The impact of transformational leadership on the relationship between organizational learning culture and employee outcomes

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THE IMPACT OF TRANSFORMATIONAL LEADERSHIP ON THE
RELATIONSHIP BETWEEN ORGANIZATIONAL LEARNING
CULTURE AND EMPLOYEE OUTCOMES

A Thesis
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Leanne Marie Tortez
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ABSTRACT

Factors at both the organizational- and individual-level have been shown to be necessary for organizational success. Research in leadership has emphasized the importance of factors like organizational culture, empowerment, and employee innovation. The current study sought to address these topics by considering the contribution of organizational learning culture to employee outcomes, such as psychological empowerment and innovative behaviors, while investigating the moderating effect of transformational leadership. Specifically, it was proposed that transformational leadership would enhance the relationship between organizational learning culture and each of the outcomes. Data were gathered using an online survey comprising a battery of scales that measured transformational leadership, organizational learning culture, innovative behaviors, and psychological empowerment. Participants consisted of 387 employed men and women from various organizational backgrounds. Bivariate correlations and hierarchical multiple regression analyses revealed that all of the study hypotheses were supported and results were consistent with the literature. Transformational
leadership proved to be a significant moderator and enhanced the relationships between organizational learning culture and innovation, and organizational learning culture and empowerment. Additional analyses were examined and implications, limitations, and recommendations for future research are discussed.
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CHAPTER ONE

INTRODUCTION

Today, many organizational leaders find themselves in a dynamic and often unsettling professional world where multiple factors, both organizational- and individual-level, are necessary for gaining organizational excellence, success, and a competitive edge. Recent research in leadership examining such factors has emphasized the importance of concepts such as organizational culture, empowerment, and employee innovation. Organizational learning culture works to define the context for future learning and is important in understanding learning as a social phenomenon. Research has also sought to understand the role that leadership plays in these critical facets, specifically, transformational leadership. Insight into how leadership and an organizational learning culture stimulates employee levels of psychological empowerment and innovative behaviors can help secure this competitive advantage and other positive organizational outcomes. The current paper seeks to address these topics by considering the contribution of organizational learning.
culture to employee outcomes (i.e., psychological empowerment and innovative behaviors) while investigating the moderating effect of transformational leadership.

Organizational Learning Culture

The culture of an organization involves its core values, its basic philosophy, and its technical, financial, and humanistic concerns (Bass, 1985). Forms of culture can be expressed in stories, jargon, humor, role models, and ceremonies. It allows for a shared understanding of events and also upholds the organization’s boundaries while providing its members with a degree of community, loyalty, and commitment (Bass, 1985).

Organizational culture is seen by most researchers as a facilitating factor and an essential condition for organizational learning to occur (Ahmed, Loh, & Zairi, 1999; Campbell & Cairns, 1994; Marquardt, 1996; Marsick & Watkins, 2003). An organizational learning culture can be a critical feature of organizational culture and fundamental to a learning organization (Wang, Yang, & McLean, 2007). It has also been determined to be one of the key contextual components to enhancing positive
organizational outcomes (Joo & Shim, 2010). For instance, efforts to encourage organizational learning cultures have been found to have benefits that extend beyond firm-level performance to include positive outcomes at the employee level (Egan, Yang, & Bartlett, 2004; Ellinger, Ellinger, Yang, & Howton, 2002).

Innovation

Innovation has been claimed to have valuable influences on both the effectiveness and long-term survival of organizations (Kanter, 1988; Mumford, 2000; Woodman, Sawyer, & Griffin, 1993). Because of such important implications, emphasis has been placed on research concerning motivators or enablers of individual innovation behavior (Scott & Bruce, 1994). Innovation is most commonly associated with the adoption and application of new knowledge and practice (Agrell & Gustafson, 1994; Burningham & West, 1995; West & Anderson, 1996). Moreover, learning and the application of such learning are primary processes in innovation (Bates & Khasawneh, 2005).

Similar to the concept of creativity, innovation involves the production or adoption of useful ideas.
(Kanter, 1988; Van de Ven, 1986). But it can also be understood as a broader process in that it also entails implementation of these ideas in the work setting (Hammond et al., 2011). However, researchers have found that innovation is more than idea generation and is rather, a multistage process that also includes the impact of many social factors (Kanter, 1988).

Innovation at the individual level begins with the recognition of a problem and the subsequent generation of original or adopted ideas and possible answers (Scott & Bruce, 1994). In the next stage, the individual pursues those who support an idea. Finally, the idea is completed as the individual produces a model or sample of the innovation that may be used productively, mass-produced, or institutionalized (Kanter, 1988). This multistage procedure comprises a variety of individual activities and behaviors that are essential for the success of each stage. Yet, these stages are not discrete and may occur discontinuously from each other, in that the innovative individual may be involved in multiple stages at any one time (Scott & Bruce, 1994).

In regard to learning organizations, a culture that supports the attainment, distribution, and sharing of
information, as well as delivers rewards and acknowledgment the application of learning is vital for effective learning organizations (Marquardt, 1996). In this sense, a learning organization shows that an agreement has been established among organizational members about the importance of learning while striving towards organizational goals and objectives (Bates & Khasawneh, 2005). An organizational culture with an orientation towards productive learning results in novel and valuable knowledge that will then lead to innovative methods when solving problems or optimizing procedures (Rebelo & Gomes, 2010). Here, all members of the organization believe that learning is important and strive to achieve increased performance by applying learning to innovative work (Tracey, Tannenbaum, & Kavanagh, 1995; Rosow & Zager, 1998). Learning organizational cultures have also been supposed to augment organizational climates, like innovation, by influencing individual attitudes, behavior, and motivation (Bates & Khasawneh, 2005).

The organizational innovation literature places much focus on the facilitating capacity of culture, because of the importance of organizational to learning and change
(Bluedorn & Lundgren, 1993). An adaptive, learning culture - one that develops and promotes innovation - has been claimed to be the ideal culture for organizations looking to achieve long-term innovation, as well as performance, in changing environments (Kotter & Heskett, 1992). Innovation and organizational learning in general both emphasize similar variables and strategies that develop an organization’s adaptability and flexibility in order to increase long-term performance. Therefore, an organizational learning culture becomes essential when considering innovation because it allows an organization to anticipate and adjust to such dynamic environments (Bates & Khasawneh, 2005).

Research has also found that organizational culture plays an important role in the process of organizational learning and organizational innovation (Liao, Chang, Hu, & Yueh, 2012). Moreover, high levels of innovativeness in an organization’s culture are associated with greater capacity for innovation to develop competitive advantage (Hurley, Tomas, & Hult, 1998). As mentioned, organizational learning and innovation have appeared to be closely connected constructs that can be affected by similar variables, such as culture and leadership.
Because of these common variables, it has been suggested that a relationship may exist between the two (Bates & Khasawneh, 2005).

Organizational learning culture enables learning and the application of learning by openly exchanging ideas and information. Hence, organizational learning culture can be important in facilitating creativity and innovation by encouraging inquiry, taking risks, and experimenting (Bates & Khasawneh, 2005). There are also many parallels that exist between procedures found in recommended organizational learning procedures and those found in the innovation literature.

Bates and Khasawneh (2005) concluded that an organizational learning culture accounted for a significant amount of variance in employees' perceptions of the organization's capacity for innovation. Their outcomes also suggest that organizational innovation can in fact be influenced by the standards and principles associated with a learning organization culture. Similarly, innovation has been shown to increase as a result of an organizational learning culture (Sta. Maria, 2003). Moreover, an organizational culture with an orientation towards learning is able to influence
manifestations of psychological climates such as personal beliefs regarding efficacy, feelings in response to change, and outcome expectations (Bates & Khasawneh, 2005).

Mai (1996) proposed that every organization can be considered, to an extent, a learning organization. They are made different based on the extent to which learning occurs at higher level, more quickly, or more entirely. These differences may be exposed through results such as innovation and are supported and facilitated by psychological climates (Bates & Khasawneh, 2005). As indicated, some organizations may be less orientated to learning, like in the case of bigger and more mature organizations and less educated employees (Rebelo & Gomes, 2010). Yet, such obstacles are able to be surpassed with the involvement of other elements, like the involvement of leadership (Rebelo & Gomes, 2010).

Psychological Empowerment

Extensive attention to psychological empowerment has become evident as worldwide competition and change demand creative and innovative employees (Drucker, 1988). The notion of psychological empowerment first became
prevalent in the workplace during the 1980’s. As jobs evolved and became more intricate, the design of work became more autonomous, and there was a growing need for employees who were able to adapt to varying environments in a quick and flexible way (Drucker, 1988). Rapid technological advancement and an increase in global competition resulted in the need for employees to be more psychologically empowered (Joo & Shim, 2010).

Empowerment is directly associated with an individual’s view about themselves relative to their work settings (Bandura, 1990). Moreover, this environment is critical positively influencing levels of psychological empowerment because empowerment is not static like a personality trait. Instead, it is a set of thoughts and perceptions that are formed by our work surroundings (Thomas & Velthouse, 1990). This set of cognitions represents intrinsic task motivation and reflects a person’s position to his or her role at work. The four cognitions of psychological empowerment consist of competence, impact, meaning, and self-determination (Spreitzer, 1995).

These four cognitions reveal a more proactive approach to one’s work rather than a passive approach.
The first cognition is meaning and involves a person becoming energized about the tasks with which they are involved. Here, the person’s feelings about the task’s purpose is compared to his or her own values and standards (Joo & Shim, 2010; Robbins, Crino, & Fredendall, 2002). Secondly, competence represents a person’s confidence level in regard to his or her abilities or, in other words, the amount of self-efficacy a person has regarding his or her ability. Without this particular cognition, a person risks feeling inadequate and will thus result in an absence of empowerment (Conger & Kanungo, 1988). Thirdly, self-determination refers to the amount of independence or choice a person has over their work performances and procedures (Wagner, 1995; Robbins et al., 2002). It also reflects the degree of accountability for a person’s behaviors. Lastly, impact refers to the belief that an individual’s behaviors are having a significant influence in the organization (Thomas & Velthouse, 1990). The four dimensions are not precursors or direct results of each other, but rather, they are distinct parts that make up the larger concept of empowerment (Spreitzer, Kizilos, & Nason, 1997).
While structural empowerment involves one’s perception of the existence of empowering conditions within the workplace, psychological empowerment reflects one’s psychological understanding of these conditions (Bhatnager, 2007; Laschinger, Finegan, Shamian, & Wilk, 2004). Psychological empowerment has also been described as employees’ attitudes and perceptions of their work environment in relation to themselves (Robbins et al., 2002). Previous research regarding empowerment has rather inconsistently indicated that an individual’s various attitudes and perceptions may play a role in empowerment. However, researchers have expressed belief that such elements describe an important set of intervening variables that serve to connect contextual components to psychological empowerment (Robbins et al., 2002).

Several of the motivators that have been acknowledged by Maslow (1971) (i.e., opportunities for self-actualization, autonomy, feelings of worth) and Herzberg (1968) (i.e., work itself, achievement, responsibility) are characteristic of psychological empowerment. Employees who are psychologically empowered have been shown to have greater levels of work satisfaction, organizational commitment, and job
performance (Linden, Wayne, & Sparrow, 2000). An empowering setting is one that offers opportunities, rather than constraints, for employee behavior (Spreitzer, 1996). A work environment that consists of empowering conditions, such as opportunities for decision autonomy, challenges, and responsibility result in employees appreciating the things they have. As a consequence, they are more likely to foster feelings of meaning, competence, self-determination, and impact (Liden et al., 2000).

Interestingly, little research has been done concerning psychological empowerment and organizational learning culture simultaneously in order to reflect dynamics in organizations. This becomes especially true when identifying the influence of psychological empowerment as an individual characteristic and the influence of organizational learning culture as an organizational factor (Joo & Shim, 2010). Organizational learning culture has been proposed to exist in the minds and hearts of the people and that individual-level variables, such as empowerment, are necessary conditions for promoting learning (Marsick & Watkins, 2003). Employees have been found to have higher organizational
commitment in situations where they perceived high psychological empowerment and high organizational learning culture (Joo & Shim, 2010). Moreover, in an organization with a culture oriented towards learning, people are empowered to achieve a common vision. Here, they are involved in creating, owning, and applying a joint vision. Responsibility is tied to decision-making in that people will be driven to learn the things for which they are held accountable (Marsick & Watkins, 2003).

Transformational Leadership

Transformational leadership is most commonly defined as a leadership style that transforms the values, beliefs, motives, and perceptions of followers beyond self-interests to collective interests (Avolio, 1999; Shamir, House, & Arthur, 1993). Those who are considered transformational leaders not only transform the self-concepts of followers, but do so by allowing them a personal and social identification that corresponds with the goals of the leader and the organization (Bass, 1985). These leaders have the ability to enhance the development and performance of their followers by
challenging and inspiring them. They motivate their followers to accomplish goals they never thought were possible by following their values and the high moral standards that they set (Avolio, 1999). This type of leadership allows followers to believe in themselves and the mission of their leader and organization (Bass, Avolio, Jung, & Berson, 2003). Transformational leadership is a higher-order construct encompassing several components. It is comprised of four dimensions that include idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass, 1985).

Idealized influence describes the extent to which the leader is trusted, admired, and respected. It is also concerned with how much of a role model the leader is, by sacrificing his or her own needs for the followers' needs (Wu et al., 2007). This can result in a follower's desire to imitate his or her leader because of the personal example that they set, or even a feeling of pride in being associated with the leader (Bass & Avolio, 1994). In addition, the leader's behavior is consistent in regards to his or her fundamental ethics, principles, and values (Bass et al., 2003).
Inspirational motivation involves the ways that leaders motivate their followers by providing meaning to their work and challenging them. These leaders can communicate information to someone while promoting individual worth at the same time (Wu et al., 2007). As a result, enthusiasm and optimism are increased, as well as individual and team spirits (Bass et al., 2003). Inspirational motivation also entails a compelling vision articulated by the leader that enables followers to bond individual and collective goals. Ultimately, this vision becomes envisioned by the followers and creates a sense of identity with the group (Wu et al., 2007). The pride and confidence that allows followers to envision themselves in their leader's vision is due to their leader's sincere optimism towards his or her vision principles and values (Bass et al., 2003).

Intellectual stimulation describes the extent to which leaders stimulate their followers' effort to be creative and original. They may accomplish this by reframing problems, questioning assumptions and traditions, challenging them to view problems from different perspectives, and encouraging creativity (Bass et al., 2003; Wu et al., 2007). Bass and his colleagues
(2003) assert that an individual's mistakes should never be publically criticized or ridiculed. Instead, followers should be included when addressing problems and in the process of finding solutions. Moreover, the freedom the followers have to experiment, even though they might fail, shows that their ideas are valued (Wu et al., 2007). Overall, intellectual stimulation encourages intelligence, rationality, and careful problem-solving (Bass & Avolio, 1994).

Individualized consideration involves providing support for the individual development needs of followers. Transformational leaders pay attention to followers' needs and wants through coaching encouraging, mentoring, and supporting them based on individual needs, abilities, and aspirations (Bass, 1997). Such qualities foster the development of an affective bond or relationship between the leader and the follower.

**Transformational Leadership and Organizational Learning Culture**

Leadership is uniquely associated with creating and managing culture (Schein, 2004) and therefore, an organization's culture develops in large part from its leadership (Bass & Avolio, 1993). Culture is built by
leaders who learn from their experiences, inspire the learning of others, and form an environment of expectations that shapes and promotes desired results (Marsick & Watkins, 2003). More importantly, the characteristics and qualities of an organization’s culture are imparted by the leader and are ultimately adopted by followers (Bass & Avolio, 1993).

Many researchers have agreed upon the idea that transformational leadership style provides support for organizational learning (Bass, 1990a; Schein, 2004; Northouse, 2004). Schein (2004) claims that leaders with a transformational leadership style understand that organizational learning and organizational culture are intertwined and represent a vital part of most organizations. Thus, they can effectively influence organizational learning and improve the process and success organizational learning.

**Transformational Leadership and Innovation**

In an organization that has a satisfying culture and a high degree of innovativeness, one is more likely to see transformational leaders who act on beliefs such as: people are honorable and determined, each person has a distinct impact to make, and intricate problems are dealt
with at the lowest level (Bass & Avolio, 1993). At this level, instead of relying on formal contracts and agreements, trust becomes internalized. These leaders are able to nurture a culture of creative revolution and growth instead of one that maintains the status quo. Research has shown that the position of top management holds significant weight in encouraging a cultural orientation towards learning or not (Fiol & Lyles, 1985; Rebelo & Gomes, 2010). Barriers to an organizational learning culture could be overcome by leadership at interventions, especially in middle management (Rebelo & Gomes, 2010).

Innovation within organizations can be affected by a range of factors, yet the most influential is leadership style. Transformational leadership has consistently been found to positively correlate with innovative work behaviors in a variety of organizational studies (Janssen, 2002; Jung, Chow, & Wu, 2003; Mumford, Scott, Gaddis, & Strange, 2002; Reuvers, Van Engen, Vinkenburg, & Wilson-Evered, 2008; Sosik, Avolio, & Kahai, 1997). Because innovation at the individual level has been found to be a difficult process (Staw, 1995), having support from one's leader may facilitate employee engagement in
such innovative behaviors. This is particularly true for those leaders who provide meaningful support during challenging times (Unsworth, Wall, & Carter, 2005). A manager or supervisor who encourages employees to take risks and be innovative is likely going to enable the employee to do so. Moreover, leaders are often the ones who have control over the resources needed for the innovation process (Mumford & Licuanan, 2004).

Innovation has been claimed to be central to the thinking about transformational leadership, since it was developed around leaders with the ability to transform an existing situation (Bass, 1985; Burns, 1978). Therefore, transformational leaders are more innovative, have more novel ideas, are capable of bringing about important changes (Pieterse, Van Knippenberg, Schippers, & Stam, 2010), and are likely to function as role models for innovation through their displays of unconventional behaviors (Howell & Higgins, 1990). Intellectual stimulation allows transformational leaders to inspire their followers to think outside of the box and adopt a more explorative thinking style (Jung et al., 2003). They also enhance innovation by pointing out different perspectives and stimulate followers to critically
appraise current assumptions and methods (Bass, 1985).

This may be done through the enhancement of follower self-efficacy (Pillai & Williams, 2004), which is closely related to psychological empowerment.

**Transformational Leadership and Empowerment**

An employee’s level of psychological empowerment can change depending on the leadership styles of their managers or supervisors. For instance, levels of psychological empowerment can be augmented when managers embrace new roles as mentors. With a leader who is a role model, the employee is able to create a healthy and positive self-image (Kram, 1985). Also, because empowerment relates to the motivational notion of self-efficacy (Conger & Kanungo, 1988), the leader will help to develop the positive cognitions of psychological empowerment. Transformational leadership allows for superiors to act as mentors, role models, and leaders who help employees become accustomed to the culture.

Supportive leadership has been suggested to serve as a moderator or a predictor of psychological empowerment and, more specifically, research regarding transformational leadership is lacking (Joo & Shim, 2010). Burdett (1998) and Hargrove (1995) have found that
a manager-as-coach leadership approach style was effective in empowering employees to go beyond previous levels of performance.

A leader’s ability to express confidence and high expectations in employees, along with creating inspirational and meaningful goals, communicates support that allows them to feel competent, one of the key facets of psychological empowerment (Robbins et al., 2002).

Furthermore, leadership behaviors that are associated with motivating teamwork, questioning tradition, supporting others, modeling behaviors, and recognizing high performance positively impact one’s self-efficacy. An employee’s trust in management’s motives in the organization is a fundamental attitudinal precursor to an individual’s feelings of self-determination, another facet of empowerment (Robbins et al., 2002). A link has also been found in this trust between management and an individual’s readiness to take risks in their work (Whitener, Brodt, Korsgaard, & Werner, 1998). The greater the individual trusts the motives and changes of their supervisor or manager, the more they will recognize a degree of choice or self-determination in beginning and
continuing work behaviors. This willingness to take risks is closely related to innovative behaviors of employees.

Hypotheses

The hypotheses addressed in the current study are as follows:

H1: Organizational learning culture will be positively related to employee innovative behaviors.

H2: Organizational learning culture will be positively related to psychological empowerment.

H3: Transformational leadership moderates the relationship between organizational learning culture and employee innovative behavior, such that this relationship is positive when levels of transformational leadership are high compared to when they are low.

H4: Transformational leadership moderates the relationship between organizational learning culture and employee psychological empowerment, such that this relationship is positive when
levels of transformational leadership are high compared to when they are low.
CHAPTER TWO

METHOD

Participants

A power analysis was conducted in order to determine an adequate sample size. However, because moderated effects are known to be less powerful, the current study followed the suggestions proposed by Shieh (2010). Therefore, the required sample size for a medium effect, an alpha of .05, and a power of .80, is 171 participants. With a total of 387 participants, there was enough power to test the hypotheses of this study.

The participants for this study consisted of individuals who were employed with their current organization for at least three months and reported to an immediate supervisor or manager. The majority of participants (350) were recruited using professional recruiting panels collected through Qualtrics.com. Participants were screened by Qualtrics according to study criteria, were members of the professional community, and were offered the opportunity to participate for a small, approximately five dollars, monetary incentive. The surveying organization maintained
survey anonymity for all survey participants. A small amount of participants (37) were also recruited from a graduate level management class at CSUSB. There was a total of 387 participants including 126 males, 210 females, and 51 participants who declined to answer. Respondents' ages in years ranged from 19-74 with the average age being 40 years. The number of supervisors/managers that participants reported ranged from 1-12, with the average being 1.88, and the medium and modal response being 1 supervisor/manager. Further sample characteristics are presented in Table 1, Appendix F. Data were collected through administration of four different measures and a demographics sheet (see Appendix A). All participants were over the age of 18 and English speaking. Participants were treated in accordance with the Ethical Principles of Psychology and Code of Conduct (American Psychological Association, 2002).

Materials

Organizational Learning Culture

To measure organizational learning culture, the Dimensions of Learning Organization Questionnaire (DLOQ) as originally developed by Watkins and Marsick (1993) was
used (see Appendix B). The DLOQ consists of seven dimensions that are measured by forty-three items on a six-point Likert-type scale that reflect, to an extent, the participant’s organization in the aspects of learning culture ($1 = \text{almost never}; \ 6 = \text{almost always}$). The DLOQ has been validated in a number of empirical studies (Ellinger, Ellinger, Yang, & Howton, 2003; Watkins & Marsick, 2003; Yang, 2003). Results of these studies conclude that the DLOQ has acceptable reliability estimates and furthermore, the seven-dimension structure fits the empirical data well.

For the purpose of this study, a shortened version of the DLOQ was used, as suggested by Yang (2003). This version contains seven items, each representing one of the subconstructs of an organizational learning culture (i.e., continuous learning, dialogue and inquiry, team learning, empowerment, embedded system, system connection, and strategic leadership). This allows organizational learning culture to be treated as a single (unidimensional) construct. The coefficient alpha for this scale is .92.
Transformational Leadership

To test for transformational leadership behaviors of managers and supervisors, Bass and Avolio's (1994) 28-item Multifactor Leadership Questionnaire (MLQ) was used (see Appendix C). The MLQ has had extensive use in prior research and is considered to be a well-validated measure of transformational leadership. The overall Cronbach's alpha for this scale is .96. With regard to internal consistency of the subscales, the coefficient alphas are .89 (idealized influence), .88 (intellectual stimulation), .88 (inspirational motivation), and .83 (individualized consideration). Ratings were obtained on a 5-point Likert-type scale ranging from 0 (not at all) to 4 (frequently, if not always). A N/A option was also included for "do not know" or "not applicable" responses. Participants' responses to the 20 transformational items were averaged yielding a mean score that ranged from 1 (low transformational leadership) to 4 (high transformational leadership). High scores indicated that the employee perceived their manager or supervisor to portray a higher degree of transformational leadership behavior.
The MLQ also measures the degree to which a leader is considered a transactional leader. Because this type of leadership is outside the scope of the current study, no specific hypotheses have been generated regarding transactional leadership and other variables. However, follow-up analyses will consider the dimension of transactional leadership in comparison of transformational leadership.

**Psychological Empowerment**

To test for psychological empowerment, a 12-item scale developed by Spreitzer (1995) was used (Appendix D) to measure followers' perceptions of empowerment based on the dimensions of meaningfulness (items 1-3), competence (items 4-6), self-determination (items 7-9), and impact (items 10-12). The overall Cronbach's alpha for this scale is .90. With regard to internal consistencies of the subscales, coefficient alphas were .97 (meaningfulness), .87 (competence), .90 (self-determination), and .93 (impact). Competence items were adapted from Jones' (1986) self-efficacy scale, impact items were adapted from Ashforth's (1989) helplessness scale, and meaning items were obtained from Tymon's (1988) scale. Ratings were obtained on a 7-point
Likert-type scale ranging from 1 (very strongly disagree) to 7 (very strongly agree). The mean was used as the index to indicate empowerment. Participants' responses to the 12 items were averaged yielding a mean score that ranged from 1 (low empowerment) to 7 (high empowerment). High scores indicated that employees feel a higher sense of psychological empowerment in their workplace.

**Innovative Behavior**

To test for innovation at the employee level, a 6-item scale developed by Scott and Bruce (1994) was used (Appendix E). Employees were asked to report on the extent to which they engaged in and displayed innovative behaviors at work. Ratings were obtained on a 5-point Likert-type scale ranging from 1 (not at all) to 5 (to an exceptional degree).

In order to achieve a more inclusive measure of employee innovation, an additional seven items were added to also assess employee flexibility and adaptability. *Flexibility* was measured using a 3-item scale developed by Janssens, Sels, and Van Den Brande (2003) that evaluates the extent to which employees feel obligated to adopt a flexible and tolerant attitude towards internal organizational changes. Ratings were obtained on a
5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). Adaptability was measured using a 4-item scale from the Organizational Readiness for Change measure (Lehman, Greener, & Simpson, 2002). The adaptability scale is designed to measure the ability of employees to adapt to a changing environment and was measured on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The overall Cronbach’s alpha for this innovation scale was .84. Because this study is based on an individual (perception) level of analysis, minor modifications were made to items in this scale. For example, “Learning and using new procedures are easy for you” was changed to “Learning and using new procedures are easy for me”.

The innovation scale was pilot tested on a sample of 37 undergraduate students from California State University, San Bernardino. The measure had a reliability of .82 and items with low item-total correlations (< .30) were examined and minor adjustments to wording on two items were made. Conversations were also had with individuals who took the pilot measure and no concerns or unusual comments about the items were identified.
Procedure

The current study consisted of an electronic survey that was distributed electronically via Qualtrics. Before responding to surveys, participants were informed about the purpose of the study and assured that their responses would be kept confidential. Each person completed the survey individually, received a small monetary incentive for their contribution, and was allowed to stop at any time with no penalty. Upon completion, participants were debriefed and thanked for their time. Only responses were used from employees who have been with their current organization for at least one year. This is to ensure that each participant has had a sufficient amount of time to develop a sense for the organization's culture and adequately answer items related to organizational culture and leadership.
CHAPTER THREE

RESULTS

Prior to conducting the primary analysis, measures of organizational learning culture, transformational leadership, innovation, and empowerment were examined using SPSS for missing values and the assumptions of multivariate analysis. None of the variables contained missing data because participants were forced to respond to all questions in order to complete the survey. The variables were examined for outliers and standardized z scores were calculated for all continuous variables. Two univariate outliers were detected on the variable empowerment. One other case was identified through Mahalanobis distance as a multivariate outlier with $p < .001$. All three outliers were deleted, leaving 387 cases for analysis. The assumptions of normality, linearity, and homoscedascity were examined through examination of scatterplots of residuals and predicted scores. These normality assumptions were met. Also, there was no indication that the assumption of multicollinearity or singularity had been violated. Table
(Appendix F) presents the means, standard deviations, bivariate correlations, and alphas for all variables.

After testing for assumptions, bivariate correlations were used to test for the relationship between organizational learning culture and each of the dependent variables. Hierarchical multiple regression analyses were used to test the moderating effect of transformational leadership on the relationship between organizational learning culture and employee innovative behaviors as well as the relationship between organizational learning culture and psychological empowerment. Prior to creating the interaction term, variables were centered in order to reduce the effects of multicollinearity. In the first step of the regression, for both dependent variables, the centered versions of organizational learning culture and transformational leadership were entered as the independent variables. In the second step, the interaction term (organizational learning culture * transformational leadership) was entered in order to examine the moderating effect of transformational leadership on the relationship between organizational learning culture and innovation as well as psychological empowerment.
For hypothesis one (Table 2, Appendix G), a bivariate correlation was employed to determine the extent to which organizational learning culture was positively related to employee innovative behaviors. The bivariate correlation between the two variables was significant with a small to moderate effect size, $r(385) = .305, p < .01$, indicating that hypothesis 1 was supported. In addition to this analysis, organizational learning culture was also examined in the first step of the regression analysis as it was entered with transformational leadership. In step one, although the overall model was significant with a small effect size $[F(2, 384) = 28.108, p < .05, r^2 = .128, \text{adjusted } r^2 = .123]$ and explained roughly 12% of the variance, only transformational leadership produced a significant effect ($\beta = .265, p < .05$). The main effect of organizational learning culture on innovative behaviors was not found to be significant ($\beta = .117, p = .083$). This suggests that organizational learning culture does not uniquely predict innovative behaviors in a model including transformational leadership. However, when looking at hypothesis three in the second step (Table 3, Appendix...
H), the change in \(r^2\) was found to be significant 
(\(\Delta r^2 = .030\)). The graph of the interaction effects (Figure 1, Appendix L) shows that the relationship between organizational learning culture and innovative behaviors significantly changed depending on the level of transformational leadership. Therefore, hypothesis three was supported as transformational leadership was found to be a significant moderator of the relationship between organizational learning culture and innovative behaviors. Including the interaction term in the model explained an additional 3% of the variance above and beyond what was accounted for by both variables in step one.

For hypothesis two (Table 2, Appendix G), the bivariate correlation between organizational learning culture and psychological empowerment was examined to determine the extent to which the two variables were positively related. The two variables together produced a significant correlation with a small to moderate effect size, \(r(385) = .388, p < .01\). In addition, organizational learning culture was examined in step one of the regression analysis as it was entered with transformational leadership. The overall model for step
1, including organizational learning culture and transformational leadership, was found to be significant with a small to moderate effect size \[F(2, 384) = 48.654, p < .05, r^2 = .202, \text{ adjusted } r^2 = .198\]. Here, the main effect of organizational learning culture significantly predicted psychological empowerment \((\beta = .161, p < .05)\). The unique impact of transformational leadership was also found to be significant in this step \((\beta = .321, p < .05)\).

Hypothesis four (Table 4, Appendix I) predicted that transformational leadership would moderate the relationship between organizational learning culture and empowerment. In the second step, the change in \(r^2\) was found to be significant \((\Delta r^2 = .018)\). The graph (Figure 2, Appendix M) illustrates a main effect for organizational learning culture on empowerment and also shows that this relationship is enhanced with high levels of transformational leadership compared to low levels of transformational leadership. Because transformational leadership was found to moderate the relationship between organizational learning culture and empowerment, hypothesis 4 was supported. The addition of the
interaction term in the second step also accounted for significantly 2% more variance.

Additional Analyses

In order to further explore the data for understanding, bivariate correlations among additional study variables and sub-dimensions of key constructs were also examined (Table 5, Appendix J). Age was found to be negatively correlated with transformational leadership $r(385) = -.144, p < .01$. Similarly, transformational leadership also correlated negatively with number of years in current organization $r(385) = -.107, p < .05$ and number of years in current position $r(385) = -.143, p < .01$. General organizational characteristics can be important when looking at the influences of culture and leadership. Therefore, in the current study, the size of the organization was also examined for its relationship to the main study variables. Transformational leadership was found to be positively correlated with the size of the organization $r(385) = .110, p < .05$, while psychological empowerment had a significantly negative relationship to the size of the organization $r(385) = -.113, p < .05$. 
Items from the organizational climate scale (Lawler et al., 1974) were combined in order to test the extent to which transformational leadership, learning culture, empowerment, and innovation related to employee perceptions of their organizations' climates (Table 5, Appendix J). Climate was found to correlate significantly with all four variables and most strongly with organizational learning culture \( r(385) = .413, p < .05 \).

All transformational leadership subdimensions (i.e., idealized influence, intellectual stimulation, inspirational motivation, and individualized consideration) had significant, positive correlations with organizational learning culture, empowerment, and innovation scales (Table 6, Appendix K). Additional subscales assessed by the MLQ to measure transactional leadership qualities included Contingent Reward and Management-by-Exception. As seen in Table 6, contingent reward correlated strongly with organizational learning culture \( r(385) = .658, p < .01 \). Management-by-exception was also significantly correlated with organizational learning culture, although not as strongly \( r(385) = .197, p < .01 \).
The current study sought to examine the relationship between organizational learning culture and employee outcomes, such as psychological empowerment and innovative behavior, and the extent to which these relationships are impacted by transformational leadership. It was proposed that organizational learning culture would have a significant relationship with employee innovative behaviors and levels of psychological empowerment. Moreover, it was predicted that transformational leadership would moderate these relationships and enhance them when levels of transformational leadership were high. Overall, results supported the study hypotheses.

The first hypothesis, predicting a positive relationship between organizational learning culture and innovative behaviors, was supported. This result was anticipated given the relevant literature. The main effect of organizational learning culture within the regression was not significant and is most likely a result of shared variance with transformational
leadership. Because these two predictors were entered in the same step of the regression, most of the variance was being explained by the presence of transformational leadership. The interaction does suggest that the predictors each have separate contributions, but that the constructs of leadership and culture are intertwined in employee perceptions, leading to the overlap in their contributions. The potential role of organizational learning culture, as moderated by transformational leadership, will be examined in the test of hypothesis three. The second hypothesis, predicting a positive relationship between organizational learning culture and employee levels of psychological empowerment, was supported. These results were expected given the importance of a learning organization to individuals' sense of empowerment (Marsick & Watkins, 2003). These results also add to the existing gap in the literature by investigating organizational learning culture and psychological empowerment simultaneously (Joo & Shim, 2010).

Hypothesis three was supported and better explains the importance of organizational learning culture. The interaction of transformational leadership and learning
culture did significantly predict innovation. The ability of transformational leadership to successfully moderate this relationship is not surprising, especially since many transformational leadership behaviors are the same factors that are associated with innovation in organizations (Elkins & Keller, 2003). Interestingly, however, past research offers somewhat complex results regarding the relationship between transformational leadership and innovation. In some cases, the visioning component of transformational leaders has been shown to interfere with the innovation process (Mumford et al., 2002) and thus resulting in a negative correlation (Jaussi & Dionne, 2003). Instead, present results support research finding a positive relationship between transformational leadership and innovation (Keller, 1992; Waldman & Atwater, 1992; Waldman & Bass, 1991). The current study adds to the existing literature by illustrating the positive effects that transformational leadership has on innovation as it interacts with an organizational environment that is supportive of learning.

Likewise, hypothesis four was found to be supported as the interaction of transformational leadership and
learning culture significantly predicted psychological empowerment. This is consistent with literature describing the enhancing effect that transformational leadership behaviors have on employees' empowerment levels, especially as leaders develop new roles as mentors (Kram, 1985; Conger & Kanungo, 1988).

Given the difficulties associated with detecting moderating effects in leadership research (Villa, Howell, Dorfman, & Daniel, 2003), results here suggest the importance of studying transformational leadership as a moderator. Moderators have the potential to be described as enhancers and represent a positive moderating influence, in that the stronger the enhancer, the stronger the predictor-criterion relationship (Howell, Dorfman, & Kerr, 1986). Distinguishing different types of moderators in this way has important implications for organizations and research (Howell et al., 1986). Within the current study, transformational leadership acts as an enhancer for the relationships between learning culture and innovation, and learning culture and empowerment. The plots illustrate enhancement of the relationships when high levels of transformational leadership are present.
Additional Analyses

The additional analyses provide insight into how demographic and work-related variables related to the main study variables. Examination of the size of the organization revealed a negative relationship with innovation. In larger organizations, where almost all decisions are made by upper management, innovation has been found to be less likely (Ripley & Ripley, 1992).

Organizational climates were also examined for the extent to which they related to the study's main variables of interest. Organizational climate has to do with the ways in which organizations indicate to individuals what is important for organizational effectiveness and it exists in the perceptions held by employees about their organizational environment (Schneider, 1987). These perceptions are results of many different events that occur and affect daily job experiences (Schneider & Hall, 1972). Finding that all four variables were significantly related to employee perceptions of climate is imperative for understanding the importance of these variables in organizational life. This is particularly true, since climate has been shown to be related to individual level work outcomes such as
attitudes, motivation, and performance (Parker et al., 2003).

Finally, comparing the subdimensions of the MLQ, including contingent reward and management-by-exception scales, to other main variables gave increasing insight into the role that leadership plays in these relationships. Contingent reward describes the extent to which leaders praise or promise reward in exchange for followers meeting standards (Bass, 2000). Contingent reward was strongly related to organizational learning culture. According to Bass (2000), these results are expected since fostering organizational learning often includes changes associated with education and training. Subsequently, individuals are rewarded through praise, promotions, and pay increases for trying and succeeding in incorporating new learning approaches into their everyday activities. Management-by-exception was also related to organizational learning culture, though not as strongly. This weaker correlation is also expected (Bass, 1999), since management-by-exception may be used by leaders when transformational leadership or contingent reward is not possible. Therefore, they monitor follower
performance and provide corrections as needed (Bass, 2000).

**Implications**

This further understanding of the combined effects of an organizational learning culture and transformational leadership is important for practical reasons. In the case of innovative behaviors, no significant main effect was found for organizational learning culture. Only when employee perceptions of transformational leadership qualities were taken into consideration was a significant relationship identified. This means that, even though an organization may be viewed as having a learning culture by its employees, it still may not be having a substantial impact on employee levels of psychological empowerment. A leader displaying transformational leadership qualities can help to enhance this relationship in such an organization. Furthermore, although a main effect of organizational learning culture was found for psychological empowerment, a transformational leader could still increase the outcome more so than a leader who displayed only low levels of transformational leadership behaviors. Therefore, if
organizations want to get the most out of investing in a learning culture, transformational leadership within organizations should be encouraged. This includes identifying potential that may already exist within the organization and recruiting based on such leadership qualities.

Limitations and Future Research

The present study has a few limitations that should be considered, some of which are methodological concerns. One limitation is the study's cross-sectional nature. Participants came from a wide variety of different organizations, which made it difficult to control for outside factors and hence, extraneous variables. Nevertheless, because data was collected from many different organizations, the findings are more likely to be generalizable.

Although the MLQ (Bass & Avolio, 1990) is the most popular measure used in research examining transformational leadership, its emphasis on a single manager or supervisor does not allow for the consideration of a shared influence from multiple leaders (Pearce & Conger, 2003). In addition, the MLQ does not
explicitly measure many of the leadership behaviors that are relevant for the promotion of organizational learning (Yukl, 2009), which may be important which examining the interaction of the two variables. Another concern is that the MLQ and DLOQ (Watkins & Marsick, 1993) consist of relatively complex behaviors that tend to occur in brief periods and are not easily remembered or observed. Subsequently, all of the measures in the study are highly influenced by participant biases and attributions, a common result of self-report data. Future research should also look into more discrete ways to measure innovation and empowerment.

In regard to construct validity, many researchers use the terms "creativity" and "innovation" interchangeably, as they tend to be impacted by the same types of factors (Phipps, Prieto, & Verma, 2012). However, the literature has defined them as clearly different constructs (Kanter, 1988; Scott & Bruce, 1994). For instance, transformational leadership has been shown to have varying importance at different stages of the innovation process (Waldman & Bass, 1991). Future research should focus on the distinct relationships these
two concepts have with organizational culture and leadership.

Another methodological concern has to do with the fact that organizational learning and leadership are complex, dynamic processes that occur over long periods of time (Yukl, 2009). Therefore, the use of field surveys is not conducive when studying such processes because they are likely not tracking changes that occur over time. Future research should utilize alternative research methods and measures to better understand the impact of leadership and organizational learning on outcomes like innovation and empowerment. One alternative method includes the use of intensive, longitudinal comparative studies comprised of multiple organizations. It has previously been suggested that researchers should compare organizations with a strong reputation for learning and innovation to those organizations that do not hold such a reputation (Yukl, 2009). Multiple data collection methods are also desired from multiple leaders and subordinates.

Successful organizations today are driven by organizational learning and strong leaders. Companies with such assets are in a position to establish competitive advantage. Leaders can be instrumental in
stimulating and nourishing innovation and empowerment in their employees by applying transformational leadership principles in an organization with a learning culture. Findings can help managers recognize the degree to which their organization can be considered a "learning organization" and thus modify their behaviors in order to maximize employee outcomes. This study provides new insight into how organizations can utilize transformational leadership along with an orientation to learning to improve employee innovation and empowerment.
APPENDIX A

DIMENSIONS OF LEARNING ORGANIZATION

QUESTIONNAIRE ITEMS
**Dimensions of Learning Organization Questionnaire Items**

1. In my organization, people are rewarded for learning.
2. In my organization, people spend time building trust with each other.
3. In my organization, teams/groups revise their thinking as a result of group discussion or information collected.
4. My organization makes its lessons learned available to all employees.
5. My organization recognizes people for taking initiative.
6. My organization works together with the outside community to meet mutual needs.
7. In my organization, leaders continually look for opportunities to learn.

---

1. Items are those identified by Yang (2003) for the DLOQ-A short form of the survey. When used separately, the seven items together create a single scale of a learning culture.

APPENDIX B

MULTIFACTOR LEADERSHIP QUESTIONNAIRE ITEMS
Multifactor Leadership Questionnaire Items

The person I am rating...

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Provides me with assistance in exchange for my efforts</td>
</tr>
<tr>
<td>2.</td>
<td>Re-examines critical assumptions to question whether they are appropriate</td>
</tr>
<tr>
<td>3.</td>
<td>Focuses attention or irregularities, mistakes, exceptions, and deviations from standards</td>
</tr>
<tr>
<td>4.</td>
<td>Talks about his/her most important values and beliefs</td>
</tr>
<tr>
<td>5.</td>
<td>Seeks different perspectives when solving problems</td>
</tr>
<tr>
<td>6.</td>
<td>Talks optimistically about the future</td>
</tr>
<tr>
<td>7.</td>
<td>Instills pride in my for being associated with him/her</td>
</tr>
<tr>
<td>8.</td>
<td>Discusses in specific terms who is responsible for achieving performance targets</td>
</tr>
<tr>
<td>9.</td>
<td>Talks enthusiastically about what needs to be accomplished</td>
</tr>
<tr>
<td>10.</td>
<td>Specifies the importance of having a strong sense of purpose</td>
</tr>
<tr>
<td>11.</td>
<td>Spends time teaching and coaching</td>
</tr>
<tr>
<td>12.</td>
<td>Makes clear what one can expect to receive when performance goals are achieved</td>
</tr>
<tr>
<td>13.</td>
<td>Goes beyond self-interest for the good of the group</td>
</tr>
<tr>
<td>14.</td>
<td>Treats me as an individual rather than just as a member as a group</td>
</tr>
<tr>
<td>15.</td>
<td>Acts in ways that build my respect</td>
</tr>
<tr>
<td>16.</td>
<td>Concentrates his/her full attention on dealing with mistakes, complaints, and failures</td>
</tr>
<tr>
<td>17.</td>
<td>Considers the moral and ethical consequences of decisions</td>
</tr>
<tr>
<td>18.</td>
<td>Keeps track of all mistakes</td>
</tr>
<tr>
<td>19.</td>
<td>Displays a sense of power and influence</td>
</tr>
<tr>
<td>20.</td>
<td>Articulates a compelling vision in the future</td>
</tr>
<tr>
<td>21.</td>
<td>Directs my attention toward failures to meet standards</td>
</tr>
<tr>
<td>22.</td>
<td>Considers me as having different needs, abilities, and aspirations from others</td>
</tr>
<tr>
<td>23.</td>
<td>Gets me to look at problems from many different angles</td>
</tr>
<tr>
<td>24.</td>
<td>Helps me to develop my thoughts</td>
</tr>
<tr>
<td>25.</td>
<td>Suggests new ways of looking at how to complete assignments</td>
</tr>
<tr>
<td>26.</td>
<td>Emphasizes the importance of having a collective sense of mission</td>
</tr>
<tr>
<td>27.</td>
<td>Expresses satisfaction when I meet expectations</td>
</tr>
<tr>
<td>28.</td>
<td>Expresses confidence that goals will be achieved</td>
</tr>
</tbody>
</table>

APPENDIX C

PSYCHOLOGICAL EMPOWERMENT ITEMS
Psychological Empowerment Items

1. The work I do is very important to me
2. My job activities are personally meaningful to me
3. The work I do is meaningful to me
4. I am confident about my ability to do my job
5. I am self-assured about my capabilities to perform my work activities
6. I have mastered the skills necessary for my job
7. I have significant autonomy in determining how to do my job
8. I can decide on my own how to go about doing my work
9. I have considerable opportunity for independence and freedom in how I do my job
10. My impact on what happens in my department is large
11. I have a great deal of control over what happens in my department
12. I have significant influence over what happens in my department

APPENDIX D

INNOVATIVE BEHAVIOR ITEMS
Innovative Behavior Items

1. I seek out new technologies, processes, techniques, and/or product ideas at work.*
2. I generate creative ideas at work.*
3. I promote ideas to others at work.*
4. I investigate and secure funds needed to implement new ideas.*
5. I develop adequate plans and schedules for the implementation of new ideas.*
6. I am innovative.*
7. I adjust easily to changes in my work situation.**
8. I deal with unpredictable events in my work situation.**
9. I accept if revisions are made to my work duties.**
10. I am willing to try new ideas even if some staff members are reluctant.***
11. Learning and using new procedures are easy for me.***
12. I am sometimes too cautious or slow to make changes.***
13. I am able to adapt quickly when I have to shift focus.***

*Items from Scott and Bruce’s (1994) innovation scale.

** Items from Janssens, Sels, and Van Den Brande’s (2003) flexibility scale.

*** Items for the ORC (Organizational Readiness for Change) scale (Lehman et al., 2002).
APPENDIX E

DEMOGRAPHICS
Demographics

Please answer each question to the best of your knowledge. No information will be directly tied to you.

1. Male _____ Female _____

2. Age (years) ______

3. Please put an X next to the type of industry you are employed in
   - Restaurant, Food/Beverage _____
   - Retail _____
   - Banking, Finance, Insurance _____
   - Construction _____
   - Hospitality _____
   - Health Services _____
   - Manufacturing _____
   - Education _____
   - Technology _____
   - Other _____

4. Please put an X next to your level of education
   - Less than 12 years of education _____
   - Currently attending college _____
   - High school graduate _____
   - College graduate _____
   - Some college, but did not graduate _____
   - Graduate or professional school _____

5. Please indicate your PERSONAL income
   - $0-$14,999 _____
   - $15,000-$29,999 _____
   - $30,000-$44,999 _____
   - $45,000-$59,999 _____
   - $60,000-$74,999 _____
   - $75,000-$89,999 _____
   - $90,000-$99,999 _____
   - Over $100,000 _____

6. Select the number on the organizational ladder that best represents where your supervisor/manager sits in the organizational hierarchy relative to the top. 1 is the highest position one could hold and still have a superior. 10 is the lowest level.

1
2
3
4
5
6
7
8
9
10
7. **Please indicate the size of your current organization:**
   ___ Less than 100 employees  
   ___ 101 – 500 employees  
   ___ 501 – 2,500 employees  
   ___ 2,501 – 5,000 employees  
   ___ 5,001 – 10,000 employees  
   ___ More than 10,000 employees

8. **How long have you worked at your current organization?**
   _____ Year(s)  
   _____ Month(s)

9. **How long have you worked in your current position?**
   _____ Year(s)  
   _____ Month(s)

10. **How many supervisors/managers do you currently report to?**
    _____
APPENDIX F

TABLE 1
Table 1

Participants' Characteristics

<table>
<thead>
<tr>
<th>Organization Tenure</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3 years</td>
<td>32.6</td>
</tr>
<tr>
<td>4-6 years</td>
<td>21.9</td>
</tr>
<tr>
<td>7-9 years</td>
<td>12.2</td>
</tr>
<tr>
<td>10-14 years</td>
<td>14.7</td>
</tr>
<tr>
<td>15-24 years</td>
<td>12.1</td>
</tr>
<tr>
<td>25 years or more</td>
<td>65.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Position Tenure</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3 years</td>
<td>47.3</td>
</tr>
<tr>
<td>4-6 years</td>
<td>22.7</td>
</tr>
<tr>
<td>7-9 years</td>
<td>9.8</td>
</tr>
<tr>
<td>10-14 years</td>
<td>8.6</td>
</tr>
<tr>
<td>15-24 years</td>
<td>9</td>
</tr>
<tr>
<td>25 years or more</td>
<td>2.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organization Size</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 employees or less</td>
<td>23.3</td>
</tr>
<tr>
<td>101-500 employees</td>
<td>22</td>
</tr>
<tr>
<td>501-2,500 employees</td>
<td>16.8</td>
</tr>
<tr>
<td>2,501-5,000 employees</td>
<td>9.3</td>
</tr>
<tr>
<td>5,001-10,000 employees</td>
<td>10.1</td>
</tr>
<tr>
<td>More than 10,000 employees</td>
<td>18.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Industry</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Other”</td>
<td>28.2</td>
</tr>
<tr>
<td>Office/Administrative Support</td>
<td>25.3</td>
</tr>
<tr>
<td>Education/Training</td>
<td>15.8</td>
</tr>
<tr>
<td>Healthcare</td>
<td>11.1</td>
</tr>
<tr>
<td>Sales and Related</td>
<td>10.1</td>
</tr>
<tr>
<td>Production Occupations</td>
<td>4.1</td>
</tr>
<tr>
<td>Construction</td>
<td>2.6</td>
</tr>
<tr>
<td>Food Preparations/Serving</td>
<td>1.8</td>
</tr>
<tr>
<td>Transportation/Materials Moving</td>
<td>1</td>
</tr>
</tbody>
</table>

N = 387
<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>OLC</th>
<th>TL</th>
<th>INNOV</th>
<th>EMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>OLC</td>
<td>3.413</td>
<td>1.121</td>
<td>.916</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TL</td>
<td>3.091</td>
<td>.838</td>
<td>.708*</td>
<td>.956</td>
<td>.842</td>
<td></td>
</tr>
<tr>
<td>INNOV</td>
<td>3.580</td>
<td>.530</td>
<td>.305*</td>
<td>.348*</td>
<td>.842</td>
<td></td>
</tr>
<tr>
<td>EMP</td>
<td>5.340</td>
<td>.906</td>
<td>.388*</td>
<td>.435*</td>
<td>.426*</td>
<td>.896</td>
</tr>
</tbody>
</table>

*. Correlation is significant at the .01 level.

Note. Scale reliabilities are described in the diagonals.
Table 3

Summary for Hierarchical Regression Analysis for Transformational Leadership and Organizational Learning Culture on Innovative Behaviors

<table>
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<th>β</th>
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N = 387, $r^2 = .158, r^2$ change = .030.
APPENDIX I

TABLE 4
Table 4

*Summary for Hierarchical Regression Analysis for Transformational Leadership and Organizational Learning Culture on Empowerment*

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N = 387, \( r^2 = .220 \), \( r^2 \) change = .018.
APPENDIX J

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**Correlation is significant at the .01 level
*Correlation is significant at the .05 level
APPENDIX K

TABLE 6
Table 6

*Bivariate Correlations between Main Study Variables and Leadership Subdimensions*

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</table>

**Correlation is significant at the .01 level
*Correlation is significant at the .05 level

*Note. II = Idealized Influence; IS = Intellectual Stimulation;
IM = Inspirational Motivation; IC = Individualized Consideration;
CR = Contingent Reward; MBE = Management by Exception.*
APPENDIX L

FIGURE 1
Figure 1. Graph of the interaction between transformational leadership and organizational learning culture on innovative behaviors.
APPENDIX M

FIGURE 2
Figure 2. Graph of the interaction between transformational leadership and organizational learning culture on psychological empowerment.
REFERENCES


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