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CAN EVERYONE BE A LEADER?
A MULTI-CONTEXTUAL STUDY OF LEADERSHIP

A Dissertation Presented

By

XUETING JIANG

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2016

Isenberg School of Management
Organization Studies

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CAN EVERYONE BE A LEADER?
A MULTI-CONTEXTUAL STUDY OF LEADERSHIP

A Dissertation Presented by

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DEDICATION

To my mother

ACKNOWLEDGEMENTS

I would like to express my deepest gratitude towards several people with whom I have survived many ups and downs in this long and lonely journey.

Firstly, I wish to acknowledge Dr. Charles C. Manz, my faculty mentor and committee chair for his support and guidance both in class and in my dissertation. I thank him for his expertise and insight to nurture my ideas for each essay in this dissertation. It has been a great experience for me to practice self-leadership and learn to turn failure into success under his close supervision. I am truly grateful to my committee members, Dr. D. Anthony Butterfield, Dr. Jane K. Giacobbe-Miller and Dr. Daniel J. Miller for their valuable guidance, enlightening advice, timely feedback, and constant encouragement throughout the dissertation process. I am also indebted to Dr. Ryan M. Acton for his time and effort to help me on the proposal of my dissertation.

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.

ABSTRACT

CAN EVERYONE BE A LEADER? A MULTI-CONTEXTUAL STUDY OF LEADERSHIP

MAY 2016

XUETING JIANG, B.A., DONGHUA UNIVERSITY

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My dissertation is composed of three independent but interrelated essays. Each essay focuses on a specific perspective to study leadership at the individual level or at the team level and beyond.

My first essay, *Consequences of Leader Self-Efficacy Dissimilarity in Self-managing Teams*, looks at the impacts of leader self-efficacy dissimilarity upon shared leadership and the consequent effects on team effectiveness in self-managing teams. My second essay, *A Longitudinal Study on Leadership Identification in Self-managing Teams*, explains why leadership structures may vary in self-managing teams and how individuals develop their leadership roles in a non-hierarchical organizational context. My third essay, *Why You Become a Leader or a Follower? A Q Methodology Study on Chinese Business Practitioners*, explores and identifies factors in Chinese social and cultural systems that shape and influence individuals to become leaders or followers.

My three-essay dissertation identifies the determinants and consequences of leadership in different organizational contexts. I expect this dissertation will enrich leadership literature and increase the understanding of how to foster a team or an organization with effective leadership.

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CHAPTER 1

INTRODUCTION

Recently, leadership researchers started to shift the conceptualization of leadership from the behaviors and characteristics of individuals towards a social process embedded in a context of team dynamics and social interactions (Bligh & Meindl, 2004; Bligh, Pearce, & Kohles, 2006; Pearce & Conger, 2003; Shamir & Howell, 1999). An increasing body of research has addressed the dynamic nature of leadership (Avolio, Walumbwa, & Weber, 2009). Since leadership appears to be the outcome of social processes (Day, Gronn, & Salas, 2004), it is interesting to delineate how an individual develops leadership and how leadership emerges in teams and in organizations.

Based on the current research on leadership, I present three perspectives in my three essays to answer the following question:

Can everyone be a leader?

In my first essay, I examine the connection between shared leadership and team effectiveness in self-managing teams. I draw my attention to the impact of leader self-efficacy dissimilarity upon the development of shared leadership as well as overall team effectiveness of empowered teams. I propose that shared leadership within self-managing team is affected by leader self-efficacy dissimilarity among the team members. A high level of leader self-efficacy dissimilarity among the team members reduces shared leadership and negatively impacts team effectiveness.

In my second essay, I address the phenomena that full participation of team members in leading a self-managing team is “a rare accomplishment” (Offermann & Scuderi, 2007). In reality, some team members are more likely to take leadership roles than others (Crossman & Crossman, 2011). By using longitudinal data collected from fifty-eight self-managing student teams, this essay investigates how individuals recognize their leader self-identities and develop their leadership roles in a non-hierarchical organizational context. I focus on this leadership developmental process by looking at team members' leader self-identity, followership behaviors, and their conjoint influences upon construction of leader-follower relationships in groups.

In my third essay, I focus my attention on motivations to lead or follow in Chinese culture and conducted an indigenous leadership study in China. This research investigates and identifies factors in Chinese social and cultural systems that shape and influence individuals to become leaders or followers. The findings of this research discover why and how Chinese pursue and perform leading or following positions in their organizations. Drawn from subjective expressions of the research participants, this essay captures the variance in their perspectives on leading and following practices. The findings lead to a conceptual framework to illustrate four patterns associated with motivations to lead in Chinese cultural settings.

Each essay focuses on a specific contextual investigation of leadership in teams and in organizations. The first essay aims to manifest the collectivity of leadership at the team level and identify shared leadership as a situated activity that depends on individuals' confidence of their capabilities to lead. The second essay points to the emergence of leadership at the individual level and conceptualizes leadership as a social process in which individuals cast themselves in the role of leaders and/or followers through the interactions with others. The third essay emphasizes the experience of leadership at the cultural level and outlines leaders' motives and efforts for their engagement in leadership. The three perspectives that I present in this dissertation differ in their treatment of the question “can everyone be a leader?” or “how can one eventually be a leader”. By bringing these bits and pieces together, I wish to broaden traditional notion of formal leadership and enrich growing literature on informal leadership and global leadership for future research opportunities.

This dissertation proceeds in five chapters. The first chapter is a general overview of my dissertation. The second, third, and fourth chapters are my three essays, each including introduction, theoretical foundation, hypotheses or research question, research design and procedure, methods and data analysis, contributions, and limitations. The last chapter includes conclusion and outlook for future research.

CHAPTER 2

CONSEQUENCES OF LEADER SELF-EFFICACY DISSIMILARITY IN SELF-MANAGING TEAMS

2.1. Introduction

Modern organizations are becoming more team-based (Sundstrom, 1999) and more empowered in their management and organizational structure (Argyris, 1998; Spreitzer, 1995). Teams function as fundamental working and learning units in organizations (Osterman, 1994; Salas & Fiore, 2004; Senge, 1990; Solansky, 2008) and provide connection to learning at the individual, group, and organizational levels (Edmondson, 2002). A team-based organization needs all its entities to have mutual reliance, determination, influences and shared vested interests in process to accomplish work activities (DeChurch & Mathieu, 2009). As team effectiveness largely depends on how well a team manages its interfaces with external environments (Ancona & Caldwell, 1992; Tesluk & Mathieu, 1999), the increasing complexity of environments, especially in multi-team organizations (Marks, DeChurch, Mathieu, Panzer, & Alonso, 2005), imposes additional requirements on leaders to coordinate and balance within-team activities and cross-team activities for collective success (DeChurch & Mark, 2006).

There is an emerging stream of the leadership literature that teams are a source of leadership (Avolio et al., 2009; Hildebrand, Dröge, & Marsick, 2010; Yukl, 2010). Early studies suggested that leadership in teams or organizations, in many situations, may not rest statically on any particular individual. Instead, it could be distributed and shared by multiple individuals (Friedrich, Vessey, Schuelke, Ruark, & Mumford, 2009). Shared leadership is one of the most prevalent constructs in current literature used to describe leadership in the decentralized and collective forms (Fitzsimons, James, & Denyer, 2011).

Shared leadership is known as “dynamic leadership process” (Friedrich et al., 2009). Shared leadership emerges from the mutual influence among the team members in the work groups. It features a variety of behaviors coordinating and synchronizing individual contributions to collective success (DeRue, Barnes, & Morgeson, 2010; Zaccaro, Rittman, & Marks, 2001). The focus of shared leadership is on the ongoing roles of leader and follower shifting among the individual team members through their intention to lead and willingness to be led. Since shared leadership is socially constructed through the interaction and interdependence among the team members (Carson, Tesluk, & Marrone, 2007; Friedrich et al., 2009), this intra-group interaction and interdependence can encourage knowledge sharing, networking, and participating in work groups and, further, can facilitate multilevel learning processes across organizations (Edmondson, 2002; Edmondson, Dillon, & Roloff, 2008; Hildebrand et al., 2010). Shared leadership is also found to benefit the motivational, social, and cognitive processes of a team because more “heads” and “hands” attend to a team’s developmental and functioning needs (Solansky, 2008).

Since teams can be seen as potential sources of leadership in organizations (Avolio et al., 2009; Hildebrand et al., 2010; Yukl, 2010), I started my theoretical investigation by looking at shared leadership in self-managing teams. Early literature showed that team members’ self-management or self-leadership skills could promote team performance (Burke, Stagl, Klein, Goodwin, Salas, & Stanley, 2006; Carson et al., 2007; Pearce & Manz, 2005). Preliminary leadership and team research has also drawn much attention to how individual characteristics, especially leader's self-efficacy, influence leadership practices in groups (Chan & Drasgow, 2001; Hannah, Avolio, Walumbwa, & Chan, 2012; Hendricks & Payne, 2007; Hoyt, Murphy, Halverson, & Watson, 2003; Kane, Zaccaro, Tremble, & Masuda, 2002; McCormick, Tanguma, & Lopez-Forment, 2002; Wood & Bandura, 1989). However, extant research has not addressed the impact of team members' differences in self-efficacy upon the development of shared leadership. How leader self-efficacy dissimilarity affects shared leadership in an empowered team has not been closely examined.

In order to detail leadership sharing in empowered teams, my study gives a specific focus on leader self-efficacy and examines how the differences of individual leader self-efficacy within a team affect leadership sharing among team members. My conceptual analysis aims to answer the following question:

> How does leader self-efficacy dissimilarity relate to shared leadership and affect team effectiveness in self-managing teams?

I propose a theoretical model that articulates the relationships among leader self-efficacy dissimilarity, shared leadership, and team effectiveness. It is suggested that leader self-efficacy dissimilarity among the team members negatively affects shared leadership within a team. Shared leadership can improve team effectiveness in self-managing teams. By way of illustration, my proposed model is this:

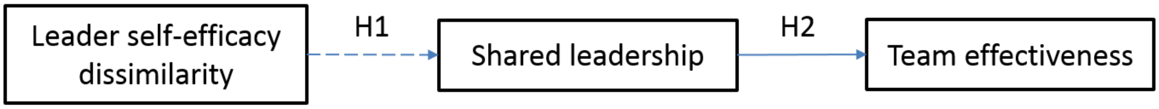

Figure 1: A Conceptual Framework of Leader Self-Efficacy Dissimilarity, Shared Leadership and Team Effectiveness

2.2. Theoretical Foundations and Propositions

2.2.1. Leader Self-efficacy Dissimilarity and Shared Leadership

Self-efficacy refers to an individual's belief in his or her competency to accomplish a certain mission or task (Bandura, 1977). It is one essential dimension of individual psychological empowerment that reflects the individual's internal perception of self-worth (Neilsen, 1986; Spreitzer, 1995). According to social cognitive theory (Bandura, 1986), human beings not only adapt themselves to external social-structural factors reactively, but also, more proactively, they choose to guide, regulate and motivate their behaviors through the influence of their cognitive activities. Self-efficacy has been found to be a strong predictor of human motivation and task performance (Brief & Aldag, 1981; Gist, 1987). Individuals with high levels of self-efficacy are more likely to engage themselves in tasks and expect to succeed (Gellatly, 1996; Phillips & Gully, 1997). Bandura (1997) proposed that self-efficacy could influence individuals' choice of activities, and their efforts and commitment in those activities. Houghton, Neck and Manz (2003) suggested that team members could undertake more effective leadership roles and responsibilities if their self-efficacy beliefs are increased. Shared leadership is expected to grow when group members are highly skilled in their assigned tasks (Pearce & Sims, 2000) or they have the confidence that these skills are present (Bligh et al., 2006).

Self-efficacy, if it reaches a high level, can aggregate and translate into collective efficacy so as to develop shared leadership (Bligh et al., 2006). Collective efficacy reflects the team's collective perception of their group capabilities to mobilize members' cognition and the actions needed for achievements in a specific task (Gibson, 2003).

Previous efficacy research indicated a “double-interact” process (Weick, 1979) in the cross-level relationship between individual and team motivational states (Chen & Kanfer, 2006). Individual motivational states, such as self-efficacy and individual empowerment, are related to team motivational states such as collective-efficacy and team empowerment (Chen, Kirkman, Kanfer, Allen, & Rosen, 2007; Chen & Kanfer, 2006). In the context of empowered teams, a strong collective efficacy belief can motivate and encourage team members to contribute to team processes; conversely, the efficacy belief of individual members can also influence their decision to display proactive behaviors and positive attitudes towards specific tasks.

Efficacy literature has suggested that people with high self-efficacy beliefs could be more likely to demonstrate leading skills and perform effective leadership in teams and organizations (Anderson, Krajewski, Goffin, & Jackson, 2008; Hendricks & Payne, 2007; Hoyt et al., 2003; Kane et al., 2002; McCormick et al., 2002; Machida & Schaubroeck, 2011; Stajkovic & Luthans, 1998; Wood & Bandura, 1989). Recently, Hannah and his associates (2008; 2012) conceptualized a multi-component construct, leader self-efficacy, to account for a leader’s perceived capability in self-regulation and action. The self-regulatory component of leader self-efficacy represents an individual’s internal self-motivation to accomplish leadership role. The action component represents an individual’s beliefs to enact leadership and create effects on leading self and others (Manz, 1986; Hannah et al., 2012). The individual leader self-efficacy differences will affect their motivations and decisions to assume leadership roles and responsibilities (Chan & Drasgow, 2001) as well as their leading performance and leadership behaviors (Hannah et al, 2012).

Shared leadership is known as a “relational phenomenon involving mutual influence between team members as they work toward team objectives” (Carson et al., 2007: 1219). The relational and emergent nature of shared leadership may parallel the contingent motivational states of empowered members in a team (Bandura, 1997; Chen et al., 2007). Early research on empowerment has used two complementary approaches, social-structural and psychological, to conceptualize empowerment (Liden & Arad, 1996; Spreitzer, 2008). The social-structural approach represents the value and idea of democracy in organizations and focuses on the contextual conditions in which employees at all organizational hierarchical levels are granted access to opportunity, information, support and resource (Conger & Kanungo, 1988; Spreitzer, 2008). The psychological approach refers to empowerment from subjective experiences of the individuals and focuses on the individuals’ intrinsic motivation at work in relation to delegation of authority throughout an organization (Conger & Kanungo, 1988; Seibert, Silver, & Randolph, 2004; Spreitzer, 2008; Thomas & Velthouse, 1990). Recent empowerment studies have indicated the necessity to integrate social structural and psychological aspects of empowerment for a holistic understanding of empowerment (Biron & Bamberger, 2010; Spreitzer, 2008). One attempt to link social structural and psychological empowerment is to set team empowerment as an essential construct to explain how empowerment operates through organizations (Chen et al., 2007; Kirkman & Rosen, 1999; Seibert et al., 2004).

Team empowerment is conceptualized as team members’ shared perceptions of task motivation and their collective cognition of authority and responsibility to control and operate team processes[1] (Kirkman, Rosen, Tesluk, & Gibson, 2004; Mathieu, Gilson, & Ruddy, 2006; Spreitzer, 2008). According to Carson et al. (2007), team empowerment can produce enabling conditions for team members to exert influence upon each other. Shared leadership can be seen as a manifestation of fully developed empowerment in teams (Pearce, 2004). Team members' collective assessments of tasks and a positive belief in team effectiveness can encourage their open communication and cooperation so as to facilitate the development of shared leadership. Based on "the law of the situation" (Follett, 1924), the individuals in a highly empowered team are better able to understand and follow the direction from their peers rather than an external leader because the team members have the most knowledge about the situation in which the task is being undertaken (Wassenaar & Pearce, 2012). Team members' increased motivation to guide and influence their fellow workers for maximal team effectiveness will lead to the occurrence of shared leadership in a team (Pearce, 2004).

Though team members' self-efficacy or their perception of individual psychological empowerments could, at least partially, depend on how empowered their team is, these individual efficacy beliefs might vary from person to person due to their subjective experiences (Chen & Kanfer, 2006). Though there is a possibility that both teams and individuals are empowered simultaneously (Chen et al., 2007), leadership effectiveness in this scenario might encounter tensions when individual team members have remarkable differences in their intrinsic motivation and related behaviors. Wu, Tsui and Kinicki's (2010) research on differentiated leadership in groups is one of the few studies addressing the divergence in self-efficacy and its effect on group effectiveness.

---

[1] Team process is defined as "interdependent team activities that orchestrate taskwork in employees' pursuit of goals" (Marks, Mathieu, & Zaccaro, 2001: 358).

The dissimilarity of efficacy beliefs could impair goal setting, group commitment and group performance (Klein & Mulvey, 1995). Wu and his associates (2010) argued that high levels of divergence in self-efficacy within a group could lead to different levels of affective reaction to team processes.

From this perspective, leader self-efficacy dissimilarity can lead to a fault line within the self-managing teams with little status differences. The members with high levels of leader self-efficacy can feel positive and optimistic enough to lead themselves and lead others. They may keep themselves motivated by executing their leadership roles in the group, and, consequently, hold a position of advantage or superiority over other members. In contrast, the members with low levels of leader self-efficacy may doubt their leadership roles in self-managing teams and decide to act in accordance with the ideas from highly effective members. They may gradually lose the confidence to share information and management roles with other members and choose to play the roles of followers in the group.

As shared leadership is an emergent practice, the breadth and intensity of interaction among team members contributes to the growth and development of shared leadership within a group. Since the team with large differences in leader self-efficacy might have less voluntary exchange in information and expertise, its group interaction will become restrictive and further inhibit team members from sharing leadership roles successfully. As a result, the leadership practices in self-managing teams might generate informal superior and subordinate echelons among the team members. Leadership might be centralized in the hands of a few members with a strong sense of authority and responsibility rather than being shared sufficiently by all the members in the team. Based on this argument, I propose my first hypothesis:

> Hypothesis 1: Team members' leader self-efficacy dissimilarity is negatively related to shared leadership among team members.

2.2.2. Shared Leadership and Team Effectiveness

Team effectiveness reflects a team's current productivity and its viability to continue functioning as a unit (Hackman, 1987; Barrick, Stewart, Neubert, & Mount, 1998). Developing an effective team needs several resource and contextual factors such as participation, goal interdependence, training, managerial and social support, self-management, workload sharing, interdependent feedback and rewards, and communication and coordination within and between work groups (Campion, Medsker, & Higgs, 1993; Campion, Papper, & Medsker, 1996).

It is widely known that leadership is a primary input to influence processes such as coordination, innovation, knowledge sharing and learning in teams and organizations (Mathieu, Maynard, Rapp, & Gilson, 2008). Previous leadership scholars have identified the impact of shared leadership upon team effectiveness. Day, Gronn and Salas (2004) in their review of leadership capacity in teams proposed that shared leadership could contribute to greater adaptability and effectiveness of teams. Contrary to traditional vertical leadership, shared leadership in organizations could encourage more members to engage in leadership activities, create shared mental models and perform collective tasks. Hannah and Lester (2009) suggested that shared leadership in work groups could reduce status differences for high quality exchanges between leaders and followers and between team members. Solansky (2008) compared shared leadership and single leadership in self-managing teams and concluded that shared leadership could have motivational and cognitive advantages over traditional centralized leadership to establish a transactive memory system.

Knowledge sharing, networking and participative decision making under shared leadership can also present optimal conditions to stimulate learning and working processes in teams. Srivastava, Bartol and Locke (2006) suggested that empowering leadership[2] could encourage knowledge sharing in teams and assists in the formation of shared mental models for improved decision making and collective intuition. Burke and her associates (2006) in their meta-analysis on leadership in teams found that empowerment behaviors explained large amounts of variance in perceived team effectiveness, team productivity and team learning. Another meta-analysis done by Balkundi and Harrison (2006) indicated that teams with densely configured interpersonal ties tended to perform better and develop more team viability and commitment to stay together. There is also a handful of empirical evidence on the positive impact of decentralized leadership upon team and organizational learning in recent studies. Zellmer-Bruhn and Gibson (2006) proposed that autonomy could facilitate team innovation and learning. They found that altering the level of team autonomy could mitigate the negative effect of global integration upon team learning in multinational organizations, whereas the increase of interpersonal relationships could positively influence team learning. Hildebrand and his associates (2010) suggested that shared leadership could relate to task, relation and change oriented leadership activities and enhance team learning. Liu and his colleagues recently found that shared leadership had a positive impact on both team and individual learning since shared leadership could foster a psychologically safe environment within the team (Liu, Hu, Li, Wang, & Lin, 2014). Similar findings were reported by Huang, Rode and Schroeder (2011) that an organic decentralized organizational structure was conducive to continuous improvement and learning when natural or group cultures endorsed participative leadership. Based on the previous empirical evidence and conceptual arguments, I put forward my second hypothesis:

---

[2] According to Srivastava et al.'s (2006) terminology, "empowering leadership" refers to leadership behaviors including sharing power, leading by example, participating decision making, coaching, informing and showing concern (Arnold, Arad, Rhoades, & Drasgow, 2000).

> Hypothesis 2: Shared leadership is positively related to team effectiveness of self-managing teams.

2.3. Research Design and Methods

This research examines the relationship between shared leadership and intra-group leader self-efficacy dissimilarity in self-managing teams. Therefore, a team-level design is appropriate to explain how the differences in these variables relate to team effectiveness. I surveyed undergraduate student teams to assess these differences. Two reasons for me to choose student subjects are convenience and the minimal costs (Gordon, Slade, & Schmitt, 1986). Students are more likely to cooperate with researchers since the researchers mostly are the instructors of their courses. Another reason that makes student teams preferable in this study is that college students are more homogeneous and less associated with extraneous variation than non-student populations (Lynch, 1983; Peterson, 2001). Previous researchers suggested that a homogeneous respondent population might be preferred in theory application studies (Lynch, 1983; Winer, 1999). In addition, the student groups in this study were organized for specific team projects based on their course requirements. It was relatively easy for me to track and predict the working process and development process of these student groups and collect timely data since most of the team projects were scheduled to match the academic calendars.

Leader self-efficacy dissimilarity: this construct was assessed by using Hannah and Avolio's (2006) 22-item Leader Self and Means Efficacy Questionnaire (LSMEQ). This instrument measures self-regulatory, means and action aspects of leader self-efficacy (Hannah, Avolio, & Walumbwa, 2008; Hannah et al., 2012). Fifteen items from LSMEQ were selected and edited to LSME action and LSME self-regulation (Lester, Hannah, Harms, Vogelgesang, & Avolio 2011). The means component of LSME reflects leaders' beliefs in the utility of other organizational members such as peers or supervisors for performing leadership in their current organization, which includes seven items not applicable in the classroom setting. The selected fifteen items were combined into a single leader self-efficacy score in data analysis. The example items include "As a leader I can energize my followers to achieve his/her best", and "determine what leadership style is needed in each situation". Participants responded to items using a 10-point response scale, ranging from 1, not at all confident, to 10, totally confident. Based on Allison's (1978) approach to measure inequality, I used the coefficient of variation (within standard deviation of leader self-efficacy divided by its within group mean score) to index leader self-efficacy dissimilarity. The large value of coefficient indicates a high intragroup leader self-efficacy difference in a self-managing team. The small value of coefficient suggests low differences in leader self-efficacy among the team members. The reliability for this scale was .885.

Shared leadership: this construct was measured by using leadership network approaches (Hoppe & Reinelt, 2010; Mehra, Smith, Dixon & Robertson, 2006; Wasserman & Faust, 1994). Based on Mehra and his colleagues' social network analysis (Mehra, Dixon, Bass & Robertson, 2006; Mehra, Smith, Dixon & Robertson, 2006), every respondent was first asked to list all the members in their teams. Next, each respondent evaluated his or her peers as leader of the team. All the leadership evaluations were measured by a continuous Likert scale, ranging from 1, not at all, to 5, very much. By combining leadership ratings of all dyads between team members, I generated a socio-matrix for each team and used Gini coefficient to assess shared leadership within a given team (Harrison & Klein, 2007; Wang, Zhou, & Liu, 2014). I reversed Gini coefficient score to simplify the interpretation of shared leadership scales. Accordingly, a high level of reversed Gini coefficient score represents a high level of shared leadership. A low level of reversed Gini coefficient indicates a low level of shared leadership within a team.

Team effectiveness (operation): this construct was measured by using Cacioppe & Stace's (2008) 36-item version of Integral Team Effectiveness Measure (ITEM). This instrument provides an integral or holistic framework to capture the specific nature of a team's strengths and weaknesses. Integral TeamWork has four quadrants: team culture, individual well-being, team effectiveness and team efficacy. The team effectiveness quadrant includes nine statements to estimate the degree of integration in a team, indicating how effectively a team system aligns with team goals and individual goals and motivates team members for the achievement of these goals. All nine statements were selected and edited in this survey. The example items include "Important decisions are made in reasonable time with a minimum of bureaucracy", "Each team member receives regular and useful performance feedback.", and "Procedures and systems within the team are changed when needed to achieve our goals." Participants responded to items using a 5-point response scale, ranging from 1, not at all, to 5, a great deal. The mean and median of r_{wg} for team effectiveness (operation) were .67 and .75, demonstrating an acceptable level of within-group agreement (James, Demaree, & Wolf, 1993, LeBreton & Senter, 2008). The ANOVA results showed that there were significant between-group variances in the ratings of team effectiveness (operation) scales, $F(73,262)=1.443$, $p<0.05$. I further computed the ICC1 value as .11, implying a high agreement among raters. Though the ICC2 value was .35 and relatively low due to small group sizes, the high r_{wg} value and between-group variance could justify the aggregation (Bliese, 1998; Chen & Bliese, 2002). The reliability for this scale was .914.

Team effectiveness (outcome): this construct was assessed by collecting two measures of team outcomes: team satisfaction and team viability. Team satisfaction was measured by using a three-item scale adapted from a five-item scale adapted from Van der Vegt, Emans, and Van de Vliert (2001)'s instrument. The three items include "I am satisfied with my present team members", "I am pleased with the way my team members and I worked together" and "I am very satisfied with working in this team." Team viability was measured by using Tekleab, Quigley, and Tesluk's (2009) four-item scale. Their instrument focuses on the continued existence of the team and team members' wish to work together in the future (Bell & Marentette, 2011). All four items were reversely coded in which high scores represents low levels of team viability. The example items include "this team should not have continued to function as a team" and "this team was not capable of working together as a unit." Participants responded to team satisfaction and team viability items using a 7-point response scale, ranging from 1, strongly disagree, to 7, strongly agree. For team satisfaction, the mean and median of r_{wg} were .76 and .83, ICC1 value was .13, ICC2 value was .40, $F(73,262)=1.797$, $p<0.001$; for team viability, the mean and median of r_{wg} were .76 and .87, ICC1 value was .16, ICC2 value was .47, $F(73,262)=1.718$, $p<0.001$. The ICC1 values were higher than the expected value of 0.12. The F tests also suggested significant differences across teams. Based on good evidence of consensus among group members’ ratings, I aggregated individual members' ratings of team outcome to the team level of analysis. The reliability was .961 for team satisfaction and .905 for team viability. Team satisfaction and team viability were examined separately in statistical analysis.

*Control variable*s: early scholars theorized that team member diversity could promote creativity and innovation for group effectiveness (Cox & Blake, 1991; Priem, 1990; Richard, McMillan, Chadwick & Dwyer, 2003). Similar-attraction theory (Byrne, Clore & Worchel, 1966) also suggested that individuals might favor to select and work with those similar to themselves. I chose to control observable team diversity in this study and examined whether team members’ demographic differences such as sex and age may affect their leadership and their performance in groups. In addition, the participants were asked to provide information on their working and managerial experience because the team members’ previous organizational experience might affect team cooperation and outcome (Horwitz & Horwitz, 2007; Pelled, 1996). Diversity in age was measured by the coefficient of variation (CV). The CV scores corresponds with age difference among the team members. Since sex, working experience and managerial experience were collected in categorical scales, I used Teachman's (Shannon) index to measure diversity of these demographic factors within a team (Teachman, 1980; Pelled, Eisenhardt, & Xin, 1999). The value of Teachman's index ranges from zero to positive infinity. The minimum value of zero indicates that all members belong to the same category. The larger values reflect that team members spread more evenly across more categories (Harrison & Sin, 2006).

In addition, I controlled for team empowerment that could impact team performance (Chen et al., 2007). This construct was assessed by using Kirkman et al.'s (2004) shorted version of team empowerment measure. This instrument includes 12 items to measure four dimensions of team empowerment: autonomy, impact, meaningfulness, and potency. Early research found high correlations between the four dimensions and suggested an integrated effect of four dimensions on team effectiveness (Liden, Wayne, & Sparrowe, 2000; Kirkman & Rosen, 1999). In this study, I combined these four dimensions into one single team empowerment measure. Participants responded to items using a 7-point response scale, ranging from 1, strongly disagree, to 7, strongly agree. Three items to measure impact dimension were edited in accordance with the research setting of this study. The example items include "My team has confidence in itself.", "My team believes that its projects are significant.", "My team makes its own choices without being told by instructor." The mean and median of r_{wg} as .73 and .78 were well above the conventionally acceptable value of .70 (James, Demaree, & Wolf, 1984). ICCs associated with team empowerment were fairly low (ICC1=.01, ICC2=.06), indicating a weak between-team variability compared to within-team variability. Even though the F tests did not support a significant between-group variance in the ratings of team empowerment (F(73,262)=1.002, p=.481), I considered the high r_{wg} values and aggregated individual members' ratings of team empowerment for control purposes in the team level of analysis. The reliability for this scale was .892.

Due to the nature of the research design and availability of data, I did not obtain predictors and criterion variables from different resources. To reduce common method biases in this research, I set a time lag between the measurement of the independent variables and dependent variables (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The participants were asked to complete the measurement of team empowerment and leader self-efficacy at the 9th and 10th weeks of the semesters. After two or three weeks, the same participants completed the measurement of shared leadership and team effectiveness. Though there might be attrition or contaminating factors that intervene the measurement in this time lag (Podsakoff et al., 2003), the classroom research setting could prevent the intrusion of potentially contaminating factors in student teams.

The participants of this research were volunteers recruited from junior and senior business major students at one large American business school in the spring and fall semesters of 2014. All the participants were taking a fundamental marketing course with team-based learning and teaching. Each participant was part of course teams enrolled by their instructors in class. They received a small amount of extra credit as compensation for their time and participation in this study. At the beginning of the semester, they were randomly grouped into teams of five members. I coordinated with their instructors to encourage each team to manage themselves and to finish these projects throughout the semester. The survey included the measurements of team empowerment, leader self-efficacy, and team effectiveness. Meanwhile, every respondent was asked to provide a list of the names of all their team members and was asked to evaluate the intragroup leading relationships within their teams. I collected this socio-gram data in the same online surveys that students responded to. This socio-gram data created comprehensive descriptions that identified the leading-following networks within the teams as well as the degree of leadership shared-ness among the team members.

A total of 612 completed surveys were returned from 170 student teams. The overall response rate was 73.3%. Due to the sensitivity of missing data to multilevel research and social network analysis, I followed the Newman and Sin (2009), Hirschfeld, Cole, Bernerth, & Rizzuto (2013), and Biemann and Heidemeier (2012) approaches to exclude the teams with within-group participation rate less than 66%. I left 336 responses (74 teams) in all analyses involving aggregated data. Over 88% of these 336 participants were between 20 to 23 years old. Male and females were half and half. The majority of team members (76.7%) had working experience more than three years, 25.9% with managerial experience.

2.4. Analysis and Findings

Prior to operationalizing group-level analysis, I checked within-group agreement and between-group variability to justify aggregation of individual scores for higher level constructs (Bliese, 2000; Chen, Mathieu, & Bliese, 2004). To verify the construct validity of predictor and outcome variables, I used confirmatory factor analysis (CFA) in LISREL 8.8 (Jöreskog & Sörbom, 2006) to check the overall fit of the measurement model. I included the chi-square statistic (χ^2), the degrees of freedom (*df*) and four fit indices: the Comparative Fit Index (CFI), Non-Normed Fit Index (NNFI), the Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR) to evaluate the overall fit of the measurement model (Kline, 2011). Due to the limited sample size at team level, I followed Chen et al.’s (2007) approaches and conducted CFA test at the individual level. Having dropped three items in leader self-efficacy with factor loadings below .40, the measurement model with all latent variables showed good fit indices (χ^2=1002.222, *df*=699; p<0.001; CFI=0.986; NNFI=0.984; RMSEA=0.0342; SRMR=0.0474). As all items significantly loaded on their corresponding latent variables (p<0.001), I concluded that the variables exhibited good construct validity. Standardized factor loadings are shown in Table 1.

After aggregating individual responses to group level constructs, I examined Mahalanobis-distances to search for multivariate outliers that could potentially threaten normality and linearity. Only one group had observed scores significantly distant (p<0.001) from the centroid of scores of other 73 groups. To keep the integrity of the original data, I kept the data of this group and conducted all analyses on the full sample data. The team-level descriptive statistics, reliability, and correlations are provided in Table 2.

Table 1: Measurement Model CFA Results and Standardized Factor Loadings

Indicator	Leader Self-efficacy Dissimilarity (CV scores of LSEM action and LSEM self-regulation)	Team Effectiveness (Operation) (ITEM)	Team Satisfaction (TS)	Team Viability (TV)	Team Empowerment (autonomy, impact, meaningfulness, and potency)
LSEM A1	.61				
LSEM A2	.51				
LSEM A3	.58				
LSEM A4	.51				
LSEM A5	.50				
LSEM A7	.72				
LSEM S2	.66				
LSEM S3	.59				
LSEM S4	.66				
LSEM S5	.52				
LSEM S6	.78				
LSEM S7	.63				
ITEM 1		.71			
ITEM 2		.74			
ITEM 3		.74			
ITEM 4		.63			
ITEM 5		.77			
ITEM 6		.66			
ITEM 7		.69			
ITEM 8		.70			
ITEM 9		.71			
TS1			.89		
TS2			.91		
TS3			.98		
TV1				.77	
TV2				.83	
TV3				.89	
TV4				.81	
Autonomy 1					.61
Autonomy 2					.64
Autonomy 3					.45
Impact 1					.63
Impact 2					.64
Impact 3					.56
Meaningfulness 1					.65
Meaningfulness 2					.71
Meaningfulness 3					.69
Potency 1					.72
Potency 2					.66
Potency 3					.69

Note: All of the standardized factor loadings were significant at the .001 level.

Table 2: Team Means, Standard Deviations (SD), Reliability Coefficients, and Correlations

		Mean	SD	1	2	3	4	5	6	7	8	9
1	Leader self-efficacy dissimilarity	.180	.051	*.885*								
2	Shared leadership	.832	.077	-.329**								
3	Team satisfaction	6.135	.578	-.060	.308**							
4	Team effectiveness (operation)	4.182	.338	-.131	.337**	.786***						
5	Team viability	1.667	.543	.233*	-.236*	-.842***	-.717***					
6	Gender diversity	.577	.200	-.067	.075	-.017	-.044	.076				
7	Age diversity	.040	.064	.152	.081	-.040	-.042	.164	.063			
8	Working experience diversity	.881	.273	.059	.191	-.070	-.128	.181	-.003	.098		
9	Managerial experience diversity	.509	.369	.074	-.079	-.194	.002	.106	-.027	.151	.016	
10	Team empowerment	5.756	.332	-.182	.288*	.464***	.598***	-.532***	-.013	.032	.117	-.008

Note. N =74. Reliabilities are in italic on the diagonal. Three items related to leader self-efficacy dissimilarity were dropped due to low factor loadings.

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

Based on the satisfactory goodness-of-fit indices in the measurement model, I assumed that the indicators represented underlying latent variables such as leader self-efficacy dissimilarity, team empowerment, team satisfaction, team viability and team effectiveness (operation). Since the small sample size at the team-level made it difficult to reach convergence in structural equation modeling, I used LISREL 8.8 to estimate standardized latent variable scores and chose hierarchical regression analyses to test my hypotheses. Leader self-efficacy dissimilarity was the predictor variable, shared leadership was the mediator, and three constructs of team effectiveness were outcome variables in the regression analyses. Following Hayes (2013), I conducted regression analyses by using PROCESS macro (model 4) in SPSS, which used an ordinary least squares for estimating direct and indirect effects in simple mediator models.

Hypothesis 1 proposed that the level of leader self-efficacy dissimilarity within a team would be negatively associated with the level of shared leadership in self-managing teams. As is observed in Table 3, the direct effect of leader self-efficacy dissimilarity on shared leadership is statistically significant ($c=-0.0234$, $se=0.0085$, $t=-2.7592$, $p<0.05$). The negative coefficient score can be interpreted as a negative direct effect, suggesting that the Hypothesis 1 is supported.

Hypothesis 2 postulated that shared leadership is positively related to team effectiveness. Table 3 presents the direct effects of shared leadership and total effects of leader self-efficacy dissimilarity upon outcome variables. The direct effects of shared leadership are statistically significant upon team satisfaction ($c=1.86$, $se=0.8511$, $t=2.1854$, $p<0.05$) and team effectiveness (operation) ($c=1.8425$, $se=0.7361$, $t=2.5029$, $p<0.05$). The direct effect of shared leadership on team viability (reversely coded) is not significant (c=-0.9768, se=0.8298, t=-1.1770, p=.2434). None of the direct and total effects of leader self-efficacy dissimilarity on outcome variables are statistically significant. The indirect effects of leader self-efficacy dissimilarity upon team satisfaction and team effectiveness (operation) through shared leadership are statistically significant, as evidenced by 95% bias-corrected bootstrap confidence intervals that were entirely below zero (-0.1096 to -0.0046 for team satisfaction and -0.1008 to -0.0056 for team effectiveness (operation)). Based on the evidence of shared leadership as a mediator between predictors and outcome variables, the results suggested that hypothesis 2 is partially supported.

Table 3 comprises three separate models with their respective hierarchical regression results. Model 1 includes leader self-efficacy dissimilarity, shared leadership, team satisfaction and control variables. In Model 2 and Model 3, I replaced team satisfaction with team effectiveness (operation) and team viability. Team empowerment has been found statistically significant to all three team outcome variables but insignificant to shared leadership. These significant positive associations are consistent with the findings suggested in previous empowerment literature that team empowerment is conducive to team performance (Manz & Sims, 1995; Kirkman & Rosen, 1999; Kirkman et al., 2004; Yukl, 2010). Other control variables are found to have minimal significant effects upon mediator and outcome variables. Only the diversity in working experience may negatively affect team effectiveness (operation) and team viability. In sum, the results provide support for my two hypotheses and the overall conceptual model proposed in this study.

Table 3: Hierarchical Regression Results

		Model 1			Model 2			Model 3		
	Shared leadership	Team satisfaction			Team effectiveness (operation)			Team viability		
		Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total
Independent variables (β)										
Leader self-efficacy dissimilarity	-0.0234**	0.0730	-0.0435*	0.0296	0.0414	-0.0431*	-0.0017	0.0354	0.0228	0.0583
Mediator (β)										
Shared leadership		1.8600*			1.8425*			-0.9768		
Control variables (β)										
Gender diversity	0.0189	-0.0665		-0.0315	-0.1295		-0.0947	0.2277		0.2093
Age diversity	0.1349	-0.4465		-0.1955	-0.6149		-0.3663	1.3267		1.1949
Working experience diversity	0.0498	-0.3561		-0.2635	-0.4916*		-0.3998*	0.5393*		0.4906*
Managerial experience diversity	-0.0153	-0.2663		-0.2948	0.0519		0.0237	0.1032		0.1182
Team empowerment	0.0346	0.5395**		0.6038***	0.6798***		0.7435***	-0.6652***		-0.6990***
R^2	0.2139	0.3186		0.2693	0.4525		0.4006	0.3995		0.3869
Adjusted R^2	0.1435	0.2463		0.1918	0.3944		0.3370	0.3358		0.3219
F	3.0382**	4.4086***		4.1154**	7.7941***		7.4626***	6.2731***		7.0472***

Note. *N* = 74. ***p<.001, **p<.01, *p<.05.

2.5. Discussion and Conclusion

In this study, I attempted to explore an intra-group factor, leader self-efficacy dissimilarity, which may influence team members to share power and lead themselves in self-managing working groups. This factor, which has not been extensively studied by previous researchers, could enrich our understanding of leadership practices in empowered teams. The overriding purpose of this research is not only to construct a theoretical framework to trace the relationship between leader self-efficacy dissimilarity and shared leadership as well as team effectiveness, but also, more importantly, to bring into focus a more dynamic view of how leadership develops among the empowered team members to build self-management and advance team processes.

The findings of this study extend previous self-managing team research in several important ways. First, the results offer a more detailed account of antecedents to high levels of shared leadership among the team members. It is empirically evident that shared leadership in teams is contingent upon both individual members' beliefs of their personal accountability and their collective cognition of authority and responsibility in self-management. Second, the results support and advance the leader self-efficacy theory and demonstrate how leader self-efficacy differences across individuals affect team leadership effectiveness in dynamic contexts. Finally, the results also suggest the interplay of empowerment and shared leadership to affect the operation and outcomes of self-managing teams.

I believe this research makes three unique contributions to the leadership and empowerment literature. First, this study supplements the antecedents of shared leadership and addresses the impact of leader self-efficacy dissimilarity upon shared leadership in self-managing team. Leader self-efficacy dissimilarity has only drawn sporadic attention in the field of leader-member exchange (Wu et al., 2010), but has never been investigated within the context of highly empowered or self-led teams. By including this predictor, my proposed model can provide a new theoretical lens to investigate mutual influences within groups in terms of team diversity. Second, this study clarifies the conceptual ambiguity in the connection between empowerment and shared leadership. Though previous scholars suggested that sharing power was a prerequisite for developing psychological empowerment in teams (Carson et al., 2007; Srivastava et al., 2006), my conceptual analysis indicates that the interactive dynamic influence among team members (Pearce & Conger, 2003), known as the nature of shared leadership, stems from the homogeneous increase of individual psychological empowerment within the working groups. Teamwork is basically a collaboration of group behaviors that relies on a shared judgment of the team process. The social nature of teamwork requires perception of collective actions (Watson, Chemers, & Preiser, 2001). The different self-efficacies of team members need to unite and construct a team's belief in its capacity to perform a task (Watson et al., 2001; Wu et al., 2010). Third, this paper explores social network approaches to measure shared leadership. This methodological exploration presents a more comprehensive picture of various types of shared leadership, and facilitates and encourages future empirical studies in these areas.

From a practical perspective, this paper has several important implications for team leaders and organization managers. For managing empowered teams, it may be useful to recognize that the growth of shared leadership primarily depends on the team members' willingness and necessity to interact with each other. Though team members with high intrinsic motivation are more likely to exert influence upon each other, it is erroneous to surmise that the increase in the number of highly efficacious individuals within a team can ensure emergence of shared leadership. The supervisors of working groups should be aware of the potential imbalance in efficacy belief among the team members. Since overly proactive or confident members may involuntarily exclude or frustrate those less efficacious members to participate in leadership, uneven distribution of authority or power may occur within a self-managing team. For organizing a multi-team system, empowered teams can be the basic functional units for employees to understand and practice shared leadership. Decentralization in organizations was reported to foster inter- and intra- group communication, and increase group members' motivation and willingness to share organizational knowledge (Gupta & Govindarajan, 2000; Van Wijk, Jansen, & Lyles, 2008). Experimenting with leadership sharing in several working groups may help top managers to assess the effectiveness of decentralization in their organizations at the infancy of leadership change. The notion of openness and collectiveness stemming from shared leadership in teams can be extended to leadership distributed across all levels of organizational hierarchies, which in turn facilitates the dynamic working processes throughout the organizations.

While the conceptual framework proposed in this research takes a preliminary step to link leader self-efficacy, shared leadership and team effectiveness, it also has several limitations that point to avenues for future research. For instance, the focus of this study is on the context of self-managing teams, which restricts its generalizability to other types of work groups. The model stresses the benefit of shared leadership but addresses little about the issues of role identification or conflict in intergroup relations (Hogg, van

Knippenberg, & Rast, 2012), especially when the employees are working in a matrix organizational system and responding to several groups. As team-based organizations need integration at both the intra-group and inter-group levels (Hogg et al., 2012), both cross-team processes and within-team processes account for effectiveness of multi-team systems (Marks et al., 2005). In addition, one direction for research efforts not addressed by this study is the investigation of the role of organizational culture or national culture in leadership practices or team processes. Organizational politics at the team level are also an interesting area for further exploration (Witt, Hilton, & Hochwarter, 2001). Future researchers can examine how team members identify and negotiate their individual and shared priorities for positive collective outcomes with or without participating in leadership. Observing and analyzing such political processes may provide a clearer understanding of how much leadership is earned by performance and how much is perceived based on personal attributes.

CHAPTER 3

A LONGITUDINAL STUDY ON LEADERSHIP IDENTIFICATION IN SELF-MANAGING TEAMS

3.1. Introduction

The notion of a self-managing team, by its definition, has long been known to feature no hierarchical role differentiation among its members (DeRue, Ashfold, & Cotton, 2009) and an equal sharing of leadership (Crossman & Crossman, 2011). However, the expected full participation of team members is likely to be "a rare accomplishment" (Offermann & Scuderi, 2007). In reality, some team members might possess more leadership influence than others (Crossman & Crossman, 2011). The pattern of leading and following in groups can exist as centralized leadership with a single individual, shared leadership among all group members, or some intermediate configuration (DeRue, 2011). Moreover, the leading-following pattern might change over time, shifting from highly centralized forms to widely shared forms or vice versa when change is necessary to team tasks.

Though self-managing teams have been found to predict high motivation, satisfaction and team effectiveness (Cohen & Ledford, 1994; Cohen, Ledford, & Spreitzer, 1996; Cordery, Mueller, & Smith, 1991; Langfred, 2004), little is known about how leadership emerges and leader-follower relationship develops throughout team processes (DeRue, 2011). It is also unclear why the pattern of leading and following interactions varies in groups with similar hierarchies or structures.

In this research, I seek to explicate how and why leadership structures may vary in self-managing teams. By using longitudinal data collected from fifty-eight self-managing student teams, this research investigates how individuals recognize their leader self-identities and develop their leadership roles in a non-hierarchical organizational context. I focus on this leadership developmental process by looking at team members' leadership behaviors, followership behaviors, and their conjoint influences upon construction of leader-follower relationship in groups. Social network approaches are used to trace the change and development of the leading-following interactions among the team members and delineate the process of leadership emergence and the formation of leader or follower roles in groups.

3.2. Theoretical Foundation

Previous researchers have proposed that leadership or the leading-following relationship in groups could be conceptualized as a process of identity construction (Collinson, 2006; Day & Harrison, 2007; DeRue & Ashford, 2010; DeRue et al., 2009; Ibarra & Barbulescu, 2010). The relationship between leaders and followers is not uni-directional and static, but reciprocal and contextual. The leader and follower identities reflect each individual's cognitions of self-assessment and a collective perception of each individual's attributes in a given environment. The leadership and followership is basically consensual in-group social identities shared by group members (Collinson, 2006; Haslam & Platow, 2001). These relational identities are affirmed by group members' behaviors (Haslam & Platow, 2001) and, further, are associated with formal leading or following positions in organizational hierarchies (DeRue et al., 2009). The leading or following positions assigned to or acquired by specific organizational members is a product of a social and dynamic identity construction process (DeRue, 2011).

Identity theory (Stryker & Burke, 2000) and social identity theory (Hogg & Abrams, 1988) suggested that the self could be categorized as a unique objective entity and a member of a group or a social category (Stets & Burke, 2000). Since self is a dynamic, multifaceted and active entity (Baltes & Carstensen, 1991), identity as an individual's self-concept is also a multidimensional construct that reflects the complexity and pluralism of multiple sub-identities within a person (Day & Harrison, 2007). Though an individual may develop multiple sub-identities based on various life experiences over time, these different sub-identities are more or less integrated into one general self-schema so that an individual can activate one particular sub-identity at a given time to guide his or her behaviors in a given social context (Lord & Brown, 2004; Markus & Wurf, 1987).

Day and Harrison (2007) suggested that an individual could define his or her leadership identity at three levels: individual, interpersonal and collective. At the individual level, a leader's identity is distinguished from those of others because the leader possesses particular leadership experience or traits. At the interpersonal level, a leader's identity is constructed on the dyadic relationship between the leader and his or her important followers. At the collective level, a leader's identity depends on the membership of the leader in the group or organization. Lord and Hall (2005) proposed that a leader's identity could grow from the least inclusive individual level to the most inclusive collective level. This identity developmental process involves a person's constant efforts to highlight self, seek followers and win their acceptance, and confirm and reinforce this self-perception collectively in the social environment. In line with the expansion from the individual level to the collective level in identity development, a leader shifts the focus from self perspectives to others' perspectives to understand and define self. Therefore, a leader's identity becomes more context-dependent and in-group oriented (Day & Harrison, 2007).

Meindl (1995) argued that the relationship between leaders and followers was constructed in the minds of followers and heavily influenced by interfollower factors and relationships. Since a leader identity is self-categorization based on both personal characteristics and group membership (Lord & Brown, 2001), the identity construction process may lead to tension, confusion and contradiction before organizational members can reach consensus about each other's identity within the workplace (Collinson, 2006). Both leader identities and follower identities emerge in an organization. Identities between leaders and followers are "open, negotiable and ambiguous" (Collinson, 2006: 187). Though leaders are traditionally assumed to influence followers' identities (Haslam & Platow, 2001), followers can also enact conformity with or resistance against leadership in an organization and impact leaders' identities as well (Collinson, 2005; 2006).

Early research on informal leadership and collective leadership in teams suggested that leadership should be portrayed in a more sophisticated way than a one-directional hierarchical authority from supervisors towards subordinates. For instance, shared leadership literature has indicated that multiple group members might engage themselves in leader-like behaviors and corresponding followership actions to realize leadership functions in groups (Carson, Tesluk, & Marrone, 2007; Pearce & Conger, 2003). Leading and following processes are a more complex adaptive process than separating formal leading and following positions. It involves ongoing interaction between leaders and followers (DeRue, 2011). Every team member may serve as either leader or follower contingent on the environments and contexts of the team. In addition, the leading and following process is fluid, so that individuals' identities as leaders and/or followers might not always be distinctive and steady. They might act in different roles at different points in time, and the patterns of leading-following interactions in the group might be constructed and reconstructed accordingly.

As the leaders and followers are mutually interdependent and conditionally shifting (Collinson, 2006), leader and follower identities are the product of negotiation (Luhrmann & Eberl, 2007). According to the adaptive leadership theory (DeRue, 2011), an individual's identity as a leader or follower in teams is constructed and reinforced through the leading-following interactions among the team members. Both leader and follower identities might be developed and co-constructed simultaneously (DeRue & Ashford, 2010). The group level leadership structure is a result of the collective search for identities as leaders or followers when the team is undertaking its tasks. The leading and following roles in a group are recognized and stabilized through a dynamic social process in which group members constantly exhibit public behaviors and actions that are consistent over time with their views of leadership and followership (DeRue et al., 2009). Such public behaviors entail messages of each individual's identity for identity negotiation before team members reach an identity balance in terms of leadership and followership (Luhrmann & Eberl, 2007). Based on their interpretation of leading and following interactions, team members will eventually conceptualize and validate their respective social positions in a group.

The development of an individual’s leadership identity is linked with the identities of his or her followers (Hiller, 2005). DeRue and his associates (2009; 2010) proposed that leader and follower identities could be socially constructed through interactions in the form of claiming and granting. Claiming refers to an individual’s actions to assert his or her identity as a leader or a follower. Granting refers to an individual’s actions to respond to others’ identity claims. Both claiming and granting can be made verbally and non-verbally, directly and indirectly. Claiming and granting mutually reinforce each other. Claiming-granting is also a reciprocal process that may result in either positive or negative spirals. A positive spiral occurs when an individual’s claims of leader or follower identities receive granting behaviors from others in the group, which leads to stronger and more frequent claims. A negative spiral occurs when an individual’s claims of leader or follower identities fail to receive granting behaviors from others, which leads to fewer and weaker claiming behaviors for supporting grants.

Many leadership scholars have proposed that leadership could be a learning exercise for individuals. Individuals can develop their leadership through learning procedures such as criticism and feedback from followers when they perform challenging leading jobs in their careers (DeRue & Wellman, 2009; DeRue, Nahrgang, Hollenbeck, & Workman, 2012; Dragoni, Tesluk, Russell, & Oh, 2009; McCall, 2004; McCauley, Ruderman, Ohlott, & Morrow, 1994; Spreitzer, McCall, & Mahoney, 1997). As a leadership process needs to involve the psychological states of both leaders and followers (Vugt, Hogan & Kaiser, 2008), the learning experience of the individuals in the leading roles simultaneously shapes the experience of those in following roles and vice versa. Individuals will also internalize their leading and following behaviors into self-concepts of “leaders” or “followers” and consequently, frame the leader-follower linkages and networks. Emery (2012) proposed that a leadership structure in an organization could emerge from a process of “social cognition” in which individuals perceive the relational schema of “self” and “other” and mentally encode the patterns of interpersonal relatedness to decide and perform their actual social interactions. Given this, leadership structure in a group is a result of coordinated choices made by group members. The nominated or emergent leader or leaders represent the dynamic interplay of the multiple perceptual processes of individuals as well as their structural social positions in the group.

Drawing from previous leadership and identity theories, I propose the following conceptual model (see Figure 2). This model suggests that an individual’s leader self-identity can promote his or her leadership behaviors and consequently secure his or her leadership role in a self-managing team. Team members’ followership behaviors can also influence an individual leadership behaviors and further affect his or her leadership role within the team.

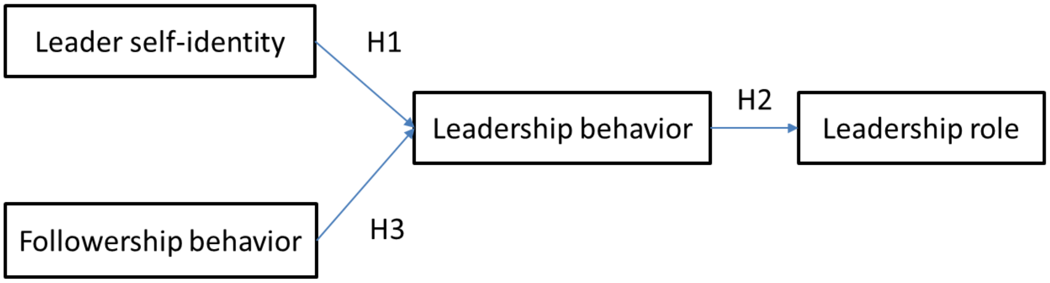

Figure 2: A Conceptual Framework of Leader Self-Identity, Leadership Behavior, Followership Behavior and Leadership Role

3.3. Hypotheses

3.3.1. Leader Self-identity and Leadership Behavior

Leader self-identity refers to an individual's self-concept and self-representation that guide thoughts and actions in the leadership domain (Hiller, 2005). Hiller (2005) suggested that a leader self-identity could relate to previous leadership experience, core self-evaluations, motivation to lead, and self-monitoring. An individual with strong leader self-identity is found to have high interest in participating in leadership development activities (Hiller, 2005; Langkamer, 2008). An individual with plenty of leadership developmental opportunities can also increase his or her efficacy belief as a leader and further strengthen his or her leader self-identity (Day & Sin, 2009). Individuals with high self-efficacy beliefs are more likely to enact leading skills and perform effective leadership in organizations (Anderson, Krajewski, Goffin, & Jackson, 2008; Machida & Schaubroeck, 2011; Stajkovic & Luthans, 1998). This leader identity-development spiral (Day, Harrison, & Halpin, 2009) indicates that an individual's leader self-identity is an internal self-concept constantly linked with public behaviors (Tice, 1992). Leader self-identity will motivate an individual to practice leadership and act in a more leader-like way such as directing and supporting team members and facilitating team learning (Day & Sin, 2009). Given the prior discussion, I propose my first hypothesis:

> Hypothesis 1: An individual with strong leader self-identity is more likely to perform leadership behaviors in a self-managing team than is an individual with weak leader self-identity.

3.3.2. Leadership Behavior and Leadership Role

Implicit theories of leadership (Lord, Foti, & De Vader, 1984) suggest that people keep special forms of cognitive schema in their mind to identify their leaders. This cognitive schema entails the traits and behaviors of their leadership prototype. Implicit theories of leadership (ILTs) are a sense-making process (Weick, 1995) in which employees interpret behaviors of their supervisors based on their perceptions and expectations of effective leadership (Epitropaki & Martin, 2004). Though the leadership prototype may vary by person, previous empirical studies have implied the generalizability of ILTs (Bryman, 1987) across gender (Nye & Forsyth, 1991), professional and employee groups (Epitropaki & Martin, 2004; Offermann, Kennedy, & Wirtz, 1994) and cultures (Bryman, 1987).

Since leadership is in the eyes of beholders (Meindl, 1995; Schyns & Sanders, 2007), followers tend to compare the traits and behaviors of a focal individual with their leadership cognitive schema. If followers find a good match between the focal individual and their ILTs, they will attribute the identity of leader to that individual (DeRue & Ashford, 2010). Lord and Maher (1991) suggested that leadership could be inferred by the followers on the basis of perceived silent outcomes of their leader, such as specific traits, character or behavior (Epitropaki, Sy, Martin, Tram-Quon, & Topakas, 2013). Accordingly, if an individual behaves more like a leader (as the claims of leadership identity), his or her peers are able to observe and capture leadership behaviors from that individual more easily, which can stimulate the mental matching process of team members to compare those behaviors with the attributes of a pre-existing leader category or prototype in their memory (Epitropaki et al., 2013). When a valid match is constructed successfully, people tend to categorize this person as a leader, agree to grant his or her claims of leadership identity and then confirm a shared belief on the focal individual leadership role in that group. The previous arguments lead to my second hypothesis:

> Hypothesis 2: An individual performing more leadership behaviors is more likely to acquire a leadership role in a team than an individual performing fewer.

3.3.3. Followership Behavior, Leadership Behavior and Leadership Role

Meindl (1995) suggested that leadership could be an emergent phenomenon in which someone was identified as leader by other members. The construction of leadership is a sense-making process (Weick, 1995) among organizational members before someone is holding or fulfilling a formal leadership role in an organization (Uhl-Bien & Pillai, 2007). This social construction process for leadership also pairs with the social construction of followership in which someone decides to be committed to the leader, defines him or herself as a follower and chooses a subordinate role and followership behaviors. Carsten, Uhl-Bien, West, Patera and McGregor (2010) pointed out that followership behavior was how an individual acted with respect to his or her leaders rather than how an individual acted with respect to their work. They proposed that followership could be identified into passive, active and proactive styles. The most passive followers feature obedience and deference, whereas the most proactive followers feature independence and challenge.

Kelley (1992) conceptualized two dimensions for followership behaviors: independent critical thinking and active engagement. The followers who are high in independent critical thinking tend to voluntarily analyze information, develop independence and innovation, and influence their leaders. The followers who are high in active engagement tend to eagerly participate in group activities, offer high contribution, and support co-workers. Individuals with independent critical thinking followership behaviors are found to be less satisfied with and committed to their job; whereas individuals with active engagement followership behaviors are reported to have more positive attitudes about jobs and stronger commitment to their organizations (Blanchard, Welbourne, Gilmore & Bullock, 2009).

Shamir (2007) proposed that leaders and followers jointly co-produced leadership. The process of leadership co-production is influenced by the characteristics of both leaders and followers. According to implicit followership theories (IFTs) (Sy, 2010), individuals keep assumptions of traits and behaviors that characterize followers. As the counterpart of ILTs, IFTs are also a sense-making process (Weick, 1995) in which leading individuals interpret, understand and respond to followers. Like ILTs, leaders can use IFTs to guide their actions towards followers (Engle & Lord, 1997) and followers can use IFTs to guide their own actions (Carsten et al., 2010). The IFTs of leaders may further influence the patterns of interactions between leaders and followers.

Sy (2010) outlined six aspects of IFTs: industry, enthusiasm, good citizen, conformity, insubordination, and incompetence. The first three aspects are heavily loaded on followership prototype. The last three aspects are related to anti-followership prototype. Whiteley, Sy and Johnson (2012) suggested that leader's IFTs positively could influence their performance expectations for their followers, especially for the leaders with less supervisory experience. Since the individuals with active engagement followership behaviors are consistent with prototypic followers who are hardworking, positive and reliable, those individuals will match a leader's performance expectations of followers. Their followership behaviors, if interpreted as granting towards their leaders' identity claiming, will encourage their leader's leadership behaviors and confirm his or her leading role in an organization. For the individuals with independent critical thinking, their leader is inclined to interpret those followers as anti-prototypic followers due to their nature of insubordination. Accordingly, their leader may have less performance expectations for these followers and choose to use power to exert influence upon them; otherwise, their leader's leading roles may become unstable and questioned. Consequently, the leaders may perform various behaviors to reject criticism, overcome resistance and reinforce their social status within a team (Magee & Galinsky, 2008). This self-reinforcing mechanism involves psychological and interpersonal processes of both selves and others. The critical followership behaviors of team members may inspire their leader's leadership behaviors and advance the positive spirals of claiming-granting within a team. Based on the previous arguments, I propose the following third hypothesis:

> Hypothesis 3: Followership behaviors of an individual's team members encourage this individual's leadership behaviors and consequently strengthen this individual's leadership role in this team.

3.4. Research Design and Methods

My research is a longitudinal investigation of leadership development in self-managing teams. The purpose of this research is to provide a closer look at the contextual and behavioral determinants of the social construction of leadership in groups and examine how an individual interacts with others to fulfill his or her leadership role. The participants of this research were volunteers recruited from junior and senior business major students at three large American business schools in the spring and fall semesters of 2014. They received a small amount of extra credit for their time and participation in this study.

The major reason to choose student teams was that I could completely observe their team process in a well-timed research setting. Each participant was a part of a course team formed by their instructor in class. At the beginning of the semester, all the participants were randomly grouped into teams with the size of four to six members. I coordinated with instructors to design several team projects such as case studies, simulations, group presentations and team reports, and asked each team to manage themselves and finish these projects throughout the semester. During 14 weeks of coursework, the participants were asked to complete an online survey three times. The survey included the measurements of leader self-identity, leadership and followership behaviors, and leadership role. This survey also included questions on the sociogram of their teams, which related to participants' experience with their team members and team leaders. In particular, every respondent was asked to provide a list of the names of all their team members and was asked to evaluate the intragroup leading relationships within their teams. This socio-gram data could offer comprehensive descriptions that identified the leading-following networks within the teams.

I collected data at three discrete points in time (at one-month time intervals). The first wave of data was collected at the beginning of the semester right after the students were assigned to their course teams. The second collection was completed at the mid-term of the semester. The last set of data was captured a few weeks before the final exams. This process of data collection could reflect the vicissitude of participants' leader self-identity, leading-following behaviors, as well as the emergence of leadership in their teams.

Leader self-identity: this construct was assessed by using Hiller's (2005) self-rated leader identity measure. This measure represents the extent to which a leader identity is considered to be descriptive of and important to the respondent. Participants rated on a six-point scale how descriptive each statement was as to their view of themselves, ranging from 1, not at all descriptive, to 6, extremely descriptive. The sample items include "I am a leader" and "I prefer being seen by others as a leader." The reliability for this scale was .633[3].

Leadership behavior: this construct was assessed by using adapted items from Halpin's (1957) Leader Behavior Description Questionnaires. Though the LBDQ was designed over half century ago, recent studies have suggested that consideration (relational-oriented) and initiating structure (task-oriented) as two factors of leadership behaviors are still valid and predictive (DeRue, Nahrgang, Wellman, Humphrey, 2011; Judge, Piccolo, & Ilies, 2004). Recently Yukl (2012) proposed a hierarchical taxonomy of leadership behaviors with four meta-categories: task-oriented, relations-oriented, change-oriented and external leadership behaviors. Change-oriented and external components of leadership behaviors in his taxonomy, however, may not be appropriate in this research setting. Change-oriented leadership behaviors include advocating and envisioning change, encouraging innovation and facilitating learning; external leadership behaviors include networking, external monitoring and representing. Both of these two components of leadership behaviors may be less relevant to temporary student teams and unrelated to their team outcomes (course projects). By following DeRue et al.'s (2012) instrument, I only chose ten items from the LBDQ to assess task-related leadership behaviors and relational leadership behaviors. My selection was based on the report of Schriesheim and Stogdill's (1975) factor analysis of the LBDQ. The selected ten items are highly loaded on the factors of "consideration", "encouragement of standardized procedures and production", "friendly interest in follower welfare", "supportive encouragement of follower contributions" and "initiating structure". These ten items were combined into a single leader behavior measure. The sample items include "He / She treats all group members as his / her equals," "He / She gets group approval on important matters before going ahead" and "He / She tries out his / her new ideas with the group." Since there is no well validated self-report measure of leadership behaviors, I asked each participant to read the selected LBDQ items and rate the frequency of which their peers engage in these behaviors. Participants responded to items using a 5-point response scale, ranging from 1, barely, to 5, almost always. Then I generated the scores of leadership behaviors for each team member by averaging the ratings from the evaluation of his or her peers. For instance, an individual worked with four members in their team. He or she would receive four independent assessments from his or her peers to each leadership behavior item. The means of the four appraisal values would be the scores of leadership behaviors to that person. The reliability for this scale was .863.

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[3] A value over .7 is a generally acceptable value for Cronback's alpha. It can decrease to .6 in exploratory research (Robinson, Shaver, & Wrightsman, 1991). However, the value of alpha depends on the number of items on the scale (Cortina, 1993), the amount of systematic error and sample size (Shevlin, Miles, Davies, & Walker, 2000). It is suggested that confirmatory factor analysis can be an appropriate measure of reliability based on factor loadings of indicators upon a latent construct (Kline, 2011).

Leadership role: this construct is measured by using leadership network approaches (Hoppe & Reinelt, 2010; Mehra, Smith, Dixon & Robertson, 2006). Based on

Mehra and his colleagues' social network analysis (Mehra, Dixon, Bass & Robertson, 2006), every respondent was first asked to list all the members in their teams. Then the respondent was asked to evaluate his or her peers as a leader of the team. This question was followed by a matrix table that seeks information about the degree of the respondent's followership to his or her peers as a team member. All the leadership and followership evaluations were rated in a continuous Likert scale, ranging from 1, not at all, to 5, very much. By combining leadership ratings of all dyads between team members, I could calculate a score for each team member that reflects his or her leading role in the team.

Followership behavior: this construct was assessed by using adapted items from Kelley's (1992) followership conceptualization. This instrument measures two dimensions of positive followers: independent critical thinking and active engagement (Blanchard et al., 2009). Based on Blanchard and his associates' (2009) factor analysis of followership, I selected four items highly loaded on active engagement and four items highly loaded on independent critical thinking. Some of these eight selected items were edited to fit the context of student teams. The sample items include "Do you take the initiative to seek out and successfully complete assignments that go above and beyond your job?", "Do you help out other coworkers, making them look good, even when you don't get any credit?" and "Do you make a habit of internally questioning the wisdom of your team leader's decision rather than just doing what you are told?" Participants responded to items using a six-point response scale, ranging from 1, never, to 6, always. To assess the influence of followership behaviors to each individual within a team, I referred to the followership ratings as weight in social network to accumulate peers' followership behaviors upon their identified team leaders (Barrat, Barthelemy, Pastor-Satorras, & Vespignani, 2004; Opsahl, Agneessens, & Skvoretz, 2010). By following Burt (1992)'s and Opsahl et al. (2010)'s approaches, I first calculated the sum of each team member's following distributed among other members. Then I assessed the specific proportions of total following granted by each individual to his or her peers in every dyadic relationship. To every identified team leader, I averaged all of his or her followers' self-reported followership behaviors weighted by their respective proportional following and finally quantified the aggregative influence of followership behaviors from followers. For instance, for a team consisting *n* members: A_1, A_2, …, and A_n, R_{ij} refers to the followership rating given by A_i to his or her peer A_j; H_i refers to A_i's self-reported followership behavior; H_{ij} represents A_i's proportion of following towards A_j. I denote H_{ij} as:

$$H_{ij} = H_i \frac{R_{ij}}{\sum_{k \neq i}^{1 \leq k \leq n} R_{ik}}$$

By averaging weighted followership behaviors of A_j's peers, I can conclude that the overall influence of followership behaviors, F_j, which A_j is subject to in the team as:

$$F_j = \frac{\sum_{k \neq j}^{1 \leq k \leq n} H_{kj}}{(n-1)}$$

The reliability for this scale was .971.

Control variables: age and sex were controlled for possible differences in behavior due to team members' demographic differences. The participants were also controlled by their working and managerial experience because the team members' previous organizational experience might affect their leading or following behaviors and their leader self-identity.

Nearly 132 student teams from 19 courses were involved in this research. The response rates varied in courses, from 32.5% to 100%. Missing data and attrition are major methodological problems of longitudinal studies and social network analysis. Instead of using multiple imputation techniques, I followed Newman and Sin (2009)'s, Hirschfeld et al. (2013)'s, and Biemann and Heidemeier (2012)'s approaches and only kept the teams with within-group participation rate more than of 60% over three times. This screening left 58 teams in the social network analyses relating to leadership behaviors and followership behaviors. I used 205 individual cases with complete longitudinal data for the final analysis. Over 91.6% of these 205 cases were between 20 to 25 years old. Male and females were half and half. The majority of team members (87.2%) had working experience more than three years, 29.8% with managerial experience.

3.5. Analysis and Findings

This study is a longitudinal study on individual leadership development within self-managing teams. I am interested in investigating intra-individual change and inter-individual differences in individual change over time (Nesselroade, 1991). Based on three time repeated observations of individual team members, I used growth curve modeling (Ployhart, Holtz, & Bliese, 2002) to examine within-person change of leadership identity, behaviors and roles throughout the semester. As suggested by Ployhart and Vandenberg (2010), Random Coefficient Models (RCM) or Hierarchical Linear Modeling is a sophisticated and powerful approach to modeling change. This research includes three repeated measures and a linear form of change. By following the notation of Raudenbush and Bryk (2002), RCM in this study can be presented as:

Level-1 Model: $Y_{ij} = \beta_{0j} + \beta_{1j}*(TIME_{ij}) + r_{ij}$

Level-2 Model: $\beta_{0j} = \gamma_{00} + u_{0j}$

$\beta_{1j} = \gamma_{10} + u_{1j}$

Mixed model: $Y_{ij} = \gamma_{00} + \gamma_{10}*TIME_{ij} + u_{0j} + u_{1j}*TIME_{ij} + r_{ij}$

Leve1 1 models intra-individual change over time. It is a linear model for the observed scores of person$_j$'s manifest variables at $TIME_i$ where $TIME_i$ = Time – 1 with i = (1, 2, 3). The intercept parameter β_{0j} represents the initial level of the observed scores of manifest variables for the person$_j$ when $TIME_i$ is equal to zero. The slope parameter β_{1j} represents change in the observed scores of manifest variables per unit time for the person$_j$, or the monthly rate of change. Level 2 models inter-individual differences in change. γ_{00} represents the average intercept (fixed effect), and u_{0j} represents the variability in intercepts across individuals. γ_{10} represents the average slope (fixed effect), and u_{1j} represents the variability in slopes across individuals.

In this study, I focused on the intercept and slope parameters (the form of change over time) of manifest variables to estimate and test inter-individual predictors of intra-individual change, as well as the variability among individuals in their forms of change[4]. I used HLM 7 (Raudenbush, Bryk, Cheong, Congdon, & du Toit, 2011) to conduct a Residual Analysis of each manifest variables of leader self-identity, leadership behavior, and followership behavior. The Level-2 residual files provided information of the empirical Bayes estimates of the residual u_{1j} from the *TIME* slope model for each individual, which denote the rate of change in manifest variables over three discrete points in time (the deviation from the average change across individuals). The results of Residual Analyses showed that *TIME* slope, u_1, was statistically significant for the majority of manifest variables (except for two indicators of leadership behavior), which indicated that there was significant variation of individual development over time.

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[4] The linearity of change is an assumption in this study. With three timepoints, I can fit a model with two parameters (one less than the number of timepoints). My observations are just sufficient to fit a linear model since it needs only two parameters: an intercept and a slope. Though the changes in identities, behaviors or roles of participants might be quadratic over three months, fitting a quadratic model requires three parameters: an intercept, a slope, and a quadratic term. An alternative approach to measure change is to model the difference scores between any two timepoints such as T1 to T2 or T2 to T3. However, difference scores are relatively crude measures of change and usually not very reliable. The linear growth model is more robust and more variable to generate rates of change than modeling difference scores.

After obtaining estimation of Random Effect for each manifest variables, I used Mplus 7 (Muthén, & Muthén, 2012) to run Confirmatory Factor Analysis (CFA) and examine the overall fit of the measurement model. Though followership behavior has two conceptual dimensions, there was a high correlation (0.945) between critical followership behavior and active followership behavior. A Variance Inflation Factor (VIF) analysis showed a value close to 10 and identified multicollineary (Myers, 1990). Thus, I treated followership behavior as a uni-dimensional construct in CFA. Having dropped two items in leadership behavior with low factor loadings (below .50), the measurement model with all latent variables showed good fit indices (χ^2=305.622, *df*=174; p<0.001; CFI=0.961; NNFI/TLI=0.952; RMSEA=0.061; SRMR=0.047). All manifest variables were significantly loaded on their corresponding latent variables (p<0.001). Standardized factor loadings are shown in Table 4.

I also ran multi-group CFA to assess measurement invariance between male and female participants. The cross-validation of the measurement model across sex was supported by the data of the two groups. Mahalanobis distance analysis showed no multivariate outliers that could potentially affect multivariate normality and linearity.

Based on the satisfactory goodness-of-fit indices in the measurement model, I concluded that manifest variables exhibited good construct validity and represented underlying latent. The descriptive statistics, reliability, and correlations are provided in Table 5.

Table 4: Standardized Measurement Model Results

Construct and indicator	Estimate	S.E.	Est./S.E.	P-Value
Leadership self-identity (change)				
Leadership self-identity 1	0.568	0.056	10.153	0.00
Leadership self-identity 2	0.834	0.039	21.479	0.00
Leadership self-identity 3	0.662	0.056	11.825	0.00
Leadership self-identity 4	0.580	0.059	9.822	0.00
Leadership Behavior (change)				
LBDQ initiating structure 14	0.709	0.047	14.938	0.00
LBDQ initiating structure 17	0.794	0.036	22.157	0.00
LBDQ initiating structure 27	0.862	0.027	31.824	0.00
LBDQ initiating structure 29	0.611	0.052	11.745	0.00
LBDQ consideration 1	0.595	0.06	9.965	0.00
LBDQ consideration 4	0.845	0.035	24.434	0.00
LBDQ consideration 34	0.626	0.055	11.461	0.00
LBDQ consideration 38	0.573	0.044	12.971	0.00
Followership Behavior (change)				
Active engagement 6	0.971	0.005	186.087	0.00
Active engagement 9	0.951	0.009	110.364	0.00
Active engagement 10	0.949	0.009	109.026	0.00
Active engagement 13	0.927	0.01	92.603	0.00
Independent critical thinking 17	0.794	0.034	23.456	0.00
Independent critical thinking 18	0.841	0.022	38.247	0.00
Independent critical thinking 19	0.878	0.022	40.594	0.00
Independent critical thinking 20	0.874	0.017	51.043	0.00

Table 5: Individual Means, Standard Deviations (SD), Reliability Coefficients, and Correlations

		Mean	**SD**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
1	Leader self-identity (change)	.022	.114	*.633*						
2	Leadership behavior (change)	-.026	.121	.168*	*.863*					
3	Followership behavior (change)	.099	.255	-.007	.596***	*.971*				
4	Leadership role (change)	-.032	.166	.137*	.723***	.665***				
5	Gender (1=male)	1.517	.501	-.106	-.111	.007	.012			
6	Age	21.735	2.417	.152*	.065	-.061	-.018	.021		
7	Working experience (1=None)	4.431	.831	.005	.011	-.017	-.155*	-.003	.048	
8	Managerial experience (1=None)	1.532	1.003	-.035	.053	.021	-.040	-.013	.243***	.248***

Note. *N* =205. Reliabilities are in italic on the diagonal. Two items related to leadership behavior were dropped due to low factor loadings.

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

Finally, I used path analyses of a hybrid model to test the three hypotheses in my proposed conceptual model. Figure 3 presents the overall structural model with path coefficients. All paths in structural model analysis are significant at the level of $p \leq 0.001$. Control variables are not shown for ease of presentation.

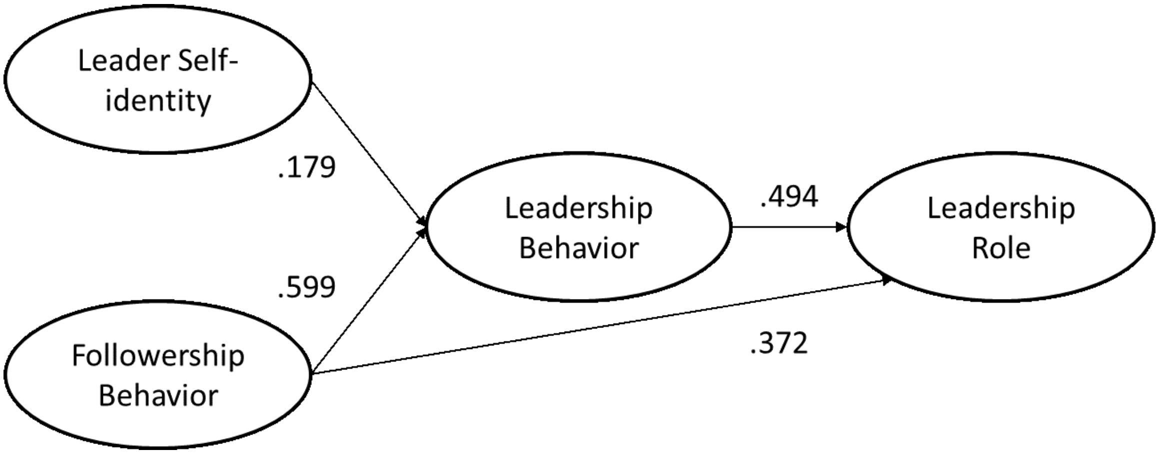

Figure 3: Structural Equation Modeling with Path Coefficients

Hypothesis 1 posited that an individual's leader self-identity could affect his or her performance of leadership behavior in a self-managing team. The path parameter estimate for leader self-identity and leadership behavior is 0.179 (se=0.054, t=3.302, $p<0.05$). Thus, hypothesis 1 is supported.

Hypothesis 2 proposed that an individual's leadership behavior would lead to his or her leadership role in a self-managing team. Table 6 presents the direct effect of leadership behavior and total effect of leader self-identity upon leadership role. The direct effect of leadership behavior on leadership role is significant (c=0.494, se=0.049, t=10.188, $p<0.05$). Though the direct effect of leader self-identity on leadership role is statistically insignificant (c=0.058, se=0.058, t=0.993, p=0.321), its indirect effect is found to be positively significant (c=0.099, se=0.033, t=3.030, $p<0.05$). Thus, hypothesis 2 is supported.

Hypothesis 3 stated that followership behaviors of an individual’s followers would inspire this individual’s leadership behavior and further prompt his or her leadership role in a team. The path parameter estimate for followership behavior and leadership behavior is 0.599 ($se=0.047$, $t=12.786$, $p<0.05$). Both the direct and indirect effects of followership behavior on leadership role are statistically significant. The path parameter estimate for the direct effect is 0.21 ($se=0.029$, $t=6.973$, $p<0.05$) and the estimate for indirect effect is 0.16 ($se=0.022$, $t=7.291$, $p<0.05$). Based on the evidence of leadership behavior as a partial mediator between followership behavior and leadership role, hypothesis 3 is supported.

I also did a post hoc analysis of the connectedness between two predictors to investigate whether leader self-efficacy and followership behavior are related to each other. Adding paths from leader self-efficacy to followership behavior or followership behavior to leader self-efficacy did not result in any statistical evidence for the association between these two predictors.

Table 6: Direct and Indirect Path Calculations

Path	**Direct effect**	**Indirect effect**	**Total effect**
Full-mediator model			
Leader self-identity → Leadership behavior	0.181**		0.181**
Followership behavior → Leadership behavior	0.634***		0.634***
Leadership behavior → Leadership role	0.752***		0.752***
Leader self-identity → Leadership role		0.152***	0.152***
Followership behavior→ Leadership role		0.263***	0.263***
Partial-mediator model			
Leader self-identity → Leadership behavior	0.179**		0.179**
Followership behavior → Leadership behavior	0.599***		0.599***
Leadership behavior → Leadership role	0.494***		0.494***
Leader self-identity → Leadership role	0.058	0.099**	0.157*
Followership behavior → Leadership role	0.205***	0.163***	0.369***

Note. *N* =205. *** p<.001, **p<.01, *p<.05.

3.6. Contributions and Limitations

Despite increasing attention on leadership development in the past two decades, it is still “a nascent field of scholarship” (Day & Dragoni, 2015; DeRue & Myers, 2014). Recent leadership theorists have suggested that leadership is mainly rooted in relationships, in which leadership is co-created through interactions among actors and socially constructed through the identity claiming and granting process (Bauer & Green, 1996; DeRue & Ashford, 2010; Uhl-Bien, 2006). Though these relational perspectives of leadership development provide new insights and understanding of effective leadership processes, the current literature may need more conceptual clarity on the grants and claims for leader or follower identities (Day & Dragoni, 2015). Also, further exploratory investigation is required to model change processes over time (Ployhart & Vandenberg, 2010) and specify the reinforcement of identities in developmental processes (DeRue & Myers, 2014).

The purpose of my research is to examine variation in leadership emergence in self-managing teams. In this study, I proposed a conceptual framework to specify the contingent nature of leadership and followership in team process. This proposed theoretical model underlines leadership as a social process of mutual influence among team members and details interpersonal dynamics of leadership development in non-hierarchical working conditions (Bass & Bass, 2008; Carsten et al., 2010; DeRue & Ashford, 2010; Yukl, 2010). Though I situated this longitudinal research within self-managing teams, the presence of interdependence among social actors in organizations may stimulate leadership sharing and shape leadership emergence in similar patterns.

This study contributes to leadership and team literature by showing that both cognitive and behavioral factors are critical for understanding how individuals become leaders in teams. My proposed model complements existing research by portraying interpretative processes in which leadership structures emerge in a team. It supports the notion that leadership development spans across individual, relational and collective levels. The findings of this research provide empirical evidence for the adaptive leadership theory (DeRue, 2011) and explain how claiming-granting occurs through leading and following interactions. With respect to indicators of leadership development, the present study introduces the appropriate time lag to address the causality between leadership and followership behaviors and leadership roles as well as gradual transition from self-identities to social roles. A longitudinal social network approach adopted in this research also facilitates a more expanded and dynamic view of leadership structures for future team leadership study.

Findings from this study have several important implications for managerial practice in working groups and team-based organizations. First, organizations should consider instituting interdependent activities to facilitate leadership development. One suggestion to managers is to design tasks and activities involving more co-workers to inspire their leadership experience through interaction. Second, managers should encourage their subordinates to express both positive and negative opinions upon managers' behaviors and performance. This suggestion may run counter to our intuition that criticism and challenges from followers would weaken a leader's leadership role in an organization. However, I found that individuals can acquire a clearer understanding of effectiveness in their leadership behaviors when sufficient feedback is available. Since an important role of team leaders is to influence team functioning and team development (DeRue et al., 2010), individuals would be more motivated to take on leadership roles and responsibilities when they detect threats to their power and status within a group. Further, an individual's leadership identity is known to determine his or her engagement in the leadership process (Day & Harrison, 2007; DeRue & Ashford, 2010; DeRue et al., 2009; DeRue & Myers, 2014). Organizations might design their leadership training program for potential team leaders to reinforce and maintain their self-concept as a leader among their peers. Also, organizations might provide these candidates with leadership self-assessment to help them understand their respective leadership styles and corresponding behaviors. Finally, managers might consider offering resources and working conditions that facilitate shared leadership so that leadership emergence would occur more naturally and effectively.

This study has several limitations that should be noted. First, the research is conducted by using undergraduate student teams in universities. The results from student participants may not represent a generalizable estimation to working teams in real organizations. Second, the student participants may be influenced by their academic engagement or performance in coursework, which consequently affects their self-identities and leading-following interactions in groups. Change-oriented and external leadership behaviors (Yukl, 2012) cannot be properly examined in this study due to the use of temporary student teams. Also, the research has limited controls and manipulation of the variables to prevent extraneous interference in this longitudinal study. In spite of these limits, I hope that this study brings valuable insights to future researchers in their search for a more integrative picture of leadership development in teams.

CHAPTER 4

WHY YOU BECOME A LEADER OR A FOLLOWER? A Q METHODOLOGY STUDY ON CHINESE BUSINESS PRACTITIONERS

4.1. Introduction

Leadership literature has extensively discussed how individuals can become effective leaders, but have insufficiently examined why individuals seek and hold leadership positions (James & LeBreton, 2012; James & Meyer, 2012). It still remains unknown what encourages an individual to become a leader or discourages this. Traditionally, altruism and egoism are viewed as two philosophical attitudes that influence leader and follower motivation (Avolio & Locke, 2002). Research on human personalities also provides cognitive explanations for an individual's choice to be dominant or submissive (Chan, 1999; Chan & Drasgow, 2001). More recently, researchers on leader and follower identities have proposed a behavioral mechanism in which individuals' perceptions and interactions shape their respective social positions in groups (DeRue, 2011; DeRue & Ashford, 2010). These theoretical works, in general, have adopted parochial approaches (Adler, 1983) to explicate why individuals engage in leading or following. Though simplified, the existing studies are relatively weak in interpreting phenomena and practices in particular organizational settings. Also, previous scholars were overwhelmingly driven by Western concepts so that their findings may not be applicable in non-Western cultures (Rousseau & Fried, 2001).

In this essay, I focus my attention on motivations to lead or follow in Chinese contexts and conduct an indigenous leadership study in Chinese cultural settings. This essay attempts to rectify over-generalization and abstraction in earlier leader motivation research. By taking an “insider’s” and “indigenous” perspective, this paper advances diversity in our investigation of this topic.

This research aims to discover why and how Chinese pursue and perform leading or following positions in their organizations. One hundred and forty-six Chinese business practitioners voluntarily participated in this research. The data collection started with 89 open-ended surveys together with 31 person-to-person interviews and ended with 50 P samples. All the surveys, interviews, and Q sorting were conducted in the Chinese language. From the subjective responses of these participants, this research captures the variety in their perspectives on leading and following. It also investigates and identifies factors in Chinese social and cultural systems that shape and influence individuals to become leaders or followers. The findings of this research help conceptualize a framework to illustrate multiple factors relevant to leadership and followership in Chinese cultural settings. A detailed discussion of the implications of my findings can also benefit both researchers and practitioners who are interested in Chinese management.

4.2. Theoretical Foundations

Past leadership research has long overlooked individual differences in theorizing leader perception, leader emergence, and leadership effectiveness (Chan, 1999; Lord & Hall, 1992; Zaccaro, Gilbert, Thor, & Mumford, 1991). Until very recently, scholars in the field of leadership have not attempted to investigate the complexity of personal issues and their impacts on individual participation in leadership processes and activities (Chan, 1999; Chan & Drasgow, 2001; Kark & Dijk, 2007).

4.2.1. Social Cognitive Perspective on Leading and Following

Social-cognitive scholars have claimed that leadership is an emerging social process manifested by both followers' leadership perceptions and leaders' behaviors (Lord, Brown, Harvey, & Hall, 2001; Lord & Smith, 1999). Implicit theories of leadership (Lord, Fodi, & De Vader, 1984) suggest that followers observe and interpret the behaviors of their leaders selectively. The leadership perception of a follower is the result of a two-stage matching process. The follower compares the leader to his or her idealized prototypical leadership characteristics and then activates leadership schema if an appealing match occurs (Lord et al., 1984, Smith & Foti, 1998). Individuals, especially those with high self-esteem, might project their own traits into their idealized leadership images and prefer leaders similar to them (Keller, 1999; Taylor & Brown, 1988). Since the image of idealized leaders varies by person, there is no objective standard by which the effective or ineffective leadership characteristics can be rated (Schyns & Schilling, 2011). Implicit theories of leadership imply that leadership prototype is a mental model and is highly sensitive to a variety of contextual factors (Gardner & Avolio, 1998; Lord et al., 2001; Zaccaro & Klimoski, 2001). The social-cultural environment and prior organizational experience have significant impacts on the construction of leadership prototypes that individuals use to define and recognize leadership (Ling, Chia, & Fang, 2000; Lord et al., 2001; Menon, Sim, Fu, Chiu, & Hong, 2010). Empirical evidence also indicates that the stability of an individual's leadership prototypes persists over time and resists change unless specific interventions force the individual to redefine his or her leadership schema (Epitropaki & Martin, 2004).

4.2.2. Interactive Perspective on Leading and Following

Adaptive leadership theorists have suggested that leader and follower identities are not only cognitions in individuals' self-concepts but also socially constructed relationships between leaders and followers (Day & Harrison, 2007; Day & Lance, 2004; DeRue, 2011; DeRue & Ashford, 2010). The identities of leaders or followers are relationally recognized through "reciprocal role adoption and collectively endorsed within the organizational context" (DeRue & Ashford, 2010: 627). A leader or follower identity is the result of a tripartite construction process: 1) individual internalization (the individual creation of self-concept related to the leader or follower role); 2) relational recognition (the mutual reinforcement of the leader or follower role in dyadic interactions; and 3) collective endorsement (the public acceptance of the leader or follower role within the broader social and organizational context) (DeRue, 2011; DeRue & Ashford, 2010).

Leader or follower identities can be revised and reconstructed during work role transitions (Ibarra & Barbulescu, 2010). Organizations can also set norms and standards that influence the creation of either leadership schema or followership schema (Louis, 1980). Though leaders and followers are traditionally viewed as different in knowledge, capacity, and accountability (Courpasson & Dany, 2003; Gerber, 1988; Konst & Van Breukelen, 2005; Morand, 1996), not all followers are completely passive or obedient in nature (Chaleff, 1995). Some proactive followers might see themselves as partners in the relationship (Uhl-Bien, Graen, & Scandura, 2000), co-producers of leadership (Shamir, 2007), co-leaders (Heenan & Bennis, 1999), or self-leaders (Manz, 1986; Pearce &

Manz, 2005). Therefore, leadership and followership are more complex and multifaceted than dominance and submissiveness in organizational hierarchy (Carsten et al., 2010).

4.2.3. Psychological Perspective on Leading and Following

Chan and his associates (Chan, 1999; Chan & Drasgow, 2001) proposed a multi-dimensional construct of motivation to lead (MTL) to predict a leader's or leader-to-be's decision. Based on Fishbein and Ajzen's (1975) theory of reasoned action (TRA) and Triandis's (1980) theory of interpersonal behavior (TIB), Chan (1999) posited three components underlying individual differences in MTL: 1) affective MTL (individuals lead others out of enjoyment); 2) social-normative MTL (individuals lead others because of social obligations); and 3) calculative/ non-calculative MTL (individuals lead others based on their desire for leadership opportunities against their concern for leadership role costs).

The antecedents of MTL have been found to be personalities, cognitive abilities, socio-cultural values, leadership self-efficacy, and past leadership experience (Chan, 1999; Chan & Drasgow, 2001). Kark and Van Dijk (2007) suggested that leaders' chronic self-regulatory foci and their value structure could determine their MTLs and leadership behaviors. Individual differences in aspiration for change or stability may explain why promotion-focused individuals are more likely to lead for affectivity and why prevention-focused individuals are more likely to lead for social norms. In addition, leaders may elicit the motivational self-regulatory foci of their followers through particular leadership styles, and consequently influence followers' cognitive strategies, emotions and task behaviors. Followers with high leader motivation, regardless of their preference for their subordinate role, are also found to be more productive than those without strong motivation to lead (Mast, Hall, & Schmid, 2010).

From a classic American perspective, self-interest or selfishness is one of the most credible and plausible explanations as to why an individual exhibits specific leadership or followership behavior (Avolio & Locke, 2002). Based on this egotistic assumption, individuals may use sacrificing or altruistic behaviors, if necessary, as a trade-off or compromise for satisfying long-term self-interests, especially for the sake of acceptable social welfare for both leaders and followers. However, it is evident that the definitions and expressions of self-oriented or communal behaviors may differ by gender (Berdahl, 1996). The interpretation of self-serving or self-sacrificing is also based on personal values of the interpreters and is partially shaped by organizational and cultural norms (Smirich & Morgan, 1982).

4.2.4. Summary

The extant leadership theories derived from Western perspectives and Western instruments somehow overlook the "emergent and dynamic local meanings and concepts of leadership" in non-Western settings (Zhang, Fu, Xi, Li, Xu, Cao, Li, Ma, & Ge, 2012). As the majority of leadership research has been done in Western contexts (House & Aditya, 1997), the dyadic relationship between leaders and followers is also framed in a way that excludes non-Western perspectives (Avolio & Locke, 2002). The understanding of leadership and followership, especially the motivations to lead or follow, is limited in rational and ethical assessment of loss and benefit associated with the leadership or followership behavior. The assumption underlying the assessment, by itself, is invalid if the gain or cost is not a universal priority for all the individuals engaged in leading or following or if leaders and followers are not conceptually separable or identifiable in some contexts.

As societal, cultural, and environmental factors shape our collective beliefs and perspectives about leadership (Bligh, Kohles, & Pillai, 2011), leadership research needs to increase the emphasis on the contextual components as well as on the interactions among these components (Porter & McLaughlin, 2006; Rousseau & Fried, 2001). Though the idea of "contextualization" is never new to organizational studies, most researchers tend to separate an organization from its environment in search of contextual variables and examine how an organization "reacts to or interacts with its context" (Tsui, 2006: 1). This positivist research tradition does not reveal the interplay of cultural, historical and material circumstances. Actually, the multiple and qualitatively different contextual factors, in reality, are embedded within one another as "polycontextuality" (Shapiro, Von Glinow, & Xiao, 2007). Researchers should be aware of the chaos and complexity of multiple contexts when studying management phenomena (Child, 2009; Tsui, Nifadkar, & Ou, 2007).

Both existing theories and measurements developed in Western scholarship need to modify or remove their cultural and institutional biases before they can appropriately generalize new knowledge for truly universal theories (Leung, 2012; Tsui, 2006). Some researchers recently suggested an "inside out" or "indigenous" approach to identify and explore research questions that are uniquely sensitive and important to specific national contexts (Cheng, Wang, & Huang, 2009; Tsui, 2006). The complexity and novelty of local research settings require flexibility in adapting and applying existing leadership theories and methods (Cheng et al., 2009; Li, Leung, Chen, & Luo, 2012; Van de Ven &

Jing, 2012). Discovering problems and phenomena unfamiliar to the Western scholars can also raise new concepts and issues that will contribute to the extant literature and encourage heterogeneity in leadership research for both local and global audiences. More importantly, indigenous studies can eliminate bias or stereotypes leading to inherent monopoly of Western theories in management academia (Barney & Zhang, 2009; Cheng et al., 2009; Van de Ven & Jing, 2012).

4.3. Methods and Research Procedure

An indigenous leadership research in Chinese cultural settings can enrich our understanding of local inhabitants of Chinese communities and organizations by expanding concrete historical, political, economic and ethical contexts. In this study, I adopt Q methodology (Brown, 1980; Stephenson, 1953) to capture and examine the Chinese subjectivities and inter-subjectivities on motivations to lead and follow. Q methodology, as a mixed-methods design, can supplement quantitative traditions in leadership research and foster alternative approaches to develop leadership theories (Avolio et al., 2009).

Q methodology was developed from factor analytic theory to measure human subjective phenomena in an interpretive and objective way (Jacobson & Aaltio-Marjosola, 2001; McKeown & Thomas, 1988). Q methodology is related to abduction, a form of logic designed “for discovery and theory generation, not for testing and theory verification” (Watts & Stenner, 2012: 39). As an exploratory technique, Q methodology is used to explain the observed phenomena rather than to test hypotheses (Watts & Stenner, 2005; 2012). Compared to traditional interpretive qualitative approaches or positivist quantitative R methods, Q methodology can not only obtain individuals’ subjective experiences through close connections between researchers and participants but also quantify participants' perspectives systematically and scientifically (Jacobson & Aaltio-Marjosola, 2001; Militello & Benham, 2010).

To implement Q methodology, researchers need to follow several sequential steps. First, the researchers interview participants, elicit the information from interview transcripts, and generate an extensive collection of their opinions (the concourse) representing the universe of viewpoints on the topic (Stephenson, 1978). Second, the researchers identify, select, and edit a manageable number of short statements (Q sample) from the concourse as representative of human subjectivity with wide diversity (McKeown & Thomas, 1988). Then, the researchers recruit samples from the population (P sample) and ask them to sort the Q sample into a forced distribution grid (Q sort). The grid is an evaluative profile ranging from "agree" through "neutral" to "disagree". After this stage, the researchers collect all the completed Q sorts and analyze by means of a by-person factor analysis. In contrast to R methodology (Stainton Rogers, 1995), it is the participants not their opinions that are inter-correlated and factored in Q methodology (Stenner, Dancey, & Watts, 2000). The statistical analysis of Q extracts several factors on which certain numbers of Q sorts (factor exemplar) are significantly loaded. Finally, the researchers examine, interpret and rationalize the characteristics of these synthesized factors according to placement of statements as well as feedback from the P samples.

Q methodology, in my study, functions as data collection and analytic tool to unveil the subjective experiences of contemporary Chinese business practitioners, particularly the holistic nature of their motivations to lead and follow. I firstly invited Chinese business practitioners to participate in in-depth interviews or structured open-ended surveys (see Appendix D for the questions in English translation). Participation in the study was voluntary. One source of interviewees, survey-respondents and P samples were part-time MBA students from a business school in Shanghai. Other participants were recruited from my social network and from the acquaintances of these MBA students in China. All in-depth interviews and structured open-ended surveys were conducted in the Chinese language, either through face-to face or through virtual technology. The length of the in-depth interview and open-ended survey was approximately 15-30 minutes for each subject.

There were 89 participants completing open-ended surveys and 31 doing interviews, 59 males and 61 females. All the subjects were full-time Chinese employees or entrepreneurs with years of working and managerial experience. Eighty-five percent of participants worked as managers or official leaders in their companies or institutions, nearly nine percent at the levels of top management. The majority of the participants were from 25 to 45 in age, with four people over 45. In order to ensure the accuracy of transcription, I asked interviewees for their permission to record the conversation. I closely examined all quotes from the interview transcripts as well as the responses to structured open-ended surveys to identify common themes for further editing, consolidating, and generating statements used in the Q sort. All the interview and survey questions were asked in Chinese.

I used NVivo 10 (QSR, 2013) to organize survey answers and interview transcriptions and to search for common themes. After a close examination of the structured information provided by 120 participants, I extracted, refined and selected 50 statements (see Appendix E for their English translation). Each statement presents a particular viewpoint of leading or following experience in Chinese organizations. Once the 50 statements (Q sample) were made up, I did a pilot study with two Chinese participants to refine and adjust the final set of Q statements. After I ensured that all 50 statements had comprehensive coverage of the opinion domain of my research question, I tried to reach the original survey respondents and interviewees and asked them to sort these statements and complete a forced quasi-normal distribution grid (see Figure 4).

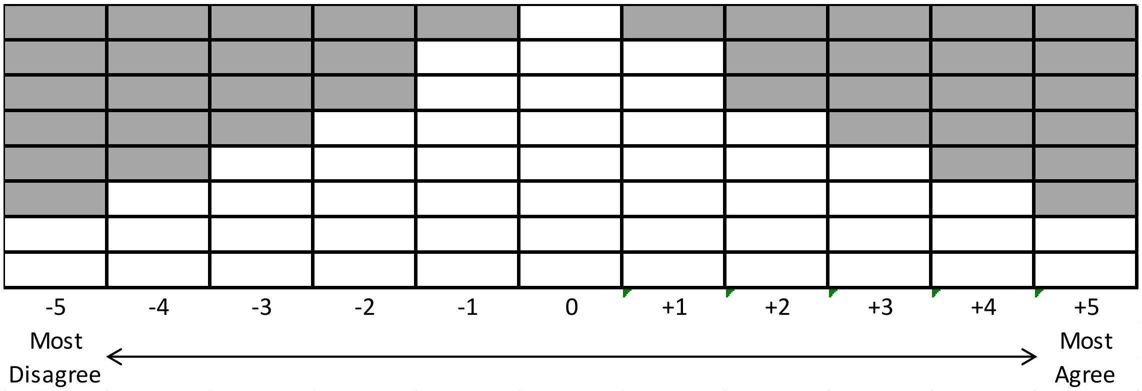

Figure 4: Q Sort Grid

Due to geographic distance between me and P samples, I could not carry out physical card-sorting with the participants in person. I encouraged participants to do the sorting online. This online approach could provide convenience to participants and me and could standardize participants’ responses in a clear format. The online sorting was administered by using a software program named FlashQ (Hackert & Braehler, 2007). The participants were first asked to carefully read the 50 statements and divide them into three categories: “agree”, “disagree” and “neutral”. Then they were instructed to place a fixed number of statements under each scale point of the grid, ranging from -5, “most disagree”, through 0 “neutral or not relevant” to +5, “most agree”. After they completed sorting and ranking the statements, the participants were encouraged to write comments on why they strongly agreed or disagreed with specific statements. The participants' demographic information such as age, gender, organization, industry, working experience and managerial experience was also collected for further analyses of the rationale of their sorts.

Since only 26 of the original 120 survey respondents and interviewees were willing or available to do the Q sorting, I invited an additional group of 24 Chinese business practitioners to participate in my study. The total final size of P samples was 50 including 26 males and 24 females. The majority of the P samples were from 25 to 45 in age, with one below 25 and nine over 45. Only five of the 50 P samples were part-time MBA students. Nearly 85 percent of P samples worked in managerial positions, including 18 percent at the levels of top management. Since Q methodology does not require a large number of participants (Brown, 1980; Watt & Stenner, 2012), completing 50 Q sorts is adequate for data analysis to establish and interpret factors[5].

Though the interviews, open-ended surveys and Q sorting were completed in Chinese, all measures used in this study were translated into English for a non-Chinese audience. I used the back-translation technique (Brislin, Lonner, & Thorndike, 1973) to check the item equivalency (Hui & Triandis, 1985) between the Chinese and English versions of interview / survey questions and Q statements. I followed Werner and Campbell's (1970) decentering model to eliminate the syntactic, semantic, idiomatic and conceptual distinctions between the questions and statements written in Chinese and

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[5] Though early literature suggested that the number of P samples should be less than the number of statements (Watts & Stenner, 2012), previous publications indicate that 40 to 60 participants is appropriate for Q analysis (Stenner, Cooper, & Skevington, 2003; Stenner et al., 2000; Watts & Stenner, 2012). I kept all 50 P samples in factor analysis because of their diversity in demographic information and professional background.

English. The Chinese version was firstly translated into the English version, and then back-translated into the Chinese version. Several independent Chinese professionals with college level education evaluated the two Chinese versions for translation accuracy. Based on their suggestions I revised the back-translated Chinese version and developed a revised English version. Another independent monolingual English native speaker with college level education compared the first and the revised English versions in terms of connotations, naturalness and comprehensibility (Hult, Ketchen, Griffith, Finnegan, Gonzalez-Padron, Harmancioglu, Huang, Talay, & Cavusgil, 2008). I kept repeating this process until all translated items were verified for clarity and equivalency. One English professor in China was invited to appraise the final version of English translation and resolve any ambiguity and confusion in language.

4.4. Analysis and Findings

The data of 50 P samples was computed with the aid of PQMethod (Schmolck, 2002). On account of computational simplicity and restricted options of PQMethod (Watts & Stenner, 2012), I ran centroid factor analysis over principal component analysis to extract four factors that represent underlying similarity and diversity among the participants regarding their views on the topic. I chose the significant factor loading at the level of 0.001, which indicated that a participant loading on one factor at 0.44 or over reached significance in this study[6]. A four factor solution emerged after varimax rotation and additional by-hand rotation. Each factor had its eigenvalue greater than 1 and had a number of Q sorts (factor exemplar) significantly loading on it alone. Of 50 Q sorts, there were 32 Q sorts loaded on one of the four extracted factors. Twelve Q sorts did not load significantly on any of the four factors and six confounded sorts loaded significantly on more than one factor. These four significant factors explained 46% of the variance: 11% explained by the first factor, 11% by the second, 11% by the third and 13% by the fourth.

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[6] An appropriate significant factor loading can increase single factor Q sorts and reduce confounded Q sorts for reliable factor estimates (Watts & Stenner, 2012). A factor loading at the $p<0.001$ significant level is calculated by using the equation: $3.09 \times (1/\sqrt{\text{No. of statements}})$. In my study, this equates to: $3.09 \times (1/\sqrt{50}) = 0.437$.

I assumed that the exemplars loaded on the same factor should share a similar sorting pattern and a distinctive viewpoint on Chinese motivations to lead and follow (Stenner et al., 2000). Factor interpretation started with the factor array of each factor, which was constructed by reference to the size and rank order of the z scores of each statement. A factor array can present highest-ranking statements, either positive or negative, and represent the most and the least likely participants' view on the topic. Appendix E contains a table enlisting full factor arrays for each of my study factors together with factor Q sort values for 50 statements. I also reviewed the distinguishing statements of each factor as well as consensus statements of all four factors to underline the similarities and differences between factor arrays. The comments and demographic records collected from participants were also used as supporting information in factor interpretation.

4.4.1. Factor 1 – Self-leader

Factor 1 explains 11% of the study variance and has an eigenvalue of 5.5. Six out of 50 Q sorts exemplified this factor. Four were men and two were women. Their ages ranged from 26 to 45. Five of them were working as managers in their organizations, including one business owner. Factor 1 exemplars believe that an individual's capacity is not a prerequisite for an effective leader (15: +5; 16: -2). Whether or not an individual becomes a leader or advances in leading positions relies on multiple contextual factors such as organization culture (4: +3), external environment (11: +2) and even sex-role stereotypes in the society (47: +1). Those associated with Factor 1 have set themselves ambitious goals in their professional development. They prefer to develop an action plan in advance and periodically monitor their progress to specific objectives (7: +4; 28: +4). They express more interest in leading themselves rather than leading others (33: +2). Their choice to act as a leader in their organizations is not related to their search for self-fulfillment from authority or control of others (6: 0; 21: 0) or to a strong desire to grant privileges from leading positions (2: -1). Social obligation might not be the primary motivation behind their decision either (49: -2). Factor 1 respondents might take over the leadership when they think doing this is really needed. For instance, they have more opportunities to display personal traits and capacities in leadership positions and appraise their growth in career (35: +2; 37: +2; 39: +2). Though becoming a leader is not a sign of success to them, their passion for excellence and commitment to self-development distinguishes them as an outstanding figure among their peers. This pushes them to high professional levels by nature (7: +4).

4.4.2. Factor 2 – Progressive leader

Factor 2 explains 11% of the study variance and has an eigenvalue of 5.5. Nine out of 50 Q sorts exemplified this factor. Four were men and five were women. Ages ranged from 26 to 40. Eight were working as managers in their organizations, including two at the level of top management. Factor 2 exemplars underscore a fundamental but unheeded reality that leadership is just an honorary membership in a group (44: +5; 15: +4). To obtain and sustain this specific status in a group, an individual needs to respect and educate other members, listen to them, unite them, support them, and even manipulate them when it is necessary (3: +5; 5: +3). Since interpersonal relationship is one of the essential determinants of an individual's career development (10: +2; 43: +2), a manager's success largely depends on whether this person is mindful of his or her stakeholders (supervisors, co-workers and subordinates) and how skillfully this person accommodates himself or herself in the social network (10: +2; 42: +2). These Factor 2 respondents pursue leading positions mostly because they are enthusiastic about increasing their prestige in the community (31: +4; 2: +3; 26: +1). The passion to become something of a celebrity builds their constant momentum to do their jobs with dedication and their encouragement of collaboration in their affiliates (21: +2; 49: +2; 12: -4). Those associated with Factor 2 might proactively motivate themselves and help others to contribute to superior productivity and performance under the conditions from which they can benefit anticipated promotion and reward (35: +3; 30: +1). Many of them have intense curiosity and inborn traits to seek the clues of change, and, whenever they can, to convert those clues into opportunities for claiming leadership (18: +3; 6: +1; 19: +1; 39: +1).

4.4.3. Factor 3 – Passive leader

Factor 3 explains 11% of the study variance and has an eigenvalue of 5.5. Nine out of 50 Q sorts exemplified this factor. There were seven men and two women aged from 26 to 60 years old. All of them had managerial work experience, including two working as top managers in their organizations. Though they emphasized that only those with unique personalities and abilities can take leading positions in groups (18: +5; 3: +4), the Factor 3 exemplars are more aware of the potential risks inherent in their creative behavior and performance, which might lead to any irreconcilable conflict with their supervisors (42: +5; 13: +3). They also contend that effective leadership involves acceptance from both sides of top-down and bottom-up (13: +3; 15: +3; 21: +2; 8: +1). Individual efforts and qualifications may not work in the long run unless they are appreciated and honored by others (35: +4; 39: +3; 37: +2). With their practical view of office politics, the Factor 3 respondents try not to lose touch with reality (43: +1) and tend to interpret leading or following as attempts to fit and balance their security and interests in their organizations with those powerful members (19: +3; 34: +2; 49: +2; 36: -4). Due to multiple social or structural constraints in their organizations, those associated with Factor 3 do not necessarily engage themselves in seeking promotions for enjoyment or privilege (34: +2; 4: +1). To them, leadership might not be the thing they strongly desire or hold as valuable for life. Sometime, they choose to be a leader just because their institutions make room for them to lead others (19: +3; 34: +2; 50: 0). And, they favor these leading positions if they do not have to compromise their independence and specialty too much (39: +3; 43: +1).

4.4.4. Factor 4 – SuperLeader

Factor 4 explains 13% of the study variance and has an eigenvalue of 6.5. Eight out of 50 Q sorts exemplified this factor. Four of them were men and four were women. Their ages ranged from 20 to 45 years old. Five of the eight exemplars had managerial working experience, including one business owner and one top manager. Factor 4 exemplars are idealists with a sense of mission to transform their dream into an enterprise (22: +5). They work tirelessly to promote their ideas and keep calling for proponents to accomplish their ambitions (49: +4; 48: +2; 32: -2; 29: -3). Factor 4 respondents enjoy working with these people and heavily rely on others' support and commitment for every success in their own careers (22: +5; 43: +4; 28: +2). Those associated with Factor 4 are positive about themselves as creative forces of life. They convince others that they know where they are heading for and how they can bring benefits for all (44: +5; 31: +3; 6: +2; 15: +1). They believe that they are gifted leaders who have the predestined power and responsibility to help others (6: +2; 25: +1). Their fiery temperaments strongly individualize their charismatic leadership styles (18: +4; 39: +3; 6: +2; 14: -1). Since life means to them an adventure full of fun and passion, they barely cling to status quo or hesitate to take risks to gain an edge over the competition (5: +3; 6: +2; 9: +2). Also, they want to create their own model of leadership and have less interest in imitating or following others' style in leading (36: -1; 29: -3; 14: -1). They are campaigning for leadership, since being a leader fulfills their ideology of survival (48: +2).

4.4.5. Common Features across the Factors

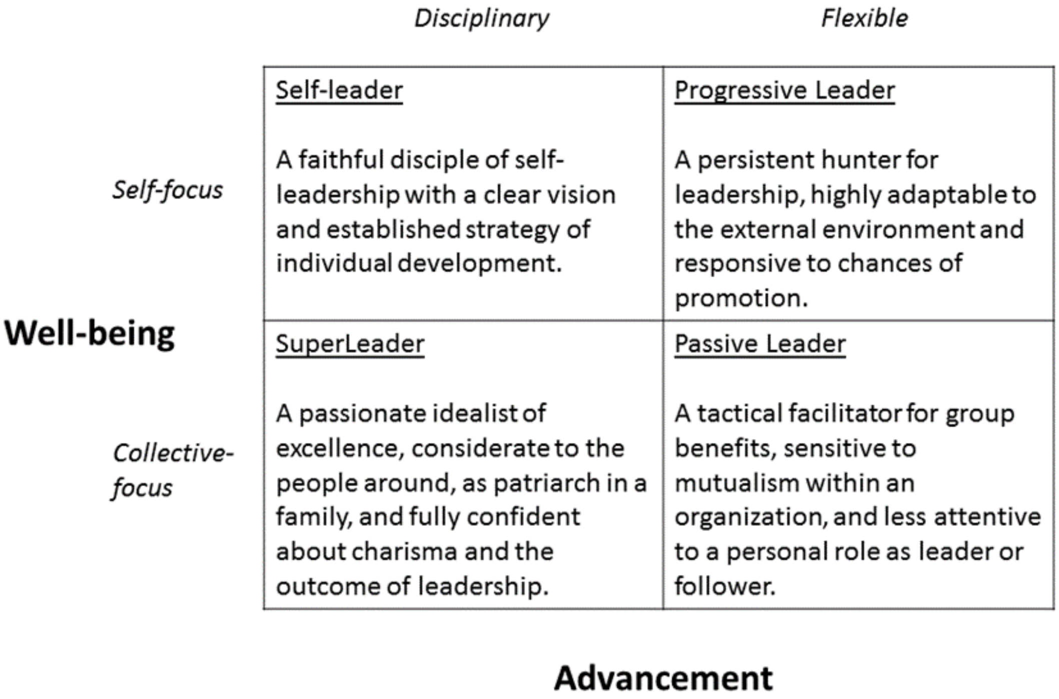
To all 50 Q sorts, there were six consensus statements that did not distinguish between any pair of four factors. These six statements were non-significant at $P > 0.01$, including two non-significant at $P > 0.05$. All the four factor exemplars ranked the six statements in a largely homogenous way. The statements that received positive ranks in the same direction over all four factors are Statements 5, 6 and 21. The statements that received negative ranks in the same direction are Statements 16, 23 and 40. The high agreement on Statement 5 indicates that deterrence is both a symbol of leadership and a sign of authority in Chinese society. This might explain why many Chinese leaders tend to keep a certain social distance between themselves and subordinates. These leaders need such a distance to mask their inner emotions and ensure the credibility of their dominance. Statement 6 implies that Chinese people tend to connect leading with learning and appreciate personal growth in leadership development (Day, 2001; Day & Harrison, 2007). All Chinese respondents assent to the importance of networking in building effective leadership (Statement 21). Competence alone does not offer an individual a guarantee of leading, since people do not know or have confidence in that person (Statement 16). Also, none of four factor exemplars simply concentrate on the pursuit of leading position as their top priority in life (Statement 40). Since the traditional Chinese officialdom (Statement 23) is beginning to be outdated, Chinese business practitioners are more likely to respect diversity and pluralism in understanding leadership.

4.5. Discussion

The four factors presented above reflect possible perspectives of Chinese business practitioners on what encourages or discourages their engagement in leadership of their organizations. The comparison of these four factors suggests a limited variety of Chinese mindsets relating to motivations to lead or follow. What is significant about these mindsets is that Chinese business practitioners sort out their priorities before making their decision on and dedication to leading or following others. Each factor indicates a particular piece of reasoning about why they choose to engage themselves in leadership or followership. Most notably, Chinese business practitioners keep such engagements based on whom they are engaged with. The interpretation of each factor reflects the complexity of defining and interpreting leadership and followership in Chinese organizational settings. To gain a comprehensive understanding of why Chinese take superior or subordinate positions, researchers may need to assess various internal and external determinants and integrate these with the multiple theoretical frameworks proposed by previous leadership scholars.

A significant amount of indigenous information on motivation of Chinese business leaders has been found in this factor analysis and the comments made by P samples. As the majority of participants claim to serve their organizational members with trust and integrity, it is evident that Chinese business practitioners prefer to unite individual advancement with development of others and meet both professional and social obligations. Many Chinese organizations implement a meritocratic system in which employees are rewarded and empowered on the basis of their job-related merits (Cao, 2004). Though paternalistic leadership still prevails in Chinese culture (Farh & Cheng, 2000), an honorable leader should have a virtue to select the talent and appoint them to important positions in organizations. It is not a rare occurrence that a leader voluntarily shares the leadership with capable subordinates and respects their management. Therefore, leadership and followership may co-exist within an individual or oscillate within a leader-follower dyad conditionally. This means that the relationships between leaders and followers have now been extended from dominance and compliance to interdependence and connectivity in Chinese culture.

By integrating the interpretation of these four factors, I propose two pairs of dimensions to explicate motivations of Chinese business leaders: self-focus vs. collective-focus well-being, and disciplinary vs. flexible advancement. Self / collective-focus well-being refers to the direction in which an individual tips to achieve a sense of satisfaction or a level prosperity, for self mainly or for self and others together. Disciplinary / flexible advancement refers to the model in which an individual tailors progress or growth to his or her principles of life, rigidly or dynamically. This four-way typology can fit with characteristics of each factor exemplars and correspond to the patterns associated with their motivations to lead or follow. By way of illustration, my proposed framework is shown in Figure 5.



Well-being

	Disciplinary	*Flexible*
Self-focus	Self-leader A faithful disciple of self-leadership with a clear vision and established strategy of individual development.	Progressive Leader A persistent hunter for leadership, highly adaptable to the external environment and responsive to chances of promotion.
Collective-focus	SuperLeader A passionate idealist of excellence, considerate to the people around, as patriarch in a family, and fully confident about charisma and the outcome of leadership.	Passive Leader A tactical facilitator for group benefits, sensitive to mutualism within an organization, and less attentive to a personal role as leader or follower.

Advancement

Figure 5: A Motivation Typology of Chinese Business Practitioners

The self-leader type of Chinese business practitioners feature highly focusing on personal well-being and strongly clinging to disciplinary advancement. They are faithful disciples of their own self-leadership (Manz, 1986). These managers or business leaders always have a clear vision of their goals and apply established strategy of individual development. All of their actions and decisions about leading or following proceed from this vision and their desired results.

The progressive leader type of Chinese business practitioners appear to concentrate on personal well-being with flexible plans of advancement to supervision positions. They are more like hunters who work persistently in their field to obtain leading positions or status in organizations. These managers or business leaders are able to assess change in the external environment and adapt themselves quickly for any chances of getting promoted.

The passive leader type of Chinese business practitioners have a deep understanding of the interdependence between other people's welfare and their own. They remain flexible and practical when managing personal advancement in their careers. These managers or business leaders aspire to maintain symbiosis in their organizations and often apply deliberate tactics to strike a balance among different or even conflicting interest groups. As security is their foremost concern, they sometime choose to retreat from competing for leading positions to avoid rivalry with others.

The superleader type of Chinese business practitioners attend to the overall prosperity of the community. They perform superleadership that "helps others to lead themselves" (Manz & Sims, 2001: 1). Being obsessed with a powerful sense of mission to success, they are less likely to compromise their paces in pursuit of predetermined goals. These managers or business leaders tend to invest caring and passion in their organizations. They might also be aggressive and competitive with others due to their self-oriented perfectionism. However, their impressive charisma can inspire others' performances and insure the effectiveness of their leadership.

4.6. Conclusions and Limitations

This study provides a detailed analysis of unique viewpoints of Chinese motivations to lead and follow. The findings of this study offer an alternative to established theories on leading or following in early literature. Most notably, the results of this factor analysis suggest a corrective to generalized tripartite frameworks on motivations to lead (Chan & Drasgow, 2001). Though the primary purpose of this research is not to develop Chinese theories of leadership, this indigenous Q study does help extend our theoretical understanding of motivations to lead and follow in Chinese contexts and broaden our methodological repertoires for future empirical work on leadership and followership in the global scenario. In addition, this study can give some innovative and constructive suggestions to business practitioners who are currently working with Chinese colleagues or will become members of Chinese organizations.

One inevitable limitation of this study is the impossibility to exhaustively collect all existing viewpoints on this topic. Though a large number of participants does not guarantee a good Q methodology study (Watt & Stenner, 2012), snowball sampling in this study might be subject to personal bias and restrict the diversity in participants. The linguistic nuances in Chinese and English languages might also cause difficulties in translating, interpreting and presenting concepts and ideas semantically and rhetorically understandable to both Chinese participants and English readers. As the study focuses on business practitioners only, it does not include viewpoints from other professions such as politicians or military personnel who may present other pieces of the story.

CHAPTER 5

CONCLUSION AND OUTLOOK

5.1. Integration of the Three Essays

In the first two essays of my dissertation, I studied leadership development and leadership effectiveness in self-managing teams. The first essay outlines how the cognitive diversity within a team affects leadership process and team outcomes. The second essay explores the cognitive and behavioral factors associated with leadership emergence in teams. These two studies adopt two complementary perspectives, one from the individual level and one from the team level, which help clarify the complexity of leadership, its construction, variation and contribution in teams. These essays provide evidence on the dynamic nature of leadership development and suggest that leadership effectiveness in teams is contingent on leading and following interaction.

As globalization has brought increasing diversity in workforce, leadership scholars and business practitioners show a surging interest in how leadership is perceived and performed cross-culturally (Tsui et al., 2007). In my third essay, I took an indigenous perspective to examine why organizational members emerges as leaders in Chinese organizations. The findings of this study provide additional insights about leadership development and leadership effectiveness for international management.

The three essays presented in this dissertation indicate that leadership development is fundamentally a social learning experience of organizational members, in which behavior, cognition and culture reciprocally influence and reinforce each other throughout leadership process (Bandura, 1978; Manz, 1986; Manz & Sims, 1987; 2001). It is evident that leadership is a process of influencing and teaching followers to understand certain activities and shared goals for better organizational performance (Berson, Nemanich, Waldman, Galvin, & Keller, 2006). Since there has been an increase in the amount of theoretical research linking leadership and organizational learning (Berson et al., 2006; Crossan, Maurer & White, 2011; Waldman, Berson, & Keller, 2009), the findings of my three essays may substantiate current theories on leading and learning in organizations.

5.2. Directions for Future Research

Organizational learning is a set of multilevel and multistage processes, which includes personal acquisition of knowledge and skills and aggregation of knowledge and skills within a network of interacting people (Crossan, Lane, & White, 1999; Crossan et al., 2011; Hannah & Lester, 2009; Jensen & Rasmussen, 2004). Individuals in an organization are the most fundamental agents of learning (Argyris & Schon, 1978). They constitute a principal source of retained information and choose the information acquired or retrieved from others (Walsh & Ungson, 1991). As an increasing amount of work in organizations is conducted by teams or work groups (Osterman, 1994), teams have become the fundamental units of learning in an organization (Senge, 1990).

The basic challenge of organizational learning is the tension between assimilating innovation and creativity (exploration) and reinforcing existing routines and knowledge (exploitation) (Argote & Miron-Spektor, 2011; Berson et al., 2006; Crossan et al., 1999; Jansen, Vera & Crossan, 2009; March, 1991; Vera & Crossan, 2004). Recent literature has underscored that leadership is crucial to learning processes in organizations (Vera & Crossan, 2004; Berson et al., 2006; Hannah & Lester, 2009; Waldman et al., 2009; Yukl, 2009). As social architects of organizational learning, leaders play a central role in obtaining needed resources for exploration and exploitation, providing a foundation of shared understandings at group and organizational levels and storing new and existing knowledge in the organization's politics and practices (Berson et al., 2006). Effective leaders can balance exploration and exploitation to "create a true, veritable learning organization" (Berson et al., 2006; Hannah & Lester, 2009; Yukl, 2009).

A successful learning organization needs to involve all of its organizational members to continuously transform it (Weldy & Gillis, 2010). As organizational learning is a collective learning process (Yukl, 2009), self-management can maintain high levels of interdependence among individuals and create effective knowledge networks among the organizational members (Stewart, Courtright, & Manz, 2011). Self-leadership is known to encompass self-management at the individual level and facilitate individuals' self-learning, personal growth, and skill development (Manz, 1986; 1992; 2015; Manz & Sims, 1987; Neck & Houghton, 2006). Shared leadership and distributed leadership are known as collective leadership associated with self-management at team levels or beyond (Denis, Langley, & Sergi, 2012, Friedrich et al., 2009). Since shared leadership is characterized as fluid, reciprocal and dynamic influence among team members in the work groups, it can motivate team members to accommodate and connect each other for knowledge creation in teams (Bligh et al., 2006). By the same token, distributed leadership thrives through inter-organizational collaboration. It can bridge individuals' limited capacities to recognize, construct and analyze problems in complex or new situations, and promote the cross-boundary knowledge sharing systems for continuous organizational learning and renewal (Argyris & Schon, 1996; Levitt & March, 1988; Senge, 1990, Zhang & Faerman, 2007). In sum, self-leadership at individual levels, shared leadership at intragroup levels and distributed leadership at intergroup levels as well as their integration across organizational hierarchies are critical components for building and advancing an effective learning organization. The structure of this leading and learning connection, in a simplified form, looks like this:

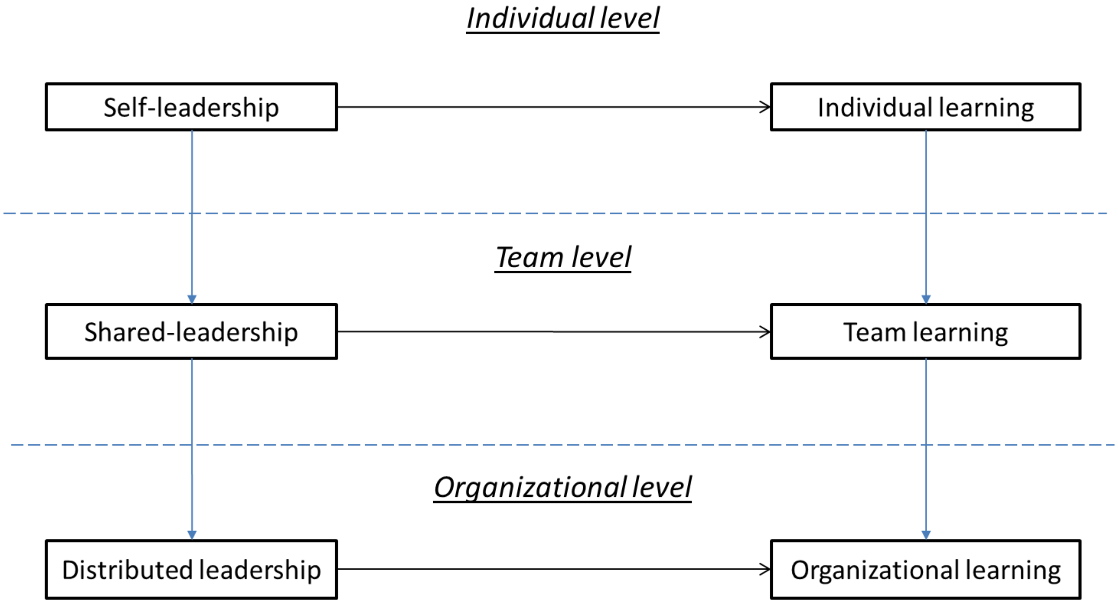

Individual level
Self-leadership
Individual learning
Team level
Shared-leadership
Team learning
Organizational level
Distributed leadership
Organizational learning

Figure 6: A Multilevel Model of Leadership and Organizational Learning

Though the three forms of leadership in self-management can orchestrate and foster organizational learning processes in a team-based organization, leading a learning organization may face the challenge of maintaining vertical and horizontal alignment of sub-goals and synchronized actions of each team (DeChurch, Burke, Shuffler, Lyons, & Salas, 2011). Organizational members have to engage themselves in two types of learning: local learning within the group and distal learning with external group members (Wong, 2004). Cross-team processes may account for more than within-team processes for effective organizational learning in a multi-team system (Marks et al., 2005). For instance, some teams need to “help an organization explore and develop new capabilities” while other teams need to “help to execute and improve existing capabilities” (Edmondson, 2002: 130). The complexity of joint interactions in the multi-team system opens up more detailed research inquiries as to the mechanism of coordinating and balancing within-team activities and cross-team activities for collective learning in organizations (DeChurch & Mark, 2006; Yukl, 2009).

Some findings of my three essays may yield more theoretical insights on leading a learning organization in several ways. The first essay suggests that the individual difference in leader self-efficacy could affect leadership sharing and team process in an empowered team. Despite no conceptual and empirical research on the construct of leader collective efficacy, there is a possibility that the difference in leader collective efficacy in a multi-team system may determine distributed leadership and learning process in a team-based organization. The second essay shows that the roles of team members are gradually shaped throughout the team process. This makes it more likely that the leading or following roles of particular teams may also take place conditionally in the learning process. The third essay implies that environmental and cultural factors influence organizational members to lead themselves and lead others. This relatively broad viewpoint suggests additional determinants of organizational learning in a globalized organization. Since these research topics are beyond the scopes of this dissertation, they provide potential starting points for future research directing to a more comprehensive understanding of leadership development, leadership effectiveness and learning organizations.

APPENDICES

APPENDIX A

ESSAY 1 SURVEY

Dear study participant,

My name is Xueting Jiang, a PhD candidate in the Isenberg School of Management, University of Massachusetts Amherst. I am working on a research project about leadership and teamwork. Thank you for your voluntary participation in my study. Your personal identity will be kept strictly confidential. By your participation you are giving your consent to me to use this data for research purposes, although you will not be personally identified.

This survey is not a test of ability. There is no right or wrong answer to each of the questions or statements, so please answer them honestly. These questions and statements have been used by previous researchers studying leadership and teamwork.

This is NOT a peer-evaluation form. Your responses will never affect the scores of your individual performance or your team performance given by your instructors.

This survey is estimated to take you approximately 15-20 minutes to complete. If you have any question about the survey or the study, please feel free to contact me at xjiang@som.umass.edu. Thank you.

Background:

1. Please enter your FULL name:

2. Course / Instructor:

3. Gender: Male / Female

4. Age:

5. How many years (including all jobs) have you worked?

- None

- Less than 1 year
- More than 1 year and less than 3 years
- More than 3 years and less than 5 years
- More than 5 years

6. How many years (including all jobs) have you worked as manager?

- None
- Less than 1 year
- More than 1 year and less than 3 years
- More than 3 years and less than 5 years
- More than 5 years

Team Information:

1. Please provide the NAME of your COURSE team if your team has one. You may leave it blank if your team does not have a name or you do not know its name.

2. Please list the FULL name of each member of your COURSE team. You may leave entry box blank if the number of your team members is less than five.

- Team member
- Team member
- Team member
- Team member
- Team member

3. How much do you consider yourself a leader of your team?

- 1 Not at all
- 2 Somewhat
- 3 About average
- 4 Quite a bit

- 5 Very much

4. Direction: For each team member choose a number from 1 to 5 representing the extent to which you consider that member a LEADER of your team, where (1) means that the member is not at all a leader and (5) means that the member is very much a leader of your team.
   "To what extent do you consider this person a leader of your team?"
   Not at all 1 Somewhat 2 About average 3 Quite a bit 4 Very much 5

» Team member
» Team member
» Team member
» Team member
» Team member

5. Direction: For each team member choose a number from 1 to 5 representing the extent to which you FOLLOW that member in your team, where (1) means that you do not follow the member at all and (5) means that you are very much a follower of the member.
   "To what extent do you follow this person in your team?"
   Not at all 1 Somewhat 2 About average 3 Quite a bit 4 Very much 5

» Team member
» Team member
» Team member
» Team member
» Team member

6. Direction: For each team member choose a number from 1 to 5 representing the extent to which you believe that member FOLLOW YOU in your team, where (1) means that the member does not follow you at all and (5) means that the member is very much your follower.
   "To what extent does this person follow you in your team?"
   Not at all 1 Somewhat 2 About average 3 Quite a bit 4 Very much 5

» Team member
» Team member
» Team member
» Team member
» Team member

Direction: For each statement below, indicate your level of confidence as a leader of your team now or in the near future. A score of 10 represents 100% confidence, whereas a score of 1 means no confidence at all.

Not at all confident Totally confident

1 2 3 4 5 6 7 8 9 10

As a Leader I can[7]…

4. Determine what leadership style is needed in each situation
6. Energize my followers to achieve their best

Direction: The following table is a list of statements that may be used to describe your team. Please read each description and rate each statement from 1 (strongly disagree) to 7 (strongly agree) based on your evaluation of the teamwork.

Strongly disagree Strongly agree

1 2 3 4 5 6 7

1. My team feels that its tasks are worthwhile.
2. My team determines as a team how things are done in the team.
3. My team performs tasks that matter to this class.
4. My team has confidence in itself.
5. My team can get a lot done when it works hard.
6. My team believes that it can be very productive.
7. My team has a positive impact on this class.
8. My team makes its own choices without being told by our professor.
9. My team can select different ways to do the team’s work.

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[7] The entire instrument of the Leader's Efficacy Questionnaire (LEQ) is not allowed to reproduce in this dissertation due to Mind Garden's policies on copyright and publishing.

10. My team feels that its work is meaningful.
11. My team believes that its projects are significant.
12. My team makes a difference in this class.
13. My team cannot accomplish its tasks without information or materials from other members of the team.
14. Members of my team depend on each other for information or materials needed to perform their tasks.
15. Within my team, jobs performed by team members are all related to one another.

Direction: The following table is a list of statements that may be used to describe your experience in your team. Please read each description and rate each statement from 1 (strongly disagree) to 7 (strongly agree) based on your evaluation of the teamwork.

Strongly disagree Strongly agree

1 2 3 4 5 6 7

1. I am satisfied with my present team members.
2. I am pleased with the way my team members and I worked together.
3. I am very satisfied with working in this team.
4. This team should not have continued to function as a team.
5. This team was not capable of working together as a unit.
6. This team probably should never work together in the future.
7. If I had the chance, I would have switched teams.

Please estimate the overall score of your team-based assignments given by your course instructor: ______ (out of 10).

Direction: The following table is a list of statements that may be used to describe your experience in your team. Please read each description and rate each statement from 1 (not at all) to 7 (a great deal) based on your evaluation of the teamwork.

Not at all A great deal

1 2 3 4 5

1. Our team has clearly defined goals.

2. Individual and team goals are integrated.
3. Important decisions are made in reasonable time with a minimum of bureaucracy.
4. The team leader and/or team constructively deals with poor performance.
5. The roles and responsibilities within the team are clearly defined yet flexible enough to respond to changing external requirements.
6. Procedures and systems within the team are changed when needed to achieve our goals.
7. The reward and recognition given to individuals and the team encourages a high level of performance.
8. Each team member receives regular and useful performance feedback.
9. The style of leadership is varied to fit with circumstances (e.g. firm, supportive or flexible when appropriate).

Any comments on your experience in your current team

Thank you very much for your participation!

APPENDIX B

ESSAY 2 SURVEY

Dear study participant,

My name is Xueting Jiang, a PhD candidate in the Isenberg School of Management, University of Massachusetts Amherst. I am working on a research project about leadership and teamwork. Thank you for your voluntary participation in my study. Your personal identity will be kept strictly confidential. By your participation you are giving your consent to me to use this data for research purposes, although you will not be personally identified.

This survey is not a test of ability. There is no right or wrong answer to each of the questions or statements, so please answer them honestly. These questions and statements have been used by previous researchers studying leadership and teamwork.

This is NOT a peer-evaluation form. Your responses will never affect the scores of your individual performance or your team performance given by your instructors.

This survey is estimated to take you approximately 10-15 minutes to complete. If you have any question about the survey or the study, please feel free to contact me at xjiang@som.umass.edu. Thank you.

Background:

1. Please enter your FULL name:

2. Course / Instructor:

3. Gender: Male / Female

4. Age:

5. How many years (including all jobs) have you worked?

   - None

- Less than 1 year
- More than 1 year and less than 3 years
- More than 3 years and less than 5 years
- More than 5 years

6. How many years (including all jobs) have you worked as manager?

- None
- Less than 1 year
- More than 1 year and less than 3 years
- More than 3 years and less than 5 years
- More than 5 years

Team Information:

1. Please provide the NAME of your COURSE team if your team has one. You may leave it blank if your team does not have a name or you do not know its name.

2. Please list the FULL name of each member of your COURSE team. You may leave entry box blank if the number of your team members is less than five.

- Team member
- Team member
- Team member
- Team member
- Team member

Direction: For each team member choose a number from 1 to 5 representing how frequently that MEMBER engages in the behavior described by the item, where (1) means that you barely see the member behave like that at all and (5) means that you almost always see the member behave like that.

He / She treats all group members as his / her equals.

Barely 1 Seldom 2 Occasionally 3 Very often 4 Almost always 5

» Team member
» Team member
» Team member
» Team member
» Team member

He / She is friendly and approachable.

Barely 1 Seldom 2 Occasionally 3 Very often 4 Almost always 5

» Team member
» Team member
» Team member
» Team member
» Team member

He / She puts suggestions made by the group into operation.

Barely 1 Seldom 2 Occasionally 3 Very often 4 Almost always 5

» Team member
» Team member
» Team member
» Team member
» Team member

He / She gets group approval on important matters before going ahead.

Barely 1 Seldom 2 Occasionally 3 Very often 4 Almost always 5

» Team member
» Team member
» Team member
» Team member
» Team member

He / She maintains definite standards of performance.

Barely 1 Seldom 2 Occasionally 3 Very often 4 Almost always 5

» Team member

» Team member

» Team member

» Team member

» Team member

He / She asks that group members follow standard rules and regulations.

Barely 1 Seldom 2 Occasionally 3 Very often 4 Almost always 5

» Team member

» Team member

» Team member

» Team member

» Team member

He / She does personal favors for group members.

Barely 1 Seldom 2 Occasionally 3 Very often 4 Almost always 5

» Team member

» Team member

» Team member

» Team member

» Team member

He / She tries out his / her new ideas with the group.

Barely 1 Seldom 2 Occasionally 3 Very often 4 Almost always 5

» Team member

» Team member

» Team member

» Team member

» Team member

He / She makes sure that his / her part in the group is understood by all group members.

Barely 1 Seldom 2 Occasionally 3 Very often 4 Almost always 5

» Team member
» Team member
» Team member
» Team member
» Team member

He / She assigns group members to particular tasks.

Barely 1 Seldom 2 Occasionally 3 Very often 4 Almost always 5

» Team member
» Team member
» Team member
» Team member
» Team member

Direction: For each team member choose a number from 1 to 5 representing the extent to which you consider that member a LEADER of your team, where (1) means that the member is not at all a leader and (5) means that the member is very much a leader of your team.

"To what extent do you consider this person a leader of your team?"

Not at all 1 Somewhat 2 About average 3 Quite a bit 4 Very much 5

» Team member
» Team member
» Team member
» Team member
» Team member

Direction: For each of the following four statements, please use the scales below to indicate the extent to which the statement describes your view of yourself, where (1) means not at all descriptive and (6) means extremely descriptive.

Not at all descriptive Extremely descriptive
1 2 3 4 5 6

1. I am a leader.
2. I see myself as a leader
3. If I had to describe myself to others, I would include the word “leader”.
4. I prefer being seen by others as a leader.

Direction: The following table is a list of questions that may be used to describe how you act in your team. For each question, please use the scales below to indicate the extent to which the statement describes you. Please evaluate each statement on a scale of 1 (never) to 6 (always).

Never Always
1 2 3 4 5 6

1. Do you actively develop a distinctive competence in those critical activities so that you become more valuable to your team leader and the team?
2. Do you take the initiative to seek out and successfully complete assignments that go above and beyond your job?
3. When you are not the leader of a group project, do you still contribute at a high level, often doing more than your share?
4. Do you help out other coworkers, making them look good, even when you don’t get any credit?
5. Do you make a habit of internally questioning the wisdom of your team leader’s decision rather than just doing what you are told?
6. When your team leader asks you to do something that runs contrary to your professional or personal preferences, do you say “no” rather than “yes”?
7. Do you act on your own ethical standards rather than your team leader’s or your team’s standards?

8. Do you assert your views on important issues, even though it might mean conflict with your group or reprisals from your team leader?

Direction: For each team member choose a number from 1 to 5 representing the extent to which you FOLLOW that member in your team, where (1) means that you do not follow the member at all and (5) means that you are very much a follower of the member.

"To what extent do you follow this person in your team?"

Not at all 1 Somewhat 2 About average 3 Quite a bit 4 Very much 5

» Team member
» Team member
» Team member
» Team member
» Team member

Any comments on your experience in your current team

Thank you very much for your participation!

APPENDIX C

ESSAY 3 SURVEY

The survey has five open-ended questions. It may take you approximately 25 to 30 minutes to complete. You are free to answer and/ or refuse to answer any question at any time. You are free to withdraw and/ or stop the survey at any time. Excerpts of your responses may be made part of the follow-up sorting game and final research report. Under no circumstances will your or your organization's name or other identifying characteristics be included in sorting game and research report.

Personal Information

1. Sex: Male / Female

2. Age:

- 21-25
- 26-30
- 31-35
- 36-40
- 41-45
- Over 45

3. Education:

- College
- Dual Bachelor
- Master
- Dual Master
- PhD
- Others

4. How many years you have been working? ________ years (e.g. 5).

5. What is the industry in which you have been working the longest? ________ (e.g. education).

6. What is the type of the organization you have been serving the longest?

- Business enterprise
- State administrative departments
- Institutions
- Social organizations
- Freelance
- Others

7. Have you been working as a manager?

If yes, how many years have you been working as a manager? ________ years (e.g. 5).

How many subordinates you were/ are responsible for? (Maximum) ________ people (e.g. 8).

8. What is the highest professional title or position you have/had? ________ (e.g. General manager)

(Version A)

Please answer the following questions:

1. Please use a few words to briefly describe your career history.
2. In your career, did you have the opportunity to lead others?
   a. If yes, how did you get the opportunity? And what made you choose to take this opportunity?
   b. If no, why did you not get the opportunity?
3. What are the factors encouraging or discouraging you to be a leader?
4. How do you think of your current position in your institution? Would you like to change or remain? Why?

5. In general, how do you feel when you are leading? How do you feel when you are being led? Which makes you feel better? Why?

(Version B)

Please answer the following questions:

1. Please use a few words to briefly describe your career history.
2. Think of your favorite leader and describe why you chose that person?
3. Did you try to lead others as your favorite leader led you? What made you do this?
4. Have you been led by someone you dislike? If so, why did you dislike that person? How did you manage the relationship with that leader?
5. Please predict your career path in the next five years. Which role do you see yourself in at that time?

APPENDIX D

ESSAY 3 INTERVIEW

The interview may last for 25-30 minutes. You are free to answer and/ or refuse to answer any question at any time. You are free to withdraw and/ or stop the interview at any time. The interview may be recorded with your permission for transcription and data analysis. Excerpts of the interview may be made part of the follow-up sorting game and final research report. Under no circumstances will your or your organization’s name or other identifying characteristics be included in sorting game and research report.

Personal Information

1. Sex: Male / Female

2. Age:

- 21-25
- 26-30
- 31-35
- 36-40
- 41-45
- Over 45

3. Education:

- College
- Dual Bachelor
- Master
- Dual Master
- PhD
- Others

4. How many years you have been working? ________ years (e.g. 5).

5. What is the industry in which you have been working the longest? ________ (e.g. eduction).

6. What is the type of the organization you have been serving the longest?

- Business enterprise
- State administrative departments
- Institutions
- Social organizations
- Freelance
- Others

7. Have you been working as a manager?

If yes, how many years have you been working as a manager? ________ years (e.g. 5).

How many subordinates you were/ are responsible for? (Maximum) ________ people (e.g. 8).

8. What is the highest professional title or position you have/had? ________ (e.g. General manager)

Please answer the following questions:

1. Please use a few words to briefly describe your career history.
2. In your career, did you have the opportunity to lead others?
   a. If yes, how did you get the opportunity? And what made you choose to take this opportunity?
   b. If no, why did you not get the opportunity?
3. What are the factors encouraging or discouraging you to be a leader?
4. How do you think of your current position in your institution? Would you like to change or remain? Why?

5. In general, how do you feel when you are leading? How do you feel when you are being led? Which makes you feel better? Why?
6. Think of your favorite leader and describe why you chose that person?
7. Did you try to lead others as your favorite leader led you? What made you do this?
8. Have you been led by someone you dislike? If so, why did you dislike that person? How did you manage the relationship with that leader?
9. Please predict your career path in the next five years. Which role do you see yourself in at that time?

APPENDIX E

ESSAY 3 STATEMENTS AND FACTOR SCORES

#	Statement	F1	F2	F3	F4
1	I like to have a group of people working together and helping each other.	+1	-1	-1	0
2	Being a leader can raise one's social status. An individual will be more respected, authoritative, and prominent in voicing his or opinions and in decision-making if he or she becomes a leader.	-1	+3	0	0
3	A knowledgeable but inexperienced leader cannot lead a team successfully. Only when a leader can put knowledge into practice and understand his or her subordinates can he or she become a good and helpful leader.	+3	+5	+4	0
4	Corporate culture may affect a person's promotion.	+3	-1	+1	+2
5	A leader should not be too softhearted. Sometime, he or she has to be hard-nosed and disciplined. Not everyone is capable of this.	+3	+3	+1	+3
6	I feel great when I am a leader. It is a smashing and challenging job. I like something challenging.	0	+1	+1	+2
7	When I am passionate about my work, I take great delight in my job and keep making progress in my career. Naturally, this leads me to high professional levels.	+4	-1	+2	+1
8	I won the favor of my boss and we had much in common. So I got promoted.	0	-3	+1	-1
9	I will confront stronger competitors only when I am in higher positions.	-1	-1	-2	+2
10	A seniority-based working environment may emphasize the length of service to balance the ranks of new and old employees. Therefore, interpersonal relationships will be taken into consideration in promotion decisions.	+1	+2	0	-1
11	The macro environment may affect a person's career growth.	+2	0	0	0
12	I will be satisfied if I can do my favorite work and exhibit my abilities in it. I do not buy the idea that someone has to climb to management to show his or her worth.	-1	-4	-1	-1
13	Whether an individual is able to display his or her abilities or change his or her position depends on the competence and boldness of his or her immediate supervisor.	-1	+1	+3	-1
14	I try to imitate my favorite leader when leading others. I want to become a leader like him or her.	+1	0	-3	-1
15	A person can do his or her work without any problems. But it is another story whether he or she can build a team that appropriately divides the labor and cooperates well.	+5	+4	+3	+1

#	Statement	F1	F2	F3	F4
16	Whether or not a person will be a leader completely depends on his or her abilities.	-2	-2	-3	-2
17	Since nobody took the vacancy in this leading position, I took the position.	-2	-3	-1	-3
18	Personality is a very important factor that affects a person's success as a leader and his or her development.	+4	+3	+5	+4
19	If someone grasps an opportunity and proves himself or herself competent to do well in the job, he or she is likely to get promoted.	+1	+1	+3	+3
20	Everyone can move to a leading position if he or she gets older or serves long enough in an organization.	-4	-5	-5	-5
21	A leader is successful only when he or she gets strong support from the subordinates.	0	+2	+2	+1
22	I have a dream and a wide vision of the future, and I will lead people to realize my dream.	0	-1	-2	+5
23	Chinese tradition means a lot to me. It is very important for one to be a government official, and to be leader of an organization is more or less the same as to be a government official.	-5	-5	-4	-4
24	My personal efforts and outstanding performance leads to my promotion.	-1	0	0	+1
25	I am destined to be a leader because it is destiny.	-4	-4	-5	+1
26	For a person who once worked as a leader and saw the big picture, retreating from a leadership position to a subordinate position will make him or her uncomfortable.	-1	+1	-2	-3
27	If I am not a leader, I can concentrate on my own work. It will be more straightforward and achievable, which can give me stronger sense of fulfillment.	-3	-3	-1	-2
28	A specific career plan, clear objectives, and self-positioning will help one to advance in his or her profession.	+4	+4	0	+2
29	If I am not a leader, I will not be bothered with others' affairs. I can just focus on my assignments and perform my duties well.	+1	+1	-1	-3
30	A leadership position is appealing to me because I will be better paid and get more material rewards.	-2	+1	+1	-2
31	Passion is an important attribute of a leader.	+3	+4	0	+3
32	If a person works independently, he or she is relatively less likely to lead others.	0	0	-1	-2
33	I will feel less stressed and more relaxed if I switch my position from a leader to a staff member.	+2	0	-3	-5
34	The organizational structure of a work place will determine the probability of its employees' promotion.	0	0	+2	0

#	Statement	F1	F2	F3	F4
35	Advancement in position means that my abilities are appreciated by others and it can prove my worth.	+2	+3	+4	0
36	I like to do things my own way instead of being supervised by other people. So I prefer to lead others.	-3	-3	-4	-1
37	If an individual has relatively weak qualifications, it is difficult for him or her to be promoted.	+2	-1	+2	0
38	Only advancements into management enable me to keep my job. Otherwise I may have to leave or be fired.	-3	-2	-3	-3
39	I would like to show my charisma and characteristics in management and to improve my leadership style.	+2	+1	+3	+3
40	It’s human nature to aspire to higher positions. Climbing to management or even top management is a common goal that everyone is pursuing.	-2	-2	-2	-2
41	If something has been accomplished because of my contribution, the achievement, by itself, can give me immense satisfaction. I would not really care too much about whether I was a leader or not in the whole thing.	-1	-2	+1	+1
42	A manager's success depends crucially on whether his or her decision-making and vision agrees with those of his or her supervisors.	+1	+2	+5	+1
43	Leaders need to do more than is required of their job. Whether a person does this depends on how much commitment he or she is willing to make to leading.	0	+2	+1	+4
44	I think leading is serving. A leader should give priority to the interests of his or her group and work earnestly for the benefits of its members.	+5	+5	+4	+5
45	Being selected for the management training program ensures that I would be a leader in the future.	-5	-4	-4	-4
46	Years of accumulated experience and expertise enables me to lead others.	-3	-1	-2	-1
47	Sex is a factor affecting fair selection for leading positions.	+1	0	-1	0
48	A hunger for power and ambition drive a person to work for advancement in his or her career.	0	0	0	+2
49	In order to play a greater role and do more important things in my profession, I need to reach a higher level of management so that I can involve more people to accomplish my goals.	-2	+2	+2	+4
50	Since my superior believed I was capable of management, I obtained this leading position.	-4	-2	0	-4

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