ideation, and unusual word association (e.g., Isen, 1999; Isen, Johnson, Mertz, & Robinson, 1985; Isen, Daubman, & Nowicki, 1987; Kaufmann 2003). Negative moods on the other hand inform individuals of a problematic environment, prompting people to narrow their thought processes, which lead to a systematic evaluation (George & Zhou, 2007). Dual tuning theory of George and Zhou (2001), on the other hand, suggest that the interplay between positive mood and negative mood may be good for creativity; positive mood is good for coming up with novel ideas whereas negative mood may be good in identifying problems and evaluating the creative ideas (Zhou & George, 2001).

### *Broaden-and-build theory*

According to the broaden-and-build theory (Fredrickson, 2001), positive emotions broaden one's momentary thought-action repertoires and build enduring resources. While negative emotions tend to narrow the thought-action repertoires for the purposes of survival such as fight or flight, positive emotions such as joy create the urge to play, to explore and to push limits to be creative (Fredrickson, 2004). Isen (1999) posits that positive affect supports broad, flexible cognitive organization and ability to integrate diverse knowledge. In addition, positive emotions accumulate and compound, which initiates a positive feedback system; positive emotions lead to more positive emotions broadening and building more resources (Fredrickson, 2004). Positive emotions have the capacity to transform individuals by creating better versions of themselves, making them more socially integrated, knowledgeable, effective, and resilient (Fredrickson, 2004).

### *Adaption-innovation theory*

According to adaption-innovation theory (Kirton, 1976, 1994), individuals have a natural inclination for creative problem solving. Individuals with an adaptive cognitive style tend to operate within established parameters whereas innovators tend to be more willing to take risks and question the pre-established norms to problem solving (Shalley et al., 2004). In general, studies support that an innovative cognitive style is correlated with creative behavior (e.g., Keller, 1986; Tierney et al., 1999).

### *Creative Cognition Theory*



The creative cognition theory rests on two components: generative process and exploratory process (Finke, Ward, & Smith, 1992). The generative process includes the act of retrieving existing structures (Perkins, 1981) while exploratory process engages in new perspectives to locate potential solutions. Creative cognition theory has been employed more in cognitive complexity and cross-cultural experiences leading to creativity. For example, Leung and colleagues (2008) suggest and find evidence among students that people who are exposed to multicultural experience tend to be more creative than the individuals who are not.

#### *Social cognitive theory*

This theory is derived from social learning theory which was developed by Miller and Dollard (1941). Social learning theory posits that when an individual is motivated to learn, he/she will learn a particular behavior through observations. The central tenet is that people learn from each other via observation, imitation, and modeling. Observational learning takes place when an individual observes the actions of another person (Bandura, 1997). Self-efficacy is one of the most important human competencies and represents the belief in one's capabilities (Bandura, 1986). The adaption of creative self-efficacy by Tierney and Farmer (2002) and its related findings support the importance of self-efficacy in organizational outcomes, especially for creative behavior.

## **Predictors**

In this sub-section, I examine personality, cognitive style, affect, motivation, social support, self-views, job dimensions and organizational context as important predictors of individual creative behavior.

### *Personality*

In the early days of creativity research, scholars focused on the personality traits to predict creative outcome. Creative Personality Scale (CPS) developed by Gough (1979) and the Five-Factor Model of personality (Costa & McCrae, 1992) have been examined extensively. CPS is composed of 30 adjectives; 18 of those adjectives (e.g. humorous, reflective) are positively correlated to creativity and 12 (e.g. affected, honest) are negatively associated with creativity. An average score is calculated for the respondents and research has found a positive relationship between CPS and creativity (Oldham & Cummings, 1996; Zhou & Oldham, 2001). In terms of the big five personality, studies show that all five dimensions of personality is connected to creativity (Shalley et al., 2004). However, the most consistent relationship is between openness to new experience and creative behavior (Feist, 1998, 1999; Scratchley & Hakstian, 2000). It is suggested that individuals who score high on openness to experience tend to be more flexible in absorbing new information and combining novel and unrelated information, and search for unfamiliar situations in order to access new experiences (McCrae & Costa, 1997). Furthermore, research indicates that openness dimension correlates positively with CPS (McCrae & Costa, 1997). In a most recent study, Mortinsen (2011) has developed a seven factor creativity person profile (CPP) which include associative

orientation, ambition, emotional stability, motivation, need for originality, agreeableness, and flexibility. In establishing a broad measure of relevant traits, CPP correlated with creative ability tests, and was able to differentiate between professional artists and a remainder sample. Finally, in evaluating the impact of stressors on individual creativity, Byron and colleagues (2010), demonstrating the importance of another personality trait, showed evidence that stressors affect low-anxiety and high-anxiety individuals differently, such that low levels of stress promote creativity among low-anxiety individuals while it doesn't make a difference for high-anxiety people.

### *Cognitive Styles*

A cognitive style is an individual's established and preferred cognitive strategy for acquiring, processing, and employing knowledge for problem solving (Shalley et al., 2004). Kirton's (1976, 1994) adaption-innovation theory is the most utilized model to understand the impact of different cognitive styles on creative behavior. The theory suggests that individuals with an adaptive cognitive styles are more likely to operate within given boundaries whereas those with an innovative style tend to be more willing to take risks and violate established rules to develop solutions for problems (Shalley et al., 2004). The theory has been supported; and empirical research suggests that innovators tend to be more creative than adaptors (see Lowe & Taylor, 1986; Kirton, 1994; Tierney et al., 1999). More recent research indicates that feedback inquiry mediates the relationship between different cognitive styles and creative behavior; individuals with innovative cognitive style are more likely to inquire for feedback, which leads to more creative behavior as

measured by supervisors (De Stobbeleir, Ashford, & Buyens, 2011). However, in a team setting it appears that innovators and adaptors in a team enhance team radical innovation, whereas attentive-to-detail members hinder it (Miron-Spektor, Erez, & Naveh, 2011). Similar to innovative-adaptor theory, Sagiv and colleagues (2010) developed a cognitive style model, which introduced systematic and intuitive cognitive styles. In two empirical studies, they demonstrated that individuals with intuitive cognitive styles were more creative than systematic individuals.

In a similar vein of research, the impact of learning orientation has been examined in relation to creativity (see Gong, Huang, & Farh, 2009). A learning orientation is an internal mind-set that stimulates an individual to cultivate his or her competence (Dweck, 1986, 2000). Employee learning orientation is more likely to boost employee creativity over time, and the results support that learning orientation is a positive predictor of employees' creativity (Gong et al., 2009).

Paradoxical frames can be defined as mental templates that encourage individuals to recognize and embrace contradictions (Miron-Spektor, Gimo, & Argote, 2011). Similar to cognitive styles of innovators, individuals who are primed with paradoxical frames rather than other cognitive frames are more creative. In four separate laboratory studies, Miron-Spektor and colleagues (2011) found that individuals with paradoxical frames of cognition performed higher on RAT (remote association tasks). RAT is a commonly used measure for creativity in laboratory studies, and it measures divergent and creative thinking of individuals (Mednick, 1962).

*Affect*

Numerous studies have investigated the relationship between affect and creativity (see Isen et al., 1987; Isen, 1999; Madjar et al., 2002) including several meta-analysis studies (see Lyubomirsky, King, & Diener, 2005; Baas, De Dreu, Nijstad, 2008; Davis, 2009). Affect refers to both emotion and mood (Klijn and Tomic, 2010), and it is generally supported that positive affect stimulates creativity as they promote flexible and divergent thinking which enables the generation of useful and novel ideas (e.g. Isen et al. 1987; Amabile et al., 2005). Nonetheless, recent studies have begun to investigate the impact of negative mood and the oscillation between positive and negative mood on creativity (see George & Zhou, 2002; George & Zhou, 2007). George and Zhou (2002) found evidence that under certain circumstances negative mood promotes creativity and positive mood hinders creativity.

Isen (1999) posits that positive affect supports broad, flexible cognitive organization and ability to integrate diverse knowledge. In addition, positive emotions accumulate and compound, which initiates a positive feedback system; positive emotions lead to more positive emotions broadening and building more resources (Fredrickson, 2004). As mentioned earlier, positive emotions have the capacity to transform individuals by creating better versions of themselves, making them more socially integrated, knowledgeable, effective, and resilient (Fredrickson, 2001; Frederickson & Losada, 2005).

Amabile et al., (2005), in a longitudinal study using both qualitative and quantitative data which included personal diaries of employees across seven organizations, find evidence that self-rated mood and peer rated creativity are

related in a simple linear form. They, also, find evidence that the effects of positive mood on creativity significantly decline after two days.

Davis (2009), in a meta-analysis of 72 studies, demonstrates that positive mood enhances creativity. People tend to have more positive materials; therefore, positive moods allow individuals to have access to more materials that are also diverse resulting in a more cognitively flexible state that promotes divergent thinking. Davis (2009) alludes to the fact that positive mood may be beneficial during the ideation stage of creativity whereas negative mood may be better during the evaluation stage of creativity. Davis (2009) concludes that positive mood and creative ideation may have a strong relationship whereas the relationship between positive mood and overall creative performance is probably less robust.

In a slightly different meta-analysis, Lyubomirsky, King & Diener (2005), describe their findings as “pleasant moods promote original thinking” which reiterate the point that Davis (2009) suggests; positive mood promotes divergent thinking. Fong (2006) posits that ambivalent emotions stir creativity in individuals. Ambivalent emotions alert individuals that they are in an unusual state, which causes more unusual associations leading to creativity. Fong’s (2006) findings among business school students support her hypothesis; individuals who experience emotional ambivalence interpret the environment as unusual and report higher levels of unusual associations as measured by RAT.

### *Motivation*

Intrinsic motivation is defined as the degree of inner-directedness; an individual engages in a task for the sake of the task (Amabile, 1983). In general,

scholars suggest that individuals who experience high intrinsic motivation are more likely to be creative (see Amabile, 1996; Shalley et al., 2004) because this type of motivation supports curious tendencies, cognitive flexibility, and persistence in the face of challenges (Zhou & Shalley, 2003). Even though there are various studies that support the concept that intrinsic motivation results in creative behavior, (see Amabile, 1985; Deci & Ryan, 1985; Amabile, Hennessey & Grossman, 1986), there are other studies that demonstrate that under certain circumstances extrinsic motivation can be the fuel for creative behavior (e.g. Eisenberger and Rhoades, 2001). Eisenberger and Rhoades (2001) demonstrate that college students who are promised a reward for creative outcomes outperform their counterparts who are not promised a monetary reward. Furthermore, children who are given repeated rewards for creative outcomes display more creative capabilities than the children who don't receive rewards. In general, people are mostly rewarded for conventional behavior than creative behavior; individuals tend to conform to conventionality when the explicit signal for creativity is not received from the environment. Eisenberger & Rhoades (2001) posit that external motivation will promote creativity when the expectancy of creativity is clearly communicated to the recipients.

Zhang and Bartol (2010) examine the effect of psychological empowerment on intrinsic motivation from the perspective of creative process engagement. The study finds evidence that psychological empowerment is positively related to intrinsic motivation; and both intrinsic motivation and psychological empowerment

are related to creative process engagement and employee creativity (Zhang & Bartol, 2010).

Liu, Chen and Yao (2011) argue and find evidence that harmonious passion, which is the alignment of extrinsic and intrinsic motivation, provides an effective platform for creative behavior in the workplace. Harmonious passion mediates the relationship between autonomy and creativity, moderated by organizational support for autonomy (Liu et al., 2011).

### *Social context*

A large amount of research in the creativity field is being conducted from the perspective of supervisor and co-worker influence on the creativity of the individual (e.g. Zhou & George, 2003; Shalley & Gilson, 2004; Liao, Liu, & Loi, 2010). Most studies indicate a positive relationship between supportive leadership and employee creativity; for example, Yuan and Woodman (2010) demonstrate that employee-supervisor relationship quality is positively associated with employee creative behavior. In addition, transformational leaders engage in intellectual stimulation, which sets the standards for creativity while serving as role models for creative behavior, transformational leadership is positively associated with employee creativity (Gong et al., 2009). Aversive leadership (leadership behavior associated with intimidating subordinates based on coercive power), on the other hand, is negatively related to employee creative behavior (Choi, Anderson, & Veillette, 2009).

Based on observational learning and modeling, Zhou & George (2003) demonstrate that when an individual has more creative co-workers and supervisors,



they are more inclined to display creative behavior. More interestingly, this relationship tends to be more important for employees who are less creatively capable.

Alongside of the social context in the workplace, social networking within and outside of the work boundaries is gathering steam. Perry-Smith and Shalley (2003) argue that individuals with weaker ties (distant relationships) in a social network should be more creative than individuals with stronger ties (close relationships, good friends) as it is more likely to have novel ideas travel through the channels of weak relationships.

Perry-Smith (2006) integrates the social network theory and creativity; the findings support the previous proposals of Perry-Smith and Shalley (2003). Employees with weaker ties among research scientists show more creativity than the employees with stronger relationships. Furthermore, the centrality of the employee in the network is positively associated with creativity when the employee has few ties outside of the organization. In another way of interpreting the results, Perry-Smith (2006) suggests that peripheral individuals feel freer to develop unique ideas gathered from connections outside, because these ties promote more autonomous thinking, and support making connections between seemingly disconnected ideas (Perry-Smith, 2008). In discussing the impact of social ties on cognitive processes, it is proposed that heterogeneous weak ties facilitate a variety of cognitive processes while strong ties bring cognitive constraints; weak ties facilitate creativity because they provide cognitive stimulation (Perry-Smith, 2006, 2008).

In suggesting a curvilinear relationship between weak ties and creativity, Zhou and colleagues (2009) find evidence that employees demonstrate more creativity when their number of weak ties is at intermediate levels than either at lower or higher levels. Interestingly, their study was conducted in China, the social network structures may form rather differently in various countries depending on the cultural dimensions of a country. Baer's (2010) findings echo Zhou and colleagues' (2009) results; there may be an optimal level of weak ties (around 12), which spurs creativity in employees. In addition, the diversity of networks and personality factors may influence whether individuals can galvanize their social network in obtaining diverse information, which may lead to creative behavior (Baer, 2010). In general, there seems to be an agreement among the handful of studies that weak ties can lead to creative behavior but there are contextual factors that affect this complicated relationship.

### *Self-Views*

How individuals view themselves might affect their creativity (Shalley et al., 2004). Creative self-efficacy, positive psychological capital, and creative role identity fall into this category. Creative self-efficacy is defined as the belief in one's ability to produce creative outcomes (Tierney & Farmer, 2002; Tierney & Farmer, 2004). Creative self-efficacy is built upon Bandura's (1997) general self-efficacy, which is explained as an individual's belief that he/she can perform well in a given task. The level of self-efficacy impacts task-related attraction, initiation, and sustenance (Bandura, 1997). Therefore, creative self-efficacy levels are critical in determining how much an individual will enjoy and initiate creativity related activities, and most

importantly how long an individual will maintain the efforts for creative work (Tierney & Farmer, 2004). Given that creative activity requires rigorous creative thought and action, a strong creative self-efficacy would be a prerequisite for creativity (Tierney & Farmer, 2004). Gong and colleagues (2009) examine creative self-efficacy as the psychological mechanism behind creativity. The study finds evidence for the positive relationship between creative self-efficacy and creative behavior (Gong et al., 2009). Additionally, Farmer, Tierney, and Kung-McIntyre (2003) examine the relationship between creative role identity and creative behavior. Creative role identity is defined as whether an individual views him or herself as a creative person. Results support that creative role identity impacts the creative behavior in the workplace (Farmer et al., 2003).

Psychological Capital (PsyCap), an emerging concept in the positive organizational behavior literature, is composed of four dimensions that include hope, optimism, self-efficacy and resilience. These state-like capacities are open to development and have an impact on performance in the work place (Luthans, Avolio, Avey, & Norman, 2007). Sweetman, Luthans, Avey, and Luthans, (2011) found evidence that each component hope, optimism, self-efficacy and resilience is positively related to creative performance. Furthermore, as a composite construct PsyCap was more positively associated with creativity than each individual component.

### *Job Designs*

Several studies have examined job dimensions on employee creativity (see Farmer et al., 2003; Oldham & Cummings, 1996; Shalley, Gilson, & Blum, 2009;

Tierney & Farmer, 2004). Complex and demanding jobs (those that are characterized by high levels of autonomy, challenge and complexity) are expected to promote higher levels of intrinsic motivation and creativity (Hackman & Oldham, 1980). These complex jobs tend to enhance employees' engagement in their work activities and their interest in completing these activities; in turn, the excitement should promote creativity via intrinsic motivation (Shalley et al., 2004). A study by Amabile and Gryskiewicz (1989) has demonstrated that creativity and challenging work have a significant relationship. Autonomy is one of the most examined concepts in job dimensions for creative behavior, and refers to the freedom, independence, and discretion for the people performing tasks in regards to how and when to do it (Oldham & Cummings, 1996). Several studies have shown a positive relationship between employee autonomy and creativity (Amabile & Gryskiewicz, 1989; Axtell, Holman, Unsworth, Wall, & Waterson, 2000; Oldham & Cummings, 1996; Scott & Bruce, 1994).

In complementing the job dimensions perspective, Elsbach and Hargadon (2006) suggested that researchers need to consider the nature of jobs and workdays so they can better understand the factors that might promote or hinder creativity. They propose that increasing levels of autonomy and job complexity on relatively routine jobs may promote intrinsic motivation and creativity. However, for those professionals who already have complex and demanding jobs, the best method to promote intrinsic motivation and creativity may be to provide them with routine "mindless" work into their work schedule (Elsbach & Hargadon, 2006).

*Organizational Climate*

In general, organizational climate is an important contextual factor that signals expectations for certain behaviors and the related outcomes for these behaviors (Yuan & Woodman, 2010). Perceived organization support for creativity (POS) is defined as employees' perception that the organization encourages, rewards, and recognizes creativity as an important aspect of work (Shalley et al., 2009). Therefore, POS for creativity encourages innovative behavior because it legitimates experimentation (West & Wallace, 1991), and it creates psychological safety for trial and error (Yuan & Woodman, 2010), which are necessary ingredients for creative behavior. POS for creativity has been shown to be an important contextual factor for individual creative behavior (see Shalley et al., 2009). In an opposite direction, Choi and colleagues (2009) have demonstrated that unsupportive organizational climate is negatively related to employee creative behavior. Several studies have examined and found that POS for creativity enhances the impact of individual differences on creativity. For example, Farmer et al. (2003) found evidence that creative role identity's positive impact on creative behavior was much stronger when the POS for creativity was high. These studies demonstrate the importance of supportive organizational climate for creative behavior.

Similar to POS for creativity, resources for creativity concept and construct was developed by Madjar, Chen, and Greenberg (2011), and measures the general resources provided by the organization for creative behavior. Research results show that resources for creativity are generally associated with radical innovation (Madjar et al., 2011). Organizational climate is relatively new in creativity research,

and scholars continue to delineate different facets of the organizational climate, which may encourage or hinder individual creativity.

Evident in the review of the literature, creativity scholars have been exploring in a piecemeal fashion the influence of many factors such as personal, organizational, and motivational elements on creative behavior. Several scholars have suggested that intrinsic motivation's mediation role must be explored. In order to unlock the mediating role of intrinsic motivation, a comprehensive resources and demands perspective needs to be employed. Therefore, JD-R model is a natural fit for understanding the mediational role of intrinsic motivation between resources and creative behavior in the workplace.

**TABLE 1**  
**Theories in Creativity Literature**

<b>THEORY</b>	<b>KEY FINDING</b>	<b>PAPER</b>
<i>Achievement motivation theory:</i> Goal orientations are motivational orientations that capture how individuals regulate attention and effort when approaching and responding achievement situations	Learning orientation is positively related to creativity only under low centralization.	Hirst et al., 2011
<i>Activation theory:</i> It is suggested that individuals who experience intermediate time pressure should be fully engaged in their work activities, and as a consequence more likely to explore different ideas an experiment with novel approaches to solving problems, because their sense of urgency activates their engagement.	Experienced creative time pressure and creativity is not significant.	Baer & Oldham, 2006
<i>Adaption-innovation theory:</i> individuals either have an adaptive cognitive style or an innovative cognitive style when it comes to creative problem solving.	Innovative cognitive style is positively correlated with creative behavior.	Tierney et al., 1999
<i>Broaden and build theory of positive emotion:</i> suggests that when people experience positive emotions like vitality, they broaden their thought-action repertoires which enables them to access diverse information.	Thriving mediates the relationship between trust, connectivity and innovative behavior.	Carmeli & Spreitzer, 2009 (Also, see Kark & Carmeli, 2009)
<i>Componential model of creativity:</i> suggests that creativity encompasses creativity skills, domain knowledge, and intrinsic	Psychological empowerment leads to intrinsic motivation and creative process engagement, in turn both	Zhang & Bartol, 2010

motivation	creative process engagement and intrinsic motivation are related to creative behavior	
<i>Cognitive evaluation theory:</i> when employees feel competent and self-determining toward a task, they are motivated to be cognitively more flexible and to prefer complexity and novelty.	A curvilinear relationship exists between role ambiguity and creativity; intermediate role ambiguity is best related to creativity.	Wang, 2011
<i>Creative cognition approach:</i> There are two kinds of cognitive processes that are implicated in creative thinking: generative and exploratory processes.	Multicultural experience predicts creative engagement and processes	Leung et al, 2008
<i>Efficiency-oriented perspective</i> focuses on performance gains; improved efficiency and job performance increases the competitiveness and success of an employee	Image risks and unfavorable social impressions negatively affect innovative behavior.	Yuan & Woodman, 2010
<i>Evolutionary theory of creativity:</i> creativity is based on a process of variation and selective retention; variation contributes to idea novelty and the process of retention contributes to idea usefulness.	Positive affect leads to variation; and positive affect has a linear relationship with creativity.	Amabile et al., 2005
<i>Interactionist perspective:</i> Individual and contextual factors interact to have an impact on individual creativity	Growth need strength is positively related to creativity; the relationship is moderated by work context and job complexity	Shalley et al., 2009 (Also, see Zhou et al., 2009)
<i>Mood as information perspective:</i> suggests that moods provide people with information about situations and that the effects of moods on cognitive processes and behavior can be understood in terms of their informative effects. In order for people to	When a supportive context is present and positive mood is high, negative mood has a strong positive relationship with creativity. Highest level of creativity is observed when both positive mood	George & Zhou, 2007



adapt to an environment and function effectively, their thought processes and behaviors need to be tuned to the information provided by their moods.	and negative mood are high.	
<i>Motivated information processing theory:</i> Motivation shapes cognitive processing. Employees selectively notice, encode, and retain information that is consistent with their desires.	Prosocial motivation enhances the relationship between intrinsic motivation and creative behavior	Grant & Berry, 2011
<i>Self-determination theory:</i> is used and autonomy is considered as the most important aspect that leads to motivation; intrinsic or extrinsic motivation is not as important as whether the freedom to choose to participate in the activities that makes it more important	Harmonious passion mediates the main and interactive effects of multilevel support and autonomy orientation on creativity	Liu et al., 2011
<i>Self-regulation theory:</i> Individuals guide their own goal-directed activities and performance by setting their own standard and monitoring their process towards these standards	Organization climate for creativity has a direct relationship with creativity and is partially mediated by feedback inquiry	Stobbeleir et al., 2011
<i>Sensemaking perspective:</i> is based on the view that creative and habitual actions are competing behavioral options and on the proposition that individuals use sensemaking to negotiate between conflicting frames of reference held by different groups they associate with.	Willingness to take risks, career commitment, and resources for creativity are positively and significantly related to radical creativity; the presence of creative coworkers, organizational identification, and conformity are associated with incremental creativity	Madjar et al., 2011
<i>Social cognitive theory:</i> advocates self-efficacy as a key motivator for individuals, and how social context can create it. In addition, self-efficacy plays a	LMX (Leader-Member) quality and TMX (Team-Member) quality were mediated fully by self-efficacy in relating to	Liao et al., 2010

central role in human agency regarding performing uncertain and risky tasks.	creativity	
<i>Social identity theory</i> : proposes that an important part of our self-concept (i.e., the way we see ourselves) stems from our memberships in social groups. Identification reflects a sense of oneness with the team whereby the individual subsumes the team's aims and goals as their own; they are internalized, creating a powerful and personal motivation to contribute to the team's goals and successes	Team identification was mediated by creative effort and was positively related to creative performance	Hirst et al., 2009
<i>Social interdependence theory</i> : how people perceive their goals to be related whether negative or positive has an impact on how they interact and their ultimate performance	Open groups declined in their creativity as competition increased from low to intermediate this negative trend was reversed once the competition exceeded intermediate levels	Baer et al., 2010
<i>Social exchange model of creativity</i> : Adapted from social exchange theory, it suggests that both trust (employees' trust in the organization and supervisor) and social exchange relationships (employees' perceived quality of their exchange relationships with the organization and supervisor) act as mediating mechanisms through which justice perceptions at the organization and supervisor level should influence employee creativity	Information sharing is positively related to creativity; Informational justice relates to trust which relates to upward appeal, which relates to idea promotion but there is not a straight path to creativity. Trust to LMX which leads to information sharing (idea generation) which leads to creativity.	Khazanci et al., 2010
<i>Strength of weak ties theory</i> : suggests networks saturated with "weak" ties, social relationships, which are	Results indicate that actors are most creative when they maintain idea networks of optimal size,	Baer, 2010 (Also, see Perry-Smith, 2006)

<p>typified by infrequent interaction, short history, and limited (emotional) closeness, are particularly valuable to the production of creative ideas because they allow for enhanced access and exposure to socially distant pockets of information—information that is likely to be novel and, therefore, likely to spur the combinatory process underlying the production of creative ideas.</p>	<p>weak strength, and high diversity and when they score high on the openness dimension of personality traits.</p>	
<p><i>Transactive memory system:</i> A transactive memory system reduces the redundant overlaps in knowledge and clarifies who will remember what information through specialization</p>	<p>Direct task experience lead to higher task experience than indirect task experience. Teams who acquire task experience directly are more creative because they develop better transactive memory systems than teams who acquire experience vicariously.</p>	<p>Gino, 2010</p>

**TABLE 2**  
**Summary of Key Predictors of Creative Behavior**

Individual:	Contextual:
<p>Personality:</p> <ul style="list-style-type: none"> <li>• Creative personality scale (CPS-30 adjective list)</li> <li>• Openness to new experiences</li> <li>• Low anxiety individuals</li> </ul> <p>Cognitive Styles:</p> <ul style="list-style-type: none"> <li>• Innovative cognitive style</li> <li>• Intuitive cognitive style</li> <li>• Learning orientation</li> <li>• Paradoxical frames</li> </ul> <p>Affect:</p> <ul style="list-style-type: none"> <li>• Positive affect</li> <li>• Negative affect</li> <li>• Dual tuning of positive and negative affect</li> </ul> <p>Motivation:</p> <ul style="list-style-type: none"> <li>• Intrinsic motivation</li> <li>• Extrinsic motivation</li> <li>• Prosocial motivation</li> <li>• Harmonious passion</li> </ul> <p>Self-Views:</p> <ul style="list-style-type: none"> <li>• Creative self-efficacy</li> <li>• Creative role identity</li> <li>• Psychological capital</li> </ul>	<p>Social Context:</p> <ul style="list-style-type: none"> <li>• Supportive leadership</li> <li>• High quality relationship with supervisors</li> <li>• High quality relationships with co-workers</li> <li>• Transformational leadership</li> <li>• Weak ties</li> </ul> <p>Job Design:</p> <ul style="list-style-type: none"> <li>• Challenging work</li> <li>• Autonomy</li> <li>• Freedom</li> </ul> <p>Organizational Climate:</p> <ul style="list-style-type: none"> <li>• Perceived organizational support for creativity</li> <li>• Organizational resources for creativity</li> </ul>

## Methods

In terms of research design, creativity scholars continue to conduct both laboratory and field studies. Nonetheless, within the last ten years, the field studies have become more popular (see George, 2007; Shalley et al, 2004; Zhou and Shalley 2003).

Most studies are still examining the creative behavior of the individual employee; nonetheless, a number of studies are emerging that consider the creativity of teams and groups. However, a big gap remains in trying to connect individual creativity to organizational innovation. Mostly, studies either examine individual creativity at the micro level, or report organizational innovation at the macro level.

Initially, majority of the field studies measured creative behavior by self-reports. However, the trend has changed and most creativity studies ask co-workers or supervisors to rate the creativity of the employees. In lab studies, generally a group of expert judges rank the creative behavior of participants. The expert judges tend to have educational and/or work experience in the field, and rate the overall creativity of an idea or a product.

Currently, there are four different rating scales that have been used to have supervisors rate the level of creativity of their subordinates. These four scales are 1) George and Zhou's (2001) 13 item scale 2) Oldham and Cumming's (1996) 3 item scale 3) Scott and Bruce's (1994) 6 item scale, and 4) Tierney and colleagues' (1999) 9 item scale (See Appendix C). Even these four different scales are adapted and changed in different studies in order to better understand the group that is being

studied. Some of these scales focus on innovation and others focus on producing creative ideas. Therefore, it is important for scholars to choose the correct scale. All four scales measure overall creativity, and do not make a distinction between novelty and usefulness aspect of creativity.

In laboratory studies, consensual assessment method (Amabile, 1996) is used to measure the creativity of individuals; minimum two judges rate the overall creativity of each participant. A less popular method for laboratory studies is to have several judges evaluate the two dimensions of creativity, novelty and usefulness (Shalley et al., 2004).

Finally, scholars are concerned about treating creativity as one construct (Shalley et al., 2004). For example, Unsworth (2001) suggests that researchers need to consider the type of idea, why it was generated, or how the creative process began. For example, is the demand for creative engagement internal or external? Is the problem type open or closed? Open ideas are those issues discovered by the individuals and closed ideas are the ones individuals are presented with (Unsworth, 2001). It is possible that there are different types of creativity and each type is associated with different processes and predictors (Unsworth, 2001), and having one construct to define creativity may be too limiting.

### **Critique**

Creativity field continues to grow and attract scholars from different backgrounds in the investigation of creative behavior. Major advances have been made in the field especially in regards to cognitive style, personality, motivation, work and job context. However, some of the findings in certain areas are

contradictory; for example several studies support that intrinsic motivation is positively associated with creative behavior (Amabile, 1996), yet others fail to support this relationship. Still, some others indicate that extrinsic motivation or harmonious passion promote creative behavior (Liu et al., 2011). In order to better understand the role of intrinsic motivation, scholars need to investigate the mediating role of intrinsic motivation, especially in empirical studies. We need to understand what prompts intrinsic motivation, which in turn leads to creative behavior. Additionally, such things as job complexity are considered to promote creative behavior via intrinsic motivation (Shalley et al., 2004), however, in today's highly dynamic work environment, individuals who have complex jobs may feel overburdened with numerous demands. Overstretched workers may not have the time to undertake creative behaviors; they may expend so much energy for their day-to-day assignments that they may have little energy remaining for participating in creative activities. Therefore, more studies should examine demands that are related to work that undermine the creative behavior.

More research is needed to better understand under what conditions individuals choose to engage in creative behaviors. Combining and expanding the range of personal and contextual variables examined that can affect creative behavior can provide a more comprehensive model of employee creativity. Thus far, scholars have investigated creative behavior in a piecemeal fashion; studies, for example, mostly have examined either personality, or cognitive style, affect or social networks. I believe the extant studies have set the stage for the scholars to commence integrating the previous findings in studies to examine the complex

relationships that arise; for example how combined factors may influence creative behavior. Simultaneous examination of several resources and their influence on intrinsic motivation has been missing in the creativity field; in order to expand our understanding of creative behavior we need to consider several resources concurrently. For example, creativity often demands hard work, effort, and considerable sacrifices on the part of creators (George, 2007), which may result in positive or negative outcomes both professionally and personally. Therefore, a resources and demand view of creative behavior may be a natural unifying lens for understanding the impact of various resources and demands on creative behavior. As George (2007) observes, creativity research is budding in many different directions, but we need to coalesce some of these loose strings in establishing a more unified paradigm, otherwise the field will continue to expand without major arteries being identified.

Most creativity scales in empirical studies employ a unidimensional approach to measuring creativity. Even though, a two dimensional approach has been developed for laboratory studies (Shalley et al., 2004), no two-dimensional scale has been developed for measuring the creativity of individuals in field studies. More investigation is needed in this area since several theoretical proposals suggests that, for example, intrinsic motivation influences novelty component of creative behavior (see Grant & Berry, 2011). In addition, there are several different scales to measure creative behavior at work, and these different measures may be the cause of inconsistent findings in regards to, for example, intrinsic motivation and creative behavior. Furthermore, in some studies the respondents report



creative behavior and in other studies the supervisors or co-workers report it. Inconsistencies may be due to these different sources that report the individual creativity behavior.

More studies are needed to explore the complicated relationship between individual, group, and organizational level creativity. Scholars suggest that individual creativity is the gateway for organizational innovation (e.g. Amabile, 1996; Woodman et al., 1993). However, we need more empirical research that supports these theoretical proposals. Once the creative ideas are produced, how are these ideas implemented at the organizational level? And, how is the organizational innovation increased based on the individual creative contributions to the organization?

Finally, creative behavior has been mostly examined as the dependent variable. Little research has focused on the outcomes of creative behavior in organizations. More research is needed to understand the impact of individual creativity on other organizational outcomes such as job satisfaction, job performance, turnover, and organizational citizenship behavior. The outcomes of creative behavior may shed light on whether creative behavior is a positive or negative behavior within organizational contexts. However, these compelling issues are beyond the scope of this dissertation and will not be examined in this current study.

### **Summary**

The field of creativity has been advancing on many different fronts; however, it is important to bring a more integrated approach to understanding creative

behavior. It is proposed that creativity may depend on resources and pressures (Mumford, Scott, Gaddis, & Strange, 2002). Especially, in today's complex and competitive work environment individuals experience tremendous pressure to perform numerous roles. In order to understand the impact of different resources and demands, in the next section, I introduce the Job Demands-Resources (JD-R) model as a new framework to examine the antecedents and mechanisms by which creative behavior is manifested in organizational settings. As identified in the critique section of this review chapter, scholars need to identify the antecedents of intrinsic motivation, which lead to creative behavior. In addition, more relevant contextual variables need to be examined. Role overload is an important, endemic variable that has been absent in the creativity literature and represents an important work pressure that may hinder creative activity. JD-R framework serves several purposes as a unifying theory; first it allows the investigation of resources and demands in one model, and second, it investigates the motivational mechanism, which is initiated by the resources that are available to individuals.

In the next section, I introduce the JD-R model and develop the hypotheses; personal, relational, and organizational resources influence creative behavior via their impact on intrinsic motivation while role overload attenuates the positive impact of the resources on intrinsic motivation.

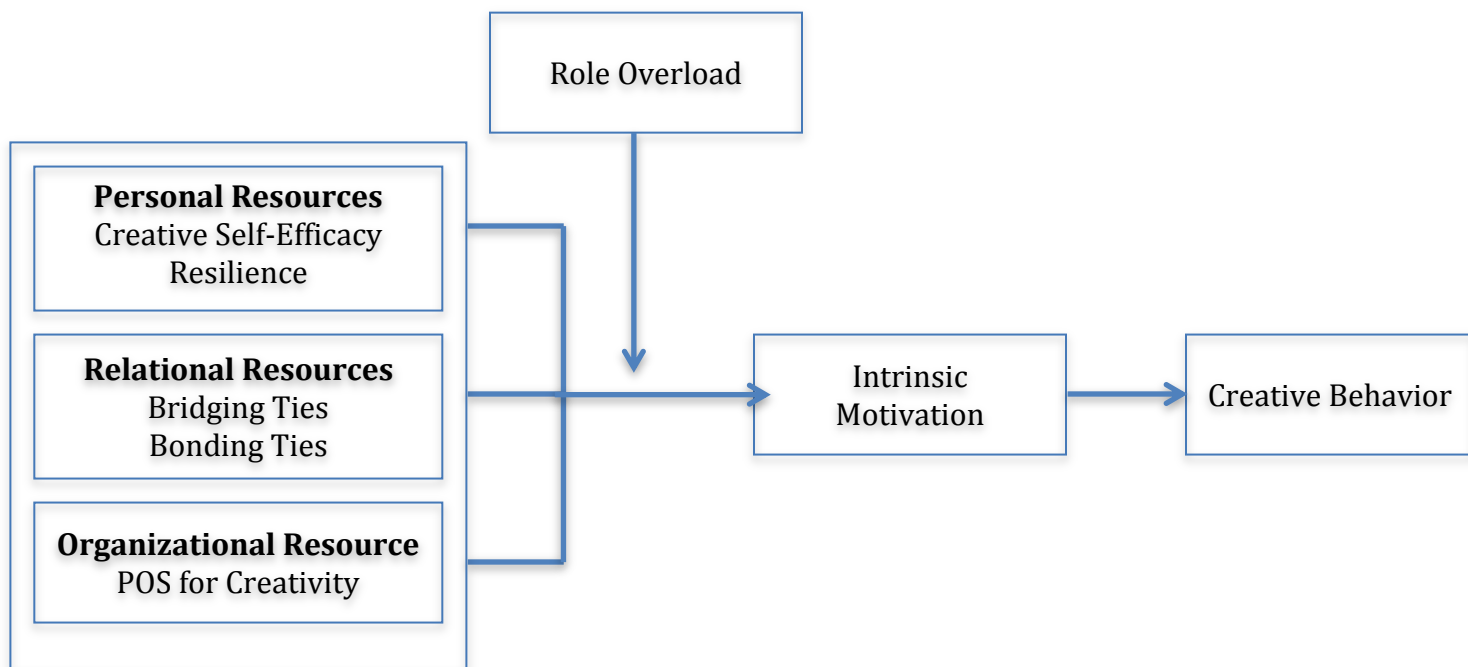
**CHAPTER 3: THEORY AND HYPOTHESIS DEVELOPMENT**

In this section, I focus on explaining the model, developing the hypotheses, and providing the supporting theory. First, I introduce the model, in the next section, I explain and discuss the theory of JD-R for supporting the model. Following the theory, I introduce the hypotheses and conclude with a summary.

The purpose of the current study is to simultaneously examine the indirect influence of personal, relational, and organizational resources on creative behavior that is mediated by intrinsic motivation. In addition, the contextual effect of role overload as a job demand is examined on the relationship between various resources and intrinsic motivation. Specifically, I propose that personal resources of creative self-efficacy and resilience, relational resources of bridging and bonding, and organizational resource of perceived organizational support for creativity (POS) will lead to intrinsic motivation, which in turn prompts creative behavior. I, further, suggest that role overload, as an important and widely prevalent work demand, may attenuate the positive influence of personal, relational, and organizational resources on intrinsic motivation. To be clear, role overload only moderates the relationship between the resources and intrinsic motivation.

FIGURE 2

## Creative Resources and Demands Model of Creativity



### **Theory: Job Demands-Resources (JD-R) Model**

The underlying theoretical framework for the proposed model is Job Demands-Resources (JD-R) model. JD-R model is a heuristic model that specifies how motivation or involvement in any organizational activity may be produced by two specific sets of working conditions: job demands and job resources (Bakker et al., 2003). As JD-R continues to evolve, personal resources were added to the original model to better explain the organizational outcomes (Bakker & Demerouti, 2008). One of the strengths of the JD-R model is that it is a flexible model and it allows a focus on both general and profession-specific demands and resources as well as entertaining that demands and resources can become moderators of each other's relationships with important organizational outcomes (Hakkanen, Bakker, & Demerouti, 2005). However, thus far no studies have empirically examined the moderating role of job demands on the relationship between resources and motivational processes. Personal resources include such positive self-evaluations as self-efficacy and resilience (Bakker & Demerouti, 2008). Job demands are conceptualized as those characteristics that evoke strain requiring sustained physical and psychological effort on the part of the employee (Bakker et al., 2003). Job demands are not necessarily negative, however, they may turn into stressors if the employee is required to put in high effort from which they don't adequately recover and the demand continues (Meijman & Mulder, 1998). In this case, job demands can result in negative organizational outcomes such as disengagement, absenteeism, and turnover (Bakker et al., 2003). Job resources are those characteristics of work that 1. Reduce job demands 2. Are helpful in achieving work

goals 3. Stimulate personal growth, learning, and development (Bakker et al., 2003).

In summary, JD-R suggests that resources play an important role in boosting employees' motivation while demands may exhaust employees' resources and in turn lead to the depletion of energy (Demerouti, Bakker, Nachreiner, & Schaufeli, 2000).

According to the JD-R model, job resources and personal resources are drivers of motivation (Bakker & Demerouti, 2008). Job resources can lead to intrinsic motivation because they foster employees' growth, learning and development, or to extrinsic motivation because they are critical in achieving work goals (Bakker & Demerouti, 2007). For example, Schaufeli and Bakker (2004) demonstrate that such job resources as performance feedback and coaching lead to work engagement among four different samples of Dutch employees. In addition, the study supported that engagement, as a motivational process, is a mediator of the relationship between job resources and turnover intentions (Schaufeli & Bakker, 2004). Several other studies have supported these findings in different contexts such as Spain (Llorens, Bakker, Schaufeli, & Salanova, 2006), Turkey (Koyuncu, Burke, & Fiksenbaum 2006) and including a longitudinal study in Finland (Mauno, Kinnunen, & Ruokolainen, 2007). Personal resources such as self-efficacy and resilience have been shown to positively associate with goal setting, motivation, and engagement (see Judge, Van Vianen, & DePater, 2004). According to Judge and colleagues (2005), individuals with high personal resources have higher personal self-regard, which lead to goal self-concordance. People with goal self-concordance tend to be intrinsically motivated to pursue their goals and as a result they obtain

higher performance and satisfaction (Luthans & Youssef, 2007). Several studies have supported the theoretical proposals; for example among Dutch technicians, personal resources predicted work engagement over and above job resources (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). In another study, among female school principals the same results were obtained (Bakker, Gierveld, Van Rijswijk, 2006). In terms of the role of job demands, JD-R model suggests that it can have direct effects on the motivational process or it can moderate the positive relationship between resources and motivation (Bakker, Demerouti, & Verbeke, 2004), as mentioned earlier previous studies have thus far examined the moderating role of job resources on the relationship of job demands and stress (e.g. Hakannen, Bakker, & Demerouti, 2005). Studies have shown that high job demands are related to burnout, absenteeism, turnover intentions, and turnover (Bakker, Demerouti, De Boer, & Schaufeli, 2003; Hakanen, Bakker, & Schaufeli, 2006; Llorens, et al., 2006). Finally, several studies have supported the positive relationship between the motivational mechanism and positive organizational outcomes. For example, Spanish employees in hotels with greater organizational resources performed better than the individuals with lower organizational resources, mediated fully by engagement (Salanova, Agut, & Peiro, 2005). Greek employees who have more job and personal resources were more engaged in their works, and these engaged employees had better job performance than low engaged employees (Xanthopoulou et al., 2007).

Even though JD-R model has, thus far, examined the mediating role of engagement between job resources, personal resources, job demands and



organizational outcomes such as performance, turnover and absenteeism, it is stated that resources initiate a motivational process such as engagement. In line with the above, intrinsic motivation is a motivational process that is similar to engagement and creative behavior is an important organizational outcome, which makes the JD-R model suitable for the current study.

There are several job demands and resources that can be examined; however, I focused on role overload as an important job demand because it represents an important endemic feature of an employee's work life and provides a meaningful perspective into employee's experiences, particularly with its mitigating role on the relationship between resources and employee motivation. Furthermore, role overload has been overlooked in the creativity literature. In JD-R model, role overload is proposed as an important job demand that has been shown to play a critical role in employee performance, engagement, and burnout (e.g. Bakker, Demerouti, & Euwama, 2005). By proposing this model, I create a base model of creative resources and demands to which additional resources and demands can be added.

## **Hypotheses Development**

### **Resources and Intrinsic Motivation**

#### *Personal Resources*

Personal resources are positive self-evaluations and refer to individuals' sense of their capability to control and impact upon their environment successfully (Hobfoll, Johnson, Ennis, & Jackson, 2003). In this study, drawing from Bakker and

Demerouti's (2008) JD-R model, personal resources are composed of creative self-efficacy and resilience. JD-R model considers general self-efficacy, however, I contextualize self-efficacy for the creative behavior and examine the role of creative self-efficacy. According to Judge, Erez, and Bono (1998), positive self-evaluations, such as self-efficacy and resilience, should influence performance chiefly through its effect on motivation. Research shows that, indeed, many of the positive self-evaluations' impact on work performance is mediated by motivation; for example, in an empirical study of insurance agents, it is found that self-evaluations predicted task sales volume and goal commitment via motivation (Erez & Judge, 2001). Sometimes, these personal resources are referred as motivational traits (Judge et al., 2004).

As one of the types of personal resources, creative self-efficacy is defined as the belief in one's capabilities in regards to producing creative outcomes (Tierney & Farmer, 2002). According to the JD-R model, personal resources help individuals to control and impact upon their work environment successfully, and to achieve organizational goals (Bakker & Demerouti, 2008). General efficacy beliefs foster intrinsic motivation by enhancing perceptions of self-competence (Bandura, 1986; Deci & Ryan, 1985). A sense of personal efficacy is believed to generate greater interest in the activity in producing competent performances (Bandura, 1981). Similar to general self-efficacy, creative self-efficacy may influence intrinsic motivation. Employees with valuable resources are intrinsically motivated to pursue their goals that may lead to higher engagement and work performance

(Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009). Therefore, I propose that creative self-efficacy influences the intrinsic motivation of the individual:

*H1: Creative self-efficacy is positively associated with intrinsic motivation.*

Resilience is defined as a psychological resource, which enables an individual to bounce back in the face of conflict, failure, adversity, and uncertainty (Luthans 2002). In other words, resilience is a positive coping mechanism and adaptation in the face of substantial adversity or risk (Masten & Reed, 2002). For example, London's (1983) model of career motivation suggests and empirically demonstrates that individuals are motivated through career resilience, because resilience provides the personal drive to continue trying in the face of obstacles (Quigley & Tymon, 2006). Resiliency has been found to be associated with job satisfaction, happiness, and commitment (Luthans, Avolio, Avey, & Norman, 2007; Luthans & Youssef, 2007). In examining the impact of personal resources on work engagement, Bakker, Gierveld, and Van Rijswijk (2006) demonstrate that resilience contributed to the motivational process and explained unique variance in engagement scores of school principals in primary teaching. Several other studies have found that resilience boosts work engagement (Bakker & Demerouti, 2007; Xanthopoulou et al., 2007). Therefore, resilience is an important personal resource that facilitates work engagement, and resilient employees are effective in adapting to changing environments (Bakker, 2009). Therefore, similar to engagement, intrinsic motivation explains the motivational process which is initiated by resilience. I suggest that resiliency will promote intrinsic motivation:

*H2: Resilience is positively associated with intrinsic motivation.*

### *Relational Resources*

Relational resources can be defined as the sum of actual and potential resources within a network of relationships of an individual that can be mobilized (Nahapiet & Ghoshal, 1998). There are two types of relational resources: bridging (weak) ties and bonding (strong) ties. Emotionally close relationships such as family and close friends form the basis of bonding relationships, which provide reciprocity, emotional support, and companionship (Wellman & Wortley, 1990). Bridging relationships are based on diverse relationships that are weak ties, which generally extend into different circles, and provide a good source of novel information (Granovetter, 1973).

Conceptually similar to relational resources of bonding and bridging ties, social support represents strong ties between the employee and the supervisor, and co-workers in the work context (Zhou & George, 2003; Liao et. al, 2010; Yuan & Woodman, 2010). Social support has been conceptualized as a work resource obtained via relations. A high-quality relationship with a supervisor is characterized by mutual respect and trust (Graen & Uhl-Bien, 1995); respect and trust are founding elements of bonding ties. Therefore, more resources and support are provided to the employee.

According to the JD-R model, because of the motivational process, the availability of social support leads to organizational commitment and work engagement (Schaufeli & Bakker, 2004). Several studies within the JD-R framework have demonstrated that social support lead to work engagement, which in turn results in positive organizational outcomes (Bakker et al., 2003; Hakanen et al.,

2006). For example, Schaufeli and Bakker (2004) find evidence for a positive relationship between social support and work engagement among different samples of Dutch employees. Their analysis indicated that social support predicted engagement. Similar to engagement, and because social connections and social relations are essential tools in achieving goals, I suggest that relational resources will initiate an intrinsic motivational process. Furthermore, previous social support studies (see Liao et al, 2010; Yuan & Woodman, 2010) theorize that social support initiates a motivational process. Similarly, employees are more likely to be motivated to work and engage in virtual community activities when there is substantial number of strong ties (Ardichvili, Page & Wentling, 2003). Therefore, I propose:

*H3: Bonding ties are positively associated with intrinsic motivation.*

Bridging ties represent our weak ties into different circles from which we receive non-redundant information (Granovetter, 1973). Bridging ties are more likely to connect employees to different social worlds for access and end exposure to perspectives and approaches that are not only novel to the actor but also essentially different from each other (Baer, 2010). Because diverse information provides a sense of competence, employees with high levels of weak ties will feel that the dissimilar information is an important resource in achieving their work goals, and will be more likely to engage in their work related activities, generating a motivational process. Bridging ties, which connect individuals to a wide range of potential resources that can assist them in attaining their goals, prompts work and

community related engagement (Erickson, 2004). In particular, individuals Hence, I propose:

*H4: Bridging ties are positively associated with intrinsic motivation.*

#### *Perceived Organizational Support for Creativity*

JD-R literature suggests that job resources are instrumental in initiating a motivational process in an organizational setting (Bakker & Demerouti, 2007, 2008; Bakker & Schaufeli, 2008). There are different types of job resources; I examine the perception of organizational support for creativity (POS) in this study, since organizational climate is an essential contextual factor that signals the expectations for certain behaviors and potential outcomes of these behaviors (Amabile, 1988; Scott & Bruce, 1994) which establishes the overall perceptions of employees in regards to expected and rewarded behavior. Further, organizational context tends to direct employees' attention toward, and sustain their interest in and energy toward, for example a goal such as being creative (Zhou & George, 2001). Emerging research evidence suggests that extrinsic rewards and goals can complement and lead to intrinsic motivation (Eisenberger & Cameron, 1996; Liu et al., 2011). For example, Liu and colleagues (2011) introduce harmonious passion as an effective motivational mechanism leading to individual creativity. Harmonious passion refers to internalization of external activity and making it part of one's own goal and interest (Vallerand, Rousseau, Grouzet, Dumais, Grenier, & Blanchard, 2006). These findings suggest that such perceptions as POS for creativity can synchronize external and internal goals leading to intrinsic motivation for desired positive organizational outcomes. Furthermore, as mentioned before, job resources refer to

the organizational aspects of the job that may be functional in achieving work goals and stimulate personal growth, learning, and development (Bakker & Demerouti, 2007; Schaufeli and Bakker, 2004). Job resources, in the form of organizational support, are assumed to play either an intrinsic motivational role because they foster employees' growth, learning, and development, or an extrinsic motivational role because they are instrumental in achieving work goals (Bakker & Demerouti, 2008). This intrinsic motivational potential of job resources is also supported by job characteristics theory (Hackman & Oldham, 1980). Building upon both the theoretical and empirical findings, I suggest that POS for creativity will lead to intrinsic motivation:

*H5: Perceived organizational support (POS) for creativity is positively associated with intrinsic motivation.*

### **Moderating Influence of Role Overload**

Role overload is the perception that role demands are overwhelming relative to available resources (Brown et al., 2005; Kahn, Wolfe, Quinn, & Snoek, 1964) and describes situations in which employees sense that there are too many responsibilities or activities expected of them in light of the time available, their abilities, and other elements (Rizzo et al., 1970) such as their personal, relational, and organizational resources. Generally, role overload results in distraction and stress (Brown et al., 2005). According to the JD-R model, employees with valuable resources are intrinsically motivated to pursue their goals that may lead to higher organizational performance (Xanthopoulou et al., 2009). Nonetheless, JD-R model suggests that in addition to their main effects, job demands and job resources interact and affect the development of motivational process and job strain (Bakker

& Demerouti, 2007). Combining the job demands and job resources lead to low motivation when demands are high and resources low; inversely, low demands and high resources should result in high motivation (Bakker & Demerouti, 2007). Based on above argument, job demands such as role overload can influence the relationship between resources and intrinsic motivation. In support of the JD-R model, role theory (Kahn, Wolfe, Quinn, Snoek, and Rosenthal, 1964) proposes that people tend to seek to behave in ways that are consistent with the way their roles are defined. A central tenet in role theory is that fulfilling multiple roles is generally associated with increased levels of stress and strain (Bolino & Turnley). This idea of stress and strain leads to Lazarus and Folkman's (1984) transactional theory of stress, which suggests that individuals' reactions are perceived as resulting from the combination of the appraisal of threats in the environment and of the resources to cope with them; individuals, first, appraise the stressor, and second appraisal comes in the form of evaluating the available resources. Thus, the transactional stress theory supports a view that the interaction between stress inducing threats such as role overload and resources accessible to cope with stressors will influence the individual outcomes such as motivation. In this study, then, it is appropriate to investigate the impact of role overload as a moderator rather than a direct impact, because role overload may assuage the influence of resources on motivation by shifting the individual's focus and resources on these other roles, therefore not leaving enough resources for the individual to be motivated. Role overload is widely prevalent in today's fast-track organizational environments, more so than ever before, and has the potential to hinder the high performance cycle energized by



personal, relational, and organizational resources (Brown et al., 2005). Various surveys indicate that employees are overburdened with work and roles (HR Agenda, 2002). In view of the demands of an increasingly complex and arduous work environment (Kirwan-Taylor, 2001), it is essential to comprehend whether and to what extent role overload disrupts the positive impact of resources on the formation of individual intrinsic motivation.

Even though personal resources such as self-efficacy beliefs contribute to positive organizational outcomes (Bandura, 1997; Locke & Latham, 1990), stressful environments can interfere with resources and performance (Jex, 1998). Brown and colleagues (2005) found that role overload moderated the relationship between general self-efficacy and goal level (which can be seen as a proxy for intrinsic motivation) such that the relationship was stronger when role overload was low compared to when it was high. Similar to the relationship between general self-efficacy and goal level, I suggest that under conditions of low role overload, personal resources would be important predictors of intrinsic motivation.

*H6: Personal resources, in the form of (a) creative self-efficacy and (b) resilience, will be more positively related to intrinsic motivation under conditions of low work role overload than high work overload.*

Role overload is likely to reduce the strength of relationships for organizational outcomes because it forces individuals to stretch their attention, effort, and resources thinly to cover overwhelming demands (Brown et al., 2005). For example, Hansen (1999) suggest that bonding ties are good for bringing complex information and bridging ties are good for bringing simple but diverse information. However, when individuals experience overload these beneficial

relationships may lose their impact for work engagement (Haas, 2002), because these relationships require time and effort, and role overload will diminish the time and effort that are available to individuals to tap into these relational resources.

Therefore, I suggest that under conditions of low role overload, relational resources would have a positive relationship with intrinsic motivation:

*H7: Relational resources, in the form of (a) bonding and (b) bridging ties, will be more positively related to intrinsic motivation under conditions of low work role overload than high work overload.*

Employees who experience perceived organizational support for creativity are more likely to be engaged in their work. However, role overload may attenuate this relationship because excessive role demands may hinder the effectiveness with which POS for creativity can be applied. Role overload derails goal pursuit by attenuating positive antecedent effects (Brown et al., 2005). For example, perceived organizational resources are not related to efficacy beliefs, which is considered to have motivational aspects, when role overload is high but are positively associated when role overload is low (Brown et al., 2005). Following this reasoning, I suggest that the sense of motivation that comes from perceptions of organizational support for creativity will be negated when faced with overwhelming role overload.

*H8: Organizational resource, in the form of perceived organizational support for creativity, will be more positively related to intrinsic motivation under conditions of low work role overload than high work overload*

### **Intrinsic Motivation and Creative Behavior**

Intrinsic motivation is possibly the most researched and debated topic in creativity literature (e.g. Eisenberger & Rhoades 2001; Amabile et al., 1986). As defined before, intrinsic motivation is the degree of inner-directedness; an

individual engages in a task for the sake of the task and they are not motivated for the external outcomes or rewards related to the task (Deci & Ryan, 1985). Intrinsic motivation can be seen as both a state and a trait and an individual is considered to be intrinsically motivated to engage in an activity if such engagement is perceived as an end in itself and not as a means to an extrinsic goal (Amabile, 1983). In this study, I support the view that intrinsic motivation is a state, which can be developed and enhanced by resources. The long-standing observation is that intrinsic task motivation fuels creativity while extrinsic task motivation hinders individual creativity (Amabile, 1985; Deci & Ryan, 1985; Amabile et al., 1986). These observations were derived from college students who performed less creatively when they were promised a reward (constituting the external motivation). According to Amabile (1983), intrinsic motivation is the distinction between what the person can do and will do. Creativity requires a certain level of internal, sustaining force that keeps pushing individuals to continue in the face of challenges inherent in creative work (Shalley & Gilson, 2004). Intrinsic motivation increases employees' tendency to be curious, cognitively flexible, risk taking, and perseverant in the face of barriers (Zhou and Shalley, 2003) all of these qualities promote the development of creative ideas (Shalley et al., 2004). As motivation develops, it is maintained through performing job tasks including developing creative ideas (Amabile, 1996). Hence, I propose a positive relationship between intrinsic motivation and creativity.

*H9: Intrinsic motivation is positively associated with creative behavior.*

### **Intrinsic Motivation As a Mediator**

As discussed in previous section, intrinsic motivation stems from the work itself and positive engagement in tasks (George, 2007). Several reviews indicate that theoretically intrinsic motivation has been used as an explanatory internal process for the relationship between contextual factors and creativity, but only a few studies analyzed the mediating role of intrinsic motivation on various factors such as contextual characteristics empirically; and only with inconsistent results (George, 2007; Shalley et al., 2004; Zhou & Shalley, 2003). One possible explanation for the inconsistent results is the intrinsic motivation scales that were used to measure the construct were not carefully selected. Second, mixed results may be due to the presence of multiple, competing contextual conditions (Shalley et al, 2004). That is why in the previous hypotheses, I have considered role overload as a moderator of the relationship between the resources and intrinsic motivation. However, in this section, I examine only the mediating role of intrinsic motivation on the relationship between different resources and creative behavior. According to Deci and Ryan (1985), intrinsic motivation mediates the effects of various factors on creativity (Shalley et al., 2004). JD-R model suggests that resources initiate a motivational process because they foster employees' growth, learning, development and fulfill basic human needs (Bakker & Demerouti, 2007).

#### *Personal Resources*

Creative self-efficacy is a key personal attribute for creativity in workplace (Tierney & Farmer, 2002, 2004). Creative self-efficacy is recognized as an important driver of creative performance (Gong et al., 2009). A handful of empirical findings

suggest that creative self-efficacy has direct effect on creativity (e.g. Tierney & Farmer, 2004; Gong et al., 2009). For example, Choi (2004) found that creative self-efficacy of students predicted the teachers' evaluation of their creative behavior. In a different study, Tierney and Farmer (2002) found that creative self-efficacy predicted supervisors' rating of employee creativity in two different samples of employees. In a more recent study, Carmeli and Schaubroeack (2007) showed that creative self-efficacy predicted self-reported creative work involvement in a financial service organization in Israel. Both theoretical (Tierney and Farmer, 2002; 2004) and empirical studies (Carmeli & Schaubroeack, 2007; Choi et al., 2004; Tierney & Farmer, 2002, 2004, 2011) support that creative self-efficacy is an important precursor of creative activity. However, no study has investigated the mediating process of intrinsic motivation between creative self-efficacy and creative behavior. Few studies have shown that there is a direct relationship between creative self-efficacy and creative behavior; however, creative self-efficacy's effect on creativity may be mediated by a motivational process as supported by the JD-R model. JD-R model suggests that personal resources are important in initiating a motivational process, because individuals with high personal resources tend to have more positive self-regard and that promotes intrinsic motivation to pursue their goals (Bakker & Demerouti, 2008; Judge et al., 2005). In addition, this process results in higher organizational performance (Bakker & Demerouti, 2008). For example, Bakker et al. (2006) found that the performance of school principals was predicted by personal resources (creative self-efficacy and resilience) mediated by work engagement. Conceptually similar and closer to the essence of motivational

process, intrinsic motivation should function like engagement. Therefore, based on the framework of JD-R, I suggest that the impact of creative self-efficacy on creativity is mediated by intrinsic motivation.

*H10: Intrinsic motivation will mediate the relationship between creative self-efficacy and creative behavior.*

Resilience is defined as a psychological resource, which enables an individual to bounce back in the face of conflict, failure, adversity, and uncertainty (Luthans 2002). Creativity requires a persevering nature to move beyond the challenges and setbacks that are inherent in creative work (Amabile, 1983). Resilience allows an individual to respond to environmental uncertainties with an adaptive approach to mitigate the potentially negative effects of risk factors (Rutter, 1979). Typically, creative endeavor is not a quick and easy activity. Individuals must resist accepting easier solutions or ideas that may not be the right solutions (Claxton, Edwards, Scale-Constantinou, 2006). Resilience is a crucial factor in sustaining creativity (Luthans et al., 2007) by providing a mechanism by which one can persevere in the face of change and for creative problem solving. For example, Sweetman and colleagues (2011) demonstrated that resilience was positively related to creativity. However, the study by Sweetman et al (2011) has not considered the effective “mechanism” suggested by Luthans et al. (2007). JD-R model states that personal resources are crucial in prompting a motivational process.

Similar to creative self-efficacy, resilience has been identified as an important personal resource (Bakker & Demerouti, 2008). Applying the JD-R framework, I suggest that resilience is another integral personal resource, which is critical in initiating a motivational process. Individuals who score high on resilience generally

are more motivated and engaged in their work (Bakker & Demerouti, 2008). In addition, JD-R model supports that employees who are motivated via personal resources tend to have better job performance scores (Bakker & Demerouti, 2008). For example, Bakker and colleagues (2006) found that employees with higher resilience received better job performance ratings than employees with lower resilience; resilience's impact on performance was mediated by engagement. In JD-R model, engagement represents a motivational mechanism, therefore, similar to engagement, intrinsic motivation should mediate the positive impact of resilience on a positive organizational outcome: creative behavior. Hence, I propose:

*H11: Intrinsic motivation will mediate the relationship between resilience and creative behavior.*

#### *Relational Resources*

Thus far, creativity researchers have applied Granovetter's (1973) weak tie lens to explain the relationship between individuals and creative outputs (see Perry-Smith, 2006; Zhou et al., 2009) in terms of social context. According to Granovetter (1973) the ties between the ego and alters can be strong (bonding) or weak (bridging); the strength of the ties depend on the frequency of interaction, duration, emotional intensity, and reciprocity. Bonding relationships are good for support functions and trust (Krackhardt, 1992); on the other hand bridging ties may represent the best resources for creativity related activities (Perry-Smith and Shalley, 2003). Granovetter (1973) suggests that bridging (weak) ties tend to connect to different social circles, thus providing the ego with non-redundant information; bonding ties are filled with redundant information as our bonding relationships know each other and belong to the same group with similar norms and

values. Perry-Smith (2006) demonstrates that bridging ties are positively related to creativity, and bonding ties are not related to creativity. Parallel to strength of ties perspective, Perry-Smith (2008) underlines the importance of informal work and non-work relationships in comparison to formal relationships (supervisor-employee, employee-co-worker) for creative outcomes; she suggests that informal resources are better for strengthening creative “muscles.” However, Pil & Leana (2009), in a study investigating the learning success of students based on the human and social capital of their teachers, suggest that frequent interactions with others at work aid employees in gathering information, thus decreasing environmental ambiguity and uncertainty. Social capital can simply be viewed as access to greater information and resources (Seibert, Kraimer, & Liden, 2001). In the creativity literature, several studies demonstrate that bridging ties are associated with creative behavior (Perry-Smith, 2006; Zhang & Bartol, 2010). These studies support the perspective that bridging ties are usually best in transmitting diverse and non-redundant information as opposed to bonding ties. Therefore, bridging ties are better for accessing various types of information; an individual with bridging ties in multiple domains is better equipped to receive differentiated information. However, bonding ties may become more important in gathering resources as the bonding ties provide the support and trust one may need (Krackhart, 1992). Bonding tie relations tend to have a stake in the success of the focal individual and will, therefore, be more willing to provide the resources. Furthermore, bonding ties are most important in managing and communicating more complex information. Therefore, on relatively complex problems, having bonding relations can provide



the confidence in one's competence to be able to undertake a creative problem solving approach. Conceptually similar to relational resources of bonding and bridging ties, social support represents strong ties between the employee and the supervisor, and co-workers in the work context (Zhou & George, 2003; Liao et. al, 2010; Yuan & Woodman, 2010). Social support has been conceptualized as a work resource obtained via relations. For example, Yuan & Woodman (2010) demonstrated that high-quality supervisor-employee relationship is associated with individual creative behavior via perceptions of expected image gains. A high-quality relationship with a supervisor is characterized by mutual respect and trust (Graen & Uhl-Bien, 1995); respect and trust are founding elements of bonding ties. Therefore, more resources and support are provided to the employee. In turn, employees who are trusted and supported by their supervisors feel more secure and are more likely to be motivated to engage in creative activities (Yuan & Woodman, 2010)

One of the central assumptions of the JD-R model is that social capital in the form of strong ties with co-workers and supervisors, including family members, start a motivational process, which consequently lead to higher performance (Bakker & Demerouti, 2008). Several studies have demonstrated a positive relationship between social resources and work engagement, which is a motivational mechanism (see Bakker & Demerouti, 2007; Schaufeli & Salanova, 2004). Schaufeli and Bakker (2004) propose that social resources stimulate personal growth, learning, and development and that ignites the motivational process. JD-R model adopts from the self-determination theory (Deci & Ryan, 1985) in explaining why the social resources start a motivational process. Social resources

especially fulfill the human needs for relatedness and competence (Deci & Ryan, 1985), because strong ties build relationships that promote relatedness via trust and support, while weak ties transport diverse information which can add to the competence of the individual. Therefore, I propose that individuals' social resources both in the form bonding and bridging ties lead to creative behavior via its influence on intrinsic motivation.

*H12: Intrinsic motivation will mediate the relationship between bonding ties and creative behavior.*

*H13: Intrinsic motivation will mediate the relationship between bridging ties and creative behavior.*

#### *Organizational Resources*

Organizational context can facilitate creative behavior by focusing employees' attention and cognitive energy toward the generation of new and useful ideas (Scott & Bruce, 1994; Yuan & Woodman, 2010). However, majority of the research has focused on the supervisor and co-worker influence within the work context (e.g., Zhang & Bartol, 2010; Liao et al., 2010). Even though relationships in the work place are important, the perception of organizational support for creativity is critical in understanding employees' creative behavior (Amabile, 1996).

Organizational support for creativity represents employees' perception of the extent to which their organization encourages, recognizes, and rewards those who exhibit creative behavior (Scott & Bruce, 1994; Zhou & George, 2001; Shalley et al., 2009; De Stobbeleir et al., 2011). Organizational context, generally, encourages employees to be creative by boosting their confidence that creative behavior will be meaningful and influential, and this is accomplished via directing and sustaining their interest

and energy toward creativity (Zhou & George, 2001). In other words, employees may engage in creative activities because they perceive that creativity is valued and supported by an organization (Scott & Bruce, 1994), and the risk associated with creative endeavors is minimized (Zhou & George, 2001). Findings from other studies support that perceived organizational support for creativity results in creative behavior. For example, Zhou and George (2001) found that organizational support positively correlates with creativity. In the creativity literature, organizational support for creativity represents one of the most important job resources. Thus far, studies have examined the direct impact of organizational POS for creativity on creative behavior and empirical support exists. However, JD-R model suggests that job resources influence positive organizational outcomes through starting a motivational mechanism; job resources are a) functional in achieving work goals and b) encourage personal growth, learning and development (Schaufeli & Bakker, 2004). Therefore, applying the JD-R perspective, I suggest that POS for creativity generates a motivational energy to undertake such risky behavior as creative activity, which may or may not be fruitful. Therefore, I propose:

*H14: Intrinsic motivation will mediate the relationship between perceived organizational support for creativity and creative behavior.*

In summary, in this section, I developed a model of creative behavior, which unifies the personal, relational and organizational resources employing the JD-R model. In line with the JD-R framework, I propose that the resources positively influence creative behavior through initiating a motivational process. Furthermore, these resources are most helpful in generating a motivational process when role overload – a job demand – is lower. This paper makes several contributions to the

creativity literature and job demands-resources model. First, the paper examines the different types of resources in the same study; previous studies have examined some of these resources separately, however, this is an integrated approach to resources. Second, I propose that resources influence creative behavior by prompting a motivational mechanism. Thus, I examine the resources as antecedents of intrinsic motivation. Also, role overload has not been examined within the creativity domain, as an endemic phenomenon of our times, role overload is most relevant. Third, I expand the JD-R model by examining the mediating role of intrinsic motivation; thus far, JD-R model has examined engagement as the motivational process for organizational outcomes; conceptually intrinsic motivation is a closer representative of motivational process than engagement. Fourth, JD-R model has theoretically suggested that creative behavior would be a positive organizational outcome, but it has not been empirically tested. Fifth, I add the relational resources as a separate type of resource. JD-R model has only considered social context within the work environment, but social context within and outside of work influences employees. Therefore, I expand the social resources to include the non-work realm, because creativity requires both internal and external sources as inputs.

In the next section, I will discuss the methodology as it relates to sample selection, data collection process, construct selection, and analysis strategy.

**CHAPTER 4: METHODOLOGY**

This chapter provides a description of methodology used in this study. To test my hypotheses, I used multiple regression and AMOS for CFA analyses using previously established scales. I will provide more details for the analysis after a review of participants, procedures and measures.

### **Sample and Data Collection Procedures**

Upon receiving approval from the Institutional Review Board at UW-Milwaukee, I contacted 30 organizations identified by personal contacts and through organizations participating in the Strategic Leadership Series (SLS) at University of Wisconsin - Milwaukee with a cover letter (Appendix D) explaining why it is important for organizations to understand the resources that are associated with individual creativity. I promised to provide a summary of the research results and lead a creativity seminar discussing how they can improve creative potentials of their employees. A Fortune 100 company agreed to participate in the study. Because survey research is a convenient way to make relational observations and draw generalizations about the object of the study (Babbie, 2010), I collected data via Qualtrics – an online survey tool. Electronic surveys offer efficiencies to the design and implementation of self-administered questionnaires, such as the elimination of postage, envelopes, and data entry errors (Dillman, 2000). A contact person was provided with a link to the survey and an email explaining the purpose of the study. The contact person internally sent the email to all potential participants. The e-mail (Appendix E) briefly described the purpose of the study and confidentiality of the responses of the survey. In the survey (approximately 15 minutes to complete), the employee is asked to provide

the name of his/her supervisor, and at the end of the survey employee is prompted to enter his/her name in order to match the responses from employee and supervisor dyads. I wrote customized emails with customized links to supervisor surveys (5 minutes to complete). Each supervisor survey was unique as it contained the name of the subordinate in the survey. Employees were sent weekly reminders to complete the online survey, and the data collection efforts lasted for 6 weeks. Supervisors, those who didn't complete the survey after the initial contact, were sent two reminders to complete the survey.

The invitation to participate to the study was sent to 750 individuals and 126 completed the survey, representing a response rate of 17%. Due to missing data, I had 120 usable surveys, representing a 16% response rate. Out of the 126 surveys, 45 respondents provided the name of their supervisors, and 22 supervisors completed the survey. In sum, I received only 22 matched supervisor-employee dyads. The average age of participating employee was 41 (SD = 8.48), 79% of them were male, 96% of them had a bachelor's degree or above, and on average, they worked with their current employer for 10.3 years.

As to the supervisors, the average age was 45 (SD= 5.27), 90% of them were male, 95% of them had a minimum of bachelor's degree, their average company tenure was 11.6 years.

Because only a total of 22 matched responses were obtained from the employee-supervisor dyads, I tested all of the relationships with the employee (self-report) sample. However, for those who are interested, the results of the employee-supervisor dyad can be found in Appendix F. I used two-tailed tests and significance

level was set at  $\alpha = 0.05$ . In order to obtain .80 statistical power, which is recommended by Cohen (1988), for a medium effect size, I had to collect data from at least 100 people. Based on literary review for the effect size (see Liao et al., 2010; Grant & Berry, 2011), I calculated the effect size to be between .15 to .22 ( $f^2 = PVs/PVe$ ). Cohen's (1988) formula for regression classifies any value above .15 and below .35 to be medium effect size. A total number of 126 respondents was well above the minimum required number of participants. Due to missing data, I had 120 completed surveys.

### **Measures**

All measures were obtained from existing studies, and all have demonstrated sound psychometric properties (see Appendix A for full scale items and associated coefficient alpha values). The unit of analysis was at the individual level. I collected creative self-efficacy, resilience, bonding ties, bridging ties, perceived organizational support for creativity, intrinsic motivation, role overload, creative behavior and the control variables of age, gender, education, and job tenure, from the employees directly. Supervisors were sent a separate questionnaire to provide the creative behavior information for the employee as well.

### **Dependent Variable**

#### *Creative behavior*

Employee creativity was measured with a thirteen-item creativity scale ( $\alpha = .96$ ) developed by George and Zhou (2001) and was completed by supervisors and employees answering a seven-point scale ranging from 1 "Strongly disagree" to 7



“Strongly agree” Sample items include, “Searches out new technologies processes, techniques, and/or product idea” and “Generates creative ideas.”

As I mentioned in Chapter 2, there are four major creative behavior scales that are most utilized by scholars to measure creative behavior (see Appendix B for all the scales). I selected the scale by George and Zhou (2001), as it is the most robust scale based on literature review.

### **Independent Variables**

#### Personal Resources

##### *Creative self-efficacy*

Tierney and Farmer’s (2002) four-item scale was used to measure creative self-efficacy. Respondents described their creative self-efficacy on a Likert-scale 1 (Strongly disagree) to 7 (Strongly agree). Sample items include, “I have confidence in my ability to solve problems creatively” and “I feel that I am good at generating novel ideas” ( $\alpha = .91$ ).

##### *Resilience*

Luthans et al.’s (2007) 6-item scale was used to measure resilience; respondents described how they think of themselves in terms of resilience on a Likert-scale 1 (Strongly disagree) to 7 (Strongly agree). Sample item includes “I usually manage difficulties one way or another at work” ( $\alpha = .72$ ).

##### *Relational Resources*

Bonding and bridging ties constructs were measured by fifteen items from Williams’ (2006) scale. Bonding ties consist of five questions and ten items assess

bridging ties. I asked respondents to rate the extent to which they agree with the statements regarding their relationships. Responses were made on a seven-point Likert scale ranging from 1 (Disagree strongly) to 7 (Agree strongly). A sample item for bonding is “There are several people I trust to help solve my problems” ( $\alpha = .75$ ) and a sample item for bridging is “I come in contact with new people all the time” ( $\alpha = .86$ ).

### *Organizational Resources*

#### *Perceived Organizational Support for Creativity*

POS for creativity was measured by a four-item scale ( $\alpha = .84$ ) from Zhou and George (2001). Sample item includes, “Creativity is encouraged at my company” ( $\alpha = .84$ ). Responses were made on a seven-point Likert scale ranging from 1 (Disagree strongly) to 7 (Agree strongly).

#### *Mediating Variable*

##### *Intrinsic motivation*

Grant’s (2008) four-item scale was used to measure intrinsic motivation. Respondents answered the question “Why are you motivated to do your work?” on a scale 1 (Disagree strongly) to 7 (Agree strongly). Sample items include, “Because I enjoy the work itself” and “Because it’s fun.”

There are numerous scales for measuring intrinsic motivation. However, a close examination of other potential intrinsic motivation scales revealed that the items didn’t have face validity. For example another scale contained the following items “I enjoy finding solutions to complex problems,” “I enjoy creating new

procedures for work tasks” (Amabile, 1985; Tierney, Farmer, and Graen, 1999). Based on these questions and my review of the creativity theory and literature, I concluded that the scale is very much correlated with the self-reported creativity measure. I believe the use of a different intrinsic motivation could pollute the findings. Since my dependent variable is creativity, I strictly wanted to measure intrinsic motivation in its purest possible form. Grant’s (2008) measure offered a more solid operationalization of the intrinsic motivation scale with Cronbach value .88.

#### *Moderating Variable*

##### *Role Overload*

For role overload, respondents were given a four-item scale developed by Brown and colleagues (2005) based on the items adapted from House (1980) and Singh (2000). Respondents were asked to indicate how often they experience such feelings as pertaining to “the amount of work you do interferes with how well the works get done” on a scale ranging from 1=never to 5 = always ( $\alpha = .85$ ).

##### *Control variables*

The control variables were selected on the basis of existing theory and prior literature. I had two demographic control variables that include age and gender. Age was measured in years. Gender was measured as a dichotomous variable coded 0 for female and 1 for male. In addition, I controlled for education, which reflects task domain knowledge, and it can potentially influence creative behavior (Amabile, 1988; Tierney & Farmer, 2004). For education, participants selected of the 6 options

(1=primary education; 2= high school, 3= Bachelor's degree, 4 = Master's degree, 5 = Doctoral degree). Company tenure, in previous studies, has been found to correlate with creative behavior (Tierney & Farmer, 2004). Company tenure was measured as the number of months an employee has been in the company.

**CHAPTER 5: RESULTS**

In this chapter, I report the process and results of data analysis including the normality test and descriptive statistics.

### **Normality Test**

Before testing the factorial structures of measures and testing the model of my dissertation, I tested the data for normality. This is an essential procedure given that factor analysis procedures assume that all variables are normally distributed (Kline, 2005). First, all items for each scale were screened for univariate outliers, defined as responses greater than 3.29 standard deviations from the mean (Tabachnick & Fidell, 2007), for univariate normality, defined as skewedness index between -2.0 and 2.0 and kurtosis index between -7.0 and 7.0 (Kline, 2005). There were no indications for violations of normality in the data. The normal probability plots showed that all data were distributed normally.

### **Descriptive Statistics and Scale Reliabilities**

The means, standard deviations, correlations and Cronbach's alpha coefficients for all variables included in the analysis are presented in Table 3. All scales, with the exception of resilience ( $\alpha = .65$ ), demonstrated good internal reliability with  $\alpha \geq .70$ . Directions of all correlations were consistent with my theoretical predictions. There was no sign of multicollinearity as all correlations were below .70 (Tabachnick & Fidell, 2007). In addition, I computed the variance inflation factors (VIFs) for creative self-efficacy, resilience, bonding ties, bridging ties, POS for creativity, and intrinsic motivation with the corresponding variables. VIFs for all independent variables were below the recommended cut-off of 10 (cf. Cody & Smith, 2006). Therefore, multicollinearity was not a concern at all in this

sample. Furthermore, during the confirmatory factor analysis, I identified several items, which had cross-loading problems, and loadings that were less than the desired level of 0.5. For the resilience construct, I had to remove items 1 and 3: item 1 had a loading of .27; and item 3 didn't load to the resilience scale; 4 items remained to measure resilience. For the bonding construct, I had to remove items 1 and 2, which had loadings of less than 0.5; 3 items remained for measuring employee bonding. For the bridging construct, I had to remove items 2, 3, and 8 for low levels of factor loading; 7 items remained to measure bridging. Finally, I had to remove items 6 and 9 for the creative behavior construct due to low levels of factor loading, leaving 11 items to measure creative behavior.

**TABLE 3**

**<sup>a</sup> Means, Standard Deviations, Reliabilities, and Correlations**

<i>Variables</i>		<i>M</i>	<i>SD</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>12</i>
1	Age	40.97	8.48												
2	Gender	1.20	.41	-.07											
3	Tenure	10.30	7.95	.51***	.12										
4	Education	4.25	.84	-.10	-.03	-.13									
5	Self-Efficacy	5.91	.69	.17	-.04	-.02	.06	(.76)							
6	Resilience	5.24	.67	.30**	.14	.12	.11	.51***	(.65)						
7	Bonding Relations	5.08	.81	-.01	.09	.04	.07	.27**	.34**	(.70)					
8	Bridging Relations	5.70	.65	-.04	.16	-.03	.07	.37***	.36***	.38***	(.83)				
9	POS for Creativity	4.91	1.20	-.12	.03	-.16	-.08	.13	.10	.16	.15	(.87)			
10	Role Overload	4.72	.84	.17	.13	.04	-.12	.19*	.09	.06	.28**	.10	(.90)		
11	Intrinsic Motivation	5.24	.97	.03	.01	.01	-.03	.17	.20	.24**	.42***	.49***	.15	(.88)	
12	Creative Behavior	4.41	.55	.01	-.13	-.10	.09	.54***	.29**	.14	.35***	.18	.08	.32**	(.92)

<sup>a</sup> Reliabilities (Cronbach's alpha), when applicable, are indicated on the diagonal.

- p < .05. \*\* p < .01 \*\*\* p < .0001



### **Test of Measurement Model**

Before evaluating my hypotheses, I first evaluated the model fit for the full measurement model, which includes 8 latent variables (self-efficacy, resilience, bonding relations, bridging relations, perceived organizational support for creativity, role overload, intrinsic motivation, and creative behavior). According to the fit indices, values of RMSEA less than .05 indicate a good fit; values of CFI greater than .90 indicate a good fit (Hu & Bentler, 1999; Kline 2005). In addition, the confidence interval for the RMSEA should be included as a way to assess the precision of the estimate and the confidence interval should not have values above .08 (e.g. MacCallum & Austin, 2000). As shown in Figure 2, this eight-factor measurement model provided an acceptable fit [ $\chi^2(709) = 929.817, p < .001, CFI = .907, RMSEA = .050$ ] which suggested that this 8-factor measurement model was acceptable. Therefore, the CFA results provide evidence that the theoretical measures are empirically distinct.

### **Hypothesis Testing**

To test hypotheses, I used multiple regression analysis and AMOS for confirmatory factor analysis. Hypotheses 1 through 5 test the relationship between the resources and intrinsic motivation, which states that personal, relational, and organizational resource will have a positive relationship with intrinsic motivation. Hypotheses 6 through 8 test the moderating influence of role overload, which proposes that the relationship between the resources and intrinsic motivation will be mitigated by role overload. Hypothesis 9 tests for the relationship between intrinsic motivation and creative behavior, which posits that intrinsic motivation

will have a positive association with creative behavior. Finally, hypotheses 10 through 14 examine the mediating role of intrinsic motivation in the relationship between different types of resources and creative behavior.

#### *Results for Personal Resources*

Hypotheses 1 to 2 examine the relationship between intrinsic motivation and two personal resources (creative self-efficacy and resilience). Hypothesis 1 posited that creative self-efficacy would be positively associated with intrinsic motivation. To test this hypothesis, I regressed intrinsic motivation on creative self-efficacy along with the 4 other resources (resilience, bridging relations, bonding relations, and POS for creativity) and the 4 control variables (age, gender, tenure, and education). As shown in Table 4, creative self-efficacy did not have a significant relationship with intrinsic motivation ( $\beta = .01, p > 0.05$ ). Hypothesis 2 suggested that individual resilience would have a positive relationship with intrinsic motivation; however, the data did not indicate a significant relationship between resilience and intrinsic motivation ( $\beta = .04, p > 0.05$ ). Thus, hypotheses 1 and 2 were not supported; creative self-efficacy and resilience did not have a positive significant relationship with intrinsic motivation.

#### *Results for Relational Resources*

Hypotheses 3 and 4 concern the relationship between the relational resources (bridging and bonding relations) and intrinsic motivation. Hypothesis 3 proposed that bonding relationships would have a positive relationship with intrinsic motivation. The relationship between bonding relations and intrinsic motivation was not significant ( $\beta = .05, p > 0.05$ ). Hypothesis 4 suggested that

bridging relations and intrinsic motivation would have a positive relationship; the results indicate that bridging relationships is positively associated with intrinsic motivation ( $\beta = .36, p < 0.05$ ). Thus, for relational resources, only hypothesis 4 was supported.

#### *Results for Organizational Resource*

Hypothesis 5 proposed that perceived organizational support (POS) for creativity would have a significant positive relationship with intrinsic motivation. The results show that POS for creativity has a positive association with intrinsic motivation ( $\beta = .35, p < 0.05$ ). Therefore, hypothesis 5 was supported.

#### *Results for Moderating Influence of Role Overload*

Hypotheses 5 to 7 explore the moderating impact of role overload on the relationships between the personal resources (creative self-efficacy and resilience), relational resources (bonding and bridging relations), organizational resource (perceived organization support for creativity) and intrinsic motivation.

In order to test the interactive effects of role overload, I followed the procedures recommended by Aiken and West (1991): I entered the control variables in step 1, in step 2 I entered control variables, resources, and role overload, and finally in step 3, I entered the control variables, resources, role overload, and the interaction term between resources and role overload as shown in Table 4.

Hypotheses 6a and 6b proposed that personal resources, in the form of creative self-efficacy and resilience, would be more positively related to intrinsic motivation under conditions of low work role overload. The results show that role

overload did not influence the relationship between creative self-efficacy ( $\beta = -.07, p > 0.05$ ), resilience ( $\beta = .05, p > 0.05$ ) and intrinsic motivation. Therefore, hypothesis 6a and 6b were not supported.

Hypotheses 7a and 7b stated that relational resources in the form of bonding and bridging ties would be more positively related to intrinsic motivation under conditions of low work role overload than high work overload. The results indicate that bonding ties and role overload did interact to have a negative and significant influence on intrinsic motivation ( $\beta = -.16, p < 0.05$ ). As recommended by Aiken and West (1991) I plotted the simple slopes for the relationship between bonding ties and intrinsic motivation at one standard deviation above and one standard deviation below the mean of role overload; this way I visually determined the direction and the effects of the interaction. As shown in Figure 3, role overload weakened the relationship between bonding ties and intrinsic motivation when role overload was elevated, such that the relationship had a negative sign. Bridging ties didn't have a significant relationship with intrinsic motivation when it interacted with role overload ( $\beta = .03, p > 0.05$ ). Therefore, hypothesis 7a and 7b were not supported; even though bonding ties under the conditions of high work overload became weaker, it had a negative relationship with intrinsic motivation.

Figure 3

Interaction between bonding ties and role overload on intrinsic motivation

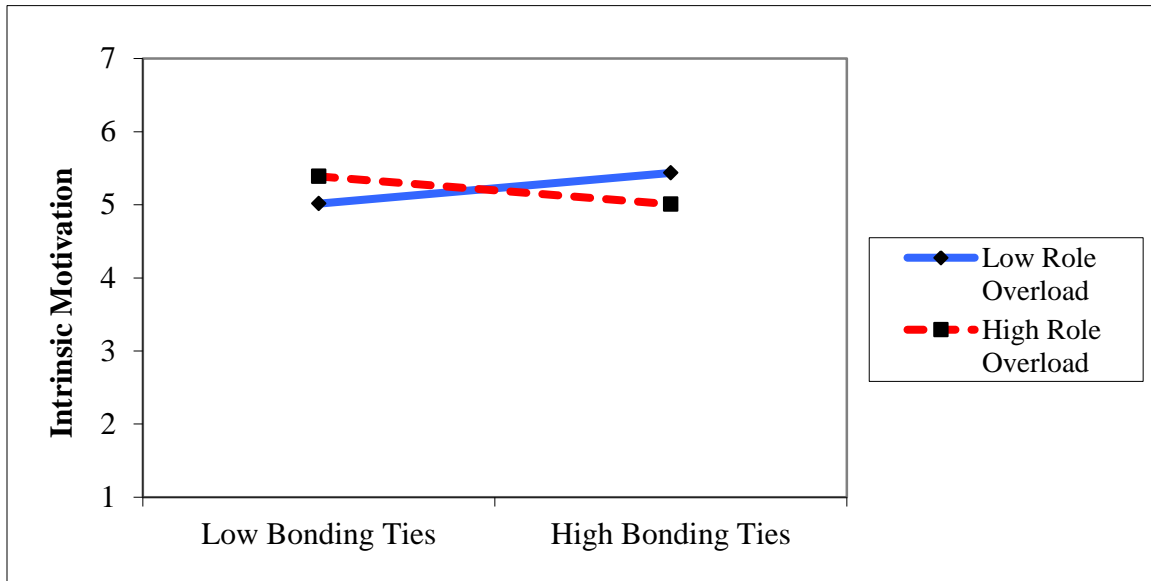


TABLE 4

## Results of Regression Analysis

<i>Predictors</i>	Standardized Regression Coefficients						
	Intrinsic Motivation						
	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 8
<i>Controls</i>							
Gender	-.06	-.05	-.04	-.06	-.03	-.05	-.05
Age	.07	.06	.05	.07	.05	.06	.06
Education	-.05	-.06	-.07	-.06	-.11	-.06	-.09
Tenure	-.06	-.06	-.04	-.06	-.05	-.06	-.04
<i>Resources</i>							
Creative self-efficacy	.01	.01	.01	.00	.03	.01	.01
Resilience	.03	.03	.04	.04	.04	.03	.00
Bonding ties	.05	.05	.05	.04	.01	.05	.03
Bridging ties	.27**	.27**	.27**	.27**	.27**	.28**	.30**
POS for creativity	.43***	.42***	.42***	.44***	.39***	.42***	.42***
<i>Interaction Term(s)</i>							
Role overload		-.07	-.05	-.08	-.02	-.07	-.06
Creative self-efficacy x role overload			-.07				
Resilience x role overload				.06			
Bonding ties x role overload					-.21*		
Bridging ties x role overload						.04	
POS for creativity x role overload							-.11
Overall R <sup>2</sup>	.34	.35	.35	.35	.38	.35	.36
Adjusted R <sup>2</sup>	.29	.29	.28	.28	.32	.28	.29
Overall F	6.37***	5.79***	5.30***	5.27***	6.03***	5.24***	5.47***
df	(119)	(119)	(119)	(119)	(119)	(119)	(119)

Notes: \*p < .05 \*\*p < .01 \*\*\*p < .001

Finally, hypothesis 8 posited that organizational resource in the form of perceived organizational support for creativity would be more positively related to intrinsic motivation when role overload was low. The results show no significant influence of role overload on the relationship between POS for creativity and intrinsic motivation ( $\beta = -.07, p > 0.05$ ). Therefore, hypothesis 8 was not supported.

*Results for Intrinsic Motivation*

Hypothesis 9 stated that intrinsic motivation would have a positive relationship with creative behavior. Indeed, hypothesis 9 was supported; intrinsic motivation has a positive association with creative behavior ( $\beta = .10, p < 0.05$ ).

*Results for the Mediation by Intrinsic Motivation*

Hypotheses 10 through 14 are the mediation hypotheses. In order to establish mediation, I followed a four-step approach as suggested by Barron and Kenny (1986): 1.) Personal resources (creative self-efficacy and resilience), relational resources (bonding and bridging ties), and organizational resources (perceived organizational support for creativity) must predict the mediator (intrinsic motivation) 2.) Personal resources (creative self-efficacy and resilience), relational resources (bonding and bridging ties), and organizational resources (perceived organizational support for creativity) affect creative behavior in the absence of intrinsic motivation 3.) Intrinsic motivation must have a unique effect on creative behavior and 4.) The effects of personal resources (creative self-efficacy and resilience), relational resources (bonding and bridging ties), and organizational resources (perceived organizational support for creativity) on creative behavior must decrease when intrinsic motivation is added to the equation. I already tested

Step 1 with hypotheses 1 to 4. I, also, tested step 3 with hypothesis 9. Therefore, in this section I needed to complete steps 2 & 4. Therefore, I tested the direct effects of personal resources, relational resources, and organizational resource on creative behavior. As shown on Table 5, creative self-efficacy ( $\beta = .33, p < 0.05$ ) and bridging ties ( $\beta = .15, p < 0.05$ ) had a positive relationship with creative behavior. Resilience ( $\beta = .01, p > 0.05$ ), bonding ties ( $\beta = -.06, p > 0.05$ ), and POS for creativity ( $\beta = .02, p > 0.05$ ) didn't indicate a significant relationship with creative behavior. Therefore, in Step 4, I only tested whether the relationship between bridging ties and creative behavior declined when intrinsic motivation is entered into equation, because hypothesis 1, which stated creative self-efficacy would have a positive association with intrinsic motivation, was not supported. In step 4, I entered the control variables (age, gender, tenure, education), creative self-efficacy, resilience, bonding ties, bridging ties, POS for creativity, role overload, and intrinsic motivation. The results show that when intrinsic motivation is added to the equation, bridging ties is no longer significantly associated with creative behavior ( $\beta = .11, p > 0.05$ ). Therefore, hypothesis 13 is supported. In addition, I conducted the Sobel test; significant t-values in Sobel test indicate that the suggested mediator is an important mediating variable (Baron & Kenny, 1986; Sobel, 1982). Sobel test supports that indirect effect of bridging ties on creative behavior through intrinsic motivation is significant ( $t=1.99; p < 0.05$ ). To further confirm the mediation test, I conducted a bootstrap analysis (Preacher & Hayes, 2004; 2008). Using 2000 bootstrap samples as suggested by Shrout and Bolger (2002), the 95% bias-corrected (BC) confidence interval ranged from 0.001 to 0.160, indicating that the



mediating effect of intrinsic motivation on the relationship between bridging ties and creative behavior was supported. Table 6 presents and summarizes the results of all the hypotheses and relationships tested. Highlighted relationships represent the supported relationships. Figure 4 show significant relationships.

**TABLE 5**  
**Results of Regression Analysis**

<i>Predictors</i>	<b>Standardized Regression Coefficients</b>	
	<b>Creative Behavior</b>	
	Step 1	Step 2
<i>Controls</i>		
Gender	-.17*	-.16
Age	-.07	-.08
Education	.01	.02
Tenure	-.03	-.02
<i>Resources</i>		
Creative self-efficacy	.47***	.47***
Resilience	.00	-.00
Bonding ties	-.11	-.12
Bridging ties	.21*	.16
POS for creativity	.06	-.03
Intrinsic motivation		.20*
Overall R <sup>2</sup>	.34	.37
Adjusted R <sup>2</sup>	.28	.31
Overall F	6.34***	6.33***
df	(119)	(119)

Notes: \*p < .05 \*\*p < .01 \*\*\*p < .001

**Table 6**  
**Hypotheses Tested**

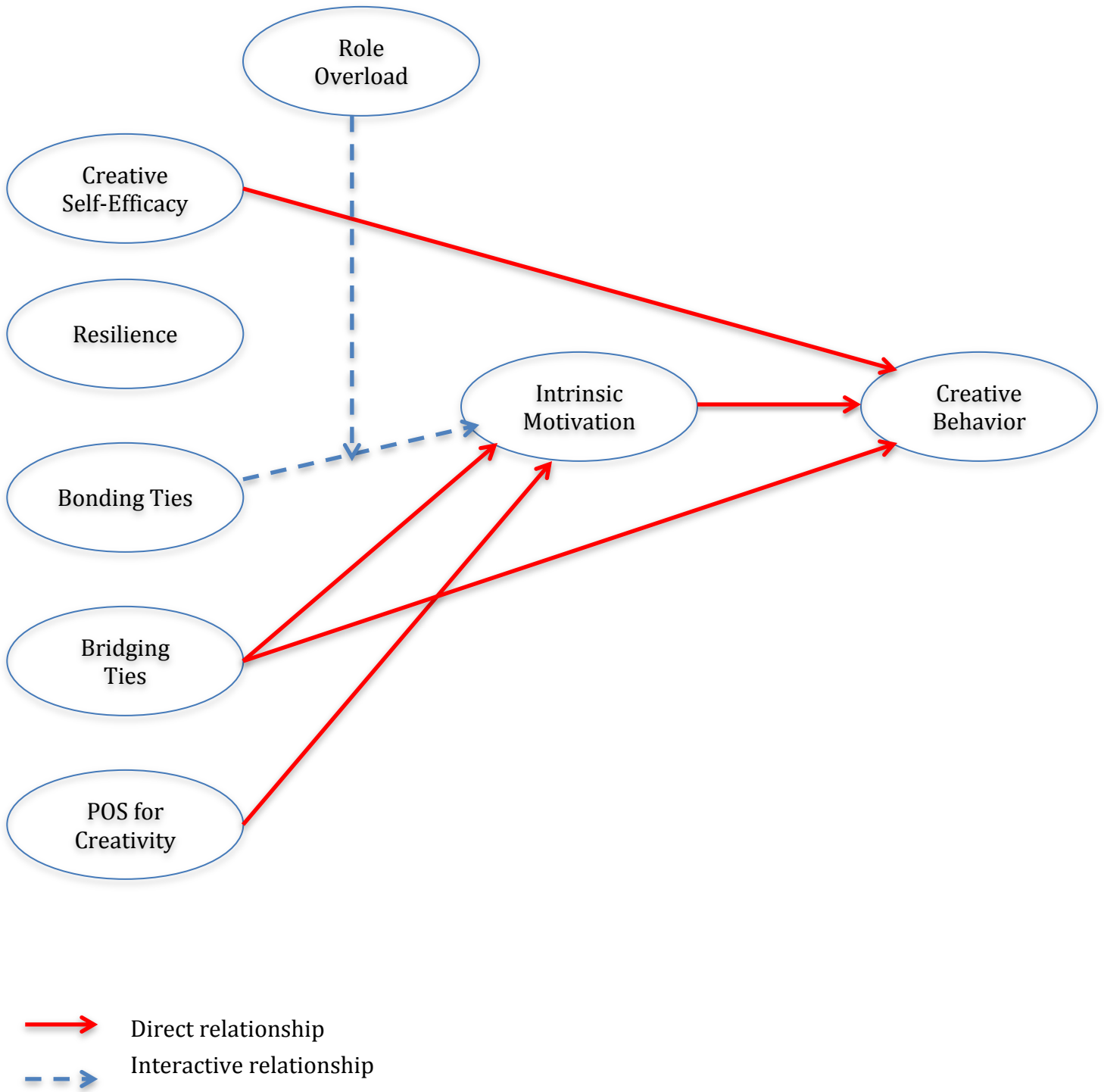
	<b>Hypotheses</b>	<b>Results</b>
<b>Resources and Intrinsic Motivation</b>	<i>H1: Creative self-efficacy is positively associated with intrinsic motivation.</i>	Not supported
	<i>H2: Resilience is positively associated with intrinsic motivation</i>	Not supported
	<i>H3: Bonding ties are positively associated with intrinsic motivation</i>	Not supported
	<i>H4: Bridging ties are positively associated with intrinsic motivation.</i>	Supported
	<i>H5: Perceived organizational support (POS) for creativity is positively associated with intrinsic motivation.</i>	Supported
<b>Role Overload As Moderator</b>	<i>H6: Personal resources, in the form of (a) creative self-efficacy and (b) resilience, will be more positively related to intrinsic motivation under conditions of low work role overload than high work overload.</i>	

	<i>H7: Relational resources, in the form of (a) bonding and (b) bridging ties, will be more positively related to intrinsic motivation under conditions of low work role overload than high work overload.</i>	Not Supported.
	<i>H8: Organizational resource, in the form of perceived organizational support for creativity, will be more positively related to intrinsic motivation under conditions of low work role overload than high work overload.</i>	Not supported
<b>Intrinsic Motivation and Creative Behavior</b>	<i>H9: Intrinsic motivation is positively associated with creative behavior.</i>	Supported
<b>Intrinsic Motivation as Mediator</b>	<i>H10: Intrinsic motivation will mediate the relationship between creative self-efficacy and creative behavior.</i>	Not supported
	<i>H11: Intrinsic motivation will mediate the relationship between resilience and creative behavior.</i>	Not supported
	<i>H12: Intrinsic motivation will mediate the relationship between bonding ties and creative behavior.</i>	Not supported

	<i>H13: Intrinsic motivation will mediate the relationship between bridging ties and creative behavior.</i>	Supported
	<i>H14: Intrinsic motivation will mediate the relationship between perceived organizational support for creativity and creative behavior.</i>	Not supported

Figure 4

## Significant Relationships in the Model



## **CHAPTER 6: DISCUSSION AND CONCLUSION**

In this chapter, I discuss the results of my data analysis. In addition, I discuss theoretical and practical implications along with limitations and suggestions for future research.

### **Discussion**

The dissertation attempts to answer the overarching question: How different resources influence creative behavior through intrinsic motivation? To address this, I developed 14 hypotheses. Four hypotheses were supported. A discussion of the findings for each section follows.

#### *Resources*

The first of part of the model suggested that resources would influence intrinsic motivation. Personal resources such as creative self-efficacy and resilience did not significantly relate to intrinsic motivation. Even though creative self-efficacy did not relate to intrinsic motivation, as part of the mediation test, I found evidence that creative self efficacy has a significant and positive association with creative behavior. Therefore, creative self-efficacy is an important concept in understanding employee creativity even though its effects are not mediated by intrinsic motivation. Creative self-efficacy, for example, may influence creative behavior via another mediator such as creative engagement. Resilience, on the other hand, had no significant relationship with intrinsic motivation or creative behavior. A possible explanation for this may be the scale used in this study. It is also possible that a similar construct such as perseverance may be more suitable to understand the role of personal resources.



Relational resources such as bonding ties and bridging ties indicate a varying relationship with intrinsic motivation. Bonding ties didn't have a significant impact on intrinsic motivation; however, bridging ties had a positive and significant association with creative behavior. This study demonstrates that bridging ties may prompt the intrinsic motivation process for employees. Bridging relationships, which represent an employee's diverse and weak relationships (Granovetter, 1973), give access to novel and unusual information. Employees who possess bridging ties are more likely to be motivated because they perceive that they have resources through which they can reach to dissimilar and unique information. On the other hand, employees with high levels of bonding relationships may not perceive these relationships as conducive to being motivated, because it is a constant in their environment. It's possible that work bonding ties and non-work bonding ties may play a different role in initiating a motivational process.

Perceived organizational support (POS) for creativity as a representative of organizational resources showed a significant and positive relationship with intrinsic motivation. This finding supports that extrinsic rewards and goals can initiate an intrinsic motivational process (Liu et al., 2011). When employees perceive support from their organization to be creative, they are more likely to internalize this external goal, making it their own, therefore influencing their motivation.

#### *Role Overload As Moderator*

I have chosen role overload as a mitigator for the relationship between the resources and intrinsic motivation. The results show that only bonding ties interacts

with role overload. Even though bonding ties didn't have a significant association with intrinsic motivation, when it interacts with role overload, the relationship between bonding ties and intrinsic motivation showed a significant and negative relationship; that is when individuals with bonding ties experience role overload, their intrinsic motivation significantly declines, such that the interaction between role overload and bonding ties causes a decline in intrinsic motivation. This suggests that individuals who have more bonding ties would have less time available for their bonding ties due to role overload, and this would result in diminished intrinsic motivation for their work related activities. Bonding relationships represent those ties that require strong and reciprocal relations (Lin, 2001); naturally, bonding ties require greater time and effort to maintain compared with weak ties (Hansen, Podolny, & Pfeffer, 2001). Having less time due to role overload, individuals with more bonding ties would feel the intensity for lack of time more strongly. Therefore, they may be more likely to withdraw their efforts and engagement from their work related goals and activities. Conservation of resources (COR) theory (Hobfoll, 1988; Hobfoll, 1989) may shed light on this relationship. COR theory is centered upon the idea that individuals attempt to acquire, build, and protect what they value; many things can be considered as resources, but COR theory particularly emphasizes those resources that are key to survival and well-being such as attachment to significant others (bonding relationships). COR theory, which is the foundation of JD-R model, proposes that depletion of resources lead to energy loss (Gorgievski & Hobfoll, 2008). Based on this perspective, it is clear that individuals with bonding ties suffer most when there is an interaction with role overload as these employees

may feel that time is limited to tend to their bonding relationships because of role overload, and perceive that they are losing the resources that are provided by the bonding ties, which can manifest itself as withdrawal of engagement and energy towards work goals resulting in deteriorated intrinsic motivation.

*Intrinsic Motivation and its Role as The Mediator*

During the second section of the model, I first examined the relationship between intrinsic motivation and creative behavior. As expected, intrinsic motivation had a positive and significant relationship with creative behavior. Therefore, the critical role of intrinsic motivation in creativity research is supported. Employees with higher levels of intrinsic motivation tend to be more creative because intrinsic motivation increases employees' tendency to be more curious and cognitively more flexible (Zhou & Shalley, 2003). For the mediation, I examined the direct relationships between the resources and the creative behavior; two resources surfaced as having positive and significant relationships with creative behavior: creative self-efficacy and bridging ties. Creative self-efficacy's positive association with creative behavior indicates an important relationship between the two concepts. However, the lack of association between creative self-efficacy and intrinsic motivation suggests that creative self-efficacy may operate through another motivational process than intrinsic motivation. It is possible that creative effort or creative engagement may be the mediators for the relationship between creative self-efficacy and creative behavior. Another explanation may be that creative self-efficacy just has a direct relationship with creative behavior. It is possible that creative self-efficacy may be the mediator between some contextual

factors and creative behavior. Resilience failed to have a significant relationship with both intrinsic motivation and creative behavior. As mentioned earlier, resilience scale was not as robust as expected. In the future, more robust scales should be developed.

Bonding ties does not have a direct effect with intrinsic motivation nor creative behavior. Bonding ties refer to people who know each other well; as a consequence the perspectives held by these binding relations may become more redundant (Coleman, 1988). Therefore, employees may not feel motivated to engage in creative behavior since they believe they already possess these resources.

Bridging ties' relationship with creative behavior is mediated by intrinsic motivation. This finding suggests that individuals who have more bridging ties may perceive themselves to have more resources to undertake creative endeavors because they believe they have access to dissimilar and novel information.

Perceived organizational support (POS) for creativity did not have a significant relationship with creative behavior, even though it prompted intrinsic motivation. This suggests that there may be other influences on the relationship between POS for creativity and creative behavior. Previous studies have found that POS and other organizational outcomes such as organizational commitment and performance have been moderated by such factors as locus of control and work autonomy (e.g., Aube, Rousseau, & Morin, 2007).

### **Theoretical Implications And Directions For Future Research**

The findings present several potential avenues for future research. First, this dissertation demonstrates that JD-R is a useful lens to explore the path to creative

behavior. Even though, personal resources did not have a relationship with intrinsic motivation, future research could consider other motivational mediators such as creative effort or creative engagement. In addition, other personal resources such as perseverance and empathy, and other organizational resources such as job meaningfulness could be explored to study their influence on motivational processes leading to creative behavior. Furthermore, the finding that POS for creativity has a positive association with intrinsic motivation supports the view that external elements can promote intrinsic motivation; this is an important contribution of JD-R to the long standing dispute between scholars who disagree about whether intrinsic motivation can be influenced by external factors or not. Moreover, bridging ties influence on creative behavior via intrinsic motivation is demonstrated in this model lending support that JD-R model can benefit from including relational resources in its framework.

Second, role overload did not moderate the relationships between the various resources and intrinsic motivation with the exception of bonding ties. It is possible that employees are used to being overloaded in the contemporary work setting, in particular in this organization. Therefore, other role concepts such as role ambiguity or role conflict may be better at understanding the influence of role stress related influences on resources and motivational processes. Furthermore, the moderating influence of role overload on the relationship between bonding ties and intrinsic motivation is far more complex. Future studies would benefit from further exploring these relationships.

Third, intrinsic motivation was measured in this study for employee's job intrinsic motivation. It may be necessary to contextualize the intrinsic motivation and have a creative intrinsic motivation to study the influence of resources on employee creative behavior.

Fourth, resilience construct I used in this dissertation did not have a relationship with intrinsic motivation or creative behavior. Based on theory, this is a surprising finding. As mentioned earlier, the scale used in this study was not found to be very robust. Future research should continue to explore either similar constructs such as perseverance and persistence, or use a different resilience construct.

Fifth, this model's focus on the mediating role of intrinsic motivation between resources and creative behavior answers recent calls to examine its role. This research should encourage future researchers to identify other resources and demands to further understand their influence on intrinsic motivation, and in turn creative behavior. Furthermore, future studies should examine other mediating mechanism such as creative engagement and creative effort in applying the JD-R perspective to creative behavior as an organizational outcome. It is possible that resources promote engagement, which in turn result in creative behavior. This study supports the componential model of creativity as it demonstrates that intrinsic motivation is positively associated with creative behavior. Furthermore, this research complements the domain related skills and creativity skills by identifying the importance of bridging ties on intrinsic motivation and creative behavior.

Last but not least, future research should continue to obtain matched data from employee-supervisor dyads. Even though it is a difficult process, researchers should continue to find avenues where they can obtain the matched data sets to increase the reliability of the findings.

### **Managerial Implications**

There are practical implications for managers in terms of understanding motivation and creative behavior.

For intrinsic motivation, since perceptions of organizational support for creativity influences intrinsic motivation, organizations should create an environment where employees feel safe to take risks and fail if necessary. In addition, bridging ties is instrumental to employee's experiencing of intrinsic motivation; creating a work environment where different departments and different positions find space to meet and talk can be very important for employees to develop bridging ties within the work context. Moreover, managers should be aware that high role overload robs employees from the positives of bonding ties by actually rendering them less motivated at their work.

For creative behavior, given that creative self-efficacy is critical for employee creative behavior, organizations should invest in creativity training and exercises. Creativity can be improved, and creating an environment where employees can learn skills may influence their belief in their own creative abilities. Furthermore, bridging ties influence creative behavior as well; therefore, the recommendation to have a work environment, which is conducive to different departmental employees to meet and interact, is highly recommended.

In addition, managers should seek to promote creativity by creating conditions that are conducive to intrinsic motivation as the direct relationship is supported. This study identifies bridging ties and POS for creativity as promoters of intrinsic motivation.

### **Limitations**

As it is the case with many research studies, this study has limitations that need to be discussed. First, this study had a cross-sectional, self-report data. Even though, the study attempted to collect data from employee-supervisor dyads, due to the low response rate, data on all constructs were collected with self-reports from employees, which raises the same-source bias. Many of these constructs such as creative self-efficacy, POS for creativity, and intrinsic motivation represent the internal states and perceptions of the employee; therefore it is logical to collect the data from employees themselves.

Second, all data were collected within a single organization, which decreases the external validity. Although collecting data from a single organization has advantages in terms of controlling for organizational level confounding variables, generalizability of the study is limited. Future research in multiple organizations may increase the generalizability of the findings to other types of employees and organizations. In addition, the organization is in a particular industry (producing parts for automotive efficiency). Furthermore, the department represented in this study was the Information Technology (IT) department. Future studies should investigate various industries and departments.



Third, the model was tested in a Western setting. Future work in other cultures can help with the generalizability of the findings across cultures.

### **Conclusion**

Individual creative behavior is an antecedent to organizational innovation and employees' creativity builds competitive advantages for today's organizations that operate in hypercompetitive environments. Extending JD-R model, this dissertation examines the personal, relational, and organizational resources to examine their influences on creative behavior via intrinsic motivation, while considering the mitigating influence of role overload on the relationship between the resources and intrinsic motivation.

I found that bridging ties has a positive relationship with intrinsic motivation and creative behavior. This contributes to the creativity literature by unlocking the mechanism through which bridging ties influences creative behavior. Moreover, it contributes to JD-R model by supporting that relational resources are as important as personal and organizational resources for organizational outcomes.

In addition, I found that perceived organizational support for creativity has a positive relationship with intrinsic motivation. This important finding suggests that external factors such as organizational resources can indeed influence intrinsic motivation of individuals. This finding contributes to a central discussion in creativity literature in regards to whether external factors can influence internal elements such as intrinsic motivation.

I, also, found that creative self-efficacy has an important role for employee creativity, albeit this relationship is not mediated by intrinsic motivation. Finally,

employees with more bonding relations suffer most from high role overload resulting in decreased intrinsic motivation. This interesting finding contributes to motivation literature by identifying role overload as a significant moderator.

In summary, my dissertation answers some key questions while unearthing more questions about creative behavior in organizations. I hope my research can provide help and guidance to researchers who are as passionate as I am about creativity.

## REFERENCES

- Aiken, L. S., & West, S. G. 1991. *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Amabile, T. M. 1983. The social psychology of creativity: A componential conceptualization. *Journal of Personality and Social Psychology*, 45: 357-376.
- Amabile, T. M. 1985. Motivation and creativity: Effects of motivational orientation on creative writers. *Journal of Personality and Social Psychology*, 48: 393-399.
- Amabile, T. M. 1988. A model of creativity and innovation in organizations. In B. M. Staw, & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 10, pp.123-167). Greenwich, CT: JAI Press.
- Amabile, T. M. 1993. Motivational synergy: Toward new conceptualizations of intrinsic and extrinsic motivation in the workplace. *Human Resource Management Review*, 3: 185-201.
- Amabile, T. M. 1996. *Creativity in context*. Boulder, CO: Westview.
- Amabile, T. M., Hennessey, B. A., & Grossman, B. S. 1986. Social influences on creativity: The effects of contracted-for reward. *Journal of Personality and Social Psychology*, 50: 14-23
- Amabile, T. M., & Gryskiewicz, N. D. 1989. The creative environment scales: Work environment inventory. *Creativity Research Journal*, 2: 231-252.
- Amabile, T. M., Barsade, S. G., Mueller, J. S., & Staw, B. M. 2005. Affect and creativity at work. *Administrative Science Quarterly*, 50: 367-403.
- Amabile, T. M., & Mueller, J. S. 2008. Studying creativity, its processes, and its antecedents: An exploration of the componential theory of creativity. In J. Zhou & C. Shalley (Eds.), *Handbook of organizational creativity*: 31-62. Mahwah, NJ: Erlbaum.
- Ardichvili, A., Page, V., & Wentling, T. 2003. Motivation and barriers to participation in virtual knowledge-sharing communities of practice. *Journal of knowledge management*, 7: 64-77.
- Arnold, A. Building a creative organization 2010. *Bloomberg Businessweek*, 9.
- Atkinson, A. C. 1982. Regression Diagnostics, Transformations and Constructed

- Variables. *Journal of the Royal Statistical Society. Series B (Methodological)* 44: 1-36.
- Aubé, C., Rousseau, V., & Morin, E. M. 2007. Perceived organizational support and organizational commitment: The moderating effect of locus of control and work autonomy. *Journal of Managerial Psychology*, 22: 479-495.
- Axtell, C. J., Holman, D. J., Unsworth, K. L., Wall, T. D., & Waterson, P. E. 2000. Shopfloor innovation : Facilitating the suggestion and implementation of ideas. *Journal of Occupational and Organizational Psychology*, 73 : 311-322.
- Baas M, De Dreu CKW, Nijstad BA. 2008. A meta-analysis of 25 years of mood creativity research: Hedonic tone, activation, or regulatory focus? *Psychological Bulletin*, 134: 779-806.
- Babbie, E. 2010. *The practice of social research*. California: Wadsworth.
- Baer, M. 2010. The strength-of-weak-ties perspective on creativity : A comprehensive examination and extension. *Journal of Applied Psychology*, 95 : 592-601.
- Bakker, A.B. 2009. Building engagement in the workplace. In R. J. Burke & C.L. Cooper (Eds.), *The peak performing organization*: 50-72. Oxon, UK: Routledge.
- Bakker, A. B., Demerouti, E., De Boer, E., & Schaufeli, W. B. 2003. Job demands and job resources as predictors of absence duration and frequency. *Journal of Vocational Behavior*, 62: 341–356.
- Bakker, A.B. and Demerouti, E. 2007. The job demands-resources model: state of the art, *Journal of Managerial Psychology*, 22: 309-328.
- Bakker, A. B., & Demerouti, E. 2008. Towards a model of work engagement. *Career Development International*, 13: 209–223.
- Bakker, A.B., Demerouti, E. and Verbeke, W. 2004. Using the Job Demands-Resources model to predict burnout and performance, *Human Resource Management*, 43: 83-104.
- Bakker, A. B., Demerouti, E., & Schaufeli, W. B. 2003. Dual processes at work in a call centre: An application of the job demands–resources model. *European Journal of Work and Organizational Psychology*, 12: 393–417.
- Bakker, A.B., Gierveld, J.H., & Van Rijswijk, K. 2006. *Succesfactoren bij*

- vrouwelijke schoolleiders in het primair onderwijs: Een onderzoek naar burnout, bevlogenheid en prestaties*** [Success factors among female school principals in primary teaching: A study on burnout, work engagement, and performance]. Diemen, The Netherlands: Right Management Consultants.
- Bakker, A.B. and Schaufeli, W.B. 2008. Positive organizational behavior: engaged employees in flourishing organizations, ***Journal of Organizational Behavior***, 29: 147-154.
- Bandura, A. 1981. Self-referent thought: A developmental analysis of self-efficacy. In J. H. Flavell & L. Ross (Eds.) ***Social Cognitive Development: Frontiers and Possible Futures***: 200-239. Cambridge: Cambridge University Press.
- Bandura, A. 1986. ***Social foundations of thought and action: A social cognitive theory***. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. 1997. ***Self-efficacy: The exercise of control***. New York: Freeman.
- Baron, R. M., & Kenny, D. A. 1986. The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. ***Journal of Personality & Social Psychology***, 51: 1173-1182.
- Bolino, M. C. & Turnley, W. H. 2005. The personal costs of citizenship behavior: The relationship between individual initiative and role overload, job stress, and work-family conflict. ***Journal of Applied Psychology***, 90: 740-748.
- Britt, T. W. 2003. Black Hawk down at work. ***Harvard Business Review***, 81: 16–17.
- Brown, S. P., Jones, E., & Leigh, T. W. 2005. The attenuating effect of role overload on relationships linking self-efficacy and goal level to work performance, ***Journal of Applied Psychology***, 90 : 972-979.
- Byron, K., Khazanchi, S. and Nazarian, D. 2010. The relationship between stressors and creativity: a meta-analysis examining competing theoretical models, ***Journal of Applied Psychology***, 95: 201-12.
- Carmeli, A. & Schaubroeck, J. 2007. The influence of leaders' and other referents' normative expectations on individual involvement in creative work. ***The Leadership Quarterly***, 18: 35-48.
- Carmeli, A., & Spreitzer, G. M. 2009. Trust, connectivity, and thriving: Implications for innovative behaviors at work. ***Journal of Creative Behavior***, 43: 169-191.
- Choi, J. N., Anderson, T. A., & Veillette, A. 2009. Contextual inhibitors of employee creativity in organizations. ***Group and Organization Management***, 34: 330-357.

- Claxton, G., Edwards, L., Scale-Constantinou, V. 2006. Cultivating Creative Mentalities: A Framework for Education. *Thinking Skills and Creativity*, 1: 57-61.
- Cohen, J. 1988. *Statistical Power Analysis for the Behavioral Sciences*. New Jersey: Lawrence Erlbaum Associates.
- Cohen, J., & Cohen, P. 1983. *Applied multiple regression/correlation analysis for the behavioral sciences (2nd edition)*. Hillsdale, NJ: Erlbaum.
- Costa, P. T., & McCrae, R. R. 1992. *Revised NEO Personality Inventory (NEO PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual*. Odessa, FL: Psychological Assessment Resources.
- Cummings, B. 2001. Sales ruined my personal life. *Sales and Marketing Management*, 153: 44–51.
- Dansereau, F., Alutto, J. A., & Yammarino, F. J. 1984. *Theory testing in organizational behavior: The variant approach*. Englewood Cliffs, NJ: Prentice-Hall.
- Davis, M. A. 2009. Understanding the relationship between mood and creativity: A meta-analysis. *Organizational Behavior and Human Decision Processes*, 108: 25-28.
- Deci, E. L., & Ryan, R. M. 1985. *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Deci, E. L., & Ryan, R. M. 2008. Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology*, 49: 14–23.
- Demerouti, E., Bakker, A.B., Nachreiner, F. and Schaufeli, W.B. 2000. A model of burnout and life satisfaction among nurses, *Journal of Advanced Nursing*, 32: 454-64.
- De Stobbeleir, M. K., Ashford, S., & Buyens D. 2011. Self-regulation of creativity at work: The role of feedback-seeking behavior in creative performance. *Academy Of Management Journal*, 54: 811-831.
- Dillman, D., Smyth, J. D., & Christian, L. M. 2009. *Internet, mail, and mixed-mode surveys: The tailored design method*. (3<sup>rd</sup> ed.). Hoboken, NJ: Wiley and Sons.
- Dweck, C. S. 1986. Motivational process affecting learning. *American Psychologist*, 41: 1040–1048.

- Dweck, C. S. 2000. Self-theories: ***Their role in motivation, personality, and development***. Philadelphia: Psychological Press.
- Edmondson, A. C. & McManus, S. E. 2007. Methodological fit in management field research. ***Academy of Management Review***, 32: 1155-1179.
- Eisenberger, A. C., & Cameron, J. 1996. Detrimental effects of reward : Reality or myth ? ***American Psychologist***, 51 : 1153-1166.
- Eisenberger, R., & Rhoades, L. 2001. Incremental effects of rewards on creativity. ***Journal of Personality and Social Psychology***, 81: 728–741.
- Elsbach, K. D., & Hargadon, A. B. 2006. Enhancing creativity through “mindless” work: A framework of workday design. ***Organization Science***, 17: 470–483.
- Erez, A., & Judge, T. A. 2001. Relationship of core self-evaluations to goal setting, motivation, and performance. ***Journal of Applied Psychology***, 86: 1270–1279.
- Erickson, B. H. 2004. A report on measuring the social capital in weak ties. *Policy Research Initiative Expert Workshop on Measuring Social Capital for Public Policy*, 8, 1-18.
- Farmer, S. M., Tierney, P., & Kung-McIntyre, K. 2003. Employee creativity in Taiwan: An application of role identity theory. ***Academy of Management Journal***, 46: 618–630.
- Feist, G. J. 1998. A meta-analysis of personality in scientific and artistic creativity. ***Personality and Social Psychology Review***, 4: 290–309.
- Feist, G. J. 1999. The influence of personality on artistic and scientific creativity. In R. Sternberg (Ed.), ***Handbook of creativity***: 272–296. New York: Cambridge University Press.
- Finke, R. A., Ward, T. B., & Smith, S. M. 1992. ***Creative cognition: Theory, research, and applications***. Cambridge, MA: MIT Press,
- Fredrickson, B. L. 2001. The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. ***American Psychologist***, 56: 218–226.
- Fredrickson, B.L. 2004. The broaden-and-build theory of positive emotions. ***Philos Trans R Soc Lond B Biol Sci***. 359: 1367–1378.
- Fredrickson, B. L., & Losada, M. F. 2005. Positive affect and the complex dynamics of

- human flourishing. *American Psychologist*, 60: 678-686.
- Fong, C.T. 2006. The effects of emotional ambivalence on creativity. *Academy of Management Journal*, 49:1016-1030.
- Gagne', M., & Deci, E. L. 2005. Self-determination theory and work motivation. *Journal of Organizational Behavior*, 26: 331-362.
- George, J. M., & Zhou, J. 2002. Understanding when bad moods foster creativity and good ones don't: The role of context and clarity of feelings. *Journal of Applied Psychology*, 87: 687-697.
- George, J. M., & Zhou, J. 2007. Dual tuning in a supportive context: Joint contributions of positive mood, negative mood, and supervisory behaviors to employee creativity. *Academy of Management Journal*, 50: 605-622.
- George, J. M. 2007. Creativity in organizations. In J. P. Walsh & A. P. Brief (Eds.), *Annals of the Academy of Management*: 439- 477. London, England: Routledge/Taylor & Francis.
- Gilson, L. L., Mathieu, J. E., Shalley, C. E., & Ruddy, T. M. 2005. Creativity and standardization: Complementary or conflicting drivers of team effectiveness? *Academy of Management Journal*, 48: 521-531.
- Goldberg, L.R. 2000. **The IPIP items in each of the preliminary scales measuring the five NEO domains**. Retrieved from <http://ipip.ori.org/ipip/appendixb/html>.
- Gong, Y., Huang, J.C. & Farh J.L. 2009. Employee learning orientation, transformational leadership, and employee creativity: the mediating role of employee creative self-efficacy. *Academy of Management Journal*, 52:765-778.
- Gorgievski, M. J., & Hobfoll, S. E. (2008). Work can burn us out or fire us up: Conservation of resources in burnout and engagement. In J. R. B. Halbesleben (Ed.), *Handbook of stress and burnout in health care* (pp. 7-22) Hauppauge, NY: Nova Science
- Gorgievski, M. J., Halbesleben, J. R. B., & Bakker, A. B. 2011. Expanding the boundaries of psychological resources theories. *Occupational and Organizational Psychology*, 84: 1-7.
- Gough, H. G. 1979. A creative personality scale for the Adjective Check List. *Journal of Personality and Social Psychology*, 37: 1398-1405.
- Graen, G. B., & Uhl-Bien, M. 1995. Relationship-based approach to leadership:



- Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multidomain perspective. *Leadership Quarterly*, 6: 219-247.
- Granovetter, M. S. 1973. The strength of weak ties. *American journal of sociology*, 78: 1360.
- Grant A. M., & Berry, J. W. 2011. The necessity of others is the mother of invention: Intrinsic and prosocial motivations perspective taking, and creativity. *Academy of Management Journal*, 54: 73-96.
- Haas, M. R. 2002. Acting on what others know: Distributed knowledge and team performance. Unpublished doctoral dissertation, Harvard University, Cambridge, MA.
- Hackman, J. R., & Oldham, G. R. 1980. *Work redesign*. Reading, MA: Addison-Wesley.
- House, J. S. 1980. *Occupational stress and the mental and physical health of factory workers*. Ann Arbor: University of Michigan, Institute for Social Research, Survey Research Center.
- Hu, L. T., & Bentler, P. M. 1999. Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling*, 6: 1-55.
- Hakanen, J.J., Bakker, A.B., & Demerouti, E. 2005. How dentists cope with their job demands and stay engaged: The moderating role of job resources. *European Journal of Oral Sciences*, 113: 479-487.
- Hakanen, J., Bakker, A. B., & Schaufeli, W. B. 2006. Burnout and work engagement among teachers. *Journal of School Psychology*, 43: 495-513.
- Hansen, M. T. 1999. The search-transfer problem: The role of weak ties in sharing knowledge across organization subunits. *Administrative Science Quarterly*, 44: 82-111.
- Hansen, M. T., Podolny, J. M., & Pfeffer, J. 2001. So many ties, so little time: A task contingency perspective on corporate social capital in organizations. *Research in the Sociology of Organizations*, 18: 21-57.
- Hobfoll, S.E. 1988. *The ecology of stress*. Washington, DC: Hemisphere.
- Hobfoll, S.E. 1989. Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 44: 513-524.
- Hobfoll, S.E., Johnson, R.J., Ennis, N. and Jackson, A.P. 2003. Resource loss,

- resource gain, and emotional outcomes among inner city women, *Journal of Personality and Social Psychology*, 84: 632-43.
- HR Agenda. 2002. Managers recognize heavy workloads. *HR Briefing*, 8.
- Isen, A. M. 1999. Positive affect. In T. Dalgleish & M. J. Power (Eds.), *The handbook of cognition and emotion*: 521-553. New York: Wiley.
- Isen, A. M., Daubman, K. A., & Nowicki, G. P. 1987. Positive affect facilitates creative problem solving. *Journal of Personality and Social Psychology*, 52: 1122-1131.
- Isen, A. M., Johnson, M. M. S., Mertz, E., & Robinson, G. R. 1985. The influence of positive affect on the unusualness of word associations. *Journal of Personality and Social Psychology*, 48: 1413-1426.
- Jex, S. M. 1998. *Stress and job performance: Theory, research, and implications for managerial practice*. Thousand Oaks, CA: Sage.
- Jex, S. M., & Adams, G. A. 2005. Organization-based self-esteem as a moderator of reactions to role stressors: The influence of employee of job involvement. *Journal of Social Behavior and Personality*, 19: 203-210.
- Joreskog, K. G. & Sorbom, D. 1989. *Lisrel 7 User's reference guide, scientific software Inc.*, Chicago, IL.
- Judge, T. A., Erez, A., & Bono, J. E. 1998. The power of being positive: The relationship between positive self-concept and job performance. *Human Performance*, 11: 167-187.
- Judge, T.A., Van Vianen, A.E.M. and De Pater, I. 2004. Emotional stability, core self-evaluations, and job outcomes: a review of the evidence and an agenda for future research, *Human Performance*, 17: 325-346.
- Kahn, R. L., Wolfe, D., Quinn, R., & Snoek, J. D. 1964. *Organizational stress: Studies in role conflict and ambiguity*. New York: Wiley.
- Kanter, R. M. 1988. When a Thousand Flowers Bloom: Structural, Collective, and Social Conditions for Innovation in Organization. in B. M. Staw and L. L. Cummings, (Eds.), *Research in Organizational Behavior*: 169-211. Greenwich, Conn: JAI Press.
- Kaufmann, G. 2003. The effect of mood on creativity in the innovation process. In L. V. Shavinina (Ed.), *The international handbook on innovation*: 191-203. Oxford, UK: Elsevier Science.

- Keller, R. T. 1986. Predictors of the performance of project groups in R&D organizations. *Academy of Management Journal*, 29: 715–726.
- Kirton, M. J. 1976. Adaptors and innovators: A description and measure. *Journal of Applied Psychology*, 61: 622–629.
- Kirton, M. J. 1994. *Adaptors and innovators: Styles of creativity and problem solving* (2nd ed.). New York: Routledge.
- Kirwan-Taylor, H. 2001. Burnout? *Management Today*, 28.
- Klijn, M., & Tomic, W. 2010. A review of creativity within organizations from a psychological perspective. *Journal of Management Development*, 29: 322-343.
- Kline, R.B. 2005, *Principles and Practice of Structural Equation Modeling* (2<sup>nd</sup> Edition ed.). New York: The Guilford Press.
- Kotz, D. 2011. 6 steps to achieving creativity in business, personal life. *U.S. News*, 6.
- Koyuncu, M., Burke, R.J. and Fiksenbaum, L. 2006. Work engagement among women managers and professionals in a Turkish bank: potential antecedents and consequences, *Equal Opportunities International*, 25: 299-310.
- Krackhardt, D. 1992. The strength of strong ties: The importance of philos in organizations. In R. Eccles & N. Nohria (Eds.), *Networks and organizations: Structure, form and action*: 216-239. Cambridge, MA: Harvard Business School.
- Lazarus, R. S., & Folkman, S. 1984. Stress, appraisal, and coping. New York: Springer.
- Leung, A. K., Maddux, W. W., Galinsky, A. D., & Chiu, C. 2008. Multicultural experience enhances creativity: The when and how. *American Psychologist*, 63: 169–181.
- Liao, H. Liu, D. & Loi, R. 2010. Looking at both sides of the social exchange coin: A social cognitive perspective on the joint effects of relationship quality and differentiation on creativity. *Academy of Management Journal*, 53: 1090-1109.
- Lin, Nan. 2001. *Social Capital: A Theory of Social Structure and Action*. NY: Cambridge University Press.
- Liu, D., Chen, X.P., & Yao, X. 2011. From autonomy to creativity: A multilevel

- investigation of the mediating role of harmonious passion. *Journal of Applied Psychology*, 96: 294-309.
- Llorens, S., Bakker, A.B., Schaufeli, W.B. and Salanova, M. 2006. Testing the robustness of the job demands-resources model. *International Journal of Stress Management*, 13: 378-391.
- Locke, E. A., & Latham, G. P. 1990. *A theory of goal-setting and task performance*. Englewood Cliffs, NJ: Prentice Hall.
- London, M. (1983), "Toward a theory of career motivation", *Academy of Management Review*, 8: 620-30.
- Lowe, E. A., & Taylor, W. G. K. 1986. Creativity in life sciences research. *R&D Management*, 16: 45-61.
- Luthans, F. 2002. The need for and meaning of positive organizational behavior. *Journal of Organizational Behavior*, 23: 695-706.
- Luthans, F., Avolio, B.J., Avey, J.B., & Norman, S.M. 2007. Psychological capital: Measurement and relationship with performance and job satisfaction. *Personnel Psychology*, 60: 541-572.
- Luthans, F. and Youssef, C.M. 2007. Emerging positive organizational behavior, *Journal of Management*, 33: 321-349.
- Lyubomirsky, S., King, L., & Diener, E. 2005. The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin*, 131: 803-85.
- MacCallum, R. C., & Austin, J. T. 2000. Applications of structural equation modeling in psychological research. *Annual Review of Psychology*, 51, 201-226.
- Madjar, N., Oldham, G. R., & Pratt, M. G. 2002. There's no place like home? The contributions of work and nonwork creativity support to employees' creative performance. *Academy of Management Journal*, 45: 757-767.
- Madjar, N., Chen, Z., & Greenberg, E. 2011. Factors for radical creativity, incremental creativity, and routine, noncreative performance. *Journal of Applied Psychology*, 96: 730-743.
- Martinsen, O. L., 2011. The creative personality: A synthesis and development of the creative person profile. *Creativity Research Journal*, 23: 185-202.
- Masten, A. S., & Reed, M.-G. J. 2002. Resilience in development. In C. R. E. L. Snyder, Shane J. (Ed), *Handbook of positive psychology*: 74-88. London: Oxford University Press.

- Mauno, S., Kinnunen, U. and Ruokolainen, M. 2007. Job demands and resources as antecedents of work engagement: a longitudinal study, *Journal of Organizational Behavior*, 70: 149-71.
- McCrae, R. R. 1987. Creativity, divergent thinking, and openness to experience. *Journal of Personality and Social Psychology*, 52: 1258-1265.
- McCrae, R. R., & Costa, P.T., Jr. 1997. Personality trait structure as a human universal. *American Psychologist*, 52: 509-516.
- Mednick, S. A. 1962. The associative basis of the creative process. *Psychological Review*, 69: 220-232.
- Meijman, T. F., & Mulder, G. 1998. Psychological aspects of workload. In P. J. D. Drenth & H. Thierry (Eds.), *Handbook of work and organizational psychology, Vol. 2: Work psychology*: 5-33. Hove: Psychology Press.
- Miller, N. E., & Dollard, J. 1941. *Social learning and imitation*. New Haven: Yale University Press.
- Miron-Spektor, E., Erez, M., & Naveh, E. 2011. The effect of conformist and attentive-to-detail members on team innovation: Reconciling the innovation paradox. *Academy of Management Journal*, 54: 740-760.
- Miron-Spektor, E., Gino, F., & Argote, L. 2011. Paradoxical frames and creative sparks: Enhancing individual creativity through conflict and integration. *Organizational Behavior and Human Decision Processes*, 116: 229-240.
- Mumford, M. D., & Gustafson, S. B. 1988. Creativity syndrome: Integration, application, and innovation. *Psychological Bulletin*, 103: 27-43.
- Mumford, M. D., Scott, G. M., Gaddis, B., & Strange, J. M. 2002. Leading creative people: Orchestrating expertise and relationships, *The Leadership Quarterly*, 13: 705-750.
- Nahapiet, J., & Ghoshal, S. 1998. Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23: 242-266.
- Nystrom, H. 1990. *Technological and Market Innovation: Strategies for Product and Company Development*, John Wiley & Sons, London.
- Oldham, G. R., & Cummings, A. 1996. Employee creativity: Personal and contextual factors at work. *Academy of Management Journal*, 39: 607-634.
- Perkins, D. N. 1981. *The mind's best work*. Cambridge, MA: Harvard University

- Press.
- Perry-Smith, J. E., & Shalley, C. E. 2003. The social side of creativity: A static and dynamic social network perspective. *Academy of Management Review*, 28: 89–106.
- Perry-Smith, J.E. 2006. Social yet creative: the role of social relationships in facilitating individual creativity. *Academy of Management Journal*, 49: 85-101.
- Perry-Smith, J. E. 2008. When being social facilitates creativity. In J. Zhou, & C. E. Shalley, (Eds.), *Handbook of organizational creativity*: 189–210. New York: Lawrence Erlbaum.
- Pil, F. K, & Leana, C. 2009. Applying organizational research to public school reform: The effects of teacher human and social capital on student performance. *Academy of Management Review*, 52: 1101 – 1124.
- Preacher, K. J., & Hayes, A. F. 2004. SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, 36: 717–731.
- Quigley, N. R., & Tymon Jr, W. G. 2006. Toward an integrated model of intrinsic motivation and career self management. *Career Development International*, 11: 522-543.
- Rizzo, J. R., House, R. J., & Lirtzman, S. I. 1970. Role conflict and ambiguity in complex organizations. *Administrative Science Quarterly*, 15: 150–163.
- Runco, M. 1995. The creativity and job satisfaction of artists in in organizations. *Empirical Studies of the Arts*, 13: 39-55.
- Rutter M. 1979. Protective factors in children's responses to stress and disadvantage. In: Kent MW, Rolf JE, (Eds). *Primary prevention in psychopathology: Social competence in children*: 49-74. University Press of New England; Hanover, NH:
- Ryan, R. M., & Deci, E. L. 2000. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55: 68–78.
- Sagiv, L., Arieli, S., Goldenberg, J., & Goldschmidt, A. 2010. Structure and freedom in creativity: The interplay between externally imposed structure and personal cognitive style, *Journal of Organizational Behavior*, 31: 1086-1110.
- Salanova, M., Agut, S. and Peiro', J.M. 2005. Linking organizational resources and

- work engagement to employee performance and customer loyalty: the mediation of service climate, *Journal of Applied Psychology*, 90: 1217-27.
- Scott, S. G., & Bruce, R. A. 1994. Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal*, 37: 580-607.
- Scratchley, L. S., & Hakstian, A. R. 2000. The measurement and prediction of managerial creativity. *Creativity Research Journal*, 13: 367-384.
- Schaufeli, W.B. and Bakker, A.B. 2004. Job demands, job resources and their relationship with burnout and engagement: a multi-sample study, *Journal of Organizational Behavior*, 25: 293-315.
- Schneider, B. 1983. Interactional psychology and organizational behavior. In: L. L. Cummings & B. M. Staw (Eds), *Research in Organizational Behavior*: 1-31. Greenwich, CT: JAI Press.
- Schwarz, N. 2002. Situated cognition and the wisdom of feelings: Cognitive tuning. In L. Feldman Barrett, & P. Salovey (Eds.), *The wisdom in feelings*: 144-166. New York: Guilford.
- Schwarz, N., & Clore, G. L. 2003. Mood as information: 20 years later. *Psychological Inquiry*, 14: 296-303.
- Seibert, S. E., Kraimer, M. L., & Liden, R. C. 2001. A social capital theory of career success. *Academy of Management Journal*, 44: 219-237.
- Shalley, C. E. 1995. Effects of coaction, expected evaluation, and goal setting on creativity and productivity. *Academy of Management Journal*, 38: 483-503.
- Shalley, C. E. 2008. Creating roles: What managers can do to establish expectations for creative performance. In J. Zhou & C. E. Shalley (Eds.), *Handbook of Organizational Creativity*: 147-164. New York: Lawrence Erlbaum Associates.
- Shalley, C. E., Gilson, L. L., & Blum, T. C. 2000. Matching creativity requirements and the work environment: Effects on satisfaction and intent to turnover. *Academy of Management Journal*, 43: 215-224.
- Shalley, C. E., & Gilson, L. L. 2004. What leaders need to know: A review of social and contextual factors that can foster or hinder creativity. *Leadership Quarterly*, 15: 33-53.
- Shalley, C. E., Zhou, J., & Oldham, G. R. 2004. Effects of personal and contextual characteristics on creativity: Where should we go from here? *Journal of Management*, 30: 933-958.

- Shalley, C. E., Gilson, L. L., & Blum, T.C. 2009. Interactive effects of growth need strength, work context, and job complexity on self-reported creative performance. *Academy of Management Journal*, 52: 489-505.
- Shalley, C. E., & Perry-Smith, J. E. 2001. Effects of social psychological factors on creative performance: The role of informational and controlling expected evaluation and modeling experience. *Organizational Behavior and Human Decision Processes*, 84: 1-22.
- Simonton, D. K. 1984. *Genius, creativity, and leadership*. Cambridge University Press.
- Simonton, D. K. 1999. Creativity from a historiometric perspective. In R. J. Sternberg (Ed.). *Handbook of creativity*: 116-133. Cambridge, England: Cambridge University Press.
- Singh, J. 2000. Performance productivity and quality of frontline employees in service organizations. *Journal of Marketing*, 64: 15-34.
- Sobel, M. E. 1982. Asymptotic confidence intervals for indirect effects in structural equations models. In S. Leinhardt (Ed.), *Sociological methodology*: 290-312. San Francisco: Jossey-Bass.
- Sweetman, Luthans, Avey, & Luthans 2011. Relationship between psychological capital and creative performance. *Canadian Journal of Administrative Sciences*, 28: 4-13.
- Tang Y. T., & Chang C. H. 2010. Impact of role ambiguity and role conflict on employee creativity. *African Journal of Business Management*, 4: 869-881.
- Tierney, P., Farmer, S. M., & Graen, G. B. 1999. An examination of leadership and employee creativity: The relevance of traits and relationships. *Personnel Psychology*, 52: 591-620.
- Tierney, P., & Farmer, S. M. 2002. Creative self-efficacy: Potential antecedents and relationship to creative performance. *Academy of Management Journal*, 45: 1137-1148.
- Tierney, P., & Farmer, S. M. 2004. The Pygmalion process and employee creativity. *Journal of Management*, 30: 413-432.
- Tierney, P., & Farmer, S. M. 2011. Creative self-efficacy development and creative self performance over time. *Journal of Applied Psychology*, 96: 277-293.
- Unsworth, K. 2001. Unpacking creativity. *Academy of Management Review*, 26:



- 289–297.
- Vallerand, R. J., Rousseau, F. L., Grouzet, F. M. E., Dumais, A., Grenier, S., & Blanchard, C. M. 2006. Passion in sport: A look at determinants and affective experiences. *Journal of Sport and Exercise Psychology*, 28: 454–478.
- Weinzimmer, L. G., Mone, M. A. & Alwan, L. C. 1994. An examination of perceptions and usage of regression diagnostics in organization studies. *Journal of Management*, 20:179-192.
- Wellman, B., & Wortley, S. 1990. Different strokes from different folks: Community ties and social support. *American Journal of Sociology*, 96: 558-588.
- West, M. A., & Wallace, M. 1991. Innovation in health care teams. *European Journal of Social Psychology*, 21: 303-315.
- Williams, D. 2006. On and off the 'net: Scales for social capital in an online era. *Journal of Computer-Mediated Communication*, 11: 2.
- Woodman, R. W., Sawyer, J. E., & Griffin, R. W. 1993. Toward a theory of organizational creativity. *Academy of Management Review*, 18: 293–321.
- Xanthopoulou, D., Bakker, A.B., Demerouti, E., & Schaufeli, W.B. 2007. The role of personal resources in the job demands-resources model. *International Journal of Stress Management*, 14: 121-141.
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. 2009. Work engagement and financial returns: A diary study on the role of job and personal resources. *Journal of Occupational and Organizational Psychology*, 82: 183–200
- Yuan, F. & Woodman, R. W. 2010. Innovative behavior in the workplace: The role of performance and image outcome expectations. *Academy of Management Journal*, 53: 323-342.
- Zhang, X. & Bartol, K.M. 2010. Linking empowering leadership and employee creativity: The influence of psychological empowerment, intrinsic motivation, and creative process engagement. *The Academy of Management Journal*, 53:107-128.
- Zhou, J., & George, J. M. 2001. When job dissatisfaction leads to creativity: Encouraging the expression of voice. *Academy of Management Journal*, 44: 682-696.
- Zhou, J., & George, J. M. 2003. Awakening employee creativity: The role of leader emotional intelligence. *Leadership Quarterly*, 14: 545–568.

- Zhou, J., & Oldham, G. R. 2001. Enhancing creative performance: Effects of expected developmental assessment strategies and creative personality. *Journal of Creative Behavior*, 35: 151–167.
- Zhou, J., & Shalley, C. E. 2003. Research on employee creativity: A critical review and directions for future research. In J. J. Martocchio, & G. R. Ferris (Eds.), *Research in Personnel and Human Resource Management*: 165–217. Oxford, U.K.: Elsevier Science.
- Zhou, J., & Shalley, C. E. 2008. Expanding the scope and impact of organizational creativity research. In J. Zhou, & C. E. Shalley, (Eds.), *Handbook of organizational creativity*: 347–368. New York: Lawrence Erlbaum.
- Zhou, J., Shin, S.J., Brass, D. J., Choi, J. & Zhang, Z.X. 2009. Social networks, personal values, and creativity: evidence for curvilinear and interaction effects. *Journal of Applied Psychology*, 94: 1544-1552.

## Appendix A

The following are the constructs that will be used in the surveys administered to respondents. Creative behavior construct will be given to the supervisors identified by the respondents.

Creative Behavior (George & Zhou, 2001;  $\alpha = .96$ )

Please rate each question for the employee you are reviewing on a scale 1 (Strongly Disagree) to 7 (Strongly Agree).

1. Suggests new ways to achieve goals or objectives.
2. Comes up with new and practical ideas to improve performance.
3. Searches out new technologies, processes, techniques, and/or product ideas.
4. Suggests new ways to increase quality.
5. Is a good source of creative ideas.
6. Is not afraid to take risks.
7. Promotes and champions ideas to others.
8. Exhibits creativity on the job when given the opportunity to.
9. Develops adequate plans and schedules for the implementation of new ideas.
10. Often has new and innovative ideas.
11. Comes up with creative solutions to problems.
12. Often has a fresh approach to problems.
13. Suggests new ways of performing work tasks.

Relational Resources (Williams, 2006; bonding  $\alpha = .75$ , bridging  $\alpha = .86$ )

Please answer the following questions as they apply to you on a scale 1 (Strongly Disagree) to 7 (Strongly Agree).

### Bonding:

1. There are several people I trust to help solve my problems.
2. I do not know people well enough to get them to do anything important.  
(R)
3. The people I interact with would be good job references for me.
4. There is someone I can turn for advice about making very important decisions.
5. If I needed a very large emergency loan, I know someone I can turn to.

### Bridging:

6. Interacting with people makes me want to try new things.
7. I interact with people who are members of a religion different than mine.

8. I interact with people from different racial or ethnic backgrounds.
9. Interacting with people makes me interested in things that happen outside of my town.
10. I am willing to spend time to support general community activities.
11. Interacting with people makes me feel like part of a larger community.
12. Interacting with people makes me interested in what people unlike me are thinking.
13. Based on the people I interact with, it is easy for me to hear about new job opportunities.
14. Interacting with people reminds that everyone in the world is connected.
15. I come in contact with new people all the time.

### Personal Resources

Please answer the following questions as they apply to you on a scale 1 (Strongly Disagree) to 7 (Strongly Agree).

#### Creative Self-Efficacy: (Tierney and Farmer, 2002; $\alpha = .76$ )

1. I have confidence in my ability to solve problems creatively.
2. I feel I am good at generating novel ideas.
3. I have a knack for further developing the ideas of others.

#### Resilience: (Luthans, Youssef, & Avolio, 2007; $\alpha = .93$ )

1. When I have a setback, I have trouble recovering from it, moving on. (R)
2. I usually manage difficulties one way or another.
3. I can be "on my own," so to speak, if I have to.
4. I usually take stressful events in stride.
5. I can get through difficult times because I've experienced difficulty before.
6. I feel I can handle many things at a time.

#### Role Overload (Brown et al., 2005; $\alpha = .85$ )

How often do you experience each of the feelings?  
(1 = Never – 5= Always)

1. The amount of work I do interferes with how well the work gets done.
2. I do not have enough help and resources to get the job done well.
3. I do not have enough time to get the job well done.
4. I have to try to satisfy too many different people.
5. I know exactly what is expected of me.
6. Explanation is clear of what has to be done.

#### Intrinsic Motivation (Grant, 2008; $\alpha = .71$ )

Why are you motivated to do your work?  
1 (Disagree strongly) to 7 (Agree strongly)

1. Because I enjoy the work itself.
2. Because it's fun.
3. Because I find the work engaging.
4. Because I enjoy it.

Perceived Organizational Support For Creativity (Zhou & George, 2001;  $\alpha = .84$ )

Please answer the following questions as they apply to your organization on a scale 1 (Strongly Disagree) to 7 (Strongly Agree).

1. Creativity is encouraged at my company.
2. Our ability to function creatively is respected by the leadership.
3. The reward system here encourages innovation.
4. My company publicly recognizes those who are innovative.

Control Variables

Education:

1. The highest education you have obtained.  
(Education will be measured on 11-point scale (0=no college degree; 1-10 = number of college years completed))

Experience:

1. How long have you worked at your current organization?

## Appendix B

### Most used creativity scales

George & Zhou, 2001 ( $\alpha = .96$ )

1. Suggests new ways to achieve goals or objectives
2. Comes up with new and practical ideas to improve performance
3. Searches out new technologies, processes, techniques, and/or product ideas
4. Suggests new ways to increase quality
5. Is a good source of creative ideas
6. Is not afraid to take risks
7. Promotes and champions ideas to others
8. Exhibits creativity on the job when given the opportunity to
9. Develops adequate plans and schedules for the implementation of new ideas
10. Often has new and innovative ideas
11. Comes up with creative solutions to problems
12. Often has a fresh approach to problems
13. Suggests new ways of performing work tasks

Oldham & Cummings, 1996 ( $\alpha = .90$ )

1. How original and practical is this person's work? Original and practical work refers to developing ideas, methods, or products that are both totally unique and especially useful to the organization.
2. How adaptive and practical is this person's work? Adaptive and practical work refers to using existing information or materials to develop ideas, methods, or products that are useful to the organization.
3. How creative is this person's work? Creativity refers to the extent to which the employee develops ideas, methods, or products that are both original and useful to the organization.

Tierney, Farmer, & Graen, 1999 ( $\alpha = .95$ )

1. Demonstrated originality in his/her work.
2. Took risks in terms of producing new ideas in doing job.
3. Found new uses for existing methods or equipments.
4. Solved problems that had caused others difficulty.
5. Tried out new ideas and approached to problems.
6. Identified opportunities for new products/processes.
7. Generated novel, but operable work-related ideas.
8. Served as a good role model for creativity.
9. Generated ideas revolutionary to our field.

Scott & Bruce, 1994 ( $\alpha = .89$ )

1. Searches out new technologies, processes, techniques, and/or product ideas.
2. Generates creative ideas.
3. Promotes and champions ideas to others.
4. Investigates and secures funds needed to implement new ideas.
5. Develops adequate plans and schedules for the implementation of new ideas.
6. Is innovative.

## Appendix C

### Construct Definitions

**Creative Behavior:** Is the generation of novel and useful ideas, processes and/or solutions (Amabile, 1983).

**Intrinsic Motivation:** Doing of an activity for its inherent satisfaction rather than for some separable consequence (Ryan & Deci, 2000).

#### **Personal Resources:**

**Creative Self-Efficacy:** The belief in one's ability to produce creative outcomes (Tierney & Farmer, 2002).

**Resilience:** An ability to bounce back in the face of conflict, failure, adversity, and uncertainty (Luthans, 2002).

#### **Relational Resources:**

**Bridging Ties:** Are weak relationships into different circles through which non-redundant information is transmitted (Granovetter, 1973)

**Bonding Ties:** Are strong relationships that provide respect, support and trust (Krackhardt, 1992) but transfer redundant information (Granovetter, 1973).

#### **Organizational Resources:**

**Perceived Organizational Support for Creativity:** The extent to which organizations are seen as encouraging, respecting, rewarding, and recognizing employees who exhibit creativity (Zhou & George, 2001)

**Role Overload:** Having too many responsibilities and role demands in light of time and resources available to individuals, resulting in distraction and stress (Rizzo et al., 1970).

**Openness to Experience:** Is the extent to which a person is imaginative, independent, and has a preference for variety (Costa & McCrae, 1992).



## Appendix D



Sheldon B. Lubar  
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## Cre tivity Project

November 27, 2012

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Dear Manager:

Did you know that in a recent survey conducted by IBM, over 1,500 CEOs from 60 different countries agreed that the most essential skill for navigating an increasingly complex world is creativity? As this survey indicates, organizational leaders are increasingly concerned with initiating and sustaining the drivers of creativity, especially during current tough economic conditions. To better understand how different factors promote individual creativity in organizations, I have designed the “Creativity Project.” I am inviting your organization to participate in this exciting project, which forms the basis of my dissertation. In the following sections, I describe the nature of this project, what it involves, and how it will benefit your organization.

### **What is the Creativity Project?**

Recognizing that organizations thrive on creative solutions, each year, an increasing number of Fortune 500 organizations hire creativity consultants to boost their innovation. However, despite the shift to an innovation-driven economy, very little is known about the different personal and organizational factors that facilitate or hinder creativity at work. My study investigates these processes and asks the following questions:

- Which personal factors are most potent in facilitating creative behavior at work?
- How do work relationships promote creativity?
- What is the role of organizational factors in initiating, sustaining, and/or hampering creative behavior at work?
- What can organizations do to ignite and fan the flames of motivation among their employees so that they are more likely to engage in creative behavior?

To find answers to the above questions, I will examine how different personal and organizational resources operate to motivate creative behavior.

**What will participation entail?**

Participation in this research simply involves allowing us to survey your employees and their immediate supervisors. There will be no direct cost to your organization; all costs will be borne by the researcher. I have developed surveys for your employees and their supervisors to complete. These surveys can be distributed either electronically or in paper format. In either format, the completion of the surveys will take 15-20 minutes.

**How will this benefit your organization?**

In return for your cooperation, I will provide you with a detailed summary of results, which could be tailored to your needs and requirements. Within this report, all company names will be kept anonymous. Further, I am happy to offer a creativity seminar to a select group of your employees. By agreeing to participate in this research, your organization will have a better understanding of the current levels of creative behavior among your employees, and a roadmap for further promoting creativity. If you need more information, please contact me ([dgyunlu@uwm.edu](mailto:dgyunlu@uwm.edu)).

Best regards,

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## Appendix E

Dear Participants:

We are partnering with researchers from the University of Wisconsin – Milwaukee to understand employees' work attitudes and behaviors.

Participation in this research includes taking an online survey about your perceptions relating to work attitudes and behaviors, which will take approximately 15-20 minutes. If you agree to participate, you will find the URL at the end of this e-mail where you can complete the survey.

The survey includes a consent form, which includes the contact information relating to research questions and concerns. If you decide to participate in this survey, your decision to participate will serve as consent.

Your participation is completely voluntary, and no one from the organization will receive any identified responses. Only reports of aggregated responses will be available to all participants and the organization.

The data collected will be saved on a secure server housed in Lubar School of Management at the University of Wisconsin – Milwaukee. All data will be analyzed in aggregate form.

Best regards,

## Appendix F

### <sup>a</sup> Means, Standard Deviations, Reliabilities, and Correlations with Supervisor Rated Creative Behavior

Variables		<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11		12
1	Age	40.97	8.48													
2	Gender	1.20	.41	-.07												
3	Tenure	10.30	7.95	.51***	.12											
4	Education	4.25	.84	-.10	-.03	-.13										
5	Self-Efficacy	5.91	.69	.17	-.04	-.02	.06	(.76)								
6	Resilience	5.24	.67	.30**	.14	.12	.11	.51***	(.65)							
7	Bonding Relations	5.08	.81	-.01	.09	.04	.07	.27**	.34**	(.70)						
8	Bridging Relations	5.70	.65	-.04	.16	-.03	.07	.37***	.36***	.38***	(.83)					
9	POS for Creativity	4.91	1.20	-.12	.03	-.16	-.08	.13	.10	.16	.15	(.87)				
10	Role Overload	4.72	.84	.17	.13	.04	-.12	.19*	.09	.06	.28**	.10	(.90)			
11	Intrinsic Motivation	5.24	.97	.03	.01	.01	-.03	.17	.20	.24**	.42***	.49***	.15	(.88)		
12	Creative Behavior	4.41	.55	.01	-.13	-.10	.09	.54***	.29**	.14	.35***	.18	.08	.32**	(.92)	
13	Supervisor Creative Behavior	3.64	.74	-.38	.22	-.39	.58**	.16	-.22	-.11	-.38	-.35	-.10	.08	.15	(.95)

<sup>a</sup> Reliabilities (Cronbach's alpha), when applicable, are indicated on the diagonal.

▪  $p < .05$ . \*\*  $p < .01$  \*\*\*  $p < .0001$

**Results of Regression Analysis for Supervisor Rated  
Creative Behavior**

<i>Predictors</i>	<b>Standardized Regression Coefficients</b>	
	<b>Supervisor Rated Creative Behavior</b>	
	Step 1	Step 2
<i>Controls</i>		
Gender	.37*	.30*
Age	-.18	-.24
Education	.77***	.88***
Tenure	.29	.23
<i>Resources</i>		
Creative self-efficacy	.08	.00
Resilience	.02	-.04
Bonding ties	.34	.39*
Bridging ties	-.30	-.33*
POS for creativity	-.38*	-.52
Intrinsic motivation		.02*
Overall R <sup>2</sup>	.80	.89
Adjusted R <sup>2</sup>	.65	.80
Overall F	5.39**	9.19***
df	(21)	(21)

Notes: \*p < .05 \*\*p < .01 \*\*\*p < .001

## Curriculum Vitae

### DILEK G. YUNLU

University of Wisconsin –Milwaukee  
Sheldon B. Lubar School of Business

### EDUCATION

**Ph.D., Organizations and Strategic Management**, University of Wisconsin-Milwaukee, **May, 2013**

**Dissertation:** *“An Integrated View of Personal, Relational, and Organizational Resources: How They Ignite Creative Behavior”*

**Advisors:** *Dr. Margaret Shaffer & Dr. Romila Singh*

**M.B.A., International Management**, Highest Honors, DePaul University, **1997**

**B.S., Marketing**, Honors, DePaul University, **1994**

### INTERESTS

#### Teaching

- Organizational Behavior
- Creativity, Innovation and Entrepreneurship
- Human Resource Management

#### Research

- Creativity
- Cross-Cultural Management
- Entrepreneurship

### TEACHING

I have taught the following courses: Organizational Behavior (Undergraduate and graduate level), Strategic Management, Organization Theory and Design, Management of Change, Introduction to Global Management, International Business, Human Resources Management, Organizational Communication, and Entrepreneurship.

### RESEARCH

#### Journal Articles

Yunlu, D., Murphy, D. D. (2012) “R&D intensity and economic recession: Investigating the moderating role of CEO characteristics.” *Journal of Leadership and Organizational Studies*. 19, 282-291.

Yunlu, D. & Clapp-Smith, R. “Enhancing Metacognition: The Role of Cultural

Psychological Capital and Motivational Cultural Intelligence.” *Revise and Resubmit: Cross Cultural Management: An International Journal*.

Ren, H., Yunlu, D. G., Shaffer, M., & Fodchuk, K. “Keeping Up with the Joneses: Job Deprivation, Thriving, and Expatriates’ Decision to Stay.” *Under Review: Journal of World Business*.

### **Presentations**

Ren, H. & Yunlu, D. G. 2013. “Thriving and Retention of Expatriates: A Conservation of Resources Perspective.” Academy of International Business, Istanbul, Turkey.

Dimitrova, M., Yunlu, D. G., Lau, V. Shaffer, M., Davidkov, T., & Yordanova, D. 2013. “Internalizing Legitimacy: The Indirect Link Between Perceptions of Entrepreneurship Legitimacy and Entrepreneurs’ Innovative Behavior.” Academy of International Business, Istanbul, Turkey.

Yunlu, D. & Clapp-Smith, R. 2012. “Metacognition: The Role of Cultural Psychological Capital and Motivational Cultural Intelligence.” Academy of Management Conference, Boston, MA.

Ren, H., Yunlu, D. and Fodchuk, K. 2012. “Self initiated expatriates’ decision to stay: Perceptions of job deprivation and thriving.” 27<sup>th</sup> Annual Conference of the Society for Industrial and Organizational Psychology, San Diego, CA.

Ren, H., Yunlu, D., Fodchuk, K., & Shaffer, M. 2012. “Self-Initiated Expatriates: Work Engagement, Personality and Information Seeking” 27<sup>th</sup> Annual Conference of the Society for Industrial and Organizational Psychology, San Diego, CA.

Yunlu, D. 2012. “Crafting the creative capital theory: An integrative framework of the role of human capital, social capital, and psychological capital in individual creativity.” Midwest Academy of Management, Chicago, IL.

Yunlu, D., Murphy, D. D. 2011. “R&D intensity and economic recession: Investigating the moderating role of CEO characteristics.” Midwest Academy of Management, Omaha, NE.

Yunlu D. & Shaffer, M. 2011. “How cross-cultural experience ignites creativity: A model of cognitive complexity.” Academy of Management Conference, San Antonio, TX.

Ren, H., Yunlu, D., Fodchuk, K., & Shaffer, M. 2011. “Cultural intelligence, role clarity, and thriving: Implications for self-initiated expatriates.” Academy of Management Conference, San Antonio, TX.

Yunlu, D., Sekhar, S., Winkel, D., Shaffer, M. 2011. "Perceptions of Interpersonal Conflict: Role of Justice, POS, and EI" 26<sup>th</sup> Annual Conference of the Society for Industrial and Organizational Psychology, Chicago, IL.

Yunlu, Dilek. 2010. "In Pursuit of the Muse: A Temporal Approach to Creativity in International Assignments." Academy of Management Conference Montreal, Canada.

### **Works in Progress**

Ren, H., Yunlu, D., Fodchuk, K., & Shaffer, M. "Cultural intelligence, role clarity, and thriving: Implications for self-initiated expatriates." (*Target Journal – Journal of Applied Psychology*)

Yunlu, D. "Crafting the creative capital theory: An integrative framework of the role of human capital, social capital, and psychological capital in individual creativity." (*Target Journal – Creativity Research Journal*)

Yunlu, D., Sekhar, S., Winkel, D., Shaffer, M. 2011. "Perceptions of Interpersonal Conflict: Role of Justice, POS, and EI" (*Target Journal – Journal of Organizational Behavior*)

Ren, H., Yunlu, D., Shaffer, M., & Fodchuk, K. "Self initiated expatriates' decision to stay: Perceptions of job deprivation and thriving." (*Target Journal – Journal of World Business*)

Ren, H., Yunlu, D., Fodchuk, K., & Shaffer, M. "The role of community proactivity and embeddedness on expatriates' work engagement" (*Target Journal – Journal of Management*).

Yunlu D. "Novel and Useful: Differential effects of resources on creative behavior." (*Target Journal – Organizational Psychology Review*)

Yunlu, D., Dimitrova, M., & Shaffer, M. "Entrepreneurs Personal Growth and Innovative Behaviors in Three Different Cultures" (*Target Journal – Journal of International Business Studies*)

Clapp-Smith, R., Yunlu, D., & Shaffer, M. "Cultural Self-Awareness: A New Perspective in Cross-Cultural Management." (*Target Journal – Academy of Management Journal*)

Yunlu, D. & Clapp-Smith, R. "Stereotyping and Organizational Outcomes in Cross-Cultural Management". (*Target Journal – Organizational Behavior and Human Decision Processes*)

### **Project Development**



Yunlu, D., Dimitrova, M., & Shaffer, M. "Innovative Behavior of High-Tech Entrepreneurs Across Three Cultures."

Cheung, S., Yunlu, D., & Shaffer, M. "Expatriate Manager's Influence on Local Employee Creativity."

Ren, H., Yunlu, D., & Shaffer, M. "Creative Behavior, Organizational Identity, and International Identity of Contract Expatriates."

Singh, R. & Yunlu, D. "Creative Behavior Among Women Engineers and Its Long-Term Organizational Impact."

### **RESEARCH AWARDS AND DISTINCTIONS**

**2012-2013** Sheldon B. Lubar Doctoral Scholarship – University of Wisconsin-Milwaukee

**2012-2013** College of Business "Student Choice Award" for teaching excellence – Northeastern Illinois University

### **ACADEMIC ASSISTANTSHIPS**

#### **2010-2013**

Project Assistant to Dr. Hong Ren  
Research Area: Expatriate performance

#### **2009-2010**

Project Assistant to Dr. Velagapudi K. Prasad  
Research Area: Women and global entrepreneurs

### **TEACHING AND PROFESSIONAL WORK EXPERIENCE**

**Northeastern Illinois University, Chicago, IL** **January 2003- Present**  
**Adjunct Faculty**

Developed, designed, and taught the following courses: Organizational Behavior (both undergraduate and graduate level), International Business and Management, Human Resources Management, Organizational Theory and Design, Change Management, Strategic Management, Organizational Communications, Writing Intensive Introduction to Global Management, and Entrepreneurship.

**3Y Enterprises, Chicago, IL** **August 2005 – Present**  
**President**

Providing international consulting for internal market development in Turkey for mostly American services and products.

**IBM Global Business Consulting**

