Influence of Leader Behaviors on Creativity:
A Comparative Study between South Korea and the United States

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"The heart of man plans his way, but the Lord establishes his steps." (Proverbs 16:11).

About thirteen years ago, when I started my professional career as a journalist in a newspaper in South Korea, I never thought I would pursue a graduate degree in my life. I did not even know the term, 'Human Resource Development' at that time. When switching my career from a journalist to a training consultant, I did not have a dream of going abroad and studying a doctoral program. When coming to the University of Minnesota, I had no clear future direction after graduation. Looking back at my six years of academic journey at the University of Minnesota, I realize that it is God who has planned a way and established steps for me. My academic journey would have not been possible without His perfect love, plan, and support. All the glory to my God!

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Abstract

This study investigates what are the relationships between different leader behaviors (i.e. supportive, participative, and controlling leader behaviors) and follower creativity, and whether the relationships differ between South Korea and the United States.

Although creativity research suggests that supportive leader behaviors tend to enhance follower creativity, and controlling leader behaviors are likely to inhibit follower creativity, the majority of the research was conducted only in Western contexts. However, cross-cultural leadership research notes that the effectiveness of certain leader behaviors is contingent on cultures.

On the basis of theoretical linkages among the constructs, a conceptual model and hypotheses were established. The sample was drawn from academic advisors and their graduate advisee students, whose study fields are Science, Technology, Engineering, or Math at four South Korean universities and a large U.S. university. The hypotheses were tested using hierarchical regression analysis.

The results suggested that none of supportive, participative, and controlling leader behaviors had significant relationship with follower creativity both at South Korean universities and at the U.S. university. However, participative leader behaviors were found to have positive relationship with intrinsic motivation, an important creativity-related factor, of all student groups in the study. In terms of job satisfaction, supportive leader behaviors were important to student groups at South Korean universities whereas participative leader behaviors tend to increase, and controlling leader behaviors tend to decrease job satisfaction of student groups at the U.S. university.

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CHAPTER 1

INTRODUCTION

Background

In today's business world, creativity is becoming increasingly critical for the success of organizations. The ever-accelerating speed of change and international competition resulting from globalization, technology advancement, and the knowledge-based economy have made creativity and innovation a critical factor for the survival of organizations (Ford & Gioia, 1995). In order to adapt to changing environments and gain competitive advantage, organizations need creativity that drives organizational innovation and change (Amabile, 1988; Woodman, Sawyer, & Griffin, 1993). When employees work with creativity, they propose novel and useful ideas, processes, and products; these creative outcomes improve organizations' abilities to respond to external environments and, thus, adapt and compete better (Amabile, 1988; Oldham & Cummings, 1996; Van de Ven, 1986). That is why organizations and governments around the globe have been putting much effort into programs and activities, aimed at increasing creativity in order to deal with various economic, political, and social issues (Morris & Leung, 2010).

While creativity is called for all around the world, concern for creativity has been very high in several East Asian countries recently because there is a perception that Asians are less creative than Westerners (Morris & Leung, 2010). As a result, scholars and practitioners in Japan are increasingly questioning the effectiveness of traditional classrooms in school settings and hierarchy in workplaces and asking for changes in order to increase creativity and innovation (Hashimoto, 2004). And governments of

Taiwan and China have initiated efforts to foster creativity by developing creativity research programs and education centers (Morris & Leung, 2010).

South Korea is also facing the creativity challenge. During rapid industrialization, South Korean companies focused on imitating products created by other organizations in developed countries, and producing them at lower costs. However, many South Korean companies, including electronics, car manufacturing, and shipbuilding firms have now achieved the status of top global organizations in their industries. To remain competitive, it is necessary for them to develop novel and creative products to lead in the global markets. As an example of creativity-related concerns in South Korea, Kun Hee Lee, the chairman of Samsung, a large Korean conglomerate, has set ‘creativity’ and ‘imagination’ as a management agenda for the next 10 years (Park, 2010).

Where, then, does creativity come from? Creativity comes fundamentally from individuals (Amabile, 1988). Humans are the original source of creativity with which they add value and competitive advantage to organizations (Pfeffer, 1994). People increase productivity and living standards by developing new products or services with their creativity (Florida, 2002).

Although creativity mainly comes from individuals, many contextual factors have powerful influence on individual creativity by stimulating, channeling, or inhibiting individual creativity (Amabile, 1988; Ford, 1996; Oldham, & Cummings, 1996; Shalley, Zhou, & Oldham, 2004). The contextual characteristics related to individual creativity can be categorized into job, group, and organizational level factors (Joo, 2007; Shalley & Gilson, 2004). And the among group or team characteristics, leadership or support of

individuals' immediate leaders has very powerful impact on individual creativity (Amabile, Schatzel, Moneta, & Kramer, 2004; Oldham, & Cummings, 1996; Shalley & Gilson, 2004).

Given that creativity is an essential factor for the success of organizations and that leadership has strong influence on follower creativity, it should be asked how leader behaviors affect follower creativity and what kinds of leader behaviors are optimal for fostering creativity of followers. Moreover, considering the high concern for creativity in East Asian countries, one may ask whether leader behaviors would have the same influence on follower creativity regardless of their cultures. The problem here is that the majority of previous studies examining the influence of leadership on creativity were conducted in Western contexts and only few studies investigated the issue in other cultural contexts (Zhou & Su, 2010). It should be examined which leadership factors or leader behaviors enhance or inhibit follower creativity in a non-Western context (Shalley & Gilson, 2004; Zhou & Shalley, 2003).

How, then, is this leader behavior and follower creativity issue related to human resource development (HRD)? HRD is defined as:

> any process or activity that, either initially or over the long term, has the potential to develop adults' work-based knowledge, expertise, productivity and satisfaction, whether for personal or group/team gain, or for the benefit of an organization, community, nation, or, ultimately, the whole of humanity (McLean & McLean, 2001, p. 322).

Thus, for HRD professionals, leadership development is a key concept. Helping leaders learn and develop their knowledge and behaviors to enhance followers' motivation, satisfaction, and performance including creativity is an essential role of HRD professionals. By finding out the optimal leader behaviors for follower creativity and helping leaders to adopt the behaviors, HRD professionals can have significant contribution to enhancing organization creativity and adding competitive advantage to their organizations.

Problem Statement

Traditionally, creativity researchers have focused on individual characteristics that were related to creativity, such as personality and cognitive ability (Feist, 1998; Tierney, Farmer, & Graen, 1999). Since the late 1980s, the focus of research has moved from individuals to contextual characteristics (Sternberg & Lubart, 1999; Zhou & Shalley, 2003). As a result, studies on the impact of contextual characteristics on individual creativity have been increasing (e.g., Amabile & Conti, 1999; Amabile & Gryskiewicz, 1989; Ford, 1996; Oldham & Cummings, 1996; Woodman et al., 1993; Zhou, 2003; Zhou & George, 2003). The contextual characteristics related to individual creativity include job, group or team, and organizational level factors (Shalley & Gilson, 2004). And among the group or team characteristics, leadership or support of individuals' immediate leaders is one of the most potent factors impacting individual creativity (Amabile et al., 2004; Oldham, & Cummings, 1996; Shalley & Gilson, 2004).

One of the problems is that surprisingly there are not many studies investigating the influence of leadership on individual creativity considering the immediate impact of

leader behaviors on follower creativity (Amabile et al., 2004). Moreover, the majority of previous studies examining the relationship between leadership and creativity were conducted in Western countries and only few studies investigated the cross-cultural issue of leadership and creativity (Zhou & Su, 2010). Hence, it is not clear whether the relationship between leadership and creativity in non-Western cultures such as Confucian Asian cultures is the same as in Western cultures. Researchers should identify and uncover unique factors enhancing or inhibiting creativity in a non-Western context (Shalley & Gilson, 2004; Zhou & Shalley, 2003). This study is one such effort to address these problems.

Purpose of the Study

There are various factors associated with creativity, including personal characteristics and contextual characteristics. Personal characteristics include personality, cognitive style, and cultural values. Contextual characteristics can be categorized into organizational level factors, group level factors, and job level factors. As Shalley and colleagues (2004) argued, in order to understand the complex phenomenon of creativity, one needs to examine not only the multi-dimensional factors, but also the interaction between these factors. In addition, investigating the effects of these factors in international contexts is needed (Shalley et al., 2004)

As a result of a comprehensive literature review on creativity research and cross-cultural research, I extracted several constructs that are related to leader behaviors and creativity. I selected supportive-, participative-, and controlling leader behaviors as

leadership factors and intrinsic motivation and creativity as creativity factors. Rationale for the selection of the variables is discussed in detail in Chapter 2.

The main purpose of this study is to examine the influence of leader behaviors on follower creativity and intrinsic motivation, and to investigate whether the influence of leadership is different between two different cultures, South Korea and the United States. In other words, this research attempts to identify whether the effect of certain leader behaviors on follower creativity varies across cultures.

Research Questions and Hypothesized Model

The following research questions were developed to address the research problem. The specific research questions were:

1. What is the relationship between supportive-, participative-, or controlling leader behaviors of academic advisors and creativity of graduate advisee student groups at South Korean universities and U.S. universities?
2. Does intrinsic motivation mediate the relationship between leader behaviors of academic advisors and creativity of graduate advisee student groups?

The hypothesized model for this research is shown in Figure 1.The following seven hypotheses were tested in this study:

Hypothesis 1a: Supportive leader behaviors are positively related to creativity of graduate student groups at South Korean universities.

Hypothesis 1b: Supportive leader behaviors are positively related to creativity of graduate student groups at the U.S. university.

Hypothesis 2a: Participative leader behaviors are not significantly related to creativity of graduate student groups at South Korean universities.

Hypothesis 2b: Participative leader behaviors are positively related to creativity of graduate student groups at the U.S. university.

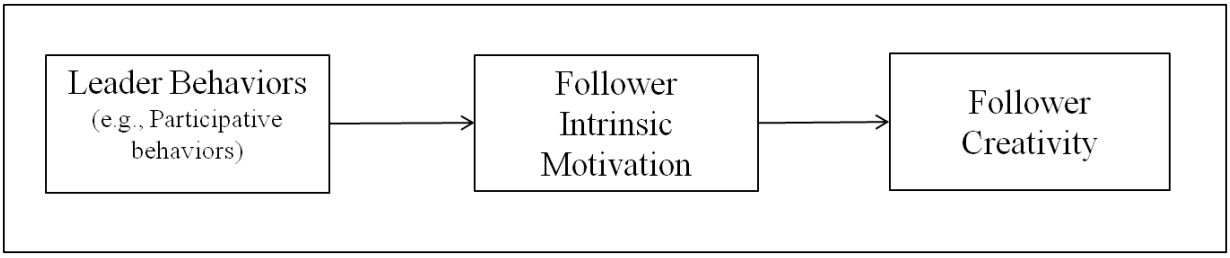
Hypothesis 3a: Controlling leader behaviors are not significantly related to creativity of graduate student groups at South Korean universities.

Hypothesis 3b: Controlling leader behaviors are negatively related to creativity of graduate student groups at the U.S. university.

Hypothesis 4: Intrinsic motivation mediates the relationship between leader behaviors of academic advisors and creativity of graduate advisee student groups.

Figure 1

Hypothesized Model



Significance of the Study

First, the study furthers our understanding of how to foster creativity. Since creativity is becoming increasingly important for the success of organizations around the world, finding ways of enhancing creativity is also becoming critical.

Second, despite the immediate impact of leader behaviors on follower creativity, there are not many studies investigating the influence of leadership on individual creativity (Amabile et al., 2004). This study expands the creative leadership research by examining the complex relationships between leader behaviors and follower creativity in academic settings.

Third, the most important contribution this study provides is that it investigates creativity in a non-Western context, in South Korea. As it is argued, creativity research conducted in non-Western contexts is rare (Shalley et al., 2004; Zhou & Su, 2010). Specifically, this study compares the relationship between leader behaviors and follower creativity in two different cultures, thus helps us identify the different leadership models for fostering creativity depending on culture.

Summary

Creativity is one of the critical requirements for the success of organizations. Leaders may have significant influence on employees' creativity. The problem is that the relationship between leadership and creativity were examined mostly in Western contexts (Zhou & Su, 2010). Therefore, it is not clear whether the relationship between leadership and creativity is the same across cultures.

The purpose of this study is to examine the influence of leader behaviors on follower creativity and intrinsic motivation, and to investigate whether the influence of leadership is different between cultures. Specifically, this study compares the relationship between leader behaviors and follower creativity in two different cultures, South Korea and the United States.

CHAPTER 2

LITERATURE REVIEW

This chapter presents the review of the literature, relevant to an investigation of the impact of leader behaviors on follower creativity and the possibly different relationships between certain leader behaviors and follower creativity depending on culture.

To identify findings of cross-cultural research on creativity, I searched the literature using search terms that were various combinations of words including creativity, creative, innovation, innovative, cross-culture, cross-cultural, leadership, leader, supervisor, and manager. I searched databases including Academic Search Premier, Academic Search Alumni Edition, Business Source Alumni Edition, Business Source Premiere, EBSCO MegaFILE, ERIC, and Google Scholar.

In this chapter, I first discuss definitions of creativity. Next, I review three perspectives on creativity in research, including personal, contextual, and integrative perspectives. Following is the review of studies examining the impact of leader behaviors on followers' creativity. Finally, the review of cross-cultural creativity and leadership research will be described in detail.

What is Creativity?

Definitions of Creativity

Researchers have studied creativity using diverse definitions (Amabile, 1988). Some researchers define creativity as characteristics of a person such as personality or traits (Amabile, 1988). Others have defined creativity as the process in which individuals engage in order to create a novel and unique product (Rogers, 1954).

While there are many different definitions of creativity, most researchers have defined creativity focusing on the outcome (Amabile, 1988). The reason why the outcome-based approach has been used widely is because it is difficult to measure creativity when focusing on either personality or process (Amabile, 1988). Measuring outcome-based creativity is simpler; and if we take the outcome-based approach, we can investigate which personal characteristics, environmental factors, and problem-solving processes are related to those creative outcomes (Amabile, 1988).

Using this outcome-based approach, research has taken many different approaches from creative products to creative business strategies, and to making creative process changes (Ford & Gioia, 2000). In terms of level or intensity, creative outcomes can range from small adaptations to major breakthroughs of work process or solutions (Mumford & Gustafson, 1988). Gardner (1993) described them as "little C creativity—sort which all of us show in our daily lives—and big C creativity—the kind of breakthrough which occurs only very occasionally" (p. 29). Similarly, creativity can be distinguished between psychological (P) creativity and historical (H) creativity (Boden, 1991). While P creativity is related to personal idea generation, H creativity has to do with ideas that are "fundamentally novel with respect to the whole of human history" (Boden, 1991, p. 32).

There are two elements of creativity: novelty and usefulness. Few people would challenge the notion that an idea must be novel or original to be considered as being creative (Joo, 2007). However, novelty alone is not enough to be creative; ideas must also be useful (Amabile, 1988). A novel idea that is not useful at work may be considered unusual, but not creative (Joo, 2007; Zhou & George, 2003).

Following the outcome-based approach, in this study creativity is operationally defined as the production of ideas about products, services, practices, processes, and procedures that are judged to be (a) original and novel, and (b) appropriate and potentially useful (Amabile, 1996; Joo, 2007; Oldham & Cummings, 1996; Shalley et al., 2004; Woodman et al., 1993; Zhou & George, 2001; Zhou & Shalley, 2003).

Three Perspectives of Creativity Research

Traditionally, creativity researchers have examined how individual characteristics influenced creativity; later, they have started to study the impact of contextual characteristics on creativity; recently, the integrative perspective that combines the two characteristics has emerged (Joo, 2007).

The Personal Characteristics Perspective on Creativity

Creativity research examining individual characteristics has its roots in psychology; such research has attempted to identify personal characteristics or cognitive abilities that can help individuals produce creative product (Joo, 2007; Shalley et al., 2004). In addition, creativity research at the individual level has also focused on developing creativity tests to evaluate and identify creativity of individuals, or training methods in order to enhance creativity of individuals (Joo, 2007; Shalley et al., 2004).

Amabile (1988) developed the componential theory of creativity in which three components of creativity are proposed: domain-relevant skills, creativity-relevant skills, and task motivation. Amabile (1988) argued that the overlapping area among the three components is the area of the highest creativity for individuals.

Thus, according to such research, the key for fostering creativity is to identify these individual characteristics related to creativity, and to develop the skills and motivation to maximize creative performance (Joo, 2007). Individual characteristics found to be related to creativity will be reviewed in more detail below.

Personality. Many researchers have determined that certain personality traits are related to creativity (e.g., Barron, 1968, 1969; Eysenck, 1993; Gough, 1979; McCrae & Costa, 1997). Most of them either used Gough's (1979) Creative Personality Scale (CPS) or utilized certain measures of the Five Factor Model of personality (FFM: Costa & McCrae, 1992) (Shalley, et al., 2004). As a result, it is found that these creativity-related personality traits are reasonably stable across fields and individuals possessing these traits tend to be more creative than others (Barron & Harrington, 1981; Gough, 1979; Joo, 2007). These traits include self-confidence, broad interests, openness to experience, unconventional, achievement-orientation, tolerance for ambiguity, autonomy, a firm sense of self as creative (i.e., creative self-efficacy), being attracted to complexity, being aesthetically oriented, and risk taking (Ford, 1995; Shalley & Gilson, 2004; Shalley et al., 2004; Simonton, 2000). Creative individuals are also found to have a discovery orientation that leads them to view situations from multiple perspectives, to find problems, and to ask novel questions (Csikszentmihalyi & Getzels, 1988).

Cognitive skills. In addition to personality traits, creativity requires creativity-relevant cognitive skills (Amabile, 1988). Creativity-relevant skills include the cognitive ability to find and construct problems, explore new perspectives, combine information, generate alternatives, suspend judgment, engage in divergent thinking, and evaluate ideas (Amabile, 1988; Shalley & Gilson, 2004). This cognitive approach is based on Kirton's (1976) Adaptation-Innovation Theory. Kirton (1976) proposed that individuals have a cognitive orientation or a preferred means of problem solving that lies between a bipolar continuum of an adaptor and an innovator. Individuals with an adaptive cognitive style (adaptors) tend to perform within given situations without challenging status quo, whereas those with an innovative cognitive style (innovators) are more likely to take risk and break the given norms to solve the problems than adaptors (Kirton, 1976). A number of empirical studies suggest that individuals with an innovative cognitive style tend to produce more creative work than those with an adaptive cognitive style (e.g., Tierney et al., 1999).

Knowledge. Broad and domain-specific knowledge has been found to foster individual creativity. Basic and advanced knowledge about a certain domain or a task is essential to work effectively and be creative (Amabile, 1988). This knowledge can be obtained through education, training, and experience within a particular context (Gardner, 1993). Education provides various experiences and viewpoints, and develops individuals' cognitive ability (Perkins, 1986). Experience in a domain is also required for creativity because individuals need some level of familiarity with the domain in order to work creatively (Amabile, 1988; Weisberg, 1999). This knowledge can become

individuals' "network of possible wanderings" (Newell & Simon, 1972, p. 82) or "raw materials for creative productivity" (Amabile, 1988, p. 131). When the pool of knowledge is larger, individuals with creativity-relevant skills would be able to create more numerous alternatives for producing novel and useful ideas (Amabile, 1988).

Motivation. Motivation is considered as one of the most important factor for individual creativity because individuals need some internal force that helps them to persevere in the inherent challenges of creative work (Amabile, 1988; Shalley & Gilson, 2004). Without motivation, individuals who have other creativity components such as personality traits, cognitive skills, and knowledge would not be fully engaged in creative performance (Amabile, 1988). In other words, it is motivation that makes "the difference between what an individual can do and what one will do" (Amabile, 1988, p. 133). Another reason for the importance of motivation in creativity is that motivation seems to depend substantially on the work environment; thus, small changes in the work environment may create considerable difference in individual creativity (Amabile, 1988).

Task motivation can be divided into two elements: an intrinsic motivation (doing the work for the individual's intrinsic interest toward the task itself) and an extrinsic motivation (doing the work for some extrinsic constraints or motivators) (Amabile, 1988). If someone has a high level of intrinsic motivation, the person is attracted, excited, and self-motivated by the work itself; social environment, in contrast, can create individual extrinsic constraints or motivators such as reward, recognition, or threats aside from the work itself (Amabile, 1988). Many studies have focused on the importance of motivation and found that intrinsic motivation was linked to high creativity whereas

extrinsic motivation was related to low creativity (Amabile & Gryskiewics, 1989; Shalley, 1991; Shalley & Oldham, 1997). And it is suggested that intrinsic motivation can be damaged and changed to extrinsic motivation by the imposition of extrinsic constraints; therefore, fostering intrinsic motivation is regarded as a way to improve individual creativity (Amabile & Gryskiewics, 1989; Deci & Ryan, 1985).

The Contextual Characteristics Perspective on Creativity

Next, contextual characteristics that were found to influence creativity are reviewed. While the ultimate source of creativity is an individual, successful production of creative outcomes also depends on social contexts (Mumford, Scott, Gaddis, & Strange, 2002). The work environment or contextual characteristics affect how individual creativity is applied into the final products or outcomes (Amabile, 1988).

Contextual characteristics are various characteristics of work environment that may impact an individual's creativity but that do not belong to the person (Shalley et al., 2004). These characteristics such as job complexity, training, team environment, influence of an immediate leader, or a rewards system can have significant impact on individuals' cognitive skills, motivation, and/or knowledge, which, in turn, affect creativity.

Focusing on this contextual approach, creativity researchers have begun to conduct research since the early 1990s (Joo, 2007). Most of the studies using the contextual perspective are based on the assumption that contextual characteristics affect individuals' creativity through their effects on intrinsic motivation (Shalley et al., 2004). As discussed earlier, individuals tend to show creative performance when they have high

intrinsic motivation (i.e., doing the work for the individual's intrinsic interest in the task itself).

The effects of contextual factors on individuals' intrinsic motivation can be explained using the Cognitive Evaluation Theory, which argues that all contextual factors have informational and controlling aspects (Deci & Ryan, 1985). When the contextual factors appear controlling, individuals perceive that their ideas or actions are being constrained by the contextual factors and feel that they are not the origin of their own ideas and actions; as a result, their intrinsic motivation should decrease, which in turn will negatively influence creativity (Deci & Ryan, 1985; Shalley et al., 2004). In contrast, when the contextual factors are informational, individuals feel there is little external pressure and the contextual factors acknowledge their competence; as a result, individuals should feel encouraged and supported, which enhances intrinsic motivation and thus, creativity (Deci & Ryan, 1985; Shalley et al., 2004).

The contextual characteristics examined by researchers can be categorized into three levels: (a) job level, (b) team level, and (c) organizational level. Job level characteristics include job complexity and the task goal. Team level characteristics include resources, rewards, evaluation, relationships with leaders and coworkers, and group composition. Organizational characteristics include organizational climate, structure, and organizations' human resource practices.

Job-level characteristics. Certain characteristics of job or task such as job complexity or the goal of the task can affect individuals' creativity by shifting their attention and increasing or inhibiting their motivation.

Job complexity. Objective job characteristics such as job complexity should be considered as a critical component for creativity (Amabile, 1988). Researchers have suggested job structures affect employees' creativity at work (Oldham & Cummings, 1996). Specifically, complex and challenging jobs are likely to push individuals to focus their attention and effort on their jobs, and help them be more persistent and consider various alternatives, which should lead to creative outcomes. On the other hand, simple and routinized jobs may not motivate individuals or provide them with the flexibility to try new things and take risks, thus, inhibiting creative performance (Amabile & Gryskiewicz, 1989; Hatcher, Ross, & Collins, 1989; Oldham & Cummings, 1996; Tierney & Farmer, 2002).

Task goal. In addition to the task complexity, the goal of the task is considered to be connected to employee creativity (Shalley & Gilson, 2004). Goals affect individuals' motivation through their impact on self-regulatory mechanisms (Kanfer & Ackerman, 1989). By setting goals, managers can provide their employees with clear direction on what needs to be done and what is valued in their organization (Shalley & Gilson, 2004). Several studies have found that when individuals know that creativity is an important goal, they are more likely to show creative performance (Carson & Carson, 1993; Shalley, 1991, 1995).

Team-level characteristics. In modern organizations, many employees do not work alone. In many cases, they work with their supervisors and other members in a team and creativity results from interactions between leaders, coworkers, and team members (Mumford & Gustafson, 1988). Thus, many researchers have examined how various team

level characteristics such as resources, rewards, evaluation, leaders, coworkers, and group composition affect individual creativity.

Resources. First, sufficient resources including access to necessary material, financial, and human resources are required for creativity; sufficient time is also a critical resource for creative work (Amabile & Gryskiewicz, 1989) because creative work takes time, a great amount of hard work, and mental energy (Shalley & Gilson, 2004). However, if there is no sense of time urgency, people may think that their project is unimportant and lose interest in the task; thus, a balanced amount of time pressure seems to be required for creativity (Amabile, 1988; Amabile & Gryskiewicz, 1989). Similarly, if necessary resource is abundant, it might negatively impact creativity because abundant resources may make individuals too comfortable (Csikszentmihalyi, 1997). Therefore, employees should be provided with a reasonable amount of the necessary resources (Drazin, Glynn, & Kazanjian, 1999).

Rewards. Amabile (Amabile, 1988; Amabile & Gryskiewicz, 1989) has argued that it is intrinsic motivation rather than extrinsic motivators such as rewards that fosters creativity. However, Amabile (1988) admitted that if there are no reward systems for creativity, employees may feel that creativity is not recognized and valued by their management. Therefore, it was suggested that organizations should "establish a reward system that generously and equitably recognizes and rewards good work" (Amabile, 1988, p. 149). Similarly, Eisenberger and Armeli (1997) have argued that rewards are not harmful for fostering creativity and that the types of behaviors rewarded and the way the

rewards are distributed matter because rewards can be used for showing recognition of employees' creative effort, competence, and actual outcome.

Evaluation. Evaluation of work by leaders was also found to have certain effects on followers' creativity depending on the type of the evaluation. A judgmental evaluation - one that critically assess the creativity of individuals' outcome - is generally found to have negative impact on individuals' creativity (e.g., Amabile, 1979; Amabile, Goldfarb, & Brackfield, 1990) because individuals would perceive judgmental evaluation as controlling and focus on the evaluation rather than on the work, resulting in lowered intrinsic motivation and creativity (Shalley et al., 2004).

In contrast, studies examining the effects of developmental evaluation - one that intends to develop individuals' competence and performance - typically found its positive relationship with creativity (e.g., Shalley, 1995; Shalley & Perry-Smith, 2001; Zhou, 1998). For example, Zhou (1998) found that individuals who received developmental feedback on a preliminary task showed higher levels of creativity on a following task than individuals who were provided judgmental and controlling feedback.

Leaders. The relationship between leader characteristics and followers' creativity has been studied by a number of researchers. In general, research has found that supportive leader behaviors create work environments that promote creativity while controlling leader behaviors inhibit creativity (e.g., Amabile & Conti, 1999; Amabile et al., 2004; Amabile & Gryskiewicz, 1989; Andrews & Farris, 1967; Madjar, Oldham, & Pratt, 2002; Oldham & Cummings, 1996; Scott & Bruce, 1994; Shalley & Gilson, 2004; Tierney et al., 1999; Zhou & George, 2003). However, researchers constantly find that

there are interactions between contextual factors including leader characteristics and individual characteristics that influence creative performance (e.g., George & Zhou, 2001; Oldham & Cummings, 1996; Tierney et al., 1999). Thus, it is suggested that leaders need to consider the characteristics of their followers to provide the right support for creativity to be enhanced (Shalley & Gilson, 2004). Since the influence of leader behaviors on followers' creativity is the focus of this study, it will be reviewed in more detail later.

*C**oworkers.*** Research found that team members and coworkers can have a strong influence on individuals' creativity. First, group communication of ideas and information is positively related to the generation of creative ideas (Monge, Cozzens, & Contractor, 1992). When people are open to new ideas, provide constructive feedback, trust, and help each other, individual creativity is likely to increase (Amabile, 1996). Second, if there is a creative team member, the person can enhance other members' creativity as a creative role model. For instance, individuals exposed to a creative role model showed higher levels of creativity on a task than those not exposed to a role model (Shalley & Perry-Smith, 2001). If individuals have ability required for creativity, but do not currently work creatively, they are more likely to perform creatively after seeing a demonstration of the appropriate thought processes and outcomes (Shalley & Gilson, 2004).

Group composition. Researchers have proposed that group diversity should help enhance creativity of the group members by increasing the range of knowledge, skills, and perspectives (e.g., Ancona & Caldwell, 1992; Hoffman, 1959; Nemeth, 1986). And it has been found that group diversity is related to higher creative performance including

generating more alternatives and higher quality ideas (Andrews, 1979; Gilson, 2001; McLeod & Lobel, 1992). However, while diversity is beneficial for creativity, groups may need to develop a shared mental model in order to understand and evaluate the value of different ideas (Mumford, Feldman, Hein, & Nagao, 2001).

Organizational-level characteristics. While individual and team level factors have substantial impact on individual creativity, there are many factors that foster or hinder individual creativity at an organizational level. Organizational factors related to creativity include organizational climate, structure, and human resource practices.

Organizational climate. If management wants their organizational members to be creative, it is suggested that they should foster an organizational climate where risk taking and experiment are encouraged and not punished (Shalley & Gilson, 2004). Employees should feel psychologically safe so that they would not receive blame or punishment for their new ideas or when they break the status quo (Edmondson, 1999). For example, Nystrom (1990) found that when organizational cultures encouraged risk taking, organizations were more innovative.

Another important component of organizational climate is the justice or fairness (Shalley & Gilson, 2004). Employees should perceive that important decisions are made and applied in a just manner in their work context so that they do not need to worry about how they will be treated (Shalley & Gilson, 2004).

Organizational structure. It is found that organizational structure can influence creativity. Organizational structures promoting open communication with others, or information seeking from different external sources were found to foster creativity

(Ancona & Caldwell, 1992; Dougherty & Hardy, 1996). Organizations with bureaucratic or authoritarian structures tend to be less innovative than organizations with flatter structures because bureaucratic hierarchy may not encourage individuals to experiment with new things (Hage & Aiken, 1969).

Organizational human resource practices. First, selection and placement can foster creativity at the organizational level. Since individuals have different personality, ability, and orientation toward creativity as discussed above, organizations can select individuals who are more likely to work creatively and place them in a job requiring high creativity (Shalley & Gilson, 2004).

Training can also promote individuals' creativity by enhancing individuals' creative skills, knowledge, and task domain expertise (Basudur, Graen, & Green, 1982). Creative problem solving training was found to enhance the level of individual creativity (Basudur, Wakabayashi, & Graen, 1990). Therefore, leaders should consider providing creativity-relevant training to enhance followers' creativity.

While selection, placement, and training have impacts on creativity, creating systematic methods for assessing and rewarding creativity is important. If an organization evaluates and rewards creativity, it will send a signal to employees that creativity is in fact valued in their organization, which will have positive impact on their creativity (Shalley & Gilson, 2004).

The Integrative Perspective on Creativity

Sternberg and Lubart (1999) argued that the majority of previous creativity studies have viewed a part of creativity as the whole phenomenon, resulting in a narrow

and unsatisfying vision of creativity. In fact, some contextual factors discussed earlier such as support of coworkers, financial rewards, and time deadline have shown inconsistent effects on individuals' creativity (Shalley et al., 2004). It may be that the effects of certain contextual characteristics on creativity interact with certain individual characteristics; for example, individuals with certain personalities may respond positively to financial rewards, whereas individuals with different personalities may respond quite differently (Shalley et al., 2004).

Many recent studies on creativity have hypothesized that multiple factors must converge for creativity to occur (Amabile, 1996; Csikszentmihalyi & Getzel, 1988; Gardener, 1993; Lubart, 1994; Mumford & Gustafson, 1988; Simonton, 1988; Sternberg, 1985; Woodman et al., 1993). Among these, Woodman et al.'s (1993) interactionist perspective provides good theoretical base for this study because the theory provides "an integrating framework that combines important elements of the personality, cognitive, and social psychology explanations of creativity" (Woodman et al., 1993; p. 294). Thus, the interactionist perspective is reviewed in more detail below.

Interactionist perspective. The interactionist perspective views a creative behavior of an individual as "a complex person-context interaction influenced by events of the past as well as salient aspects of the current situation" (Woodman et al., 1993, p. 294). Woodman (1993) argued that in order to understand organizational creativity, one needs to understand (a) the creativity process, (b) the creative outcome, (c) the individual, (d) the situation, and (e) the way in which each of these interacts with the others.

Based on the interactional psychology, the interactionist model views individual creativity as a function of individual characteristics such as antecedent conditions (e.g., past reinforcement history), cognitive skills, personality, knowledge, and motivation, and contextual factors including rewards, leader behaviors, physical environment, and time constraints; group creativity is viewed as a function of individual creative behaviors, group characteristics (e.g., norms, size, composition), and contextual influences (e.g., the larger organization); organizational creativity is defined as a function of the creative outcome of groups and contextual influences (e.g., organizational culture, the larger environment outside the system) (Woodman et al., 1993).

Empirical studies using integrative perspectives. There are a few empirical studies examining possible interactions between individual characteristics and contextual characteristics. Most of the works have investigated the interactions between contextual factors and individuals' personality or between contextual factors and individual cognitive styles (Shalley et al., 2004). Many studies examining individual personality have focused on the Creative Personality Scale (CPS) or openness to experience (George & Zhou, 2001; Oldham & Cummings, 1996). In general, it is argued that individuals with high score on CPS or openness to experience respond positively to contextual factors that support creativity (e.g., supportive supervision) whereas those with low score on CPS or openness to experience respond less positively to them (Shalley et al., 2004).

Studies examining the relationship between individual cognitive style and contextual conditions found that the cognitive style interacted with contextual factors (Shalley et al., 2004). For example, employees with an adaptive cognitive style showed

the highest level of creativity when they had supportive and good relationship with their supervisors (Tierney et al., 1999). Baer, Oldham, and Cummings (2003) found that rewards fostered creativity of employees who had an adaptive cognitive style and were working on simple tasks; employees who had an innovative cognitive style and were working on complex tasks were generally unaffected by rewards; finally, those who had the adaptive style and were working on complex tasks or those who had the innovative style and were working on simple tasks showed lower creativity as more rewards were given.

In addition to studies investigating interactions among personal and contextual characteristics, a few other studies have examined interactions between one or more of the contextual factors (e.g., Baer et al., 2003; Owens, 1969; Pelz, 1956; Shalley, 1991; Shalley & Oldham, 1997; Zhou, 2003). For example, Shalley and Oldham (1997) examined the interaction between the effect of competition and the visibility of actual competitors. They found that creativity of individuals who competed with others in the same room was lower than that of individuals competing with invisible competitors. Pelz (1956) found interaction between similarity in values of scientists and frequency of contacts among them. Scientists who shared similar values with their coworkers showed the highest level of creativity when they made infrequent contact with coworkers; however, scientists who had different values than coworkers showed the highest level of creativity when they contacted one another frequently (Pelz, 1956). Owens (1969) found that supportive leadership positively influenced creativity of engineers only when there were creative role models such as the senior leader of the department or coworkers.

Similarly, Zhou (2003) showed that non-controlling and supportive behaviors increased employee creativity when the work group included highly creative coworkers. These results may show that the effect of supportive leader behaviors is more significant when creative role models are present that individuals can see how to produce creative outcomes (Shalley et al., 2004).

In summary, the integrative model provides the guiding framework for this study because it combines important elements of the personal and contextual characteristics and examines the interactions among these elements. And the studies reviewed above suggest that unclear contextual effect on individual creativity might be explained when considering interactions between individual characteristics and contextual conditions (Shalley et al., 2004).

In the following section, the influence of leader behaviors on followers' creativity is reviewed in more detail.

The Influence of Leader Behaviors on Follower Creativity

As discussed earlier, creativity fundamentally comes from individuals (Amabile, 1988). And in contemporary organizations, most projects are performed by a group or a team of individuals (Amabile et al., 2004). Thus, individuals' creative performances depend not only on their personal characteristics, but also on the work environment (i.e., contextual characteristics) around them (Amabile, 1988). Among all the contextual factors discussed earlier that influence individuals' daily work and creativity, one of the most immediate and powerful factors is likely to be the leaders of the teams; those immediate leaders direct and evaluate followers' work, provide access to resources and

information, and affect followers' engagement with tasks in various ways (Amabile et al., 2004).

Leadership research has found that general employee performance is enhanced by certain leader behaviors such as planning, monitoring, networking, role modeling, developing followers, providing autonomy, recognizing, and socioemotional support behaviors (Amabile et al., 2004; Kim & Yukl, 1995; Kotter, 1982; Van Fleet & Yukl, 1986). And in response to the increasing importance of creativity, many creativity researchers also examined how creativity of followers is affected by leader behaviors.

Leader Behaviors Affecting Creativity

Many creativity studies have examined how supervisors' behaviors affected followers' creativity. Andrews and Farris (1967) found that scientists' creativity was enhanced when their supervisors listened to their concerns and allowed them to participate in making important decisions that might affect them. When followers received encouragement from leaders and had open interactions with leaders, employee tended to show high creativity (Tierney et al., 1999). Similarly, Frese, Teng, and Wijnen (1999) found that employees submitted more creative ideas to the organization's suggestion program when supervisors encouraged employees to do so. Constructive feedback and evaluation from leaders enhanced follower creativity (Mumford, Connelly, & Gaddis, 2003), whereas managers' negative feedback inhibited follower creativity (Andrews & Gordon, 1970). Employees' creativity was increased when managers contributed to problem finding and increased followers' self-efficacy (Redmond, Mumford, and Teach, 1993). Similarly, supportive and non-controlling leader behaviors

were found to improve employee creativity (Oldham & Cummings, 1996). When leaders were creative role models, follower creativity was enhanced (Jaussi & Dionne, 2003). Shin and Zhou (2003) found that when leaders showed transformational leadership (i.e., providing intellectual stimulation, individualized consideration, and inspirational motivation), employees showed a high level of creativity. Effectively managing followers' emotions and providing intellectual stimulation was also found to enhance creativity of followers (Zhou & George, 2003).

In contrast, controlling leader behaviors were found to inhibit followers' intrinsic motivation and creativity (e.g., George & Zhou, 2001; Oldham & Cummings, 1996; Stahl & Koser, 1978; Zhou, 2003). Controlling supervisors closely monitor employees' behaviors, make decisions without follower input, and generally demand that followers follow strict rules and guidelines (Deci, Connel & Ryan, 1989). These controlling behaviors shift employees' attention away from work and toward external concerns (Deci & Ryan, 1987). Followers would perceive that they are constrained by their leaders, and consequently experience low intrinsic motivation, which in turn leads to low creativity (Deci & Ryan, 1985; Zhou & Su, 2010).

For example, when supervisors provided performance feedback in a controlling manner, participants' intrinsic motivation was inhibited (Ryan, 1982; Ryan, Mims, & Koestner, 1983). Similarly, children under surveillance showed lower intrinsic motivation than those who were not monitored (Lepper & Greene, 1975). In terms of creative outcomes, children, confronted with controlling rules (e.g., being asked to be neat while painting a picture) showed significantly lower level of creativity than children who were

not exposed to such rules (Koestner, Ryan, Bernieri, & Holt, 1984). Stahl and Koser (1978) also found that employees who worked under highly controlling managers showed low creative outcomes.

In sum, when leaders are supportive (e.g., listen to followers' concerns and opinions, provide constructive feedback and encouragement, and allow autonomy and participation in decision making) and behave as creative role models, followers' creativity is enhanced. However, when leaders are controlling (e.g., closely monitor, demand strict adherence to rules, and make decisions without employee input), followers' creativity tends to be inhibited (Shalley et al., 2004).

Influence of Culture on Creativity and Leadership

As organizations and industries have increasingly become global, it is necessary to expand the creativity research to the international and cross-cultural arena (Zhou & Su, 2010). However, the vast majority of previous creativity studies have been conducted in the U.S. or other Western countries (Shalley et al., 2004). Thus, it is necessary to examine creativity and influence of creativity-related factors in non-Western cultures. In this section, I start with the review of cross-cultural research on creativity that mainly compares levels of creativity in different cultures. Following is the review of cross-cultural studies examining the influence of leader behaviors across cultures. Then, cultural value dimensions relevant to the focus of this study will be introduced.

Cross-cultural Research on Creativity

Many studies in this cross-cultural creativity area have compared creativity level of individuals from different countries. Some researchers attempted to measure creativity

of individuals using laboratory tasks and others investigated the level of individual characteristics that are considered to be mediators of creativity. In general, research failed to show consistent findings of cross-cultural difference in individual creativity.

For example, Jellen and Urban (1989) assessed the creative potential of children from 11 countries using a Test for Creative Thinking–Drawing Production. They found that, except for children from the Philippines, those from Western countries (United States, UK, & Germany) showed higher scores than those from Eastern countries (China, India, & Indonesia). Similarly, Jaquish and Ripple (1984) assessed creativity of Chinese and Americans across different age groups ranging from 9 to 60 years old. It was found that Americans scored higher on fluency, flexibility, and originality across different age groups than did the Chinese. Similarly, Saeki, Fan, and Dusen (2001) compared American and Japanese college students' performance on the Torrance Tests of Creative Thinking (TTCT). Results showed that American students outperformed Japanese students on the test. However, the two groups did not differ on the fluency and originality, which are key indicators of creativity (Torrance, 1974); their differences in creativity came from differences in the elaboration and the abstractness scores.

However, other studies found contrasting results or failed to find creativity differences across cultures. For example, Rudowicz, Lok, and Kitto (1995) observed that Chinese children from Hong Kong showed significantly higher scores than American children on the TTCT Figural Form. Similarly, Pornrungroj (1992) compared Thai children born and raised in Thailand with Thai American children born and raised in America using the TTCT Figural Form. Results showed that Thai children showed

significantly higher scores than did the Thai American children on all test factors. Riquelme (2002) attempted to compare creativity of Chinese and Spanish students using graphic design task. The participants were asked to assemble alphanumeric characters, shapes, and lines into a creative figure. Creativity was rated by independent judges. Results showed that there were no differences in creativity of the figures they produced.

Some other researchers attempted to explain the cross-cultural difference by measuring individual characteristics that were hypothesized to be related to or mediate creativity; their rationale was that if individuals from different cultures show different levels of these individual characteristics, and if these characteristics are related to creativity, then cultural differences in creativity may be explained by differences in these individual characteristics (Zhou & Su, 2010). For example, Zha, Walczyk, Griffith-Ross, Tobacyk, and Walczyk (2006) compared American graduate students and Chinese graduate students on the level of divergent thinking and individualism-collectivism. It was found that the American students scored higher on both divergent thinking and individualism than did the Chinese students. However, the divergent thinking measures were not significantly correlated with the individualism–collectivism measures. Thus, the results failed to support the researchers' hypothesis that individualism–collectivism would explain why the Americans scored higher than the Chinese on the divergent thinking test. As another example, a study by Burns and Brady (1992) showed that American undergraduate students scored higher on need for uniqueness (i.e., the motive to stand out from others) than Malay undergraduate students. Although need for uniqueness was considered to be associated with creativity, Burns and Brady (1992) did

not directly measure participants' levels of creativity. Thus, it is difficult to conclude that need for uniqueness mediates the relation between culture and levels of creativity.

In sum, the above studies failed to show consistent cross-cultural differences in creativity at the individual level. It is still not clear whether there are creativity differences at the individual level across cultures.

Another study worth noting with regard to this complex cross-cultural creativity issue has compared Singaporeans and Israelis, and showed that both groups had similar scores on a creativity test when performing individually (Nouri, Erez, Rockstuhl, & Ang, 2008). An interesting result was that when working in a dyad, Singaporeans were less original, but elaborated more on each idea to stress its appropriateness than Israeli dyads. The result suggests that Singaporeans tend to refrain from generating novel ideas that deviate from the social norms when working in presence of others; it can be interpreted that cultural difference or the effect of culture is activated in social contexts (i.e., the interpersonal relationships) (Morris & Leung, 2010).

Considering the finding above, cultural differences in creativity may hinge on social contexts such as relations with leaders, coworkers and other social networks in which individuals are embedded; cross-cultural research needs to go beyond examining creativity merely in terms of individual characteristics, and incorporate how social contexts may play a role in creating similarities and differences in creativity (Zhou & Su, 2010). Since the focus of this study is to examine the influence of leader behavior on follower creativity across cultures, I will review cross-cultural leadership studies

examining the different effect of leadership and leader behaviors on followers in more detail below.

Cross-cultural Research on Leadership and Leader Behaviors

As most of leadership research during the past half-century was conducted in the United States and other Western countries, many scholars have noted that they need to understand how leadership is enacted in various cultures and to explain different leader behaviors and effectiveness across cultures (House et al., 2004). In general, many studies found that impact of leader behaviors and preferred leadership styles vary considerably as a result of different cultures while some leader behaviors are universally effective across cultures (House et al., 2004).

Muczyk and Reimann (1987) proposed that three leadership behaviors -- consideration, concern for production, and rewarding -- are universally effective. However, the effectiveness of participation (i.e., degree to which employees are involved in work-related decisions) and direction (i.e., amount of follow-up or directive behavior regarding the execution of a decision that has been made) is contingent on situations (Muczyk & Reimann, 1987).

Many researchers have attempted to find the ideal leadership model in non-Western cultures. As a result, it was found out that ideal leaders in cultures with high power distance and collectivism are those who support, care for, and show commitment to growth of followers; and at the same time, those ideal leaders demand respect and obedience from their followers (Ayman & Chemers, 1983; Misumi, 1985; Sinha, 1994; Steers, Shin, & Ungson, 1989). This reciprocal relationship between leader support and

follower respect characterizes the ‘paternalistic’ leader in these high power distance and collectivistic culture (House et al., 2004). Supporting these arguments about ideal leadership in non-Western cultures, Hui, Au, and Fock (2004) found that Chinese employees reacted less negatively to and showed higher job satisfaction in low autonomy condition compared with Westerners.

Similarly, Dorfman and colleagues (1997) compared the effectiveness of various leadership behaviors among Japan, Korea, Mexico, Taiwan, and the United States. They found that supportive, charismatic, and contingent rewards (i.e., positive feedback and recognition) leader behaviors were positively related to follower satisfaction and performance in all countries. However, the effectiveness of participative and directive leader behaviors varied across countries. Especially, participative leadership was effective only in the U.S. where individualism was high, whereas its effect was non-significant or negative in collectivistic countries.

In a similar vein, House and colleagues (2004) argued that people in different cultures would have different ideas about the attributes of effective leaders or leadership. By examining 62 different societies, they found that the preferred leadership styles vary as a result of cultural forces. Specifically, people from the Confucian Asia cluster (including China, Japan, Singapore, South Korea, and Taiwan) are likely to describe effective leaders as individuals who are charismatic, care about their teams and members, but make independent decisions without the input of others (i.e., less participative); in contrast, people from Anglo cluster (including the U.S., Canada, England, and Australia) desire leaders who are charismatic, highly participative, and humane-oriented (House et

al., 2004). While people from both cultures expect leaders to motivate and care about people (i.e., charismatic and humane-oriented), Confucian Asians value participative leadership less than do Westerners. This finding replicates Dorfman and colleagues' study (1997) in that while there are some universally effective leader characteristics, the effectiveness of some leader characteristics are contingent on culture (Javidan, Dorfman, de Luque, & House, 2006).

Another study by Shin and Zhou (2003) also showed important finding relevant to the relationship between leadership and creativity. The researchers investigated whether individual differences in South Korean employees' conservation value moderated the relation between transformational leadership and employee creativity. Conservation refers to the extent to which individuals value tradition, security, and conformity (Schwartz, 1992). Interestingly, it was found that the positive relationship between transformational leadership and creativity was especially strong for employees with high conservation value. It was argued that transformational leadership, which includes intellectual stimulation, inspirational motivation, individualized consideration, and idealized influence (Bass, 1985) might be especially effective to promote creativity of conservation-oriented employees because it fulfilled their expectations of traditional paternalistic leadership (Zhou & Su, 2010).

These findings are consistent with findings from cross-cultural team research, which indicate that people from different national cultures use different metaphors to describe their relationship with teams (Gibson & Zellmer-Bruhn, 2001). The researchers identified five team metaphors (i.e., family, community, military, sports team, and

associates), each of which indicated individuals' understanding and expectations about how teamwork should be managed and processed. This cognitive framework or the 'mental picture' of teams guides and shapes individuals' behavior and their preferred actions within teams (Gibson, & Zellmer-Bruhn, 2001).

Specifically, individuals in collectivistic cultures are more likely to use a family or military metaphor to describe their team (Gibson, & Zellmer-Bruhn, 2001). These metaphors depict expectations for clear hierarchical roles, which may be more accepting of controlling or autocratic leaders. In contrast, individuals in more individualistic cultures were more likely to use sport team or associate team metaphors (Gibson, & Zellmer-Bruhn, 2001). These sport team or associate team metaphors depict a more egalitarian attitude and dependencies among team members, and individuals are likely to less favor controlling or autocratic leaders.

In conclusion, these contrasting findings in non-Western and Western cultures clearly illustrate that influences of certain leader behaviors and preferred leadership styles vary across cultures. These preferred leadership styles in people's mind affect how followers accept and respond to certain leader behaviors; the acceptance of the leader behavior, in turn, influence the effectiveness of the leader (Dorfman et al., 1997; Gibson & Zellmer-Bruhn, 2001; House et al., 2004; Shin & Zhou, 2003).

Cultural Values

As discussed above, people's preferred leadership styles and their response to certain leader behaviors vary as a result of cultural differences. Culture includes values, rituals, heroes, and symbols and is manifested in institutions of society such as

governments, legal systems, educational systems, family structures, and religious organizations (Hofstede, 2001). Among these various factors, values are the core of culture (Xin, 1996). Values are defined by Hofstede (1980) as "a broad tendency to prefer certain states of affairs over others" (p. 18). One should, then, ask which values differentiate one culture (e.g., Confucian Asian) from another (e.g., Anglo) and may moderate the relationship between leader behaviors and follower attitude and performance.

In his seminal study, Hofstede (1980) identified four cultural values through the analysis of a morale survey of IBM employees from 40 countries. He labeled them individualism-collectivism, power distance, uncertainty avoidance, and masculinity. Although there were other researchers who investigated cultural values before Hofstede (e.g., Kluckhohn & Strodtbeck, 1961), Hofstede's study was the first large-scale empirical cross-cultural study and provided a basis for numerous follow-up studies (House et al., 2004).

I argue that among four cultural value dimensions developed by Hofstede (1980), individualism-collectivism and power distance are particularly relevant to the issue of leadership and creativity. That is because power distance explicitly addresses the relationship between superiors and followers. And the dimension of individualism-collectivism, which was found to be correlated with power distance (Hofstede, 1980), is also related to values such as conformity to environment, maintaining harmony, and respecting elders and superiors that may shape individuals' interpersonal relationships with their leaders (House et al., 2004). These two cultural value dimensions also broadly

distinguish between Confucian Asian cultures and Anglo cultures. Specifically, individuals from Confucian Asian cultures are typically lower in individualism and higher in power distance compared to those from Anglo cultures (Hofstede, 1980). These cultural value dimensions will be briefly reviewed below.

Individualism-collectivism. Hofstede, Hofstede, and Minkov (2010) provide the following definitions of individualism and collectivism:

> individualism pertains to societies in which the ties between individuals are loose: everyone is expected to look after him- or herself and his or her immediate family. Collectivism as its opposite pertains to societies in which people from birth onward are integrated into strong, cohesive in-groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty (p. 92).

In individualistic cultures, people are viewed as independent and unique (Markus & Kitayama, 1994). In contrast, people in collectivistic cultures view themselves as interdependent with the group to which they belong (Goncalo & Staw, 2006).

Because the individual's identity is closely related to the group in collectivistic cultures, the individual tend to promote the group's goal rather than to maintain his or her own interests and independence from others (Davidson, Jaccard, Triandis, Morales, & Diaz-Guerrero, 1976). There is greater emphasis on following shared rules in order to maintain harmony in the group rather than standing out by making achievements (Goncalo & Staw, 2006).

In contrast, most people in individualistic cultures view their identity as being based on their unique personal characteristics; because individualistic cultures stress one's self and one's unique needs and desires, people in individualistic cultures strive for recognition by achieving beyond the norms of the group, whereas collectivists are more motivated to understand and maintain the norms for the interests of the group (Goncalo & Staw, 2006). Thus, while conformity is often considered negatively in individualistic cultures, uniqueness can be viewed as deviance from the standard in collectivistic cultures (Kim & Markus, 1999). Thus, people in individualistic cultures tend to resist social pressure and maintain their opinions in the face of opposition while people in collectivistic cultures might consider it rude and inconsiderate not to yield to others (Goncalo & Staw, 2006).

Power distance. Power distance refers to "the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally" (Hofstede et al., 2010, p. 61). The term power distance was borrowed from the work of Mulder (1977) (Hosftede, 2001). According to Mulder (1977), power is "the potential to determine or direct the behaviors of another person or other persons" (p. 90). Power distance determines how much hierarchical inequality people will accept and consider as proper, such as the distribution of prestige, social status, wealth, the class system, and access to universal rights (Bochner & Hesketh, 1994).

In a low power distance society, inequality is viewed as something that should be minimized, whereas it is viewed as the basis of societal order in a high power distance

society (Hofstede et al., 2010). Thus, members of a high power distance society tend to accept inequality in the social hierarchy and control of people with low power by people with high power (Hofstede et al., 2010). In organizations, employees in high power distance cultures tend to respect and obey their leaders; they are likely to be afraid or at least unwilling to disagree with their supervisors (Bochner & Hesketh, 1994; Hofstede et al., 2010). With regard to a preferred leadership style, most individuals in low power distance cultures prefer a more participative or consultative one while most individuals in high power distance cultures prefer persuasive/paternalistic leadership (Hofstde et al., 2010). It was also found that employees in high power distance cultures would report their bosses to be more autocratic and paternalistic than would employees in low power distance cultures (Hofstede et al., 2010). It should be noted that we should distinguish between formal and informal participation when linking power distance to participation preference. Power distance was not correlated with organizational members' preferences for formal participation structures (e.g., participation through union representative or workers' councils); however, individual employees' preferences for informal consultation with their leaders were negatively related to power distance (Hofstede et al., 2010).

The degree of centralization of authority was also affected by power distance. Organizations in a high power distance culture would have more and steeper hierarchical levels than would organizations in a low power distance culture (Hofstede, 2001). In addition, another work-related value was found to be correlated with the power distance. Individuals in high power distance cultures would be more task-oriented and less people-oriented because the role of a manager in a high power distance organization is to initiate

structure (e.g., tell people what to do rather than ask for their views) (Hofstede et al., 2010).

Summary

In summary, creativity is defined as the production of novel and useful ideas. Individual factors affecting creativity include personality, cognitive skills, knowledge and motivation. The contextual characteristics related to creativity can be categorized into job level, team level, and organizational level. Job level characteristics include job complexity and the goal of task. Team level characteristics include resource, reward, evaluation, relationships with leaders and coworkers, and group composition. Organizational characteristics include organizational climate, structure, and organizations' human resource practices. Moreover, the interactionist perspective provides basis for this study by arguing that in order to understand creativity, it is needed to understand complex interactions between individuals and contextual factors.

Regarding the relationship between leader behaviors and follower creativity, when leaders show supportive and non-controlling behaviors, follower creativity is enhanced. However, cross-cultural leadership research found that while the effectiveness of charismatic and supportive leader behaviors on follower attitude and performance was universally positive across cultures, the effectiveness of certain leader behaviors such as participative and directive leader behaviors was contingent on cultures. Specifically, in cultures where collectivism and power distance are high, paternalistic leaders, who show supportive leader behaviors and demand respect and obedience from followers, were regarded as ideal leaders.

In individualistic cultures, people are viewed as independent and unique from other people, whereas people in collectivistic cultures view themselves as interdependent with their group (Goncalo & Staw, 2006). Thus, people in individualistic cultures tend to resist social pressure and maintain their opinions even when there is opposition, whereas people in collectivistic cultures might consider it rude and inconsiderate not to yield to others.

In a low power distance culture, inequality is viewed as something that should be minimized while in a high power distance society, inequality is viewed as the basis of societal order. Thus, members of a high power distance society tend to accept inequality in the social hierarchy and control of people with low power by people with high power.

CHAPTER 3

RESEARCH METHODS

This chapter describes the research methods employed in this study. The following sections will be discussed: (a) research questions, model, and hypotheses; (b) measures; (c) population and sample; (d) data collection; and (e) data analysis methods.

Research Questions, Model, and Hypotheses

As described in Chapter 2, this study is based on the integrative view of creativity that emphasizes both contextual and personal factors, and their interactions. The purpose of this study was to examine whether the relationship between leader characteristics and follower creativity varies across cultures. The research question is, "Does the relationship between leader behaviors (i.e., supportive, participative and controlling behaviors) and follower creativity vary across cultures?" The specific research questions are as follows:

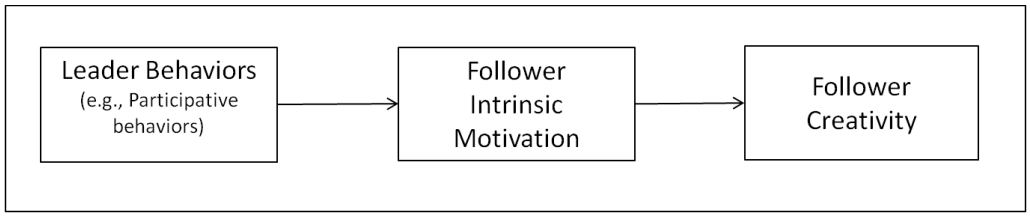
1. What is the relationship between supportive, participative, or controlling leader behaviors of academic advisors and creativity of graduate advisee student groups at South Korean universities and U.S. universities?
2. Does intrinsic motivation mediate the relationship between leader behaviors of academic advisors and creativity of graduate advisee student groups?

In order to address these research questions, a conceptual model is proposed in Figure 2 followed by research hypotheses. This model was derived from previous research findings on creativity that leader characteristics have influence on followers' creativity and the relationship between leader characteristics and follower creativity is mediated by intrinsic motivation (Amabile, 1988; Amabile & Gryskiewics, 1989; Deci &

Ryan, 1985; Oldham & Cummings, 1996). Especially a few studies that examined the effects of leader characteristics on followers in non-Western context provide the theoretical base for this study (e.g., Dorfman et al, 1997, Hui et al., 2004; Shin & Zhou, 2003). Leader behaviors include three main factors such as supportive behaviors, participative behaviors, and controlling behaviors.

Figure 2

Hypothesized Model



To answer the research questions, seven testable hypotheses were developed. The hypotheses and their theoretical background are presented below.

Supportive Leader Behaviors and Creativity

As discussed earlier in Chapter 2, creativity research showed that supportive leader behaviors positively affect follower creativity. Supportive leader behaviors include listening to employees concerns (Andrews & Farris, 1967), providing encouragement and positive feedback (Frese et al., 1999; Mumford et al., 2003; Tierney et al., 1999), increasing their self-efficacy (Redmond et al., 1993), and showing individual concern (Shin & Zhou, 2003). When leaders provide support and encouragement, and show individualized consideration, followers are likely to focus on the tasks rather than be distracted by their worries or stressful situations and are likely to be encouraged to try new approaches and take risks; they can also experience increased self-confidence and

personal responsibility (Amabile, 1996; Deci & Ryan, 1985; Shin & Zhou, 2003). This focus on task, risk taking initiatives, and enhanced self-confidence are likely to boost intrinsic motivation of followers, which in turn, increase their creativity (Amabile, 1996; Shin & Zhou, 2003).

Cross-cultural leadership research indicated that supportive leader behaviors are universally effective across cultures. Consideration leadership behavior was among three leadership behaviors that were hypothesized to be universally effective by Muczyk and Reimann (1987). In an empirical study of managers from Japan, Korea, Mexico, Taiwan, and the U.S., supportive leader behaviors were positively related to follower satisfaction and performance in all countries (Dorfman et al., 1997). Similarly, the GLOBE project found that humane-oriented leaders (i.e., leaders showing supportive behaviors) are expected to be effective in all cultures (House et al., 2004).

Based upon the combined findings from creativity research and cross-cultural research, I expect:

Hypothesis 1a: Supportive leader behaviors are positively related to creativity of graduate student groups at South Korean universities.

Hypothesis 1b: Supportive leader behaviors are positively related to creativity of graduate student groups at the U.S. university.

Participative Leader Behaviors and Creativity

Participative leader behaviors include consulting with, asking for suggestions, and obtaining information from followers for important decisions (Dorfman et al., 1997). While supportive leader behaviors are universally effective across cultures, people's

attitudes toward participative leader behaviors are notably different. While creativity research showed that employee participation in decision making processes positively affect creativity, cross-cultural leadership studies found that the effectiveness of employee participation is contingent on cultures. Specifically, in Anglo cultures including the U.S., participative leadership tends to be viewed very favorably and is likely to enhance follower satisfaction and performance (e.g., Dorfman et al., 1997; House et al., 2004). In contrast, the impact of participative leadership appears less strong in Confucian Asian cultures than in Anglo cultures (House et al., 2004). In some cases the impact of participative leadership in Confucian cultures was found to be non-significant (Dorfman et al., 1997).

Influence of culture. One of the main cultural values distinguishing between Anglo cultures and Confucian Asian cultures is individualism-collectivism. Individualism emphasizes autonomy, independence, uniqueness, and initiative whereas collectivism values conformity to the group, harmony, and loyalty to superior (Hofstede, 1980).

In individualistic cultures, people are viewed as independent and unique (Markus & Kitayama, 1994). In contrast, people in collectivistic cultures view themselves as interdependent with their group (Goncalo & Staw, 2006). While conformity is often regarded negatively in individualistic cultures, uniqueness can be viewed as deviance from the standard in collectivistic cultures (Kim & Markus, 1999). Thus, people in individualistic cultures tend to prefer raising their voices in the face of opposition while people in collectivistic cultures might consider it rude and inconsiderate not to yield to others, especially to their superiors (Goncalo & Staw, 2006).

As a result, individuals from high individualistic cultures such as the U.S. are likely to prefer leaders who ask for their opinions or allow them to participate in important decision-making, whereas those from low individualistic cultures such as South Korea are more likely to accept and respect their leaders' authority to make decisions (Morris & Leung, 2010).

In addition to collectivism, power distance may also influence the relationship between participative leader behaviors and follower creativity. Power distance refers to the extent to which the less powerful members of organizations accept and expect that power is distributed unequally (Hofstede et al., 2010). Power distance value determines how much hierarchical inequality people will accept and consider as proper, such as the distribution of prestige, social status, wealth, the class system, and access to universal rights (Bochner & Hesketh, 1994). Members of a high power distance society tend to accept inequality in the social hierarchy and authority of people with high power (Hofstede et al., 2010).

Therefore, individuals from low power distance cultures tend to prefer participative leader behaviors and expect leaders to ask for their input when making important decisions (Bochner & Hesketh, 1994; Hofstede et al., 2010). Participative leader behaviors allow followers to express their ideas and opinions. That can help followers to increase interest in and focus on the tasks, which will result in heightened intrinsic motivation. This heightened intrinsic motivation will lead to increased creativity (Amabile, 1996). In contrast, followers from high power distance cultures are likely to respect and obey their leaders and prefer persuasive/paternalistic leadership style. The

role of a manager in high power distance cultures is to initiate structure (e.g., tell people what to do rather than ask for their views) (Hofstede, 2001). Because followers from high power distance culture are not likely to expect or desire participative behaviors from their leaders, the relationship between participative leader behaviors and attitude and performance of individuals from high power distance cultures would be non-significant. In other words, even though leaders did not show participative behaviors, followers from high power distance cultures would accept non-participative leader behaviors and decision-making authority of leaders and thus would not experience decreased intrinsic motivation or creativity.

Based upon discussion above, I expect:

Hypothesis 2a: Participative leader behaviors are not significantly related to creativity of graduate student groups at South Korean universities.

Hypothesis 2b: Participative leader behaviors are positively related to creativity of graduate student groups at the U.S. university.

Controlling Leader Behaviors and Creativity

Controlling leader behaviors include closely monitoring follower behavior, providing feedback in a controlling manner, and forcing followers to behave in certain ways (Deci & Ryan, 1985, 1987). Creativity research shows that under controlling supervision, followers tend to shift their attention from the tasks toward external concerns, which results in lowered intrinsic motivation (Deci et al., 1989). This reduced intrinsic motivation leads to lower creativity.

Influence of culture. Although creativity research generally supports this negative relationship between controlling leader behaviors and creativity (e.g., Lepper & Greene, 1975; Pittman, Davey, Alafat, Wetherill, & Kramer, 1980; Ryan, Mims, & Koestner, 1983; Stahl & Koser, 1978), this relationship may not be the same in different cultures. Following the same logic as in my earlier discussion of the relationship between participative behaviors and follower creativity in Confucian Asian culture, I argue that culture can influence the relationship between controlling leader behaviors and follower creativity as well.

Because people from low power distance cultures tend to favor inequality in power distribution, they prefer non-controlling leaders so that they can perform their tasks with their own responsibility and autonomy. In contrast, people in collectivistic cultures might consider it rude and inconsiderate not to yield to superiors (Goncalo & Staw, 2006). And followers from high power distance cultures tend to respect and obey their leaders, and moreover expect their leaders to tell them what to do (Hofstede et al., 2010).

Thus, under controlling leader behaviors, followers from low power distance and high individualism culture such as the U.S. would feel constrained, and therefore, experience low intrinsic motivation and creativity (Deci & Ryan, 1985; Zhou & Su, 2010). In contrast, people from high power distance and low individualism culture such as South Korea would accept and even expect controlling behaviors of leaders. Thus, they would not experience lowered intrinsic motivation or creativity under controlling leader behaviors.

Based upon discussion above, I expect:

Hypothesis 3a: Controlling leader behaviors are not significantly related to creativity of graduate student groups at South Korean universities.

Hypothesis 3b: Controlling leader behaviors are negatively related to creativity of graduate student groups at the U.S. university.

Leader Behaviors, Intrinsic Motivation, and Creativity.

Thus far, I have argued that three types of leader behaviors have different contribution to intrinsic motivation of followers depending on their culture. And this intrinsic motivation will lead to creativity of followers. In other words, the mechanism by which followers show higher or lower levels of creativity under a certain type of leader behaviors is that they experience higher or lower levels of intrinsic motivation because of the leader behaviors.

Thus, I expect:

Hypothesis 4: Intrinsic motivation mediates the relationship between leader behaviors of academic advisors and creativity of graduate advisee student groups.

Measures

All of the constructs were measured using multi-item scales that have been previously developed and used in either the industrial/organizational psychology or organizational behavior literature. Because there was no Korean version of the instruments, used in this study, except for the creativity instrument, the researcher translated instrument items using the forward and backward translation with independent

checks procedure. Specifically, the researcher translated items to Korean; then, another independent Korean expert translated Korean items back to English; lastly, the researcher compared the back translation with the original English items to see whether there were major discrepancies that would indicate that the original translation was wrong or misunderstood by the Korean expert. No major discrepancies between the back translation of items and the original items were found.

Supportive Leader Behaviors

Supportive leader behaviors were measured using seven items that are adapted from Oldham and Cummings (1996). From the original eight items, one item was excluded because it measured the degree of employee participation. The internal reliability score (Cronbach alpha coefficient) of the scale was $\alpha = .83$. Items were rated on a seven-point Likert-type scale that ranged from "strongly disagree" (1) to "strongly agree" (7) and averaged to form a supportive leader behavior index. Sample items include: “My advisor helps me solve work-related problems”, “My advisor keeps informed about how employees think and feel about things” and “My advisor praises good work”.

Participative Leader Behaviors

Participative leader behaviors were measured by four items. Three items were adapted from Dorfman and colleagues (1997) and one item was derived from Muczyk and Holt (2008).The internal reliability score was $\alpha = .81$. Items were rated on a seven-point Likert-type scale that ranged from "strongly disagree" (1) to "strongly agree" (7) and averaged to form a participative leader behavior index. Sample items include “My

advisor encourages me to participate in important decisions", "My advisor discusses with me when setting the project goal", and "My advisor obtains information from advisee students for important decisions."

Controlling Leader Behaviors

Controlling leader behaviors were measured by four items. Three items were adapted from Oldham and Cummings (1996) and one item was derived from Muczyk and Holt (2008). The internal reliability score was $\alpha = .86$. Items were rated on a seven-point Likert-type scale that ranged from "strongly disagree" (1) to "strongly agree" (7) and averaged to form a controlling leader behavior index. Sample items include "My academic advisor closely supervises my activities", "My academic advisor always seems to be around checking on my work", and "My academic advisor tells me how tasks should be done."

Student Group Creativity

Student group creativity was measured by 13 items adapted from Zhou and George (2001). A validated Korean version of the questionnaire was used to assess student group creativity at South Korean universities (Shin & Zhou, 2003). The internal reliability score of the scale was $\alpha = .95$ in the previous study (Shin & Zhou, 2003) and $\alpha = .93$ in this study. Ratings were made on five-point Likert-type scales that ranged from "strongly disagree" (1) to "strongly agree" (5) and were averaged to form a rated student group creativity index. Sample items include: "My advisee students suggest new ways to achieve goals or objectives" and "My advisee students come up with creative solutions to problems."

Intrinsic Motivation

Intrinsic motivation was measured by a scale developed by Zhang and Bartol (2010), which consisted of three items. The internal reliability score of the construct was $\alpha = .82$ in the original study and $\alpha = .83$ in this study. Items were rated on a seven-point Likert-type scale that ranged from "strongly disagree" (1) to "strongly agree" (7) and averaged to form an intrinsic motivation index. Sample items include: “I enjoy finding solutions to complex problems”, “I enjoy creating new procedures for work tasks”, and “I enjoy improving existing processes or products.”

Overall Performance and Job Satisfaction

In addition to creativity and intrinsic motivation ratings, overall performance and job satisfaction of student group members were measured to see if there is any difference between creativity and overall performance and between intrinsic motivation and job satisfaction of student groups.

Overall performance. For overall performance, using a three-item scale developed by Hackman and Oldham (1976), academic advisors rated advisee student team’s performance on three dimensions: work quantity, work quality, and amount of effort. The internal reliability score of the construct was $\alpha = .85$ in a previous study (Oldham & Cummings, 1996), and $\alpha = .79$ in this study. Ratings were made on seven-point Likert-type scales that ranged from “very low” (1) to “very high” (7) and averaged to form a rated student group performance index.

Job satisfaction. Job satisfaction was measured by a three-item scale developed by Hackman and Oldham (1975). The internal reliability score of the construct was α

= .76 in the original study (Hackman & Oldham, 1975) and α = .75 in this study. Items were rated on a seven-point Likert-type scale that ranged from "strongly disagree" (1) to "strongly agree" (7) and averaged to form a job satisfaction index. Sample items include: “Generally speaking, I am very satisfied with this job”, “I am generally satisfied with the kind of work I do in this job”, and “I frequently think of quitting this job” (reverse-scored).

Collectivism

Collectivism was measured using a six-item scale developed by Dorfman and Howell (1988). Dorfman and Howell (1988) originally tested the instruments using Mexican and Chinese managers working in multinational firms. Items were adapted in order to reflect the values of the students with regard to their specific situation working for their academic advisors in their student groups. The internal reliability scores of the construct for the original Mexican and Chinese manager samples were α =.73 and α =.78, respectably. In this study, the internal reliability of the construct was α = .73.

Items were rated on a five-point Likert-type scale that ranged from "strongly disagree" (1) to "strongly agree" (5) and averaged to form a collectivism index. Sample items include: “Group welfare is more important than individual rewards” and “Individual students may be expected to give up their goals in order to benefit group success”.

Power Distance

Power distance was measured using a six-item scale developed by Dorfman and Howell (1988). Items were adapted in order to reflect students’ specific situation working

for their academic advisors. The internal reliability scores of the construct for the original Mexican and Chinese manager samples (Dorfman & Howell, 1988) were α =.51 and α =.63 respectably. In this study, the internal reliability of the construct was α = .70. Items were rated on a five-point Likert-type scale that ranged from "strongly disagree" (1) to "strongly agree" (5) and averaged to form a power distance index. Sample items include: “It is frequently necessary for academic advisors to use authority and power when dealing with advisee students”, and “Academic advisors should make most decisions without consulting advisee students”.

Control Variables

This study included several control variables suggested by prior research. Since the study examines the variables at the group level, demographic variable included the average field-related experience of student group members (Less than 1 year = 1, 1 to 2 years = 2, 3 to 5 years = 3, 5 to 10 years = 4, over 10 years = 5).

Group support was measured by seven items. Five items were adapted from Amabile and colleagues (1996) and two items were adapted from team-member exchange (TMX) scale, which consisted of 12 items developed by Seers (1989). The internal reliability score of the group support scale was α = .91. Ratings were made on five-point Likert-type scales that ranged from “strongly disagree” (1) to “strongly agree” (5) and averaged to form a group support index. Sample items included: “Students in my lab generally trust each other”, “Students in my lab are very cooperative”, and “There is free and open communication within my lab”.

Resource was rated using five items adapted from climate for innovation scale developed by Scott and Bruce (1994), which originally consisted of 26 items. The internal reliability score of the resource scale was $\alpha = .75$. Ratings were made on five-point Likert-type scales that ranged from "strongly disagree" (1) to "strongly agree" (5) and averaged to form a resource index. Sample item included: "Assistance in developing new ideas is readily available in my lab", "There is adequate funding available for developing new ideas in my lab", and "Adequate equipment for my work is readily available".

Research Population and Sample

Research target population was academic advisors and their graduate advisee student groups in Science, Technology, Engineering, and Math (STEM) fields at Korean Universities and U.S. universities. Research sample was academic advisors and their graduate advisee student groups in STEM fields at four large South Korean universities and a large mid-western U.S. university. The solicitation for participation was targeted to universities in both countries including: (a) those that have graduate programs in STEM fields, (b) those whose graduate programs are large (i.e., the number of graduate students is at least 1,000), and (c) those that are regarded as one of high level research schools in their nations.

Emails were sent to four South Korean academic advisors working in STEM fields, with whom the researcher has personal acquaintance and whose university meets the three criteria discussed above. The researcher asked them to distribute the online invitation to their colleague faculty members in STEM fields at the university they work

for. For academic advisors at the U.S. university, the researcher sent direct email invitations to email addresses of academic advisors in STEM fields since their email addresses were publicly disclosed in their department website.

After receiving responses from advisors, the researcher sent another email to participating advisor respondents, asking to distribute the email invitations to their graduate advisee student group members to solicit student responses. As a result of the two phase email solicitations, 42 graduate student groups consisting of 42 academic advisors and 122 graduate advisee students at four South Korean universities and 39 graduate student groups consisting of 39 academic advisors and 104 graduate advisee students at the U.S. university comprised the final sample.

Data Collection

When collecting research data, informed consent is very important with regard to ethics in research. The researcher provided the four South Korean advisors, who distributed the online invitation to other faculty members later, with information on the research problem, the research procedures, the application of results, and potential risks and benefits (see Appendix B). Then, the four advisors communicated with other advisor participants via email on the purpose and logistics of the survey and included an embedded website link for completing the online survey. Other South Korean advisor participants were also informed by the informed consent section shown in the beginning of the online survey (see Appendix A). They were told that they were to assess their advisee student groups' creativity and performance and that they are free to withdraw. For the U.S. advisor participants, the researcher directly communicated information on

the research problem, the research procedures, the application of results, and potential risks and benefits via emails, which included an embedded website link for completing the online survey (See Appendix C). The U.S. advisor participants were also informed by the informed consent section shown in the beginning of the online survey (see Appendix A).

After receiving responses from advisors, the researcher sent additional emails to participating advisor respondents, asking to distribute the email invitations to their graduate advisee student group members to solicit student responses (See Appendix C). Graduate student participants were also informed by the informed consent section shown in the beginning of the online survey that their advisor was to assess their group's creativity and performance and that they were free to withdraw (see Appendix A).

Next, the privacy and anonymity issue is very critical in the conduct of ethical research with human participants (Sales & Folkman, 2000). All the participants were informed that the data would be collected and maintained in a password-protected computer system to help guarantee respondents' anonymity. To identify the relationship between academic advisors and graduate advisee students, the researcher created multiple copies of the online survey, each of which had the same questionnaires but different website link. The researcher provided each participating academic advisor with different online survey link so that each online survey link was different for each student group. Using the separate online survey links, it was possible to identify the relationship between academic advisors and their graduate advisee students without asking

participants to provide information with regard to their identity. In terms of ethical issues in the process of data collection, no problems were observed.

As noted, this study used a self-administered Internet-based electronic data capture tools to obtain individual-level perceptions, using a serviced called REDCap (Research Electronic Data Capture) hosted at the University of Minnesota. REDCap is a secure, web-based application designed to support data capture for research studies (Harris, Taylor, Thielke, Payne, Gonzalez, & Conde, 2009). The benefits of online surveys include: (a) its accessibility by participants all around the world at any time they are available (Birnbaum, 2004), (b) flexibility in terms of design and implementation (Dillman, 2000), and (c) convenience in terms of data coding and entry (Bartlett, 2005). On the other hand, survey system failure can negatively impact the response rate and online surveys are appropriate only for those who have internet access and are used to internet technologies (Joo, 2007).

Data were collected in two phases. First, following initial contact with the four South Korean academic advisors at each of four South Korean universities, and approval from the IRB (see Appendix D), emails were sent to 476 academic advisors at four South Korean universities by the four academic advisors. And the researcher sent emails to 629 academic advisors at the U.S. university using their email addresses that were shown on their department websites. Advisors were asked to rate the creativity and the general performance level of their graduate advisee student groups. Having supervisors rate the creativity of their followers is most commonly used in creativity studies (e.g., Oldham & Cummings, 1996; Scott & Bruce, 1994; Shin & Zhou, 2003; Tierney et al., 1999; Zhou,

2003; Zhou & George, 2003) to eliminate single-source bias and to increase validity. As a result of the email solicitation, among invited 476 advisors at four South Korean universities, 87 advisors participated for a response rate of approximately 18%. Among invited 629 advisors at the U.S. university, 77 advisors participated for a response rate of approximately 12%. The low response rates confirm the decreasing response rates in research using the on-line survey method (Bartlett, 2005). Among participating advisors, 16 South Korean advisors and 15 U.S. advisors were dropped because of partial response.

In the second phase, data were collected from graduate advisee student groups. The researcher sent additional emails to those participating 71 advisors at four South Korean universities and 62 advisors at the U.S. university, asking to distribute the online survey link to their graduate advisee student group members. As a result of the email solicitation, 130 graduate students from 42 graduate student groups at four South Korean universities and 107 graduate students from 39 graduate student groups at the U.S. university participated in the survey (see Table 1). Among them, 8 graduate students from South Korean universities and 3 graduate students from the U.S. university were dropped due to partial response. In summary, the final sample consisted of 42 South Korean graduate student groups with 42 academic advisors and 122 graduate advisee students at four South Korean universities and 39 U.S. graduate student groups with 39 academic advisors and 104 graduate advisee students at the U.S. university.

Table 1 presents the distribution of the sample of academic advisors and graduate students by demographic variables. Among the total student respondents (n = 226), 165 (73%) were male and 61 (27%) were female whereas 70 advisors (85%) among 81

Table 1

Demographic Information

Variable	Values	Student (n=226)		Advisors (n=81)	
		Frequency	%	Frequency	%
Gender	Male	165	73	70	86
	Female	61	27	11	14
Age	Under 25	63	28	0	0
	26~30	126	56	0	0
	31~35	29	13	5	5
	36~40	6	2	9	11
	41~50	2	1	34	42
	Over 50	0	0	33	42
Education	Bachelor	87	37	0	0
	Master	139	63	0	0
	Ph.D.	0	0	81	100
Experience	Under 1 year	32	14	0	0
Level	1 ~ 2 years	44	19	0	0
	3 ~ 5 years	83	36	2	2
	5 ~ 10 years	57	25	3	3
	Over 10 years	10	6	76	95
Time with	6 Months ~ 2 years	129	57	N/A	
advisors	3 ~ 5 years	73	32	N/A	
	Over 5 years	24	11	N/A	
Faculty Rank	Assistant	N/A		15	18
	Associate	N/A		22	27
	Full	N/A		44	55

Table 2

Nationality of research participants

	Nationality	Student	Faculty
South Korean Universities	South Korea	122	42
The U.S. university	China	18	2
	Dominican Republic	1	0
	Ethiopia	1	0
	Germany	0	1
	India	7	0
	Iran	1	0
	Italy	1	1
	Japan	0	1
	Mexico	1	0
	Nepal	1	0
	Poland	0	1
	Russia	1	2
	South Africa	1	0
	South Korea	15	2
	Switzerland	0	1
	Taiwan	2	0
	Turkey	1	0
	United Kingdom	0	1
	USA	45	25
	No response	8	2

advisors were male. This may show that the STEM fields are generally male-dominated. In terms of age, the average age of graduate advisee students was 26.6 years old and the majority (84%) of students was in their 20s. Among academic advisors, the majority (84%) was at the age of 40 and over. In terms of education level, 139 (63%) students were doctoral students whereas 87 students (37%) were in master's degree programs. While 129 (57%) students have been working with their advisors between 6 months and 2 years, 97 students (43%) have the relationship over three years. In terms of faculty rank, 44 (55%) advisors were full professors whereas 22 (27%) were associate professors and 15 (18%) were assistant professors.

Table 2 present the nationality of research participants. At South Korean universities, all students and advisors were South Korean. In the U.S. university sample, 14 nationalities were identified among students and 10 nationalities among advisors. The biggest nationality group among both students (i.e., 45 out of 104) and advisors (i.e., 25 out of 39) was the U.S. Students from China (18), South Korea (15), and India (7) were the next large groups after American students.

Data Analysis Methods

The data were analyzed quantitatively. R 2.15.2 software was used to perform the analyses. In addition to computing descriptive statistics and correlational statistics, analysis of variance (ANOVA) and hierarchical multiple regression analysis were employed to test the research hypotheses. Alpha was set at .05 for data analysis and statistical significance. An alpha of .05 indicates a probability that at least 95% of the

differences found between the variables will be due to the actual relationship between variables and not sampling error (Best & Kahn, 2006).

Correlation Analysis and Descriptive Statistics

Correlation analysis is appropriate for investigating relationships between variables and also for measuring the degree of a relationship between two variables. It is generally considered that a correlation between .10 and .30 is a weak positive relationship, a correlation between .40 and .60 is a moderate positive relationship, and .70 and above is a high positive relationship (McMillan, 2000). In addition to the correlation coefficients, reliability coefficients and descriptive statistics, such as means and standard deviations, for each research variable were calculated.

Analysis of Variance (ANOVA)

ANOVA was employed as a statistical method to compare the mean scores of the research variables between student groups at South Korean universities and those of student groups at the U.S. university. One-way ANOVA involves one independent variable with numerous levels and advises as to whether there are significant differences between each group (Howell, 2002). For the current study, one-way ANOVA seemed to be beneficial in exploring significant differences of study variables including leadership behaviors and cultural values.

Although there were no specific hypotheses with regard to the differences between the mean scores of study variables in both countries, some correlations were found between nationality and other variables such as controlling leadership, group support, intrinsic motivation, and creativity. Therefore, the researcher conducted

ANOVA analysis to determine whether there are some significant mean score differences between sample student groups at both countries.

Hierarchical Multiple Regression

Multiple regression analysis allows examination of the relationship between a dependent variable (e.g., creativity) and multiple independent variables (Creswell, 2002). Multiple regression analysis considers the variance of the independent variables as explaining any variance in the dependent variable. And among several different types of multiple regression methods, hierarchical multiple regression analyses were carried out to test the study hypotheses regarding the relationships between advisor behaviors and student group creativity in two different countries. Several other studies examining the effects of interactions between leader characteristics and follower characteristics on creativity also implemented the method (e.g., Oldham & Cummings, 1996; Shin & Zhou, 2003; Tierney et al., 1999). In addition, hierarchical regression analysis method was used to investigate the mediating effect of intrinsic motivation between advisor behaviors and student group creativity because this analysis method has been used in the past in examining the mediating effect of a variable between two other variables (e.g., Baron & Kenny, 1986; Shin & Zhou, 2003).

Summary

This chapter described the research questions, research model, and hypotheses. It also included measures, the population and sample, data collection, and analysis method. This study incorporated previously validated instrumentation to form a survey instrument. An online-based survey was conducted. As a result of online invitation, 42

graduate student groups consisting of 42 academic advisors and 122 graduate advisee students from four South Korean universities and 39 graduate student groups consisting of 39 academic advisors and 104 graduate advisee students at a U.S. university participated in the survey. The response rate of academic advisors was 14.8%. Finally, data analysis method, including correlation analysis, ANOVA, and hierarchical multiple regression was briefly described.

CHAPTER 4

RESULTS

This chapter presents the results of the statistical analyses. First, descriptive statistics and correlations of study's variables are presented as preliminary results. Second, the results of analysis of variance (ANOVA) are detailed to examine the differences in the mean scores of study variables between student groups at South Korean universities and student groups at the U.S. university. Third, the results of hierarchical multiple regression analyses are presented.

Descriptive Statistics and Correlations

The means and standard deviations of study variables and Pearson correlation coefficients among the variables are presented in Table 3. All measures demonstrated adequate levels of reliability (.70 - .93). When examining the overall sample, the relationship between supportive leader behaviors and participative leader behaviors was high. Supportive leader behaviors had weak but positive relationship with controlling leader behaviors while participative leader behaviors did not have significant relationship with controlling leader behaviors. Supportive leader behaviors had a moderate relationship with job satisfaction and a weak relationship with intrinsic motivation. Participative leader behaviors also had a moderate relationship with job satisfaction and a weak relationship with intrinsic motivation. Controlling leader behaviors demonstrated a weak relationship with power distance. Interestingly, while both supportive leader behaviors and participative leader behaviors showed significant relationships with job satisfaction and intrinsic motivation, controlling leader behaviors did not have significant

Table 3

Descriptive Statistics, Correlations, and Reliabilities of Study Variables

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12
1. Supportive	5.81	0.64	(.83)											
2. Participative	5.46	0.78	.74*	(.81)										
3. Controlling	4.56	1.33	.35*	.16	(0.86)									
4. Collectivism	3.20	0.49	.21	.12	.14	(0.73)								
5. Power distance	2.18	0.38	.09	- .02	.28*	.32*	(0.70)							
6. Group support	4.42	0.88	.04	.04	.14	- .01	- .10	(0.91)						
7. Resource	3.89	0.69	.21	.24*	.14	.02	- .04	.62*	(0.75)					
8. Job-satisfaction	5.41	0.86	.50*	.52*	- .14	.02	- .05	- .07	- .01	(0.75)				
9. Intrinsic motivation	5.56	0.85	.24*	.37*	- .21	.05	- .19	- .30*	- .18	.51*	(0.83)			
10. Creativity	3.57	0.64	- .10	- .06	- .32*	- .11	- .06	- .15	- .12	.15	.15	(0.93)		
11. Performance	5.30	0.78	- .05	.04	- .09	- .01	.04	- .01	.01	.24*	.12	.66*	(0.79)	
12. Nationality (U.S.=0, Korea=1)	-	-	- .09	- .13	.45*	- .01	.19	.37*	.17	- .21	- .38*	- .39*	- .13	-

Note, n = 81; two-tailed test, * p < .05. ; internal reliabilities (alpha coefficients) for the overall constructs are given in parentheses on the diagonal.

relationships with job satisfaction and intrinsic motivation. However, controlling leader behaviors had significant negative relationship with creativity, whereas supportive leader behaviors and participative leader behaviors did not show significant relationship with creativity.

With regard to cultural values, collectivism had a positive relationship with power distance, which was consistent with prior findings (e.g., Hofstede, 1980; House et al., 2004). Group support demonstrated a moderate relationship with resource. Group support had a weak but negative relationship with intrinsic motivation. Job satisfaction had a moderate relationship with intrinsic motivation and a weak relationship with overall performance. While job satisfaction and intrinsic motivation was not significantly related to creativity, performance had a moderate relationship with creativity. Nationality had positive relationship with controlling leadership, which means academic advisors at South Korean universities tended to show more controlling leadership than did advisors at the U.S. university. Nationality also showed positive relationship with group support, whereas it had negative relationship with intrinsic motivation and creativity. In other words, group support levels at South Korean universities were higher than those at the U.S. university. However, intrinsic motivation and creativity of graduate students at South Korean universities were lower than that of graduate students at the U.S. university.

Analysis of Variance (ANOVA)

Although there were no specific hypotheses with regard to the differences between the mean scores of study variables in both cultures, some correlations were

found between nationality and other variables such as controlling leadership, group support, intrinsic motivation, and creativity. Therefore, the researcher conducted ANOVA analysis to determine whether there are some significant differences between means of each variable.

Table 4

Mean and Standard Deviation of Variables in Both Cultures and Results of ANOVA

	South Korea		U.S.		ANOVA Results	
	Mean	S.D.	Mean	S.D.	*F*	Sig.
1. Supportive	5.75	.66	5.87	.62	0.6691	p = .42
2. Participative	5.36	.66	5.57	.88	1.39	p = .24
3. Controlling	5.13	.94	3.95	1.42	19.82	p < .001
4. Collectivism	3.20	.43	3.21	.36	.01	p = .93
5. Power distance	2.25	.40	2.11	.35	2.98	p = .09
6. Group support	4.74	1.00	4.08	.55	12.85	p < .001
7. Resource	4.00	.84	3.76	.48	2.45	p = .12
8. Job-satisfaction	5.23	.78	5.60	.91	3.77	p = 0.06
9. Intrinsic motivation	5.25	.84	5.89	.75	13.10	p < .001
10. Creativity	3.33	.70	3.83	.45	14.23	p < .001
11. Performance	5.21	.81	5.40	.75	1.28	p = .26

Table 4 summarizes the mean and standard deviation of each variable and the results of ANOVA analysis. First, there were significant differences in the levels of several variables including controlling leadership, group support, intrinsic motivation, and creativity between student groups at South Korean universities and student groups at the U.S. university. Specifically, in terms of controlling leadership, academic advisors at

South Korean universities showed a higher level of controlling leadership (M = 5.13, SD = .94) than advisors at the U.S. university (M = 3.95, SD = 1.42). In terms of group support, graduate student groups at South Korean universities showed a higher level of group support (M = 4.74, SD = 1.00) than graduate student groups at the U.S. university (M = 4.08, SD = .55). In terms of intrinsic motivation, graduate student groups at South Korean universities showed a lower level of intrinsic motivation (M = 5.25, SD = .84) than graduate student groups at the U.S. university (M = 5.89, SD = .75). Similarly, in terms of creativity, graduate student groups at South Korean universities showed a lower level of creativity (M = 3.33, SD = .70) than graduate student groups at the U.S. university (M = 3.83, SD = .45).

However, there were no statistically significant differences in the levels of supportive leadership, participative leadership, collectivism, power distance, resource, job satisfaction, and performance between student groups at South Korean universities and student groups at the U.S. university. Interestingly, the similar levels of collectivism and power distance between the two groups do not seem consistent with what prior cross-culture research has suggested (e.g., Hofstede et al., 2010; House et al., 2004). According to cross-cultural studies, South Korean culture has higher collectivism and power distance than the U.S. culture (Hofstede, 1980; House et al., 2004)

One possible explanation why similar collectivism and power distance scores were found in two countries is that the student sample at the U.S. university includes many students from high collectivistic and high power distance societies such as China, India, South Korea, and Taiwan. In fact, students from China, India, South Korea and

Taiwan make up 40% (42 out of 104) of the student sample at the U.S. university whereas American students make up 43% of the sample (45 out of 104) (See Table 2). Thus, to test this assumption the researcher created three student sub samples from the whole student sample of the study: a) American students at the U.S. university, b) Asian students at the U.S. university, and c) South Korean students at South Korea universities. Then, the researcher conducted additional ANOVA analysis comparing the levels of collectivism and power distance among the three student sub samples.

Table 5

Comparing Collectivism and Power Distance Among the Three Student Sub Groups

	American Students at the U.S. university		Asian Students at the U.S. university		South Korean Students		ANOVA Results	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	*F*	Sig.
Collectivism	3.25	.40	3.19	.79	3.20	.43	.02	p = .88
Power distance	1.99	.45	2.35	.69	2.25	.40	3.91	p < .05*

Table 5 summarizes the results of three way ANOVA analysis. The results show that there is no significant difference in the levels of collectivism among three student sub samples. However, the level of power distance was statistically significantly lower in American students at the U.S. university (M = 1.99, SD = .45) than in Asian students at the U.S. university (M = 2.35, SD = .69) and in South Korean students at South Korean universities (M = 2.25, SD = .40) although the level of difference was not large. There is

no significant difference in the level of power distance between Asian students at the U.S. university and South Korean students at South Korean universities.

Hierarchical Multiple Regression Analyses

To test the study hypotheses, hierarchical multiple regression analyses were conducted for student groups at South Korean universities and for student groups at the U.S. university. The primary interest was to examine how the relationships between the three types of advisor behaviors and student group creativity would vary depending on nationality of universities student groups belong to, and to investigate whether the intrinsic motivation mediates the relationship between the three types of leader behaviors and group creativity.

Table 6 summarizes the regression results showing the main effects of three types of leader behaviors on student group creativity and intrinsic motivation, and the mediating effect of intrinsic motivation between the leader behaviors and group creativity.

In model 1, creativity was regressed on the control variables and three types of leader behaviors as independent variables to examine the main effect of leader behaviors on creativity. Next, to test the mediating role of intrinsic motivation between leader behaviors and creativity, intrinsic motivation was regressed on the same set of the control variables and three types of leader behaviors in model 2. After that, in model 3, creativity was regressed on the control variables, three types of leader behaviors, and intrinsic motivation.

Table 6

Results of Hierarchical Regression Analysis

Independent Variables	South Korea			U.S.		
	Model 1: Creativity	Model 2: Intrinsic Motivation	Model3: Creativity	Model 1: Creativity	Model 2: Intrinsic Motivation	Model3: Creativity
Control						
Group support	0.01	-0.11	0.01	-0.19	0.25	-0.19
Resource	0.00	-0.16	0.01	0.37	-0.85*	0.39
Student experience	0.31*	-0.03	0.32*	-0.15	0.09	-0.15
Leadership Behaviors						
Supportive leadership	0.20	0.38	0.17	-0.27	-0.38	-0.27
Participative leadership	-0.09	0.60*	-0.14	0.05	0.44*	0.04
Controlling leadership	-0.22	-0.24	-0.20	-0.05	-0.06	-0.05
Mediator						
Intrinsic motivation			0.07			0.02
F	1.24	3.96**	1.07	1.59	2.58*	1.32
R^2	0.18	0.40	0.18	0.23	0.33	0.23
Adjusted R^2	0.03	0.30	0.01	0.08	0.20	0.06
ΔR^2			0.00			0.00

Note, Beta weights are reported for the final step in each model (n=81), * p < .05, ** p < .01, *** p < .001

In hypotheses 1a and 1b, it was expected that supportive leader behaviors are positively related to creativity of student groups both at South Korean universities (1a) and at the U.S. university (1b). According to the regression results, supportive leader behaviors were not significantly related to creativity of student groups both at South Korean universities and at the U.S. university. Thus, hypotheses 1a and 1b were not supported.

In hypotheses 2a and 2b, it was expected that the relationship between participative leader behaviors and creativity of graduate student groups is positive at the U.S. university (2b), but not significant at South Korean universities (2a). The regression results showed that participative leader behaviors were not significantly related to creativity of student groups both at South Korean universities and at the U.S. university. Thus, hypothesis 2a was supported whereas hypothesis 2b was not supported.

In hypotheses 3a and 3b, it was expected that the relationship between controlling leader behaviors and creativity of graduate student groups is negative at the U.S. university (3b), but not significant at South Korean universities (3a).The regression results showed that controlling leader behaviors were not significantly related to creativity of student groups both at South Korean universities and at the U.S. university. Thus, hypothesis 3a was supported whereas hypothesis 3b was not supported.

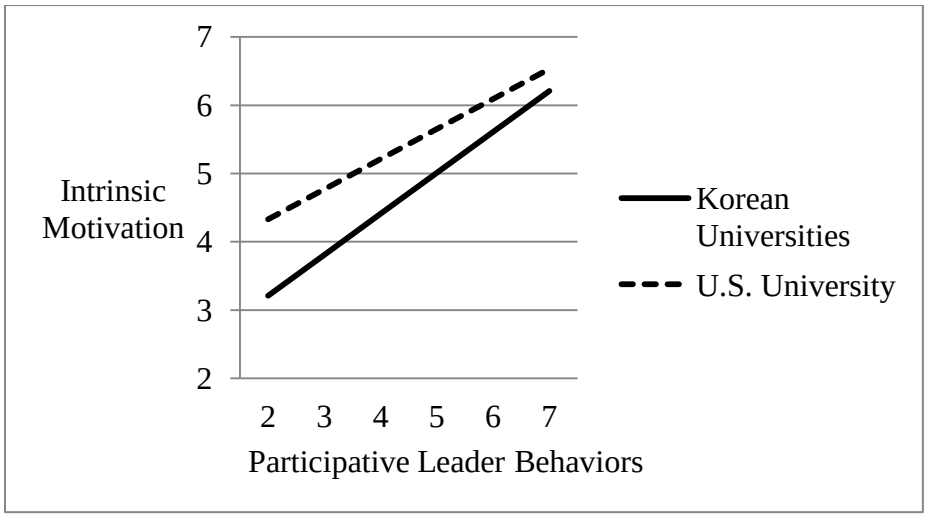
Next, in hypotheses 4, it was expected that intrinsic motivation mediates the relationship between leader behaviors of academic advisors and creativity of graduate advisee student groups. If intrinsic motivation mediated the relationship between a certain type of leader behaviors and creativity, the coefficient for the type of leader behavior contributing to creativity in model 1 and the coefficient for intrinsic motivation

contributing to creativity in model 3 should have been statistically significant. The results showed that neither the coefficients for leader behaviors in model 1 nor the coefficient for intrinsic motivation in model 3 were significant. Thus, hypothesis 4 was not supported.

The only significant relationships found among leader behaviors, creativity and intrinsic motivation, were those between participative leader behaviors and intrinsic motivation. In model 2, participative leader behaviors of academic advisors were positively related to intrinsic motivation of student groups both at South Korean universities and at the U.S. university. Figure 3 shows the relationships between participative leader behaviors and intrinsic motivation of student groups at South Korean universities and at the U.S. university. However, neither supportive leader behaviors nor controlling leader behaviors were significantly related to intrinsic motivation of student groups.

Figure 3

The Influence of Participative Leader Behaviors on Intrinsic Motivation



After examining the relationships between leader behaviors and creativity and between leader behaviors and intrinsic motivation, the results suggested that only participative leader behaviors of academic advisors had statistically significant relationship with intrinsic motivation of student groups both at South Korean universities and the U.S. university. Although there were no specific hypotheses regarding the relationship between three types of leader behaviors and job satisfaction, the researcher conducted additional multiple analyses to investigate relationships between three types of leader behaviors and job satisfaction of student groups.

Table 7 summarizes the regression results showing the main effects of three types of leader behaviors on job satisfaction, intrinsic motivation, and creativity of student groups at South Korean universities and at the U.S. university. When regressing job satisfaction on control variables and three types of leader behaviors, some different relationships were found between leader behaviors and job satisfaction of student groups depending on the nationality of universities. For student groups at South Korean universities, supportive leader behaviors had statistically significant and positive relationship with job satisfaction, whereas they did not have significant relationship with job satisfaction of student groups at the U.S. university. Figure 4 shows the different influences of supportive leader behaviors on job satisfaction controlling for other variables at South Korean universities and at the U.S. university.

In contrast, participative leader behaviors did not have significant relationship with job satisfaction of student groups at South Korean universities, whereas they had significant and positive relationship with job satisfaction of student groups at the U.S.

Table 7

Results of Regressing Job Satisfaction, Intrinsic Motivation, and Creativity on Control Variables and Three Types of Leader Behaviors

	South Korea			U.S.		
Independent Variables	Model 1: Job Satisfaction	Model 2: Intrinsic Motivation	Model3: Creativity	Model 1: Job Satisfaction	Model 2: Intrinsic Motivation	Model3: Creativity
Control						
Group support	0.02	-0.11	0.01	-0.23	0.25	-0.19
Resource	-0.31*	-0.16	0.00	0.29	-0.85*	0.37
Student experience	-0.05	-0.03	0.31*	-0.38	0.09	-0.15
Leadership Behaviors						
Supportive leadership	0.96***	0.38	0.20	-0.23	-0.38	-0.27
Participative leadership	0.14	0.60*	-0.09	0.66**	0.44*	0.05
Controlling leadership	-0.14	-0.24	-0.22	-0.24*	-0.06	-0.05
F	8.78***	3.96**	1.24	5.38	2.58*	1.59
R^2	0.60	0.40	0.18	0.50	0.33	0.23
Adjusted R^2	0.53	0.30	0.03	0.41	0.20	0.08

Note, * p < .05, ** p < .01, *** p < .001

university. Figure 5 demonstrates the different influences of participative leader behaviors on job satisfaction controlling for other variables at South Korean universities and at the U.S. university.

Figure 4

The Influence of Supportive Leader Behaviors on Job Satisfaction Controlling for Other Variables

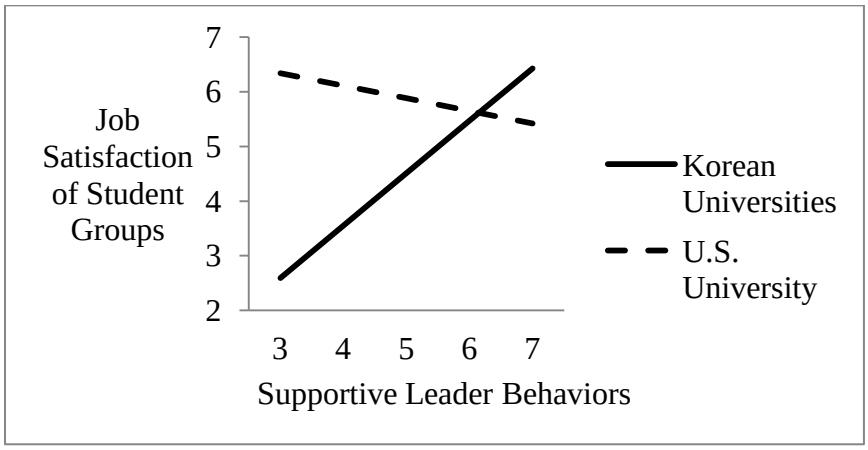
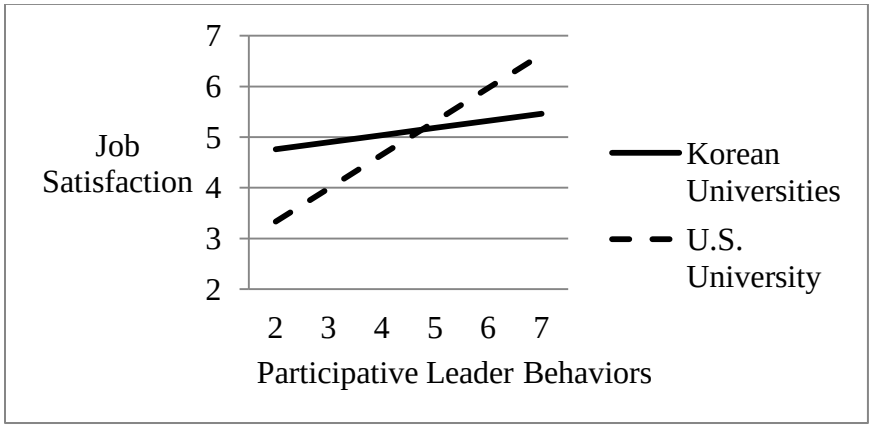


Figure 5

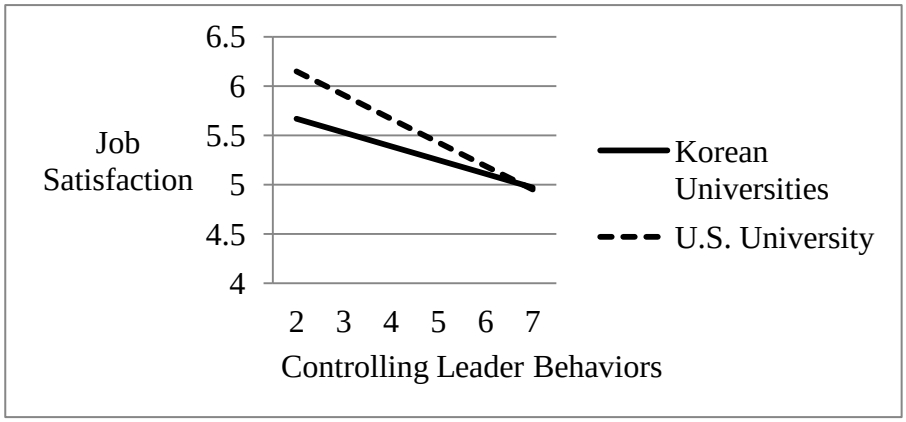
The Influence of Participative Leader Behaviors on Job Satisfaction Controlling for Other Variables



In terms of controlling leader behaviors, they did not have significant relationship with job satisfaction of student groups at South Korea universities. However, controlling leader behaviors had significant and negative relationships with job satisfaction of student groups at the U.S. university. Figure 6 shows the different influences of controlling leader behaviors on job satisfaction controlling for other variables at South Korean universities and at the U.S. university.

Figure 6

The Influence of Controlling Leader Behaviors on Job Satisfaction Controlling for Other Variables



After the hierarchical multiple regression analyses, intrigued by the fact that the level of power distance was lower in American students at the U.S. university than in Asian students at the U.S. university and in South Korean students at South Korean universities (See Table 5), the researcher conducted additional multiple regression analyses examining whether the three types of leader behaviors would have different influence on individual intrinsic motivation and job satisfaction among three different student sub samples. Because student groups at the U.S. university consisted of students

from diverse countries (See Table 2), it was not possible to conduct the regression analyses at a group level. Also since creativity was measured at a group level, it was not possible to regress creativity on three types of leader behaviors at an individual level. Thus, the researcher conducted the multiple regression analyses examining the influence of three types of leader behaviors on intrinsic motivation and jobs satisfaction among the three student sub samples at an individual level.

Table 8 summarizes the multiple regression analyses. With regard to intrinsic motivation, only participative leader behaviors had significantly positive impact on students in all three sub samples, which is consistent with the previous regression analyses conducted with student groups at South Korean universities and the U.S. university (See Table 7).

An interesting finding was that the multiple regression result of Asian students at the U.S. university was similar to the results obtained with American students at the U.S. university. Although the level of power distance of Asian students at the U.S. university was similar to that of South Korean students at South Korean universities, and lower than that of American students at the U.S. university, the influences of the three types of leader behaviors on Asian students at the U.S. university was similar to those on American students at the U.S. university. Specifically, supportive leader behaviors did not have significant relationship with job satisfaction of Asian students at the U.S. university whereas participative leader behaviors had positive relationship with, and controlling leader behaviors had negative relationship with their job satisfaction. Similarly, supportive leader behaviors were not significantly related to jobs satisfaction

Table 8

Results of Regressing Intrinsic Motivation and Job Satisfaction on Control Variables and Three Types of Leader Behaviors among Three Student Sub Groups

	Intrinsic Motivation			Job Satisfaction		
Independent Variables	American Students at the U.S. University	Asian Students at the U.S. University	South Korean Students	American Students at the U.S. University	Asian Students at the U.S. University	South Korean Students
Control						
Group support	0.04	0.38	0.03	0.09	0.01	0.02
Resource	-0.36	-1.28**	-0.13	0.07	-0.80*	0.21
Student experience	-0.11	0.04	-0.05	-0.33*	-0.32*	0.13
Leadership Behaviors						
Supportive leadership	-0.17	0.21	-0.06	0.32	0.29	0.71***
Participative leadership	0.42*	0.42*	0.59**	0.40*	0.61***	0.08
Controlling leadership	0.01	-0.08	0.08	-0.16	-0.24*	0.00
F	1.72	3.53	2.57	5.61	7.06	8.37
R^2	0.21	0.40	0.17	0.47	0.57	0.41
Adjusted R^2	0.09	0.29	0.11	0.39	0.48	0.36

Note, * p < .05, ** p < .01, *** p < .001

of American students at the U.S. university, whereas participative leader behaviors had positive influence on their job satisfaction. The influence of controlling leader behaviors on job satisfaction of American students at the U.S. university was still negative but insignificant this time.

Summary

This chapter described the results of various analyses, according to the research questions. First, the results of ANOVA test showed that there were significant differences in the levels of several variables including controlling leadership, group support, intrinsic motivation, and creativity between student groups at South Korean universities and student groups at the U.S. university. Specifically, academic advisors at South Korean universities showed higher level of controlling leadership than advisors at the U.S. university. And graduate student groups at South Korean universities showed higher level of group support than graduate student groups at the U.S. university. In terms of intrinsic motivation and creativity, graduate student groups at South Korean universities showed lower level of intrinsic motivation and creativity than graduate student groups at the U.S. university.

However, there were no statistically significant differences in the levels of supportive leadership, participative leadership, collectivism, power distance, resource, job satisfaction, and performance between student groups at South Korean universities and student groups at the U.S. university. Further ANOVA analysis found that the level of power distance was a little bit lower in American students at the U.S. university than in Asian students at the U.S. university and in South Korean students at South Korean

universities. There was no significant difference in the level of collectivism among the three student sub groups.

Second, hierarchical multiple regression analyses showed that three types of leader behaviors (e.g., supportive, participative, and controlling) did not have significant relationship with creativity of student groups both at South Korean universities and at the U.S. university. With regard to intrinsic motivation, participative leader behaviors had significant and positive relationship with intrinsic motivation of student groups both at South Korean universities and the U.S. university. Regarding job satisfaction, supportive leader behaviors had significant and positive relationship with job satisfaction of student groups at South Korean universities, whereas participative and controlling leader behaviors did not have significant relationship with job satisfaction of student groups at South Korean universities. In contrast, supportive leader behaviors did not have significant relationship with job satisfaction of student groups at the U.S. university. However, participative leader behaviors had significant and positive relationship with, and controlling leader behaviors had significant and negative relationship with job satisfaction of student groups at the U.S. university.

Additional multiple regression analyses conducted with three student sub samples showed that the influence of the three types of leader behaviors on intrinsic motivation and job satisfaction was consistent with the previous regression analyses conducted at a group level at South Korean universities and the U.S. university. Specifically, participative leader behaviors positively affected intrinsic motivation of all three sub

samples whereas supportive-, or controlling leader behaviors did not have significant impact on intrinsic motivation of all three sub samples.

Interestingly, regarding how job satisfaction was affected by three types of leader behaviors, the result for Asian students at the U.S. university was similar to the result for American students at the U.S. university although their cultural values were similar to those of South Korean students. Specifically, while job satisfaction of South Korean students was positively affected by supportive leader behaviors, that of American students and Asian students at the U.S. university was positively related to participative leader behaviors.

Chapter 5

DISCUSSION, IMPLICATIONS, LIMITATIONS, AND DIRECTIONS

Discussion

This chapter discusses the results of the study in relationship to pertinent literature. Implications of the findings are discussed. Limitations of the present study and recommendations for future research are also described.

Leader Behaviors, Creativity, and Intrinsic Motivation

Overall, the results show that neither supportive, participative, nor controlling leader behaviors of academic advisors had significant direct relationship with creativity of student groups at South Korean universities and at the U.S. university. However, with regard to intrinsic motivation, which has been considered as an important factor closely related to creativity (Amabile, 1996; Amabile & Gryskiewics, 1989; Deci & Ryan, 1985), participative leader behaviors of academic advisors were found to be positively related to intrinsic motivation of student groups both at South Korean universities and at the U.S. university.

Leader behaviors and creativity. Regarding supportive leader behaviors, based on prior research it was expected that they are positively related to creativity of student groups both at South Korean universities and at the U.S. university (e.g., Amabile, 1996; Amabile & Conti, 1999; Amabile et al., 2004; Amabile & Gryskiewicz, 1989; Andrews & Farris, 1967; Frese et al., 1999; Mumford et al., 2003; Oldham & Cummings, 1996; Redmond et al., 1993; Shalley & Gibson, 2004; Zhou & George, 2003). The positive impact of supportive leader behaviors on follower creativity has been well established in

prior research. For example, follower creativity tended to increase when leaders listened to followers' concerns (Adrews & Farris, 1967), when leaders provided encouragement and openly interacted with followers (Frese et al., 1999; Tierney et al., 1999), when leaders provided constructive feedback and evaluation (Mumford et al., 2003), or when leaders contributed to problem finding and increased followers' self-efficacy (Redmond et al., 1993).

However, the result of this study showed that supportive leader behaviors did not have significant relationship with creativity of student groups both at South Korean universities and at the U.S. university. This finding is contrary to the previous research showing the positive influence of supportive leader behaviors on follower creativity.

For participative leader behaviors, it was expected that they are positively related to creativity of student groups at the U.S. university and not significantly related to creativity of student groups at South Korean universities. Prior research demonstrated that participative leader behaviors generally increased follower creativity in the U.S. (e.g., Andrews & Farris, 1967; Leana, 1985; Oldham & Cummings, 1996). When leaders allowed employees to participate in making important decisions that might affect them (Andrews & Farris, 1967), or when leaders encouraged employees to speak up when they disagreed with a decision (Oldham & Cummings, 1996), the creativity of employees was enhanced.

In contrast to this positive relationship between participative leader behaviors and creativity found in the U.S., cross-cultural leadership research suggested that the influence of participative leader behaviors on follower would be weak or non-significant

in a certain culture such as Confucian Asia, which includes South Korea. That is because people in Confucian Asia tend to respect the authority of leaders for making important decisions (e.g., Dorfman et al., 1997; House et al., 2004; Zhou & Su, 2010).

The results of the present study showed that participative leader behaviors did not have significant relationship with creativity of student groups not only at South Korean universities but also at the U.S. university. The non-significant relationship between participative leader behaviors and creativity in the U.S. sample was not consistent with prior research finding.

Controlling leader behaviors were expected to have non-significant relationship with creativity of student groups at South Korean universities and negative relationship with creativity of student groups at the U.S. university. Prior creativity research has shown that controlling leader behaviors inhibit follower creativity in Western cultures because under controlling supervision, followers would feel that they are constrained by their leaders, and consequently experience low intrinsic motivation, which in turn leads to low creativity (Deci & Ryan, 1985; George & Zhou, 2001; Oldham & Cummings, 1996; Stahl & Koser, 1978; Zhou, 2003).

In contrast, cross-cultural leadership research suggested that controlling leader behaviors may not inhibit follower creativity much in Confucian Asia culture because followers from the culture tend to respect and obey their leaders, and moreover prefer autocratic or paternalistic bosses, who tend to tell them what to do (Hofstede et al., 2010). Thus, they may not feel constrained by their leaders who show controlling supervision, and be able to maintain their intrinsic motivation and creativity subsequently.

The results of this study showed that controlling leader behaviors did not have significant relationship with creativity of student groups not only at South Korean universities but also at the U.S. university. Therefore, the non-significant relationship between controlling leader behaviors and creativity in the U.S. sample was not consistent with prior research findings.

In sum, the results of the present study show that supportive-, participative-, and controlling leader behaviors of academic advisors did not have direct influence on creativity of student groups both at South Korean universities and at the U.S. university.

How should we, then, interpret and/or explain these results? There may be several possible explanations. First, it may be that supportive-, participative-, and controlling leader behaviors are not enough to directly stimulate follower creativity. Other types of leader behaviors may be needed to foster and encourage creativity of followers. For example, transformational leadership was found to be highly related to intrinsic motivation and creativity of followers (Bass, 1999; Shin & Zhou, 2003).

Transformational leadership refers to the leadership that influences followers by "broadening and elevating followers' goals and providing them with confidence to perform beyond the expectations specified in the implicit or explicit exchange agreement" (Dvir, Eden, Avolio, & Shamir, 2002, p. 735). There are four sub-dimensions in transformational leadership: *intellectual stimulation, idealized influence* (i.e., *Charisma*), *inspirational motivation*, and *individualized consideration* (Bass, 1999).

According to the definition, *intellectual stimulation* is directly related to creativity because intellectual stimulation is to help followers to enhance their innovativeness and

creativity by questioning basic assumptions, challenging the status quo, and encouraging imagination and new ways of conducting work (Bass, 1999; Shin & Zhou, 2003). *Idealized influence* or *Charisma* refers to becoming a charismatic role model for followers, and *inspirational motivation* means that leaders energize followers by articulating a compelling vision (Bass, 1999). It was argued that when leaders serve as role models or provide a compelling vision, followers tend to become motivated and excited to work hard toward the goals; in this way, they are likely to focus on the task other than eternal situations (Shin & Zhou, 2003). This motivation, excitement, and concentration are likely to result in higher levels of creativity (Amabile, 1996).

Individualized consideration is similar to supportive leadership in that leaders pay attention to the needs of followers, provide support, and encourage personal development of followers (Bass, 1999; Shin & Zhou, 2003). The three dimensions - *intellectual stimulation, idealized influence* (i.e., *Charisma*), and *inspirational motivation* – were not included in any of the three types of leader behaviors examined in this study. It may be that the three sub-dimensions have stronger impact on follower creativity than supportive- or participative leader behaviors. Or supportive- and/or participative leader behaviors may need to be accompanied by certain leader behaviors such as intellectual stimulation, idealized influence or inspirational motivation to impact follower creativity. The problem is that Shin and Zhou (2003) did not distinguish and examine the influence of each sub-dimension of transformational leadership on intrinsic motivation or creativity in their study. Thus, it is not clear which sub-dimension is more or less contributing to

creativity. Future research needs to address this by examining the relationship between each sub-dimension of transformational leadership and follower creativity.

In addition to transformational leadership, recently a different type of leadership model, empowering leadership, was found to be related to follower creativity through psychological empowerment (Zhang & Bartol, 2010). Empowering leadership refers to leadership that allows power sharing with employees by emphasizing the significance of the work, allowing followers to participate in decision making, expressing confidence in followers' capability, and removing barriers to performance (Ahearne et al., 2005; Zhang & Bartol, 2010). While empowering leadership includes some supportive leader behaviors (expressing confidence in followers' capability) and participative leader behaviors (allowing participation in decision making), it has other sub-dimensions that are not related to the three types of leader behaviors, such as emphasizing the significance of the work and removing barriers to performance. Similar to Shin and Zhou (2003), the impact of each sub-dimension of empower leadership on follower creativity was not examined in the study (Zhang & Bartol, 2010). Future research is needed to examine the different impacts of these different types of leader behaviors on follower creativity.

Second, it may be that there are some unexamined factors that moderate the relationship between the three types of leader behaviors and creativity. For example, leader encouragement of creativity was found to moderate the relationship between employee psychological empowerment and creative process engagement of employees, which was antecedent of creativity (Zhang & Bartol, 2010). Leader encouragement of

creativity is defined as "the extent of a leader's emphasis on being creative and on actively engaging in processes that may lead to creative outcomes" (Zhang & Bartol, 2010, p. 112). Leaders can encourage employees to engage in creative activities by describing the importance and need of creative outcomes and setting creativity as important goals; such encouragement and emphasis are likely to channel employee attention and work effort toward creative work outcomes (Scott & Bruce, 1994; Shalley, 1991; Zhang & Bartol, 2010).

Zhang and Bartol (2010) demonstrated that the impact of employee psychological empowerment on creative process engagement was significantly reduced when leaders did not highly encourage employees to be creative. In other words, when leaders did not set creativity as an important goal, or did not encourage followers to be creative, empowering leadership, in which participatory leader behaviors are a core sub-dimension, is not related to creativity. Accordingly, it may be argued that even though academic advisors had shown supportive-, participative-, and controlling leader behaviors, if they had not encouraged their students to be creative or did not articulate creativity as an important goal, those leader behaviors might have lost their impact on creativity of students.

Another possible moderator between leader behaviors and follower creativity is the level of stress that students experience. Bass (1999) argued that under low stress, intellectually stimulating employees can increase their creativity and innovative behaviors; in contrast, under high levels of stress, the same intellectual stimulation may harm their creativity because it may be overload to them.

These possible moderating effects of leader encouragement of creativity and the level of follower stress may be the reason why intrinsic motivation was not related to creativity in this study. This issue will be discussed in more detail later in this chapter.

Leader behaviors and intrinsic motivation. Intrinsic motivation refers to the individual's intrinsic interest in the task itself (Amabile, 1988). In other words, if someone has a high level of intrinsic motivation, the person is attracted, excited, and self-motivated by the work itself (Amabile, 1988).

According to intrinsic motivation theory, situational factors, such as leadership, can affect intrinsic motivation (Amabile, 1988; Oldham & Cummings, 1996). When the contextual factors such as leadership appear controlling, individuals perceive that their ideas or actions are being constrained by the contextual factors and feel that they are not the origin of their own ideas and actions; as a result, their intrinsic motivation tends to decrease (Deci & Ryan, 1985; Shalley et al., 2004). In contrast, when the contextual factors are informational and non-controlling, individuals feel there is little external pressure; as a result, individuals should feel encouraged and supported, which enhances intrinsic motivation (Deci & Ryan, 1985; Shalley et al., 2004).

Following the same logic as in my earlier discussion of the relationship between three types of leader behaviors and creativity at South Korean universities and at the U.S. university, it was expected that the three types of leader behaviors influence intrinsic motivation of student groups in following ways. Supportive leader behaviors were expected to be positively related to intrinsic motivation of student groups both at South Korean universities and at the U.S. university. And participative leader behaviors were

expected to be positively related to intrinsic motivation of student groups at the U.S. university and not significantly related to that of student groups at South Korean universities. Regarding controlling leader behaviors, they were expected to be negatively related to intrinsic motivation of student groups at the U.S. university and not significantly related to that of student groups at South Korean universities.

Results show that some meaningful relationships were found only between participative leader behaviors and intrinsic motivation; participative leader behaviors were positively related to intrinsic motivation of student groups both at South Korean universities and at the U.S. university whereas supportive or controlling leader behaviors were not significantly related to intrinsic motivation of student groups both at South Korean universities and at the U.S. university (See Table 7).

This finding suggests that in order to increase intrinsic motivation of students, academic advisors both at South Korean universities and at the U.S. university should allow students to participate in making important decisions. As discussed above, individuals would feel that they are the origin of their own ideas and actions when allowed to participate in decision making process, which in turn, increase their intrinsic motivation (Deci & Ryan, 1985; Shalley et al., 2004).

An important finding here is that the influence of participative leader behaviors on intrinsic motivation is the same for both students at South Korean university and students at the U.S. university, which seems contrary to the prior cross-cultural research. Cross-cultural leadership research noted that participative leadership was not preferred much by Confucian Asians including South Koreans (House et al., 2004). However, that does not

necessarily mean that participative leader behaviors would have little impact on intrinsic motivation of Confucian Asian followers. In fact, there is little empirical evidence supporting the impact of participative leader behaviors on followers in cross-cultural research (Brodbeck, Frese, Akerblom, Audia, Bakacsi, et al., 2000). Although people from Confucian Asia culture are less likely to prefer participative leadership, when leaders actually allow them to participate in decision-making, they may feel that they own the ideas discussed. Thus, their interests toward the task are likely to increase; they feel more attracted, excited, and self-motivated by the work, which result in heightened intrinsic motivation (Amabile,1988; Deci & Ryan, 1985; Shalley et al., 2004).

It may be that the positive impact of participative leadership on intrinsic motivation of followers is especially important in academic settings when working with graduate students. Graduate students working in research labs would strongly prefer to expressing their opinion in choosing the research topic and deciding how the research is conducted. This may not be the same in business settings. Therefore, the fact that the result was the same for both cultures may be due to the dominant effect of the research setting in this study (i.e., academia). Future research is needed to examine this relationship between participative leader behaviors and intrinsic motivation of followers in business settings in different cultures.

Intrinsic motivation and creativity. Intrinsic motivation refers to the individual's intrinsic interest toward the task itself (Amabile, 1988). Employees with high intrinsic motivation tend to be cognitively flexible and persevering (McGraw & Fiala, 1982). Therefore, they are more likely to find various ways of solving problems, and to

be persistent under possible difficulties they can encounter; thus, it was suggested that intrinsic motivation is likely to increase creativity (Shin & Zhou, 2003). In fact, many studies have found that intrinsic motivation was linked to creativity (e.g., Amabile & Gryskiewics, 1987; Shalley, 1991; Shalley & Oldham, 1997; Shin & Zhou, 2003). Therefore, fostering intrinsic motivation was regarded as a way to improve individual creativity (Amabile & Gryskiewics, 1989; Deci & Ryan, 1985). Following prior research, it was expected that intrinsic motivation is positively related to creativity.

However, the results show that there was no significant relationship between intrinsic motivation and creativity, which is contrary to the prior research findings. What are the possible reasons for the insignificant relationship between them? First, following the same logic as in my earlier discussion of the possible moderators between leader behaviors and creativity, there may be some unexamined factors that moderate the relationship between intrinsic motivation and creativity such as leader encouragement of creativity. Zhang and Bartol (2010) showed that the impact of employee psychological empowerment on creative process engagement was significantly reduced when leaders did not highly encourage employees to be creative. Similarly, when leaders do not set creativity as important goals and do not encourage followers to be creative, intrinsic motivation may not link to creativity.

Summarizing the discussion so far, the findings suggest that the three types of leader behaviors do not have direct impact on creativity of student groups both at South Korean universities and at the U.S. university. In terms of intrinsic motivation,

participative leader behaviors have shown positive influence on intrinsic motivation of student groups both at South Korean universities and at the U.S. university.

However, one should *not* interpret these results that there is no difference between South Korean universities and the U.S. university with regard to the influence of the three types of leader behaviors on advisee students. The results of the influence of the leader behaviors on job satisfaction of student groups show meaningful difference between student groups at South Korean universities and student groups at the U.S. university, which will be discussed below.

Leader Behaviors and Job Satisfaction

Although there are no specific hypotheses regarding job satisfaction, following the same logic as in my earlier discussion of the relationship between three types of leader behaviors and creativity, it can be expected that the three types of leader behaviors influence job satisfaction of student groups in following ways: supportive leader behaviors are positively related to job satisfaction of student groups both at South Korean universities and at the U.S. university; participative leader behaviors are positively related to job satisfaction of student groups at the U.S. university and not significantly related to that of student groups at South Korean universities; controlling leader behaviors are negatively related to job satisfaction of student groups at the U.S. university and not significantly related to that of student groups at South Korean universities.

The results support all the expected relationships between the three types of leader behaviors and job satisfaction except one between supportive leader behaviors and job

satisfaction at the U.S. university (See Table 7). As expected, supportive leader behaviors were positively related to job satisfaction of student groups at South Korean universities. However, they were not significantly related to job satisfaction of student groups at the U.S. university, which was not as expected. Participative leader behaviors were positively related to job satisfaction of student groups at the U.S. university, but not significantly related to job satisfaction of student groups at South Korean universities as expected. Controlling leader behaviors were negatively related to job satisfaction of student groups at the U.S. university, but not significantly related to job satisfaction of student groups at South Korean universities as expected.

The finding from South Korean universities is consistent with prior cross-cultural research examining effective leadership in non-Western cultures. Many researchers found that ideal leaders in cultures with high power distance and collectivism are those who support, care for, and show commitment to growth of followers; and at the same time, those ideal leaders demand respect and obedience from their followers (Ayman & Chemers, 1983; Misumi, 1985; Sinha, 1994; Steers, Shin, & Ungson, 1989). This reciprocal relationship between leader support and follower respect characterizes the 'paternalistic' leader in these high power distance and collectivistic culture (House et al., 2004). In fact, the researcher conducted preliminary interviews with possible research participants before distributing surveys. In the interview, one South Korean graduate student described the ideal leader for him as someone like a 'father', who cares for and provide direction for their followers.

The findings from the U.S. university are also consistent with prior research (Andrews & Farris, 1967; George & Zhou, 2001; Oldham & Cummings, 1996; Stahl & Koser, 1978; Zhou, 2003) except for the insignificant influence of supportive leadership on job satisfaction. The result suggests that student groups at the U.S. university feel more satisfied when participating in important decision making whereas they feel less satisfied when their advisors attempt to control and micromanage their work. What is contrary to expectation is the insignificant relationship between supportive leader behaviors and job satisfaction of student groups at the U.S. university.

What could be the reason for the insignificant relationship between supportive leader behaviors and job satisfaction of student groups at the U.S. university? In fact, in this study, supportive leader behaviors did not have any significant relationship with creativity, intrinsic motivation, or job satisfaction of student groups at the U.S. university. Following the same logic in my discussion of the insignificant relationship between supportive leader behaviors and creativity, it may be that there are some unexamined factors that moderate the influence of supportive leader behaviors on student groups at the U.S. university such as the level of stress students experience. Or it may be that the relationships between advisors and advisee students at the U.S. university are more independent and less hierarchical than those at South Korean universities so that participating in important decision making is much more important than getting support from their advisors for student groups at the U.S. university. However, it is not clear whether this insignificant impact of supportive leader behaviors on students at the U.S. university could be found in broader settings such as other U.S. universities. Future

research is needed to examine how supportive leader behaviors of academic advisors influence work-related attitudes, creativity, and performance of advisee students at other universities.

In sum, for student groups at South Korean universities, supportive leader behaviors are critical for their job satisfaction, whereas participative- or controlling leader behaviors do not have significant impact on it. In contrast, for student groups at the U.S. university, participative leader behaviors are important for their job satisfaction, whereas controlling leader behaviors may harm it. Supportive leader behaviors seem to have insignificant impact on the job satisfaction of student groups at the U.S. university.

Implications

Creativity is becoming increasingly important for organizations today. Global competition and the accelerating speed of technical advancement require organizations to foster creativity of their members in order to adapt to changing environments (Kim & Mauborgne, 2005). Considering the powerful impact of leaders on followers (Amabile et al., 2004), finding optimal leadership styles for enhancing follower creativity is very important. Moreover, organizations including universities are becoming more globalized due to organization members coming from diverse cultures and nations. Therefore, finding and developing right leader behaviors across cultures has important implications for HRD practitioners and managers in order to maximize creativity of organizational members.

First, the results of this study suggest that participative leader behaviors are effective in enhancing intrinsic motivation of student groups both at South Korean

universities and at the U.S. university. Although intrinsic motivation was not significantly related to creativity in this study, the positive impact of intrinsic motivation on creativity has been consistently supported by prior research. Thus, it may be argued that participative leader behaviors are important for fostering creativity of student groups both at South Korea universities and at the U.S. university. In other words, academic advisors should allow their advisee students to participate in decision-making processes and let them raise their voice even when they disagree with their advisors to increase their intrinsic motivation and creativity. In addition, it should be remembered that participative leader behaviors also showed positive impact on job satisfaction of student groups at the U.S. university. Thus, it may be argued that participative leader behaviors are very important for student groups at the U.S. university.

Second, in terms of supportive leader behaviors, academic advisors at South Korean universities should show supportive leader behaviors to their students because they were found to be significantly related to job satisfaction of student groups at South Korean universities. Thus, supportive leader behaviors such as showing empathy to the situations of followers, listening to their concerns, and caring for their needs, should be encouraged among academic advisors at South Korean universities to increase job satisfaction of student groups at South Korean universities.

Third, in terms of controlling leader behaviors, academic advisors at the U.S. university should remind themselves of the negative impact of those behaviors on their advisee students. Although controlling leader behaviors were not related to creativity or intrinsic motivation of student groups at the U.S. university, they had significantly

negative impact on job satisfaction of student groups. Combined with the finding with regard to participative leader behaviors, academic advisors at the U.S. university should allow advisee students to raise their voices when choosing the topic of their research projects and deciding specific ways for conducting the tasks rather than telling them what to do and how to do. The results clearly support that micro-managing should be avoided at the U.S. university. In contrast, controlling leader behaviors did not have significant impact on creativity, intrinsic motivation, and job satisfaction of student groups at South Korean universities. It may suggest that students at South Korean universities expect their academic advisors to provide them with clear direction regarding what research topic to pursue and how to conduct their research. Combined with findings regarding supportive behaviors, this is congruent with prior cross-cultural leadership research regarding the effectiveness of 'paternalistic leaders' in high power distance and collectivism culture; ideal leaders in these cultures including South Korea are those who cares for and support followers while maintaining hierarchical relationships with followers like parents (Ayman & Chemers, 1983; House et al., 2004; Misumi, 1985; Sinha, 1994; Steers, Shin, & Ungson, 1989). Although participative leader behaviors do not affect job satisfaction of student groups at South Korean universities, participative leader behaviors positively influence their intrinsic motivation. Thus, academic advisors at South Korean universities should place focus on increasing supportive- and participative leader behaviors but not necessarily on reducing controlling leader behaviors.

In sum, these findings provide useful insights regarding how academic advisors at South Korean universities and at the U.S. university should lead their advisee students for

increasing their creativity, intrinsic motivation, and job satisfaction. Universities should share these findings with their academic advisors in STEM fields and provide them with leadership training programs, which properly incorporate the findings from studies including this one.

Another implication is that academic advisors should take into careful consideration of cultural values of their advisee students when advising them and providing guides in their work. Although this study examines creativity, intrinsic motivation, and job satisfaction at the group level, the findings clearly show that there are some differences between students from Confucian Asia cultures and students from Anglo culture in terms of the influence of certain leader behaviors on students. When students from different culture join the lab or become advisee students, academic advisors should consider the culture students are originally from and adjust their behaviors to maximize their creativity, intrinsic motivation, and satisfaction. As an effort of finding right leader behaviors, cultural values of advisee students such as collectivism or power distance may be identified through use of assessment instruments. Then, before students start their work, initial discussion with students in order to identify their expectations toward the roles of academic advisors can be beneficial for this effort of finding optimal leader behaviors.

It should be noted that students' cultural values or expectations toward the roles of their advisors may shift (i.e., culturally assimilated). As seen in the comparison among the three student sub samples, the influence of the three types of leader behaviors on job satisfaction of Asian students at the U.S. university was very similar to that of American

students at the U.S. university although there was small difference in power distance between Asian students and American students at the U.S. university. That may show that students from different cultural societies become assimilated to the dominant culture of the society or the university they belong to after spending certain amount of time, and as a result, may possess different expectation towards their advisors than that they used to have in their mother culture. Thus, advisors should regularly consult with their advisee students and discuss with them what is their expectation toward the role of the advisors and check whether the expectation changes along the progress advisee students have made. In other words, being aware of the contingency of leadership effectiveness and adjusting leader behaviors according to the expectation of advisee students will surely help advisors to enhance creativity of their advisee students.

In addition, this study showed important finding with regard to the possible changes in cultural values of people from different cultures. The comparison of cultural values of student groups between South Korean universities and the US university showed that there were no significant differences in power distance and collectivism (See Table 3). Further comparison of cultural values among American students at the U.S. university, Asian students at the U.S. university, and South Korean students at South Korean universities showed that there is no significant difference in collectivism among the three student sub samples. Although the power distance of American students at the U.S. university was lower than that of Asian students at the U.S. university and South Korean students at South Korean universities, the difference was not large (See Table 5).

It may suggest that cultural values of people from different societies have been shifting due to societal changes such as globalization.

It has been more than 30 years since Hofstede (1980) analyzed his first data set and about 15 years since the data of the GLOBE study have been collected (House et al., 2004). The rapid globalization and advancement in communication technology including television and the internet have brought to people's lives cultural artifacts from other cultures such as fashion items, music, dramas, and movies. People are now becoming increasingly exposed to different cultural values conveyed by those cultural artifacts while they stay in their home societies. Although it may be difficult to change the overall pattern of cultural values in a whole society, young generations may show somewhat different values than their older generations because they tend to frequently use the communication technologies and thus more likely to be exposed to the cultural artifacts from other cultures.

In fact, a recent longitudinal study (Na & Cha, 2010) conducted in South Korea has shed light on this issue by showing that there has been change in cultural values of South Koreans. The researchers have measured various cultural values of South Koreans at three intervals in 1979, 1998, and 2010. The measures included in-group collectivism (i.e., the extent to which people put more importance on themselves and their immediate families over the society), anti-authoritarianism (i.e., opposite of power distance), uncertainty avoidance, assertiveness and gender egalitarianism. The results showed a clear shift in cultural values of South Koreans whereby individualism, anti-authoritarianism, assertiveness, and gender egalitarianism has been increasing among

South Koreans (Na & Cha, 2010). Interestingly, the magnitude of change was larger in young people in their 20s than older people, who are in their 50s.

More future research is needed to examine whether this shift in cultural values is happening in other cultures including the U.S. and if so, how this change has been influencing people's expectation toward leaders and consequently the effectiveness of different leader behaviors.

Limitations of the Study and Directions for Future Research

There are several limitations and directions for future research suggested by this study. First, the cross-sectional design of the study is one of the fundamental limitations. For future research, a longitudinal study design is required in order to test true causal relationships between variables (Tierney et al., 1999). Since the study collected data temporally, the relationships between variables may be due to the timing of the survey.

Second, creativity, the main dependent variable in this study was assessed based only on participant (i.e., academic advisor) perception. Although assessing creativity utilizing supervisors' ratings is a common method in creativity research, this approach still lacks objectivity of evaluation. Future research should utilize other ways to enhance objectivity of evaluating creativity. For example, measuring the number of journal articles a student has published as a first author could be used as an objective measure of creativity supplementing supervisor rating.

Third, this study has measured only three types of leader behaviors: supportive, participative, and controlling leader behaviors. As discussed above, there are other types of leader behaviors considered to be related to creativity and intrinsic motivation of

followers such as intellectual stimulation, idealized influence, inspirational motivation, emphasizing the significance of the task, and encouragement of creativity as an important goal. Future research should include these types of leader behaviors in addition to the three types of leader behaviors and examine how these different leader behaviors jointly affect follower creativity or whether they interact when influencing intrinsic motivation or creativity of followers.

Fourth, the context is limited to STEM fields at universities in South Korea and in the U.S. only. The relationships between academic advisors and students in other fields of study such as education or business management, or the relationships between managers and employees in business organizations, or the relationships in other countries may be very different from ones examined in this study. Hence, it is difficult to generalize the study finding to other fields of study at universities or to broader business settings. Future research is required to examine this relationship between leader behaviors and follower creativity in other cultural settings and professional settings.

Concluding Thoughts

Creativity has become critical for success of organizations in today's business world. In order to adapt to changing environments and gain competitive advantage, organizations need creativity that drives organizational innovation and change (Amabile, 1988; Woodman, Sawyer, & Griffin, 1993). HRD professionals should contribute to the success of organizations by developing the competence of their members to meet the performance demands of their organization (Swanson & Holton, 2001). Given creativity is a critical factor for organizational performance, enhancing creativity should be

included as a critical agenda of HRD (Joo, 2007).

While creativity comes fundamentally from individuals (Amabile, 1988), leadership or support of individuals' immediate leaders is one of the most potent factors impacting individual creativity in organizations (Amabile, Schatzel, Moneta, & Kramer, 2004; Oldham, & Cummings, 1996; Shalley & Gilson, 2004). This study demonstrates how leaders can influence follower creativity through different leader behaviors and what kinds of leader behaviors are optimal to enhance creativity, intrinsic motivation, and job satisfaction of followers.

In conclusion, this study contributes to the literature on cross-cultural creativity by linking creativity research and cross-cultural leadership research. Future empirical research is needed to reveal the complex relations among leader behaviors, creativity, and cultures. As these complex relations are uncovered, organizations may be able to find and train better leader behaviors to foster their members' creative potential and to benefit from their novel and useful ideas across cultures.

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APPENDIX A:

Survey Questionnaire (English and Korean Version)

Leadership and Creativity Survey for Academic Advisors

Leadership and Creativity: The moderating role of culture

Thanks for your participation. I am Seog Joo Hwang, a Ph.D. candidate studying Human Resource Development (HRD) at the University of Minnesota. I am conducting a dissertation research on the impact of leader behaviors and other contextual characteristics on subordinate creativity.

The purpose of this study is to understand how academic advisors' leadership behaviors influence advisee students' creativity and general performance depending on academic advisee students' cultural values. The information that you provide will be kept anonymously and confidentially and used in aggregated summaries only for research purpose.

The questionnaire should take 5 minutes for academic advisors and 15 minutes. You may withdraw or stop at any time. However, it is very important that you respond to each and every statement. Only then can I include your opinions in the final analysis.

Please feel free to contact me at hwang134@umn.edu or at USA 1-651-331-9377, if you have any questions or comments. Thank you for your participation.

Sincerely,

Seog Joo Hwang

Researcher

I. Advisee Students' Creativity

There is no right or wrong answer here. Please indicate your level of agreement with following statements by clicking the box that best reflects your perception.

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

1. My advisee students suggest new ways to achieve goals or objectives.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
2. My advisee students come up with new and practical ideas to improve performance.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
3. My advisee students search out new technologies, processes, techniques, and/or product ideas.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
4. My advisee students suggest new ways to increase quality.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
5. My advisee students are a good source of creative ideas.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
6. My advisee students are not afraid to take risks.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
7. My advisee students promote and champion ideas to others.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
8. My advisee students exhibit creativity on the job when given the opportunity to.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
9. My advisee students develop adequate plans and schedules for the implementation of new ideas.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
10. My advisee students often have new and innovative ideas.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
11. My advisee students come up with creative solutions to problems.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
12. My advisee students often have a fresh approach to problems.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
13. My advisee students suggest new ways of performing work tasks.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐

II. Advisee Students' Performance

There is no right or wrong answer here. Please indicate your level of agreement with following statements by clicking the box that best reflects your perception.

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5- - - - - - 6- - - - - - 7

Strongly Disagree | Disagree | Slightly Disagree | Neutral | Slightly Agree | Agree | Strongly Agree

1. Overall, how is your advisee students' work quantity?	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
2. Overall, how is your advisee students' work quality?	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐
3. Overall, how is the amount of effort of your advisee students?	1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐

III. Demographic Information

Following questions are to obtain demographic information about you. Please click the item that best describes you.

1. What is your gender?
☐ Male ☐ Female

2. What is your age?
☐Under 30 years old ☐ 30 ~ 35 ☐ 36 ~ 40 ☐ 41 ~ 50 ☐ Over 50

3. What is your highest level of education?
☐ Bachelor degree ☐ Master degree ☐ Doctoral degree

4. What is your faculty rank?
☐ Assistant Professor ☐ Associate Professor ☐ Full Professor

5. How long is your experience in your study field including work and study?
☐ Less than 1 year ☐ 1 ~ 2 years ☐ 3 ~ 5 years ☐ 5 ~ 10 years ☐ Over 10 years

6. How long have you been working at your current university?
☐ Less than 6 months ☐ 6 months ~ 2 years ☐ 3 ~ 5 years ☐ Over 5 years

7. What is your country of origin?
( )

리더십과 창의성 설문지 (지도교수님용)

리더십과 창의성 탐구: 개인의 문화적 가치들이 미치는 영향을 중심으로

본 연구에 참가해주셔서 감사합니다. 저는 미국 미네소타 대학교 인적자원개발 (HRD) 전공 박사과정에 있는 황석주입니다. 현재 박사학위 논문을 위한 연구를 수행하고 있습니다.

본 연구의 목적은 미국, 한국의 대학교에서 지도교수님들이 지도학생들을 어떻게 지도하실 때 학생들의 창의성과 연구성과가 극대화되는지, 또한 이러한 리더십이 창의성과 연구성과에 미치는 영향이 두 나라간 문화적 차이로 달라지는지를 연구하려는 것입니다.

귀하께서 제공해주시는 정보는 연구 목적상 취합된 형태로만 활용되며 또한 익명으로 작성 및 관리되고 철저한 비밀이 유지될 것입니다.

교수님용 설문서는 총 두장으로 작성에는약 3분 정도 소요될 것입니다. 설문 중 언제든 그만두실 수 있습니다. 하지만 최종 분석에 교수님의 소중한 의견이 반영될 수 있도록 모든 질문에 응답해주시면 감사하겠습니다.

설문에 참여해주신 분들 중 추첨을 통하여 20분께 1만원 상당의 스타벅스 상품권을 드릴 예정이며 당첨된 분들께는 개별적으로 연락드리겠습니다.

질문이나 의견이 있으시면 연구자에게 이메일 (hwang134@umn.edu) 또는 전화 (미국 +1-651-331-9377 / 한국 070-7516-4932) 로 연락주시기 바랍니다.

이 설문지는 마우스로 답변을 체크하실 수 있도록 제작되었습니다. 설문을 마치시면 연구자 이메일 (hwang134@umn.edu)로 설문을 첨부해서 보내주시기를 부탁드립니다. 설문에 참여해주셔서 대단히 감사합니다.

I. 지도 학생의 창의적 행동 특성 (Advisee Students' Creativity)

다음에 제시된 질문들은 맞고 틀린 정답이 없습니다. 각 문항별로 귀하가 지도하는 학생들의 행동을 가장 잘 반영하는 번호를 선택하여 주십시오.

1 - - - - - - 2 - - - - - 3 - - - - - 4 - - - - - 5

전혀 그렇지 않다	그렇지 않다	중립이다	그렇다	매우 그렇다

1. 내 지도학생들은 목표나 목적을 달성하기 위한 새로운 방법들을 제시한다.	1 2 3 4 5 □ □ □ □ □
2. 내 지도학생들은 성과 증진을 위한 새로우면서 실질적인 아이디어를 제안한다.	1 2 3 4 5 □ □ □ □ □
3. 내 지도학생들은 새로운 공학, 공정, 기술 또는 제품의 아이디어를 찾는다.	1 2 3 4 5 □ □ □ □ □
4. 내 지도학생들은 품질 향상을 위한 새로운 방법들을 제시한다.	1 2 3 4 5 □ □ □ □ □
5. 내 지도학생들은 창의적인 아이디어의 공급원이다.	1 2 3 4 5 □ □ □ □ □
6. 내 지도학생들은 위험을 무릅쓰는 것을 두려워하지 않는다.	1 2 3 4 5 □ □ □ □ □
7. 내 지도학생들은 남에게 아이디어를 주장하고 설득한다.	1 2 3 4 5 □ □ □ □ □
8. 내 지도학생들은 기회가 주어지면 창의성을 발휘한다.	1 2 3 4 5 □ □ □ □ □
9. 내 지도학생들은 새로운 아이디어의 실행 계획과 시간 계획을 잘 수립한다.	1 2 3 4 5 □ □ □ □ □
10. 내 지도학생들은 종종 새롭고 혁신적인 아이디어를 개발해 낸다.	1 2 3 4 5 □ □ □ □ □
11. 내 지도학생들은 문제에 대해 창의적인 해결책을 제안한다.	1 2 3 4 5 □ □ □ □ □
12. 내 지도학생들은 문제에 대해 자주 신선한 방식으로 접근을 한다.	1 2 3 4 5 □ □ □ □ □
13. 내 지도학생들은 업무 수행을 위한 새로운 방식을 제시한다.	1 2 3 4 5 □ □ □ □ □

II. 지도 학생의 성과 수준(Advisee Students' Performance)

귀하가 지도하는 학생들의 업무 성과 수준을 평가해주십시오.

1 - - - - 2 - - - - - 3 - - - - - 4 - - - - - 5 - - - - 6 - - - - - 7

매우 낮음 | 낮음 | 약간 낮음 | 보통 | 약간 높음 | 높음 | 매우 높음

1. 귀하의 지도학생들의 업무의 양적 수준은 어떠합니까?	1 2 3 4 5 6 7 ☐ ☐ ☐ ☐ ☐ ☐ ☐
2. 귀하의 지도학생들의 업무의 질적 수준은 어떠합니까?	1 2 3 4 5 6 7 ☐ ☐ ☐ ☐ ☐ ☐ ☐
3. 귀하의 지도학생들의 노력의 수준은 어떠합니까?	1 2 3 4 5 6 7 ☐ ☐ ☐ ☐ ☐ ☐ ☐

III. 개인 인적사항 (Demographic Information)

다음은 귀하의 인적 사항에 대한 질문들입니다. 응답 내용에 대해서는 익명성과 비밀이 유지되며, 전체 수준으로 취합된 결과만 활용될 것입니다. 해당 사항을 선택하여 선택해주십시오.

1. 귀하의 성별은 무엇입니까?
☐ 남성☐ 여성

2. 귀하의 연령은 다음 보기 중 어디에 해당합니까?
☐ 30세 미만☐ 30 ~ 35 세☐ 36 ~ 40 세☐ 41 ~ 50세☐ 51세 이상

3. 귀하가 현재 가진 최종 학력은 무엇입니까?
☐ 학사 학위 소유☐ 석사 학위 소유☐ 박사 학위 소유

4. 귀하의 직위는 무엇입니까?
☐ 조교수☐ 부교수☐ 정교수

5. 귀하가 현재 업무와 관련하여 가진 업무경험은 어느 정도 되십니까? 직장과 학교의 경험 모두를 합쳐서 답해주십시오.
☐ 1년 미만☐ 1 ~ 2 년☐ 3 ~ 5 년☐ 5 ~ 10 년☐ 10년 이상

6. 귀하가 현재의 학교에서 일한 기간은 얼마나 되었습니까?
☐ 6개월 미만☐ 6개월 ~ 2년☐ 3 ~ 5 년☐ 5년 이상

7. 귀하의 국적은 무엇입니까?
( )

Leadership and Creativity Survey for Graduate Students

Thanks for your participation. I am Seog Joo Hwang, a Ph.D. candidate studying Human Resource Development (HRD) at the University of Minnesota. I am conducting this research for my dissertation. The purpose of this study is to understand how academic advisors' leadership behaviors influence advisee students' creativity and general performance, which are assessed by academic advisors, depending on academic advisee students' cultural values. The information that you provide will be kept anonymously and confidentially and used in aggregated summaries only for research purpose.

The questionnaire consists of five sessions and should take around 15 minutes to complete. You may withdraw or stop at anytime. However, it is very important that you respond to each and every statement. Only then can I include your opinions in the final analysis.
You can be entered into a drawing for Gift Card prizes ($20) if you want. Please provide your personal email address (e.g., gmail or hotmail) at the end of the survey.

Please feel free to contact me at hwang134@umn.edu or at USA 1-651-331-9377, if you have any questions or comments. Thank you for your participation.

I. Demographic Information

Following questions are to obtain demographic information about you. Please check the box or provide an answer that best describes you.

1. What is your gender?
☐ Male ☐ Female

2. What is your age? ( )

3. What is the degree/program you are currently studying?
☐ Bachelor ☐ Master ☐ Doctoral ☐ I am Post Doc

4. How long is your experience in your study field including work and study?
☐ Less than 1 year ☐ 1 ~ 2 years long ☐ 3 ~ 5 years long ☐ 5 ~ 10 years long ☐ Over 10 years long

5. How long have you been working with your advisor?
☐ Less than 6 months ☐ 6 months ~ 2 years ☐ 3 ~ 5 years ☐ Over 5 years

6. What is your country of origin? ( )

II. Advisor's Leader Behaviors

There is no right or wrong answer here. Please indicate your level of agreement with following statements by clicking the box that best reflects your perception of your advisor.

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5- - - - - - 6- - - - - - 7

Strongly Disagree | Disagree | Slightly Disagree | Neutral | Slightly Agree | Agree | Strongly Agree

	1	2	3	4	5	6	7
1. My academic advisor helps me solve work-related problems,	☐	☐	☐	☐	☐	☐	☐
2. My academic advisor keeps concerned about how advisee students think and feel about things.	☐	☐	☐	☐	☐	☐	☐
3. My academic advisor praises good work.	☐	☐	☐	☐	☐	☐	☐
4. My academic advisor encourages me to develop new skills.	☐	☐	☐	☐	☐	☐	☐
5. My academic advisor explains his or her actions.	☐	☐	☐	☐	☐	☐	☐
6. My academic advisor rewards me for good performance.	☐	☐	☐	☐	☐	☐	☐
7. My academic advisor encourages me to speak up when I disagree with a decision.	☐	☐	☐	☐	☐	☐	☐
8. My academic advisor encourages advisee students to participate in important decisions.	☐	☐	☐	☐	☐	☐	☐
9. My academic advisor discusses with me when setting the project goal.	☐	☐	☐	☐	☐	☐	☐
10. My academic advisor obtains information from advisee students for important decisions.	☐	☐	☐	☐	☐	☐	☐
11. My academic advisor makes important decisions alone.	☐	☐	☐	☐	☐	☐	☐
12. My academic advisor closely supervises my activities.	☐	☐	☐	☐	☐	☐	☐
13. My academic advisor always seems to be around checking on my work.	☐	☐	☐	☐	☐	☐	☐
14. My academic advisor tells me how tasks should be done.	☐	☐	☐	☐	☐	☐	☐
15. My academic advisor leaves it up to me to decide how to do my job.	☐	☐	☐	☐	☐	☐	☐

III. Individuals' Cultural beliefs

There is no right or wrong answer here. Please indicate your level of agreement with following statements by clicking the box that best reflects your beliefs.

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

1. Group welfare is more important than individual rewards.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
2. Group success is more important than individual success.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
3. Being accepted by the members of my work group is very important.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
4. I should only pursue my goals after considering the welfare of my group.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
5. Academic advisors should encourage group loyalty even if individual students' goals suffer.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
6. Individual students may be expected to give up their goals in order to benefit group success.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
7. Academic advisors should make most decisions without consulting advisee students.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
8. It is frequently necessary for an academic advisor to use authority and power when dealing with advisee students.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
9. Academic advisors should seldom ask for the opinions of advisee students.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
10. Advisee students should not disagree with advisors' decisions.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
11. Academic advisors should avoid off-the-job social contacts with advisee students.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
12. Academic advisors should not delegate important tasks to advisee students.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐

IV. Team Dynamics and Resources

There is no right or wrong answer here. Please indicate your level of agreement with following statements by clicking the box that best reflects your perception.

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

1. Students in my lab generally trust each other.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
2. Students in my lab are very cooperative.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
3. My lab consists of diversely skilled people.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
4. There is free and open communication within my lab.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
5. People in my lab are open to new ideas.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
6. People in my lab constructively challenge each other's ideas.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
7. People in my lab feel committed to the work they are doing.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
8. Assistance in developing new ideas is readily available in my lab.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
9. There is adequate funding available for developing new ideas in my lab.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
10. There is adequate time available to pursue creative ideas here.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
11. Adequate equipments for my work are readily available.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
12. Personnel shortages inhibit developing new ideas in my lab.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐

V. Job satisfaction

There is no right or wrong answer here. Please indicate your level of agreement with following statements by clicking the box that best reflects your perception.

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5- - - - - - 6- - - - - - 7

Strongly Disagree | Disagree | Slightly Disagree | Neutral | Slightly Agree | Agree | Strongly Agree

1. Generally speaking, I am very satisfied with my job.	1 2 3 4 5 6 7 ☐ ☐ ☐ ☐ ☐ ☐ ☐
2. I am generally satisfied with the kind of work I do in this job.	1 2 3 4 5 6 7 ☐ ☐ ☐ ☐ ☐ ☐ ☐
3. I frequently think of quitting this job.	1 2 3 4 5 6 7 ☐ ☐ ☐ ☐ ☐ ☐ ☐

VI. Intrinsic Motivation

There is no right or wrong answer here. Please indicate your level of agreement with following statements by clicking the box that best reflects your perception.

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5- - - - - - 6- - - - - - 7

Strongly Disagree | Disagree | Slightly Disagree | Neutral | Slightly Agree | Agree | Strongly Agree

1. I enjoy finding solutions to complex problems.	1 2 3 4 5 6 7 ☐ ☐ ☐ ☐ ☐ ☐ ☐
2. I enjoy creating new procedures for work tasks.	1 2 3 4 5 6 7 ☐ ☐ ☐ ☐ ☐ ☐ ☐
3. I enjoy improving existing processes or products.	1 2 3 4 5 6 7 ☐ ☐ ☐ ☐ ☐ ☐ ☐

리더십과 창의성 설문지 (학생용)

리더십과 창의성 탐구: 개인의 문화적 가치들이 미치는 영향을 중심으로

본 연구에 참가해주셔서 감사합니다. 저는 미국 미네소타 대학교 인적자원개발 (HRD) 전공 박사과정에 있는 황석주입니다. 현재 박사학위 논문을 위해 리더십과 개인의 문화적 가치들이 창의성에 미치는 영향에 관한 연구를 수행하고 있습니다.

본 연구의 목적은 미국, 한국의 대학교에서 지도교수님들의 리더십이 지도 학생들의 창의성과 성과 – 이 두가지는 지도교수님들이 평가하시게 됩니다 - 에 어떻게 영향을 미치는지, 또한 이러한 리더십이 창의성에 미치는 영향이 두 나라간 문화적 차이로 달라지는지를 연구하려는 것입니다.

귀하가 제공하는 정보는 연구 목적상 취합된 형태로만 활용되며 또한 익명으로 작성 및 관리되고 철저한 비밀이 유지될 것입니다.

설문서 작성에는 약 15분 정도 소요될 것입니다. 설문 작성 중 언제든 그만두실 수 있습니다. 하지만 최종 분석에 귀하의 소중한 의견이 반영될 수 있도록 모든 질문에 응답해주시기 바랍니다.

질문이나 의견이 있으시면 연구자에게 이메일 (hwang134@umn.edu) 또는 전화 (미국 +1-651-331-9377 / 한국 070-7516-4932) 로 연락주시기 바랍니다.
연구자 황석주
미네소타대학교
HRD 박사과정

I. 개인 인적사항 (Demographic Information)

다음은 귀하의 인적 사항에 대한 질문들입니다. 응답 내용에 대해서는 익명성과 비밀이 유지되며, 전체 수준으로 취합된 결과만 활용될 것입니다. 해당 사항을 클릭하여 선택해주십시오.

1. 귀하의 성별은 무엇입니까?
☐ 남성☐ 여성

2. 귀하의 연령은?
☐ 30세 미만☐ 30 ~ 35 세☐ 35 ~ 40 세☐ 40세 이상

3. 귀하의 학력은?
☐ 학부생☐ 석사 과정 학생☐ 박사 과정 학생☐ Post Doc

4. 귀하가 현재 업무와 관련하여 가진 업무경험은 어느 정도 되십니까? 직장과 학교의 경험 모두를 합쳐서 답해주십시오.
☐ 1년 미만☐ 1 ~ 2 년☐ 3 ~ 5 년☐ 5 ~ 10 년☐ 10년 이상

5. 귀하가 현재의 지도교수님과 함께 (혹은 이 학교에서) 일한 기간은 얼마나 되었습니까?
☐ 6개월 미만☐ 6개월 ~ 2년☐ 3 ~ 5 년☐ 5년 이상

6. 귀하의 국적은 무엇입니까?
( )

II. 지도 교수의 리더십 행동 (Advisor's Leader Behaviors)

다음에 제시된 질문들은 맞고 틀린 정답이 없습니다. 지도교수님의 리더십 행동을 설명하는 각 문항들에 대해 귀하가 얼마나 동의하는지 귀하의 의견을 가장 잘 반영하는 박스를 클릭하여 주십시오.

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1 - - - - 2 - - - - - 3 - - - - - 4 - - - - - 5 - - - - 6 - - - - 7

전혀 그렇지 않다	그렇지 않다	약간 그렇지 않다	중립이다	약간 그렇다	그렇다	매우 그렇다

1. 내 지도교수님은 내가 가진 문제를 해결하도록 도와주신다.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
2. 내 지도교수님은 지도학생들이 가진 생각이나 감정에 대해 늘 관심을 갖고 계신다.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
3. 내 지도교수님은 잘 된 일에 대해 칭찬을 하신다.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
4. 내 지도교수님은 내가 새로운 지식과 기술을 개발하도록 격려하신다.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
5. 내 지도교수님은 자신의 행동에 대해 설명을 해주신다.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
6. 내 지도교수님은 잘 된 성과에 대해 보상을 해주신다.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
7. 내 지도교수님은 내가 결정에 동의하지 않을 때 의견을 낼 수 있도록 격려해주신다.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
8.내 지도교수님은 지도학생들이 중요한 의사결정에	1	2	3	4	5	6	7

참여하도록 격려하신다.	☐ ☐ ☐ ☐ ☐ ☐ ☐
9.내 지도교수님은 프로젝트 목표를 세울 때 나와 논의를 하신다.	1 2 3 4 5 6 7 ☐ ☐ ☐ ☐ ☐ ☐ ☐
10. 내 지도교수님은 중요한 의사결정을 내릴 때 지도학생들로부터 정보를 얻으신다.	1 2 3 4 5 6 7 ☐ ☐ ☐ ☐ ☐ ☐ ☐
11. 내 지도교수님은 중요한 결정은 혼자서 내리신다.	1 2 3 4 5 6 7 ☐ ☐ ☐ ☐ ☐ ☐ ☐
12. 내 지도교수님은 나의 업무를 세세하게 지도하신다.	1 2 3 4 5 6 7 ☐ ☐ ☐ ☐ ☐ ☐ ☐
13. 내 지도교수님은 항상 내 업무를 점검하신다.	1 2 3 4 5 6 7 ☐ ☐ ☐ ☐ ☐ ☐ ☐
14. 내 지도교수님은 업무가 어떻게 진행되어야 하는지 말해 주신다.	1 2 3 4 5 6 7 ☐ ☐ ☐ ☐ ☐ ☐ ☐
15. 내 지도교수님은 내 업무를 어떻게 수행할지는 나에게 맡기신다.	1 2 3 4 5 6 7 ☐ ☐ ☐ ☐ ☐ ☐ ☐

III. 개인의 문화적 가치 (Individuals' Cultural beliefs)

다음에 제시된 질문들은 맞고 틀린 정답이 없습니다. 각 문항별로 귀하가 얼마나 동의하는지 귀하의 신념을 가장 잘 반영하는 곳을 클릭하여 주십시오.

1 - - - - - 2 - - - - - 3 - - - - - 4 - - - - - 5

전혀 그렇지 않다	그렇지 않다	중립이다	그렇다	매우 그렇다

1. 집단의 이익이 개인에게 주어지는 보상보다 중요하다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
2. 집단의 성공이 개인의 성공보다 중요하다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐

3. 내가 속한 집단의 구성원들에게 받아들여지는 것은 매우 중요하다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
4. 나는 내 집단의 이익을 고려한 이후에만 나의 목표를 추구할 수있다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
5. 지도교수는 개별 학생의 목표에 해가 되더라도 소속 집단에 충성하도록 격려해야 한다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
6. 개별 학생들은 집단의 성공을 위해 자신의 목표를 포기하도록 기대받을 수 있다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
7. 지도교수는 대부분의 결정을 지도학생과 논의없이 내려야 한다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
8. 지도교수가 지도학생을 지도할 때 직위와 권한을 사용하는 것이 자주 필요하다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
9. 지도교수가 지도학생들의 의견을 물어봐서는 안된다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
10. 지도학생들은 지도교수의 결정에 반대를 해서는 안된다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
11. 지도 교수는 지도 학생들과 업무 외의 사적인 만남을 피해야만 한다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
12. 지도 교수는 중요한 업무를 지도 학생들에게 위임해서는 안된다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐

IV. 집단 내 관계 및 자원 수준 (Group Dynamics and Resource)

다음에 제시된 질문들은 맞고 틀린 정답이 없습니다. 각 문항별로 귀하가 속한 집단의 모습에 대해 귀하의 의견을 잘 반영하는 곳을 클릭하여 주십시오.

1 - - - - - 2 - - - - - 3 - - - - - 4 - - - - - 5

전혀 그렇지 않다	그렇지 않다	중립이다	그렇다	매우 그렇다

1. 우리 연구실의 학생들은 일반적으로 서로를 신뢰한다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
2. 우리 연구실의 학생들은 협력을 매우 잘한다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
3. 우리 연구실은 다양한 경험과 배경을 가진 학생들로 이루어져 있다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
4. 우리 연구실에서는 자유롭고 열린 의사소통이 이루어진다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
5. 우리 연구실의 학생들은 새로운 아이디어에 열린 자세를 가지고 있다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
6. 우리 연구실의 학생들은 생산적으로 서로의 아이디어를 비평한다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
7. 우리 연구실의 학생들은 맡은 일에 헌신되어 있다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
8. 우리 연구실에서는 새로운 아이디어를 개발하기 위한 도움을 쉽게 얻을 수 있다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
9. 우리 연구실에서는 새로운 아이디어를 개발하기 재정 (펀딩)이 충분하다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
10. 우리 연구실에서는창의적인 아이디어를 추구하기 위해 충분한 시간이 주어진다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
11. 내 업무에 필요한 장비들이 사용할 수 있도록 준비되어 있다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
12. 우리 연구실에서는 인원이 부족하여 새로운 아이디어를 개발하는데 어려움이 있다.	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐

V. 업무 만족도(Job Satisfaction)

다음에 제시된 질문들은 맞고 틀린 정답이 없습니다. 각 문항별로 귀하가 현재 업무에 대해 느끼는 만족감을 잘 반영하는 답을 선택해주십시오.

1 - - - - 2 - -- - - 3 - - - - 4 -- - - - 5- -- - - 6- - - - 7

전혀 그렇지 않다	그렇지 않다	약간 그렇지 않다	중립이다	약간 그렇다	그렇다	매우 그렇다

1. 전반적으로 나는 내 업무에 매우 만족하고 있다.	1 2 3 4 5 6 7 ☐ ☐ ☐ ☐ ☐ ☐ ☐
2. 나는 이 업무에서 수행하는 일들에 대해 전반적으로 만족한다.	1 2 3 4 5 6 7 ☐ ☐ ☐ ☐ ☐ ☐ ☐
3. 나는 자주 이 일을 그만두는 것에 대해 생각한다.(reverse)	1 2 3 4 5 6 7 ☐ ☐ ☐ ☐ ☐ ☐ ☐

VI. 내적 동기부여 (Intrinsic Motivation)

다음에 제시된 질문들은 맞고 틀린 정답이 없습니다. 각 문항별로 귀하가 현재 업무에 대해 느끼는 만족감을 잘 반영하는 답을 선택해주십시오.

1 - - - - 2 - -- - - 3 - - - - 4 -- - - - 5- -- - - 6- - - - 7

전혀 그렇지 않다	그렇지 않다	약간 그렇지 않다	중립이다	약간 그렇다	그렇다	매우 그렇다

1. 나는 복잡한 문제들을 위해 해결책을 찾는 것을 즐긴다.	1 2 3 4 5 6 7 ☐ ☐ ☐ ☐ ☐ ☐ ☐
2. 나는 업무를 위해 새로운 프로세스를 만드는 것을 즐긴다.	1 2 3 4 5 6 7 ☐ ☐ ☐ ☐ ☐ ☐ ☐
3. 나는 기존의 프로세스나 제품을 개선하는 것을 즐긴다.	1 2 3 4 5 6 7 ☐ ☐ ☐ ☐ ☐ ☐ ☐

APPENDIX B:

Research Support Consent Form

Research Support Consent Form

I am a Ph.D. candidate majoring in Human Resource Development at the University of Minnesota. I am conducting a study on "Leadership and creativity: the moderating role of culture." This study is being conducted as part of Seog Joo Hwang's Ph.D. thesis in the Department of Organizational Leadership, Policy, and Development at the University of Minnesota. I am asking you to support this study in terms of recruiting survey participants at your university.

Background Information

Creativity is becoming more critical for both organizations and academia in recent dynamic globalized economy. Societies and organizations increasingly need people who can create novel and useful ideas, which can be implemented into innovative solutions in order to address complex challenges and problems. Creativity is essential requirement in academia as well. For the successful careers in academia, one needs to conduct research and publish the findings. If the ideas are not creative, it would be very difficult to publish the research.

Considering the powerful impact of leader behaviors on subordinate creativity, an important question would be how academic advisors affect and influence their advisee students' creativity. And in this globalization era, one should ask whether the impact of certain leader behaviors on subordinate creativity is the same across different cultures. This study seeks to answer this question examining how academic advisors' leader behaviors influence advisee students' creativity. Moreover, this study investigates how cultural values at the organization level such as power distance and individualism/collectivism can influence this relationship between academic advisors' leader behaviors and advisee students' creativity as moderating variables. This study explores the processes influencing advisee students'creativity through the investigation of the following questions:

1. What is the relationship between supportive- or participative leader behaviors and employee creativity?
2. Do employees' cultural values such as power distance and individualism-collectivism interact with supportive- or participative leader behaviors?

Procedures

If you agree to support this study, I would ask you to help with the following:
1. Solicit the participants to respond voluntarily to the survey questionnaires
2. Distribute the e-mailed survey questionnaires to the participants in your organization
3. Distribute reminder emails to complete the survey

Confidentiality

The records of this study will be kept private. In any sort of report the researcher might publish, the researcher will not include any information that will make it possible to identify a subject. Research records will be stored securely and only the researcher will have access to the records. After survey responses are collected, company names will be coded appropriately. All data of this study will be maintained anonymously. Since only the aggregated results will be reported, individual results will remain confidential.

Voluntary Nature of the Study

Participation in the procedure of this research is voluntary. Your organization's and your employees' decision whether or not to participate will not affect your current or future relations with the University of Minnesota or the researcher. Any participants are free to withdraw at any time without affecting those relationships.

Contacts and Questions

The researcher conducting this study is Seog Joo Hwang. If you have any comments or questions about the survey, please write or call:

Seog Joo Hwang
University of Minnesota
1256 Fifield Avenue
Falcon Heights, MN 55108
1-651-331-9377 / hwang134@umn.edu

Or you may contact my adviser, Dr. Ardichvili, at ardic001@umn.edu. If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the Research Subjects' Advocate line at the University of Minnesota, D528 Mayo, 420 Delaware Street. Southeast, Minneapolis, MN 55455; telephone 612- 625-1650.

You may keep a copy of this form for your records.

Statement of Consent

I have read the above information. I have asked questions and received answers. I give consent for participation in this study.

University: _____

Department: _____

Title: _____

Name: _____

Signature: _____ Date: _____

APPENDIX C:

Invitation Letter to Research Participants

(English and Korean Version)

Invitation Letter to Study Participants (Online Survey)

I am a Ph.D. candidate majoring in Human Resource Development at the University of Minnesota. I am conducting a study on "Leadership and creativity: the moderating role of culture." This study is being conducted as part of Seog Joo Hwang's Ph.D. thesis in the Department of Organizational Leadership, Policy, and Development at the University of Minnesota. You were selected for this study because your department chair has recommended you as a possible participant.

A faculty member in your department has elected to forward this e-mail to all eligible academic advisors and their advisee students. As your anonymous participation represents many other members at universities in your country, the information you provide is vital in understanding the relationships between graduate students' creativity and its related variables. Your participation is voluntary; if you choose not to participate, this will not affect your relationship with your university or the University of Minnesota. If you agree to participate in this study, please go to the following link:

[Online Survey Web Address Here]

Background Information

Creativity is becoming more critical for both organizations and academia in recent dynamic globalized economy. Societies and organizations increasingly need people who can create novel and useful ideas, which can be implemented into innovative solutions in order to address complex challenges and problems. Creativity is essential requirement in

academia as well. For the successful careers in academia, one needs to conduct research and publish the findings. If the ideas are not creative, it would be very difficult to publish the research.

Considering the powerful impact of leader behaviors on subordinate creativity, an important question would be how academic advisors affect and influence their advisee students' creativity. And in this globalization era, one should ask whether the impact of certain leader behaviors on subordinate creativity is the same across different cultures. This study seeks to answer this question examining how academic advisors' leader behaviors influence advisee students' creativity. Moreover, this study investigates how cultural values at the organization level such as power distance and individualism/collectivism can influence this relationship between academic advisors' leader behaviors and advisee students' creativity as moderating variables.

Procedures

If you agree to be in this study, I would ask you to respond to a multi-item questionnaire that measures variables related to leadership, creativity, personal characteristics, and cultural values. Also, there are items which collect information on your role, gender, age, level of education, job title, type of job, years of study, etc. However, the collected information will be used neither by the researcher nor your employer to identify you. In addition, private information, such as your name, address or phone number will not be collected. The expected time to complete this questionnaire is 5 minutes for academic advisors and 15 minutes for advisee students.

Confidentiality

The records of this study will be kept private. In any sort of report the researcher might publish, the researcher will not include any information that will make it possible to identify a subject. Research records will be stored securely and only the researcher will have access to the records. After survey responses are collected, university names will be coded appropriately. All data of this study will be maintained anonymously. Since only the aggregated results will be reported, individual results will remain confidential.

Risks and Benefits of Being in the Study

There will be no physical or psychological risks in participating in this study.

Compensation

There will be no compensation for participation.

Voluntary Nature of the Study

Participation in the procedure of this research is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University of Minnesota or your employer. Any participants are free to withdraw at any time without affecting those relationships.

Contacts and Questions

The researcher conducting this study is Seog Joo Hwang. If you have any comments or questions about the survey, you can contact me at hwang134@umn.edu or 1-651-331-9377 (USA) / 82-70-7516-4932.

Thank you.

Sincerely,

Seog Joo Hwang

연구참여의뢰서

안녕하십니까? 저는 미네소타 대학교에서 박사과정으로 인적자원개발을 전공하고 있는 황석주입니다. 현재 저는 박사논문을 위해 대학원 석박사 학생들의 창의성에 영향을 미치는 요인에 관한 정보를 얻는 데 있으며, 주제는 "Leadership and creativity: the moderating role of culture"입니다.

이 연구에 참여하시기 원하신다면 아래의 온라인 설문조사에 응답해주시기 바랍니다. 본 설문조사의 문항은 리더십, 창의성, 개인적 성향, 문화적 가치 등과 관련이 있는 변인들을 측정할 것입니다. 여러분의 성별이나 나이, 학력, 직위, 직종, 연구 년수에 대해 묻는 질문도 있습니다. 그러나 본 조사를 통해 수집한 정보를 연구자나 여러분의 조직이 응답자의 신원을 밝히는 데에 사용하는 일은 절대로 없을 것입니다. 그리고 성명이나 주소, 전화번호와 같은 개인 정보는 결코 수집하지 않을 것입니다. 본 설문에 응답하시는 데에 지도교수님들은 5 분 이내, 학생분들은 10 분 정도가 소요될 것입니다.

[온라인 링크]

연구 배경

오늘날과 같은 글로벌 경제환경에서는 일반 기업의 직원들 뿐만 아니라 학계의 구성원들 모두에게 창의성의 중요성이 점점 더 높아지고 있습니다. 조직과 사회의 복잡한 문제들을 해결하기 위하여 창의적인 아이더어를 내고 그것을 혁신적인 해결책으로 만들 수 있는 사람들이 어느 때보다도 더욱 필요합니다. 또한 학계에서도 성공적인 경력을 개발하고자 한다면 창의성이 매우 중요합니다. 창의적이지 않은 논문들은 학계에서 그 가치를 인정받기 쉽지 않기 때문입니다.

이런 차원에서 리더가 자신을 따르는 사람들의 창의성에 미치는 큰 영향을 고려할 때, 대학원의 지도교수들이 지도학생들의 창의성에 어떠한 영향을 미치는지에 관한 질문은 매우 중요하다고 할 수 있습니다. 또한 여러 다양한 문화적 배경을 가진 사람들이 함께 연구를 수행하는 요즈음 이러한 지도교수의 리더십이 학생의 창의성에 미치는 영향이 모든 문화에서 같은지를 살펴보는 것도 중요합니다. 이 연구는 지도교수의 리더십이 지도학생의 창의성에 어떻게 영향을 주는지 살펴보고, 더 나아가 개인의 문화적 가치가 이러한 리더십의 영향에 어떤 차이를 가져오는지를 탐구하고자 합니다.

연구 절차

만일 이 연구에 참여하기로 결정하셨다면 설문조사에 응답하게 될 것입니다. 본 설문조사의 문항은 리더십, 창의성, 개인적 성향, 문화적 가치 등과 관련이 있는 변인들을 측정할 것입니다. 여러분의 성별이나 나이, 학력, 직위, 직종, 연구 년수에 대해 묻는 질문도 있습니다. 그러나 본 조사를 통해 수집한 정보를 연구자나 여러분의 조직이 응답자의 신원을 밝히는 데에 사용하는 일은 절대로 없을 것입니다. 그리고 성명이나 주소, 전화번호와 같은 개인 정보는 결코 수집하지 않을 것입니다. 본 설문에 응답하시는 데에 지도교수님들은 5 분 이내, 학생분들은 10 분 정도가 소요될 것입니다.

위험이나 혜택

본 연구에 참여하는 과정에서 신체적으로나 심리적으로나 피해를 입는 일은 없을 것입니다. 또한 개인적으로 직접적인 혜택은 없습니다.

보상

본 연구에 참여함으로써 받는 보상은 없습니다.

개인 정보 보호

여러분의 응답 기록은 철저히 보호될 것입니다. 그리고 연구 결과에 대해서 보고할 때에도 개인의 신원을 확인할 수 있는 정보는 결코 포함되지 않을 것입니다. 여러분의 응답 기록은 안전하게 보관될 것이고, 오직 연구자만이 접근 가능할 것입니다. 설문 조사 후에 여러분의 회사의 이름도 코딩하여 직접적으로 확인이 가능하지 않도록 할 것입니다. 여러분의 응답 기록을 모두 합쳐서 연구 결과에 보고할 것이기 때문에 개인의 응답을 확인할 수 있는 방법은 없을 것입니다.

자발적 참여

본 연구에 참여할 지의 여부는 여러분께서 자발적으로 결정하시면 됩니다. 여러분의 결정은 미네소타 대학이나 여러분의 조직과의 관계에 어떠한 영향도 미치지 않을 것입니다. 본 연구에 참여하기로 결정하시더라도 언제나 그 결정을 철회할 수 있습니다.

문의사항 및 연락처

만일 궁금한 점이 있으시면 다음의 연락처로 연락주시기 바랍니다. 제 이메일 주소는 hwang134@umn.edu, 전화연락처는 미국 1-651-331-9377, 한국 070-7516-4932 입니다. 감사합니다.

황석주 드림

APPENDIX D:

IRB Approval Letter

The IRB: Human Subjects Committee determined that the referenced study is exempt from review under federal guidelines 45 CFR Part 46.101(b) category #2 SURVEYS/INTERVIEWS; STANDARDIZED EDUCATIONAL TESTS; OBSERVATION OF PUBLIC BEHAVIOR.

Study Number: 1204E13087

Principal Investigator: Seog Joo Hwang

Title(s):
Leadership and Creativity: The Moderating Effect of Culture

This e-mail confirmation is your official University of Minnesota RSPP notification of exemption from full committee review. You will not receive a hard copy or letter.

This secure electronic notification between password protected authentications has been deemed by the University of Minnesota to constitute a legal signature.

The study number above is assigned to your research. That number and the title of your study must be used in all communication with the IRB office.

Research that involves observation can be approved under this category without obtaining consent.

SURVEY OR INTERVIEW RESEARCH APPROVED AS EXEMPT UNDER THIS CATEGORY IS LIMITED TO ADULT SUBJECTS.

This exemption is valid for five years from the date of this correspondence and will be filed inactive at that time. You will receive a notification prior to inactivation. If this research will extend beyond five years, you must submit a new application to the IRB before the study?s expiration date.

Upon receipt of this email, you may begin your research. If you have questions, please call the IRB office at (612) 626-5654.

You may go to the View Completed section of eResearch Central at http://eresearch.umn.edu/ to view further details on your study.

The IRB wishes you success with this research.