

THE DARK SIDE OF LMX: VARIANCES AMONG OUT-GROUP MEMBERS  
IN GROWTH NEED AND WORK OUTCOMES

by

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## ABSTRACT

Given my interest in LMX relationships and impression management (IM) behaviors, this dissertation was focused on the out-group in LMX, regarding member job performance and attitudes (Study I), and the impact of IM on performance ratings (Study II).

With the suspicion that there may be individual differences that separate those who do not belong in the out-group from those who may belong there, Study I was designed to address the question concerning how the differences among out-group members impact their job performance and attitudes. Specifically, this study investigated the effect of growth-need strength (GNS) on out-group member job performance and job related attitudes. By adopting theories of person-job fit, some of the causes of undesirable work outcomes among out-group members, such as low commitment, low satisfaction, and high turnover intentions, were examined. Results from Study I suggest that for out-group members with a high growth-need, a better relationship with the supervisors may bring higher growth satisfaction and decreased turnover intent, but also more stress. With evidence found in Study I that not all out-group members believed that they belonged in the out-group, Study II investigated whether these out-group members would try to change their out-group status by means of IM. Cognitive Dissonance Theory was used as the theoretical foundation for this study. Data for both studies were collected from a state-owned hospital in main land China. Findings from Study II indicate that out-group members with a higher growth-need would use impression management more frequently, and that impression management attempts can be effective in improving performance ratings, even for out-group members.

## LIST OF ABBREVIATIONS AND SYMBOLS

$\eta^2$	effect size in a general linear model, or the proportion of the variance in the dependent variable due to the independent variable
$\sigma^2$	within-group variance in the dependent variable of hierarchical linear model
$\tau$	group-level error in a hierarchical linear model
$\chi^2$	computed value of a $\chi^2$ test
$\Delta\chi^2$	change in $\chi^2$
$b$	standardized coefficient, or beta weight, of an independent variable
$df$	degrees of freedom: number of values free to vary after certain restrictions have been placed on the data
$\Delta df$	change in degrees of freedom
$F$	computed value of an f-test
$p$	probability associated with the occurrence under the null hypothesis of a value as extreme as or more extreme than the observed value
$R^2$	effect size in a regression model, or the proportion of the variance in the dependent variable due to the independent variable(s)
$\Delta R^2$	change in $R^2$
$t$	computed value of a t-test
$<$	less than
$=$	equal to

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## CHAPTER I: INTRODUCTION

As we have only seen one side of the moon, the bright side, we have only seen one side of the leader-member exchange (LMX), the in-group. Researchers have conducted many studies on LMX and its correlates. Their general findings seem to be that, when compared against members of the out-group, in-group members are simply better. In-group members are more committed (Graen et al., 1982a; Liden et al., 2000), more satisfied (Graen et al., 1982b), more innovative (Basu & Green, 1997), more likely to go above and beyond the call of duty (e.g., Deluga, 1994, 1998; Settoon et al., 1996; Wayne & Green, 1993, Ilies, et al., 2007), and are better performers (e.g., Liden & Graen, 1980; Scandura & Graen, 1984; Kraimer et al., 2001). These overwhelmingly positive findings on the in-group have led to the suggestion that if we can treat everyone as in-group members, or, if we can make everyone feel like in-group members, we shall have better, happier, and more productive employees. The problem is: we may not be able to do that, according to the LMX theory.

Developed from the Vertical Dyadic Linkage (VDL) model (Dansereau et al., 1975), the LMX theory (Graen & Cashman, 1975) is based on the assumption that leaders have a limited amount of resources to distribute among team members. Given this very limited pool of resources, it is unlikely, if not impossible, for leaders to treat every team member the same way. Identifying in-group versus out-group members during the leader-member exchange process allows leaders to use their resources more efficiently (i.e., to use on the in-group members) to enhance leadership effectiveness. As exchange quality develops and stabilizes, LMX theory suggests that it is impractical, and inappropriate, for leaders to have an “average leadership style”

for all team members. So long as the resources of our organizations remain limited, the leader will have to differentiate in-group members from out-group members, and the out-group will continue to coexist with the in-group.

Despite its existence, the out-group has remained on the dark side of LMX for the past few decades. It has received little attention from academic research. By far, we have known little about the out-group, except that it is a negative contrast to the in-group: out-group members are uncommitted (Liden et al., 2000), dissatisfied (Graen et al., 1982b), unlikely to go beyond the call of duty (e.g., Deluga, 1994, 1998; Settoon et al., 1996; Wayne & Green, 1993; Ilies, et al., 2007), likely to turnover (Graen et al., 1982a), and are lower performers (e.g., Liden & Graen, 1980; Scandura & Graen, 1984; Kraimer et al., 2001). Given the high costs of turnover and the dysfunctional outcomes of low commitment and high dissatisfaction, efficient and effective management of the out-group is important for the well-being of our organizations. Moreover, if the out-group is better understood, perhaps there are tactics and mechanisms that managers can employ to maximize the productivity and effectiveness of out-group members. As such, it is the purpose of this dissertation to start exploration of the uncharted hemisphere of LMX, the out-group.

### 1. Defining the Out-group

Vertical Dyad Linkage model (VDL) (Dansereau et al., 1975) describes a process of how a leader differentiates his/her members into in-groups and out-groups based on the quality of leader-member exchange relationships. According to Dienesch (1986), this differentiation in leader-member exchange relationships is an inherent result of the role making process, where the leader and his/her members develop role expectations and role definitions during initial exchanges. This differentiation is then reinforced by the time and resource constraints that all

leaders are bound to in organizations. The finite nature of organizational resources dictates that the leader can only develop high quality relationships with an elite group of his/her members that he/she can depend on, and that the leader must rely on formal authority to manage the rest of the work group (Graen, 1976). Consequently, exchanges between the leader and this elite group of members form the *in-group exchange*, which is extended beyond the employment contract and is characterized by high leader-member trust, interaction and support (Dienesch, 1986). Exchanges between the leader and the rest of the work group form the *out-group exchange*, which is governed by the employment contract and can be best described as an economic exchange (Blau, 1964) that involves minimum trust, interaction and support.

The two constructs, *in-group exchange* and *out-group exchange*, have been defined qualitatively in terms of the characteristics of the two different leader-member exchange relationships. Graen and Cashman (1975) described low quality exchanges as those characterized by low trust, low respect, and low obligation between a leader and his/her members. Zalesny and Graen (1987) portrayed members in the low quality exchanges as “hired hands,” i.e., members who did just enough to fulfill their employment contracts. Similarly, Liden et al. (2000) defined in-group exchanges as those characterized by more challenging work assignments, more emotional and rational support, and higher levels of resource exchange; and out-group exchanges as those limited to the exchange of basic task-related resources. For purpose of this dissertation, following these previous definitions of out-group exchanges, the *out-group* is defined as the group of members who have developed out-group exchanges with the leader. More specifically, the out-group consists of members who do not have a high quality exchange relationship with the leader, and an out-group exchange relationship is relatively low in mutual trust, interaction and support. It should be noted that the out-group, as defined here,

includes individuals who are not specifically in-group members. This includes both the “out group” (25 percent of the study subjects) and the “middle group” (50 percent of the study subjects) as described in the Graen and Cashman (1975) study, namely the individuals whose scores on the LMX measure were lower than those of the in-group members (25 percent of the study subjects). As such, for purpose of this dissertation, so long as a member is not *in*, he/she is *out*, as he/she does not engage in a high trust and high interaction exchange and does not benefit from such exchanges.

## 2. Significance of the Out-group

On the dark side of LMX, the out-group remains an unseen hemisphere. This section will address the significance of the out-group, in terms of the opportunities it presents for research and practice. Specifically, this section will address the significance of the out-group in the contexts of a few well known theories that have not been empirically applied to LMX research. These theories include social network theory (Granovetter, 1973, Sparrowe et al., 2001, Sparrowe & Liden, 2005), social identity theory (Tajfel & Turner, 1986) and social learning theory (Driver, 2002). Perspectives of these theories suggest that the personalized leadership style that LMX advocates may be more effective among out-group members. For research, these perspectives shed light on the contexts in which the out-group may deserve more attention from leaders. For practice, these perspectives suggest that instead of training leaders to treat all their members as in-group members, giving the out-group “individualized consideration” (Graen & Schiemann, 1978) may produce better performance outcomes for out-group members.

Unlike LMX, which focuses on the quality of exchange relationships, social network theory (SNT, Burt, 1992; Granovetter, 1973; Sparrowe & Popielarz, 1995) focuses on the structure of these relationships in predicting work related outcomes. SNT, as adopted and

extended by Sparrowe and Liden (1997), provides a foundation to study LMX in a larger organizational context beyond the leader-member dyad. This version of the social network theory is constructed upon the parallel between the differentiation process in LMX (i.e., the divide between the in-group and the out-group) and the sponsorship-legitimacy link (i.e., the line between sponsored and unsponsored members) in social network research.

According to SNT, the strength of ties between two individuals is a function of time, emotional intensity, intimacy, and reciprocal service shared by both individuals. As such, an in-group exchange is much more similar to a strong tie, as an out-group exchange is to a weak tie. For this reason, Sparrowe and Liden (1997) suggest that members of the out-group develop weak ties with the leader and therefore they are not sponsored by the leader during socialization. As a result, they are not assimilated to the leader's social networks and hence not identified with the team and/or the organization. Members of the in-group, on the other hand, develop Simmelian ties, i.e., strong, interconnected ties (Granovetter, 1973), with the leader and one another; and become assimilated into the leader's social networks. Through the enforcement of group norms, these Simmelian ties effectively constrain individual activity and minimize individual power among in-group members. The weak ties between the leader and the out-group members (i.e. out-group exchanges) and among out-group members themselves, however, allow much more space for out-group members' individualities. More importantly, in a given network, these weak ties matter more because they are the routes that pass on more information (Granovetter, 1973). Hence, compared with individuals connected by Simmelian ties, individuals connected by a weak tie have broader influence over more contacts/groups. Therefore, one may reason that, being on one end of these weak ties, the leader is in a position to bridge the structural hole, i.e., absence of ties, between the organization and the out-group members. Understanding the nature

of the weak ties between the leader and his/her out-group members, and the structure of the social network among out-group members, can help leaders better manage this group of employees by serving as the connecting node between these employees and the others as well as the organization.

The social identity perspective (Hogg & Abrams, 1988; Tajfel & Turner, 1986; Hogg, 2003) posits that leadership effectiveness is a function of group membership salience, i.e., the degree to which group members identify with the group as an important aspect of their self-concept. The more strongly a member identifies with the group, the more psychologically salient is the member's social identity as a group member. According to Hogg (2005), the salience of an in-group membership is high among in-group members, whereas the salience of an out-group membership is low among out-group members. That is, while in-group members identify more with the leader and their own cadre, out-group members are not. Interestingly, this line of reasoning enjoys support from SNT (Sparrowe & Liden, 1997), which suggests that out-group members are less likely to be sponsored by the leader during socialization and consequently having fewer chances of being assimilated into the leader's networks. Without leader sponsorship and network assimilation, out-group members are not governed by the in-group norms and have more room for individuality. As a result, in-group members may expect to be treated with equity and parity (Hogg, 2005) and prefer a depersonalized leadership style, i.e., average leadership style (Graen & Cashman, 1975), within their cadre; whereas out-group members may not care for equity and especially parity (Hogg, 2005) within the out-group and prefer a more personalized leadership style, i.e., individualized consideration (Graen & Cashman, 1975). In fact, Hogg's (2005) prediction regarding the diminishing effect of personalized leadership style in increasingly salient groups was supported in his study. In other

words, there has been evidence supporting the idea that while in-group members would like to be treated with equity and parity, out-group members are those who truly need and prefer the individualized leadership style that LMX advocates. If so, the out-group may reciprocate individualized consideration with better job performance. As such, it is of interest to both researchers and practitioners to explore ways in which leaders can give individualized consideration to out-group members.

From the perspective of social learning, members of the out-group tend to assume a more passive learning role, i.e., routine problem solving or reality checking (Driver, 2002). Driver (2002) believes that if learning is a task that organizations need to accomplish, then just as most other tasks, learning tasks can also be negotiated during dyadic exchanges between leaders and followers. As dyadic exchanges are based on contractual obligations (i.e., normative commitment) or affective bond (i.e., trust) (Dienesch & Liden, 1986; Graen & Cashman, 1975; Graen & Scandura, 1987), learning role negotiations should be related to LMX. More specifically, Driver (2002) suggests that as members of the out-group receive less affective and latitudinal resources (e.g., mentoring and flextime) from the leader, they are more likely to negotiate for a passive learning role; whereas members of the in-group are more equipped to take on an active learning role, i.e., non-routine problem solving or innovation. The idea of the association between LMX and learning roles seems to be a good explanation on the research findings on LMX and innovation. Basu and Green (1997) found, in a Fortune 500 manufacturing plant, that members with lower LMX reported lower autonomy and less innovative behaviors, which could be explained by the possibility that these members took a passive learning role and only engaged themselves in routine problem solving or reality checking. Passive learning roles and styles, while advantageous when reality checks are needed, can be problematic for

organizational development, especially for organizations that rely on innovation for competitive advantages. As such, understanding how out-group members accomplish learning tasks may help leaders design employee training and development programs tailored toward individual learning styles and at the same time aligned with organizational learning goals.

### 3. Structure of Dissertation and Current Research Questions

As an early exploration of the uncharted hemisphere of LMX, the out-group, the current inquiry will focus on individual differences among out-group members that may account for the overwhelmingly negative findings about the out-group regarding job performance and attitudes. It is hoped that by better understanding the causes of these negative outcomes among out-group members, leaders can better manage their members and improve team performance. Moreover, further knowledge of the variances among out-group members associated with these undesirable outcomes may help reduce HR costs associated with dissatisfaction and turnover.

As will be seen in the literature review, the out-group has been associated with low commitment, low satisfaction, low performance, and high turnover at the work place. Studies such as those conducted by Liden and Graen (1980), Scandura and Graen (1984) and by Kraimer et al. (2001), have shown that members with low LMX consistently receive lower performance ratings than those with higher LMX. Other studies have observed that the out-group has a higher tendency to turn-over because of low commitment (Graen et al., 1982a) and low satisfaction (Graen et al., 1982b). A few more recent studies suggest that out-group membership is related to perception of organizational injustice (Elicker et al., 2006; Erdogan et al., 2006; Erdogan & Liden, 2006; Lee, 2001; Murphy et al., 2003; Pilai et al. 1999), which may explain the previously found associations between the out-group and low commitment, low satisfaction, low performance, and high turnover. Murphy et al. (2003), in particular, found that perception of

injustice mediated the relationship between LMX and social loafing. These findings have formed a general impression of the out-group as a negative contrast against the in-group, which raises the question of whether or not all out-group members are equally “bad” when it comes to job performance and attitudes. Given the definition of the out-group as the part of a work team consisting of members who do not have a high quality exchange relationship with the leader, it is of suspect that there are no “different shades of grey” in the out-group when it comes to perception of exchange quality (i.e., LMX), job performance and attitudes. If this is true, then the question involves the variances among out-group members and how those differences impact out-group member job performance and attitudes. To address these questions, this dissertation is composed of two separate studies, each addressing a more specific question and each hopefully publishable in and of itself.

Study I will address two questions: one regarding the size difference between the in-group and out-group, and the other concerning how the differences among out-group members impact their job performance and attitudes. By far, the speculations about the existence and the significance of the “different shades of grey” in the out-group have been based on the assumption that the out-group is larger in size than the in-group. Although extant literature implies that the out-group is larger, no study has empirically examined the size difference between the in-group and out-group. Therefore Study I will first directly investigate the size difference and seek the cut-off between in-group and out-group. The study will then investigate how the differences among out-group members impact their job performance and attitudes. Specifically, this study will investigate the effect of an individual trait, growth need strength (GNS), on out-group member job performance and attitudes. By adopting a person-job fit (Edwards, 1991) perspective in theory, some of the causes of undesirable work outcomes among

out-group members, such as low commitment, low satisfaction, and high turnover intentions, will be investigated. Study II will be an extension of Study I. If, as proposed in Study I, evidence is found that not all out-group members believe that they belong in the out-group, Study II will investigate whether these out-group members will try to change their out-group status via impression management (IM). Cognitive Dissonance Theory (Festinger, 1976) will be used as the theoretical foundation for this study.

## CHAPTER II: LITERATURE REVIEW AND HYPOTHESES

### 1. The Out-group in LMX

In this next section, the development of the LMX theory and research are discussed. In particular, a history of LMX will be presented. Then studies specific to the out-group will be explicated.

#### a. The theory: from VDL to LMX

As a relationship based approach to leadership, LMX originated from the research on the Vertical Dyad Linkage (VDL) model of leadership (Dansereau et al., 1975). VDL took a leap from the behavior based approach to leadership, i.e., the average leadership style (ALS) approach (Fleishman & Simmons, 1970). The ALS suggests that every leader develops a certain behavioral pattern (i.e., leadership style), usually described as a combination of the two dimensions of consideration (i.e., relationship focused behaviors) and initiating structure (task-focused behaviors), and administers it to all his members. The members, in turn, are assumed to have similar reactions to the leader's behaviors. As such, ALS suggests that leadership effectiveness can be attributed to a leader's behaviors, an individual level construct.

With the inconsistent findings on ALS and its outcomes (Graen & Schiemann, 1978), VDL researchers (Dansereau et al., 1975; Graen & Cashman, 1975; Cashman, et al., 1976; Graen, et al. 1977; Vecchio, 1982; Rosse & Kraut, 1983) initiated a new stream of leadership studies that were focused on the social interactions among leaders and their members. They discovered that leaders did not apply an "average leadership style" to all their members, and that not all members reacted to the same leader in the same manner. Instead, these researchers

observed that leaders developed differentiated relationships with their members on a dyad level. As a result, scholars soon channeled their attention to leader-member dyads.

In their effort to build a new leadership theory, VDL researchers sought theoretical explanations as to how these differentiated relationships among leader-member dyads developed. Found in the original VDL model (Dansereau et al., 1975) are the assumptions about the leader's "linking pin" position between his members and organizational authorities, and about the limited amount of resources the leader can access and utilize. The "linking pin" position allows the leader to have discretion on how to distribute among his members the organizational resources he can access. The finite nature of such resources requires that the leader use these resources as efficiently as possible. As a result, the leader must use his resources on the members whom he/she can trust with the major responsibilities of the work unit. The role making process and social exchange processes, two mechanisms of VDL, then determines which of these members will consequently form the cadre of high quality exchanges and which other members will form the group of low quality exchanges.

Role making theory (Kahn et al., 1964) suggests that as the role performance of a member is of interest to the leader, the leader is motivated to create a series of role expectation episodes in which the member will learn role expectations, and define his role behaviors in the team. The result of this role making process, i.e., how a member defines his role in the team, is, to a large degree, determined by the interpersonal relationship between the member and the leader (Graen, 1976), which is developed through the process of reciprocal social exchanges. The premise of social exchange theory (Blau, 1964) is that individuals tend to form relationships with those who possess valuable resources, including material benefits and psychological rewards such as status, loyalty, and approval (Yukl, 1994). Given the assumed limited amount

of resources accessible to the leader, the leader can only have high quality relationships with a few of his members. Consequently he/she must differentiate his role expectations among the members, and initiate high quality exchanges with those few with the potential for more social rewards. As such, the role-making process in VDL will inherently result in differentiated role definitions and reciprocal social forces will necessarily lead to varied leader-member exchanges. The leader can only develop high quality exchanges with a few trusted members, and will have to manage the rest of the work unit with formal authority.

VDL's predictions of differentiated role definitions and leader-member relationships found support in the initial studies on leader-member exchanges. The first indicator of the quality of an emerging dyadic exchange relationship was called the "negotiating latitude between a member and his leader" (Graen & Cashman, 1975, 144). This measure was designed to assess the members' perceptions of the leaders' openness to offer individualized assistance at work (Graen & Cashman, 1975). With this measure, VDL researchers (Dansereau et al., 1975; Graen & Cashman, 1975; Cashman, et al., 1975; Graen, et al. 1977; Vecchio, 1982; Rosse & Kraut, 1983) found that within each work unit, there were two distinct groups of members: one that reported high negotiating latitudes with the leader, i.e., high quality exchanges, and one that reported otherwise, i.e., low quality exchanges. The high quality exchanges were characterized by a high degree of mutual trust, respect, and obligation, whereas the low quality exchanges were characterized by the opposite. Members in the high quality exchanges developed roles that were broader than their job descriptions and forged a trusted cadre (i.e., the in-group) to the leader, whereas members in the low quality exchanges did just enough to fulfill their employment contracts and formed the group of "hired hands" (Zalesny & Graen, 1987), i.e., the out-group.

Yet, a more influential contribution of the initial empirical work is the recognition of the in-group and the out-group as two distinct social structures that once emerge will remain stable, and as such they can predict leader and member behaviors over time (Graen & Cashman, 1975). This recognition gave a new purpose to the leader-member exchange (LMX) construct as the predictor of the performance of leaders and members. It was then that VDL evolved into LMX, from the discovery of differentiated dyads to the examination of LMX characteristics and their organizational implications (Graen & Uhlbien, 1995).

b. The research: the dark side of LMX

Previous research on LMX has mostly focused on the antecedents to LMX development in leader-member dyads, the impact of LMX on the members in leader-member dyads, and the mediators and/or moderators between the antecedents and LMX and between LMX and its impacts. In this section, this stream of research will be reviewed, with a focus on what leaves the out-group members *out*, and what an out-group status means for these members in organizations.

Many studies on LMX have been dedicated to discovering the antecedents to a high quality relationship between a leader and a member. The findings from these studies, although focused on what puts the in-group members *in*, has provided some clues as to what leaves the out-group members *out*, or, on the dark side of LMX. These findings, in general, identified a range of variables that separate the out-group from the in-group, including member personalities/traits, member attitudes, member values, leader-member similarities, and member behaviors.

Research on potential determinants of LMX quality shows that out-group members are *out* because, when compared against the in-group, they demonstrate less positive personalities/traits such as conscientiousness and extraversion (Lapierre & Hackett, 2007), or, do

not demonstrate positive work attitudes regarding justice and equity (Deluga, 1994; Erdogan et al., 2006). For instance, Lapierre and Hackett (2007) found that out-group members scored lower on conscientiousness. Some researchers believe that out-group members may be on the dark side because they have a “dark” view of their organizations. Deluga (1994) suggests that out-group members are *out* because they do not perceive their organization as fair and just as in-group members do. Studies, such as those conducted by Vecchio et al. (1986), Manogran et al. (1994), and Pilai (1999), indicate that out-group members are more likely to view the workplace as unfair regarding distributive, procedural and interactional justice. Erdogan and Liden (2006) and Erdogan et al. (2006) found that negative perceptions of interactional and distributive justice were related to lower quality exchanges, and that this relationship was much more pronounced in organizational cultures with a higher respect for people and those with a stronger team orientation. Other researchers suggest that out-group members are *out* because they engage in fewer pro-social behaviors such as ingratiation and citizenship behaviors. Lapierre and Hackett (2007) found that out-group members did not stand out as organizational citizens as their in-group peers did; and Colella and Varma (2001) discovered that out-group members did not bother to ingratiate their supervisors as those in the in-group cared to.

Research on leader-member similarities shows that out-group members are *out* because, when compared against the in-group, they are perceived as less similar to their leaders, both from their own perspectives and from their leaders’ perspectives. The similarity-attraction theory (Berscheid & Walster, 1969; Byrne, 1971) suggests that individuals tend to have less positive social interactions with those whom they perceive as less similar to themselves. This theory underlies the majority of the studies on LMX, with leader-member similarities as antecedents to LMX quality. The effects of these similarities on LMX were often mediated by liking from both

the leaders' and members' perspectives (Liden et al., 1993). As the out-group members were actually, or perceived as, less similar to the leaders, they were less liked, and eventually were left on the dark side of LMX. Basu and Green (1995) found that supervisors and subordinates, who did not share similar work attitudes and similar education levels, developed lower quality exchanges. The lack of similarities in personalities/traits such as positive affectivity (Bauer & Green, 1996), negative affectivity (Engle & Lord, 1997), conscientiousness (Deluga, 1998), and growth-need strength (Huang & Iun, 2006), was found to be associated with lower quality exchanges. Not sharing the same values with one's supervisor may also put one in the out-group. In an Australian sample, Ashkanasy and O'Connor (1997) found that, compared against the in-group, the out-group did not have much similarity in achievement and obedience values with their leaders. As for similarity in relational demographics between leaders and members, perceived similarity was found to directly and positively influence LMX development (Murphy & Ensher, 1999), whereas actual similarity was found to have a negligible impact on LMX development (Liden et al., 1993).

While research on the antecedents to LMX has highlighted some factors that may have put some members in the out-group, research on the consequences of LMX development have made suggestions on what an out-group status may mean for out-group members in our organizations. In general, the out-group status was found to be associated with undesirable work outcomes in member attitudes (Elicker et al., 2006; Graen et al., 1982a, 1982b; Gerstner & Day, 1997; Lee, 2001; Liden et al., 2000; Murphy et al., 2003), behaviors (e.g., Deluga, 1994, 1998; Hofmann et al., 2003; Ilies et al., 2007; Settoon et al., 1996; Wayne & Green, 1993), and performance (Liden & Graen, 1980; Scandura & Graen, 1984; Howell & Hall-Merenda, 1999; Dunegan et al., 1992, 2002; Kacmar et al., 2003).

Out-group members have been found to have less positive attitudes regarding organizational commitment (Graen et al., 1982a; Liden et al., 2000), job satisfaction (Graen et al., 1982b), and justice perceptions (Elicker et al., 2006; Lee, 2001; Murphy et al., 2003; Pillai et al., 1999). They also were more likely to have higher turnover intentions (Gerstner & Day, 1997). With the limited resources and low expectations that come with a low quality exchange, out-group members were assumed to have lower expectancies in respect to their jobs and lower expectancies generate low motivation, which discourages commitment (Graen et al., 1982a; Liden et al., 2000). Lacking leader attention and delegation, an out-group exchange does not offer the job enrichment that an in-group exchange does. Consequently, out-group members may turn out less satisfied (Graen et al., 1982b) and perceive injustice at work (Erdogan & Liden, 2006). In fact, low satisfaction has been found to lead to higher turnover intentions among out-group members (Gerstner & Day, 1997).

As a result of their experience in role making and social exchange during leader-member exchanges, out-group members learn their role as the “hired hands” (Zalesny & Graen, 1987) and develop perceptions of lower expectations from the leader (Graen & Cashman, 1975). In other words, out-group members do not anticipate delegation or receive extra resource from the leader, and consequently they are not motivated to reciprocate with the so-called extra-role behaviors to fulfill the role expectations that come with the in-group status. In concert with this suggestion, various studies have shown that out-group members engaged less in citizenship behaviors (e.g., Deluga, 1994, 1998; Hofmann et al., 2003; Ilies et al., 2007; Settoon et al., 1996; Wayne & Green, 1993), and innovative behaviors (Basu and Green, 1997). In turn, lower engagement in extra-role behaviors often brought about lower performance ratings from the supervisors for out-

group members (Liden & Graen, 1980; Scandura & Graen, 1984; Howell & Hall-Merenda, 1999; Dunegan et al., 1992, 2002; Kacmar et al., 2003).

The findings on in-group member performance have been interesting, in that they suggest that out-group members are not necessarily under-performers and their performance ratings may have been deflated. Compared with members of the out-group, in-group members consistently received higher performance ratings from the supervisors (Liden & Graen, 1980; Scandura & Graen, 1984; Howell & Hall-Merenda, 1999; Kacmar et al., 2003), regardless of their objective performance on the job both in the short term and the long term (Duarte et al., 1993, 1994). Task characteristics, such as variety, conflict, and ambiguity, were found to moderate the strength of the relationship between LMX and performance ratings (Dunegan et al., 1992, 2002). Certain characteristics of the work environment, such as perceived supervisor incompetence, decentralized decision making, and low politics perceptions were found to be related to higher individual work effort among out-group members (Kacmar et al., 2007).

Last but not least, the few studies on the relationships between LMX and work related stress/tension are probably the only ones that have found the in-group status as a disadvantage for some in-group members. For instance, Harris et al. (2005) discovered a curvilinear relationship between LMX and stress, where those on the low end and high end of LMX suffered the highest level of stress. Brouer and Harris (2007) found the highest level of work tension among in-group members with negative affect or with little interaction with the supervisor; medium level of work tension among out-group members; and the lowest level work tension among in-group members with positive affect and high frequency of interaction with the supervisor.

In sum, a review on the LMX literature reveals that LMX itself, as a theory, may have been misunderstood, in the sense that it was meant to inspire leaders to tailor their leadership styles to fit follower needs but was applied to studies which suggest that leaders should treat all followers as if they were in-group members. As such, the out-group has been neglected in past research, in the sense that it has often been portrayed as a negative contrast to the in-group, with little variance within itself. In each of the next two sections of this manuscript is a study designated to uncover the out-group, by challenging the idea that the out-group is anything but positive.

## 2. Study I: Growth Need, Performance, and Attitudes of Out-group Members

### a. The size of the out-group

The significance of the out-group lies in its potential for research expansion on LMX and the corresponding new implications for practice. As discussed earlier, a few theoretical perspectives, such as those of social network, social identity, and social learning, suggests that the out-group may indeed be more in need of the individualized leadership style for which LMX advocates. The assumption, that underlies the significance of the out-group, is that the out-group is larger in size when compared with the in-group. This assumption, although suggested in LMX research, has never been tested empirically. How big, then, is the out-group?

Existing studies that involve LMX as a variable usually separated the in-group from the out-group with a “median split:” cases with an above average score on the LMX scale landed in the in-group, and the other cases formed the out-group. Given the assumption of “normal distribution,” the in-group and the out-group are almost the same size in the studies that use the “median split.” This may not resemble reality, unless the limited resource of a supervisor is just enough to cover exactly half of his/her subordinates. If the assumptions of LMX theory still

hold, it is likely that the size of the in-group is smaller than we have assumed. Supervisors may not identify half of their subordinates as in-group members, but where should the cut-off be for this split? More importantly, will the change of this cut-off also change past research findings on the out-group?

Theories related to LMX suggest that the out-group should indeed be larger than the in-group in size due to the resource constraints to which leaders are bound. VDL contends that limited organizational resources that leaders are allowed, such as material rewards and developmental opportunities, determine that leaders can only distribute these resources among the most trusted members. Social network theory suggests that for leaders, in-group relationships are more taxing to maintain, both emotionally and mentally, and that the size of the in-group is thus limited by the leader’s network capacity. Cognitive resource theory also supports this line of reasoning by suggesting that leaders, as all humans, have a finite pool of cognitive resource. As Davenport and Beck (2000) put it, the leader’s attention is a “zero-sum game.” For the leader to focus his attention on the in-group, the out-group must be left out.

Table 1: ANOVA Results of the Preliminary Study

Sample 1	M	Satisfaction			Turnover Intentions			Stress			Performance		
		F (2, 782)	$\eta^2$		M	F (2, 778)	$\eta^2$	M	F (2, 783)	$\eta^2$	M	F (2, 783)	$\eta^2$
LMX	Low	2.98	117.82	0.00	3.32	42.07	0.00	3.17	32.89	0.00	4.10	18.46	0.00
	Mid	3.57			2.79			2.79			4.06		
	High	3.94			2.54			2.61			4.30		
Sample 2	M	F (2, 465)	$\eta^2$	M	F (2, 462)	$\eta^2$	M	F (2, 465)	$\eta^2$	M	F (2, 465)	$\eta^2$	
LMX	Low	3.49	74.42	0.00	2.18	24.47	0.00	3.05	20.46	0.00	3.91	21.85	0.00
	Mid	3.91			1.88			2.82			3.94		
	High	4.30			1.57			2.51			4.28		

In fact, in the study conducted by Graen and Cashman in 1975, the in-group includes merely twenty-five percent of the study subjects. The out-group, according to its definition in this manuscript (i.e., “members who do not have a high quality exchange relationship with the

leader”), covers the other seventy-five percent of the study subjects. To further test this split, a preliminary study with secondary data lends support to the 25/75 cut-off.

The secondary data were collected from two samples, one with 786 subjects (Sample 1) and the other with 468 subjects (Sample 2). LMX, job satisfaction, stress, turnover intent and job performance were collected from both samples and were measured with 5-point Likert type scales. In both samples, LMX was converted into a categorical variable, with two cut-points. In Sample 1, cut points at 2.857 and 4.277 divided the subjects into three groups: 25% (194) low-LMX, 49% (386) mid-LMX, and 26% (206) high-LMX. In Sample 2, cut points at 3.143 and 4.277 divided the subjects into three groups: 26% (121) low-LMX, 50% (235) mid-LMX, and 24% (112) high-LMX. The results of a one-way ANOVA (Table 1) show that in both samples, LMX was positively related to job satisfaction and job performance, and negatively related to stress and turnover intentions. More importantly, the Scheffe post hoc tests show that in both samples, the three groups are significantly different from one another regarding job satisfaction, stress, and turnover intent. Job performance, on the other hand, was not different between those with low- and mid- LMX, but was significantly different between those with high LMX and the rest of the subjects. This result, in particular, supports the idea that the out-group is larger and as such there should be more variances among out-group members.

P1: The out-group is larger than the in-group in size.

As the out-group represents the majority of members in organizations, it deserves more attention than it has received. By far, most LMX studies have concluded that the out-group is less committed, less satisfied, more likely to turnover, and performs worse, and that one way to change these undesirable outcomes associated with the out-group is to treat the out-group as if it were the in-group. This solution implies little personal, attitudinal, or behavioral variation

among out-group members (Graen & Schiemann, 1978). Given the size of the out-group, one must wonder whether there are different shades of gray among the out-group members, in terms of work related attitudes and job performance.

As with any work group that is studied, individual differences exist. Assuming the out-group is larger than previously assumed or assessed, it is important to investigate the individual differences within the out-group and to look at their differential impacts on work related outcomes such as performance, satisfaction, and turnover intentions. In this section, the moderating role of a motivational trait, i.e., growth-need strength (GNS) is examined, in the relationships between LMX and work performance, attitudes, and other work related outcomes such as stress among out-group members. Motivational trait variables are known to influence individual performance and satisfaction at work (Judge et al., 1997). They are of interest to us because of their nature of innate human characteristics and their well documented role as predictors of work performance and attitudes (Judge et al., 1997). Understanding how motivational trait variables may impact out-group member work performance and attitudes can help leaders develop individualized leadership style toward out-group members as suggested by (Judge et al., 1997). Unlike motivational trait variables, attitudinal variables, such as organizational commitment, job satisfaction, and intent to turnover, are of particular instrumental value to us as they are more malleable, and are often more directly related to work behaviors and performance (Maynard et al., 2006; Ostroff et al., 2005). Knowledge of how motivational traits such as GNS may influence out-group members' attitudes may direct us toward the situational factors at work that can be changed to improve the performance and well-being of out-group members.

b. Motivational trait: growth-need strength (GNS)

The importance of individual needs as internal mechanisms that influence individuals' cognitive processes has been well acknowledged and has been shown to impact work motivation, satisfaction, and performance (Kanfer, 1990). A variety of individual needs have been discussed in the literature, including the need for achievement, affiliation, power, and personal growth. Unmet needs create tension within individuals, which in turn motivate them to fulfill these needs (Mitchell & Daniels, 2003). Consistent with other needs-based theories of motivation (Aldefer, 1972; Herzberg, 1966; Kanfer, Ackerman, & Heggstad, 1996), Hackman (1990) suggests that one of the most important individual needs, in the contexts of work and career, is the need for personal growth and development, i.e., growth need. For this reason, the present study is focused on this particular need as an individual motivational trait.

In the Job Characteristic Model (JCM, Hackman & Oldham, 1976), growth need is posited as a motivational trait that moderates the relationship between job characteristics and employee psychological states at work, and the relationship between employee psychological states and work motivation and satisfaction. According to the JCM, growth need strength (GNS) reflects the degree to which individuals have needs for accomplishment, for learning, and for personal growth and development. In their review on the JCM/GNS research, Graen et al. (1986) found that the moderating effect of GNS on the afore-mentioned relationships was inconsistent or weak in previous studies. They found, in an experiment, that GNS influences how individuals react to growth opportunities (i.e., high GNSs reacted to a growth opportunity but low GNSs did not), not to job characteristics. Given the career benefits that accompany the in-group status, high LMX means more growth opportunities. Hence, Graen et al. (1986) suggested that GNS should be positively related to LMX: those with high GNS are those who

should belong to the in-group. But are all individuals with high GNS in the in-group? Extant literature on LMX development has yet to provide a conclusive answer. However, one study (Huang & Iun, 2006) did find that it was the similarity of GNS in a leader-member dyad that was related to LMX, not the GNS of the members. Thus, not all high GNS find themselves in the in-group. The question that this study seeks to answer is how the differences in GNS among out-group members impact work outcomes such as performance, attitudes and well being.

c. Work outcomes: performance, attitudes and well being in the out-group

Among the various work outcomes, performance has always been the center of attention. It has been found in most LMX related studies that LMX has a positive impact on performance ratings. Duarte and his associates (1993, 1994) found that in-group members always received higher ratings than out-group members, both in the short-run and the long-run, regardless of their objective performance. Out-group members, however, received inconsistent ratings in the short run. Few studies have explored the difference in performance ratings among out-group members. Suppose there are “different shades of gray” in the out-group. Who may perform better and/or receive higher performance ratings? Does the positive relationship between LMX and performance still hold in the out-group?

Similar questions can be posted regarding other work outcomes that have been studied in relation to LMX, such as commitment, satisfaction, turnover intent, and well being. The general findings from extant research seem to have reached a consensus that members with lower LMX have lower performance ratings (e.g., Liden & Graen, 1980; Scandura & Graen, 1984; Kraimer et al., 2001), are less committed (Graen et al., 1982a; Liden et al., 2000), less satisfied (Graen et al., 1982b), more likely to turnover (Graen et al., 1982a), and experience a moderate level of stress (Brouer & Harris, 2007). Given the larger size of the out-group, which implies more

variances in individual differences in the out-group than in the in-group, will the previously found relationships between LMX and member attitudes, such as commitment and satisfaction, remain valid in the out-group? There are theoretical reasons for one to believe otherwise, which will be addressed next.

#### d. GNS and work outcomes in the out-group

Literature on person-job fit (P-J fit) and the JCM offers a theoretical explanation as to why one may think that the previously found relationships between LMX and work outcomes may not hold in the out-group.

P-J fit concerns an individual's compatibility with a specific job (Lauver & Kristof-Brown, 2001). Based on the description of person-environment fit by French et al. (1982), Edwards (1991, 1996) conceptualize P-J fit as a construct that can assume two distinct forms: demands-abilities fit (D-A fit), and supplies-values fit, or, supplies-needs fit (S-N fit). Demand-abilities fit (D-A fit), involves the extent to which an individual's abilities meet the demands of his/her job (Edwards, 1996; Werbel & Johnson, 2001). It is defined as the match between the abilities of an individual and the demands or requirements of his/her job (Kristof, 1996). In the context of person-job fit, abilities include the skills, knowledge, and energy that the individual can utilize to meet job demands, whereas demands involve the quantitative and qualitative job requirements placed on the individual (Edwards, 1996). Supplies-needs fit (S-N fit), in contrast, refers to the match between an individual's needs/values and the supplies from the job to fulfill those needs/values (Edwards, 1996). In the context of person-job fit, needs/values are conscious desires held by the individual (Edwards & Cooper, 1990; French et al., 1982; Locke, 1976) and thus encompass preferences, motives, and goals (Cummings & Cooper, 1979; Edwards, 1992; Schuler, 1980). Supplies refer to the amount, frequency, and quality of job attributes that may

fulfill the individual's needs/values (French et al., 1982). Thus, the major difference between D-A fit and S-N fit is that D-A fit emphasizes meeting job demands whereas S-N fit is focused on fulfilling individual needs.

Edwards (1996) argues that though both demands and supplies can be conceived as either objective or subjective (French et al., 1982), only subjective discrepancies between demands and abilities and between supplies and needs can influence psychological, physiological, and behavioral outcomes (Edwards, 1992; French et al., 1982; McGrath, 1976; Schuler, 1980). This is consistent with Endler and Magnusson (1976), French et al. (1982), and Cable and Judge (1996), who suggest that it is perceptual fit, and not objective fit, that best predicts individual outcomes at work. According to Edwards (1996), the subjective discrepancies between demands and abilities (i.e., perceptual D-A misfit) and those between supplies and needs (i.e., perceptual S-N misfit), are conceived with two distinct cognitive mechanism that underlies D-A fit and S-N fit. The mechanism underlying D-A fit is the cognitive comparison of perceived job demands to the individual's abilities to meet those demands; and the mechanism underlying S-N fit is the comparison of the perceived vs. the desired amount, frequency, or quality of conditions or events experienced by the individual. Perception of person-job misfit results when the comparisons indicate that needs exceed supplies or supplies exceed needs, and/or demands exceed abilities or abilities exceed demands (Edwards & Cooper, 1990; Edwards, 1996). Perception of person-job misfit has been known to be related to, if not predictive of, unfavorable work outcomes, such as negative job attitudes (i.e., commitment (e.g., Cable & DeRue, 2002) and satisfaction (e.g., Scroggins, 2007), lowered job performance (e.g., Shaw & Duffy, 2000), decreased engagement in extra role behaviors (Lauver & Kristof-Brown, 2001), increased turnover intent (e.g., Ostroff et al., 2005), and decayed well being as a result of stress (e.g., Kristof-Brown et al., 2005).

The D-A fit and S-N fit conceptualizations of P-J fit are integrated with the complementary and supplementary conceptualizations of fit proposed by Muchinsky and Monahan (1987) in a framework of person-environment fit proposed by Kristof (1996). According to Muchinsky and Monahan (1987), complementary P-J fit exists when individuals' can supply the job with what it demands, or when the job can supply what the individuals need. Supplementary fit exists when the individual and the job have similar characteristics. As such, in Kristof's (1996) framework, both D-A fit and S-N fit are both complementary in nature. Given the general proposition from theories of need fulfillment (e.g., Locke, 1976; Rice et al., 1985) that individuals will experience more positive job attitudes when their needs are satisfied, Kristof-Brown et al. (2005) reason that S-N fit has a stronger relationship with job attitudes (e.g., commitment and satisfaction) than D-A fit. From the perspective of cognitive resource theory (Kanfer & Ackerman, 1989), which proposes performance as a function of abilities, Kristof-Brown et al. (2005) suggest that D-A fit may have a stronger relationship with behavioral outcomes (e.g., performance and turnover). Nonetheless, considering the theory of reasoned action, which suggests that attitudes generally guides behaviors (Ajzen & Fishbein, 1977; Fishbein & Ajzen, 1975), Kristof-Brown et al. (2005) indicate that S-N fit can also be connected to the same behavioral outcomes.

Because the returns that a job has to offer is part of the basic motivation for individuals to work (Simon, 1951), Cable and DeRue (2002) posit S-N fit as the most important type of P-J fit from an employee's perspective. Given the motivational trait of interest in this study, GNS, which reflects an individual's need for growth rather than individual ability, this study will focus on the connections between GNS and S-N fit in predicting individual attitudinal and behavioral outcomes at work.

As it is incorporated into the job characteristics model (JCM, Hackman and Oldham, 1980; Kulik et al., 1987), S-N fit indicates that, when individuals with a high GNS find themselves in jobs that fail to supply opportunities for personal growth, their motivation and satisfaction will decline due to the perception of person-job misfit. Edwards' (1996) suggestion about excessive supplies indicates that when individuals with a low GNS find themselves in jobs that supply ample opportunities for personal growth, they may also perceive person-job misfit and become less motivated and less satisfied at work. If an in-group status represents growth opportunity as suggested by Graen et al. (1986), then members with high GNS would need and value an in-group status and expect to be an in-group member at work, whereas members with low GNS would not care for the in-group status and may be comfortable as an out-group member at work. Thus, while the high-GNS members may perceive a person-job misfit in the out-group, the low-GNS members may find themselves in a better fit with the job. In contrast, members with low GNS may sense misfit when they find themselves closer to the in-group. With the perception of misfit, however, comes declined performance (e.g., Shaw & Duffy, 2000), lowered commitment (e.g., Cable & DeRue, 2002), dissatisfaction (e.g., Scroggins, 2007), heightened stress (Edwards & Cooper, 1990; Edwards & Harrison; 1993), and perception of under-employment (Maynard et al., 2006), all of which are also related to higher turnover intentions (e.g., Scroggins, 2007). As such, GNS is expected to moderate the relationships between LMX and attitudinal as well as behavioral outcomes among out-group members.

Figure 1: Study I



LMX is, in general, positively related to commitment (Graen et al., 1982a; Liden et al., 2000). In the out-group, however, members with high GNS are more likely to have lower commitment than those with low GNS because they are more likely to perceive S-N misfit, which is associated with lower job commitment (Kristof, 1996; Livingstone et al., 1997). Cable and DeRue (2002) argue that because S-N fit perceptions relate to the total set of returns that individuals receive from their jobs, S-N fit should be more related to individuals' attachment to their jobs. Scroggins (2007) reasons that commitment might result from perceived S-N fit because when an individual perceives that his/her job is supplying desirable outcomes that lead to the satisfaction of his/her needs, he/she will deem his/her work experience as meaningful and become more committed to the job. Moreover, among high-GNS members, those who are closer to the in-group may be more committed than those who are far from the in-group because they may perceive less of a misfit; among low-GNS members, the exact opposite may be true. As such, it can be expected that GNS moderates the direction of the relationship between LMX and commitment such that the relationship is positive for those with high GNS and negative for those with low GNS.

P2a: In the out-group, GNS moderates the direction of the relationship between LMX and commitment such that the relationship is positive for those with high GNS and negative for those with low GNS.

More often than not, LMX has been found to be positively related to job satisfaction (Graen et al., 1982b). Similarly, out-group members with high GNS are more likely to have lower satisfaction than those with low GNS because they are more likely to perceive S-N misfit, which is associated with lower job satisfaction (Cable & DeRue, 2002; Scroggins, 2007; Shaw & Gupta (2004). To the degree that an individual perceives that his/her job is supplying

desirable outcomes that lead to the satisfaction of his/her needs, he/she is satisfied with his/her job (Cable & DeRue, 2002). Among high-GNS members, then, those who are closer to the in-group may have higher satisfaction than those who are far from the in-group because they may perceive less of a misfit; among low-GNS members, the exact opposite may be true. As such, it can be expected that GNS moderates the direction of the relationship between LMX and satisfaction such that the relationship is positive for those with high GNS and negative for those with low GNS.

P2b: In the out-group, GNS moderates the direction of the relationship between LMX and satisfaction such that the relationship is positive for those with high GNS and negative for those with low GNS.

Almost always, LMX is a strong positive correlate of job performance (e.g., Liden & Graen, 1980; Scandura & Graen, 1984; Kraimer et al., 2001). Out-group members with high GNS may be more likely to perform worse than those with low GNS for the reason that they are more likely to perceive S-N misfit, if S-N misfit is associated with lower job performance. However, very few studies to date have examined directly the relationship between S-N fit and performance ratings. The few existing studies that have tested some form of S-N fit and performance reported insignificant results. Lawler and Hall (1970) examined employees' perceptions of fit regarding autonomy and self-actualization and found them to be not related to self-ratings of performance and effort. Cherington and England (1980) also reported no relationship between fit (needed versus provided) regarding job enrichment and job performance. The common limits of these early studies are that they did not measure S-N directly and that the proxies they used for S-N fit only tapped perceptual fit on a few specific job characteristics. Consequently, the connection between S-N fit and job performance has yet to be examined

directly. This study will have to assume that S-N misfit is associated with lower job performance, given that S-N misfit has been found to be related to lower commitment and satisfaction, which are both positively related to performance. Among high-GNS members, then, those who are closer to the in-group may have better performance than those who are far from the in-group because they may perceive less of a misfit; among low-GNS members, the exact opposite may be true. As such, it can be expected that GNS moderates the direction of the relationship between LMX and performance such that the relationship is positive for those with high GNS and negative for those with low GNS.

P2c: In the out-group, GNS moderates the direction of the relationship between LMX and performance such that the relationship is positive for those with high GNS and negative for those with low GNS.

Unlike commitment, turnover intent has often been found to be negatively associated with LMX (Graen et al., 1982a). Out-group members with high GNS may be more likely to have turnover intent than those with low GNS because they are more likely to perceive S-N misfit, which is associated with higher turnover intent (Cable & DeRue, 2002; Hoffman & Woehr, 2006). Theories of turnover have traditionally conceptualized the turnover process as a series of decision stages through which the individual proceeds over a period of time (Steel, 2002). Scroggins (2007) suggests that individuals' intentions to leave their jobs are influenced by factors such as the degree to which the present job provides them with valued job outcomes, i.e., S-N fit, and that as S-N fit increases, individuals would have fewer reasons to leave their jobs. Among high-GNS members, then, those who are closer to the in-group may have lower turnover intent than those who are far from the in-group because they may perceive less of a misfit; among low-GNS members, the exact opposite may be true. As such, it can be expected that

GNS moderates the direction of the relationship between LMX and turnover intent such that the relationship is negative for those with high GNS and positive for those with low GNS.

P2d: In the out-group, GNS moderates the direction of the relationship between LMX and turnover intent such that the relationship is negative for those with high GNS and positive for those with low GNS.

Not many studies have examined the relationship between LMX and stress. However, two existing studies both found a non-linear relationship between LMX and stress. Harris et al. (2005) discovered a curvilinear relationship between LMX and stress, where those on the low end and high end of LMX suffered the highest level of stress. Brouer and Harris (2007) found the highest level of work tension among in-group members who had negative affect or little interaction with the supervisor; medium level of work tension among out-group members; and the lowest level work tension among in-group members with positive affect and high frequency of interaction with the supervisor. Between these two studies, a common pattern can be observed in the out-group: those who are closer to the in-group experience lower levels of stress than those who are far from the in-group. In other words, in the out-group, LMX may be negatively associated with stress.

According to Edwards (1996), the effect of deficient supplies on stress, as compared with needs, is equivocal as to the effects of excess supplies. In the case of the out-group, members with high GNS may experience more stress when they are far away from the in-group, because an out-group status means deficient supplies to these members, and the opposite may be true for members with low GNS. As such, it can be expected that GNS moderates the direction of the relationship between LMX and stress, such that the relationship is negative for those with high GNS and positive for those with low GNS.

P2e: In the out-group, GNS moderates the direction of the relationship between LMX and stress such that the relationship is negative for those with high GNS and positive for those with low GNS.

### 3. Study II: Growth Need and Impression Management (IM) in the Out-group

As discussed earlier, members with relatively higher GNS desire the in-group status, mainly because of the growth opportunities that accompany in-group membership. However, given the considerably smaller size of the in-group, it is likely that some members with higher GNS may find themselves in the out-group. According to the supplies-needs fit perspective of the person-job fit theory, these members may perceive a misfit between themselves and the out-group and may consequently suffer stress incurred by the feeling of misfit (Edwards, 1993, 1996). The perception of such a misfit often has a negative impact on performance. Hence we propose:

P3a: In the out-group, GNS is negatively related to performance ratings.

The perception of a person-job misfit also creates a psychological dissonance (Festinger, 1976). Both stress and dissonance have the property of a psychological drive that motivates individuals to change behaviors and/or attitudes. As such, these members, who do not think that they belong in the out-group, are motivated to reduce both stress and dissonance by utilizing mechanisms for stress-coping and/or dissonance reduction. With impression management (IM) being a behavioral mechanism that potentially serves both of these purposes, the present study is designed to answer the next two questions: Will those out-group members with higher GNS engage in IM to obtain an in-group status? If they do engage in IM, how successful will they be?

#### a. IM and its effects

Impression management (IM) refers to the behaviors individuals employ to create and maintain intended impressions of themselves and others (Gardner & Martinko, 1988a, 1988b; Leary & Kowalski, 1990). Studies on IM have largely been focused on the various types of IM tactics and their usages (Cialdini, 1989; Jones & Pittman, 1982; Tedeschi & Norman, 1985), the personal and situational antecedents to IM (Andrews & Kacmar, 2001; Fletcher, 1989; Gardner & Martinko, 1998), the effectiveness of IM (Kacmar & Carlson, 1999), and the impact of IM in the contexts of job interviews (Fletcher, 1989; Gilmore & Ferris, 1989; Tsai et al., 2005) and performance appraisals (Villanova & Bernardin, 1989; Wayne & Linden, 1995). Evidently, successful attempts of IM often lead to better performance appraisal outcomes by increasing interpersonal affect (i.e., liking) in the appraisers (e.g., Wayne & Linden, 1995). As higher level of liking is often a precursor to an in-group membership, IM may help members obtain an in-group status by enhancing leader liking.

Unfortunately for the out-group, IM may make the supervisor's perception even worse because the supervisor is more likely to see such attempts as motivated by self-interest (Bolino et al., 2006). Bolino (1999) and Eastman (1994) suggest that supervisor's attribution of a subordinate's pro-social behaviors at work can impact the subordinate's performance ratings. Specifically, if the supervisor attributes the subordinate's pro-social behaviors to self-interest, he/she may see the behavior as an insincere act of impression management and consequently give the subordinate a lower performance rating. Further more, Allen and Rush (1998) and Johnson et al. (2002) found that this attributional effect was largely mediated by supervisor's liking of the subordinate. In other words, when the supervisors attribute the subordinate's pro-social behaviors to self-interest, he/she may consequently lower this subordinate's performance

rating because he/she does not like the subordinate. To make the matter worse for the out-group members, increased IM may require increase communication with the supervisor. And more frequent communication does not seem to help those in the out-group. A study by Kacmar et al. (2003) suggests that the relationship between LMX and performance ratings may be moderated by leader-member communication frequency. Specifically, the study shows that while more communication with the supervisor improved the performance ratings for the in-group, it had a detrimental effect on performance ratings for the out-group. As such, a negative relationship between IM and out-group member performance ratings is proposed.

P3b: In the out group, IM is negatively related to out-group member performance ratings.

b. IM as a stress-coping mechanism for those with higher GNS in the out-group

The earlier review on the literature on person-job fit suggests that perception of misfit creates psychological tension, i.e. stress, which motivates individuals to take measures to cope (Edwards, 1996). Unlike members with relatively lower GNS, those with higher GNS are more likely to find out-group membership a misfit and consequently experience more stress at work. As a result, members with higher GNS should be more driven to use stress-coping resources and mechanisms.

In the transactional model of stress and coping (Lazarus and Folkman, 1984), social skills are one of the coping resources that individuals use, as these skills enable appropriate and effective communications and thus enhance one's control over social interactions. Perrewe et al. (2000) proposed that political skills, a form of social skills, are an antidote to stressors as these skills can reduce individuals' perceptions of stressors by allowing the individuals to feel more in control (Perrewe & Ganster, 1989) and thus serve as a buffer between perceived stressor and

strain. Although there is no direct evidence indicating IM as a coping mechanism, there have been a limited number of studies investigating the use of political skills in the stress-and-coping process. Nonis et al. (1996) found, in a group of salespersons, that upward influence tactics (UITs) were used to resolve job related stress. IM may be a political skill similar to UITs that out-group members with higher GNS can use to cope with stress incurred by person-job misfit.

c. IM as a dissonance reduction mechanism for those with higher GNS in the out-group

Cognitive Dissonance Theory (Festinger, 1976) suggests that individuals are motivated to maintain a cognitive balance, and proposes that attitude change is an effective route to reduce dissonance between two psychologically inconsistent cognitions. Over the past few decades, Cognitive Dissonance Theory has undergone a series of reformulations, most of which were constructed to refine the original formulation for more specific prescriptions. Two of these reformulations are of relevance to the present study: the self-concept formulation (Aronson, 1968; Thibodeau & Aronson, 1992) and the self-presentation formulation (Tedeschi et al., 1971; Tedeschi & Rosenfeld, 1981).

The self-concept formulation (Aronson, 1968; Thibodeau & Aronson, 1992) enhances the specificity of the theory by discovering that attitudinal and/or behavioral changes aimed at dissonance reduction are most likely when an individual's behaviors and/or behavioral outcomes violated a salient part of his/her self-concept. According to this formulation, then, members with higher GNS may see growth need as a salient part of his/her self-concept and subsequently be more inclined to find the out-group status a self-concept violation. These members, when they find themselves in the out-group, may hence experience a higher level of dissonance than those with lower GNS. A higher level of dissonance means more motivation to change attitudes and/or behaviors. As a result, these out-group members with higher GNS may be more likely to engage

in IM during the interaction with their supervisors in order to enhance supervisor liking, which has been shown to be a strong antecedent to an in-group status.

The self-presentation formulation (Tedeschi et al., 1971; Tedeschi & Rosenfeld, 1981) adds to the theory by maintaining that attitudinal and/or behavioral changes are motivated by a concern to present a consistent public image. In line with this formulation, the theory of impression management motivation (Leary & Kowalski, 1990) suggests that individuals are more motivated to manage their impressions when they sense a larger gap between their desired self-image and their currently perceived self-image. In this context, the perceived self-image as an out-group member may create a larger image gap for members with higher GNS, which may make these members more motivated to use IM to maintain a desirable public image that is consistent with their self-concept.

Taken together, these two reformulations of Cognitive Dissonance Theory suggest that individuals are motivated to change their attitudes and/or behaviors to reduce the dissonance between their cognitions about themselves (i.e. self-concepts) and cognitions of certain stimuli in the external environment (e.g. out-group membership). Both formulations suggest that within the out-group, members with higher GNS may experience more severe dissonance and consequently become more active in utilizing dissonance-reduction mechanisms such as IM.

The above discussion suggests that as a mechanism for either stress-coping or dissonance reduction, IM is more likely to be utilized by out-group members with higher GNS.

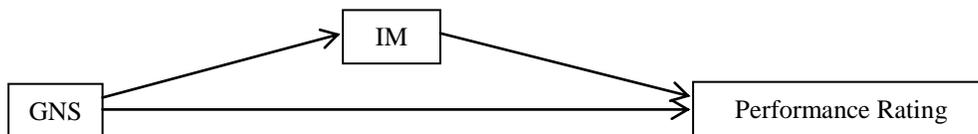
P3c: In the out-group, GNS is positively related to IM.

A closer look at the relationship among GNS, IM, and performance rating suggests that IM may, at least partially, mediate the relationship between GNS and performance ratings among out-group members. In the out group, members with higher GNS may not only experience more

stress from a greater dissonance between the out-group membership and their self-concept, but also sense a greater discrepancy between his/her desired image (i.e. in-group member) and perceived image (i.e. out-group member). These members may hence be more motivated to use IM as a mechanism for either stress-coping or dissonance reduction. Unfortunately for them, IM may cast a detrimental effect on performance ratings as supervisors tend to see out-group IM as political behaviors motivated by self-interest (Bolino, 2006). As such, out-group members with high GNS may try harder with IM but may actually receive lower performance ratings.

P3d: In the out-group, the negative relationship between GNS and performance ratings is, at least, partially mediated by impression management behaviors, such that higher GNS leads to more IM attempts, which, in turn, leads to lower performance ratings.

Figure 2: Study II



## CHAPTER III: METHODOLOGY

### 1. Samples & Procedures

For both Study I and Study II, data was collected from a state-owned hospital in China. Participants were medical doctors and nurses currently employed by the hospital. As all survey items used in this study were originally composed in English, they were first translated into Chinese, and then back translated to English by a panel of bilingual experts, following the translation and back translation procedures advocated by Brislin (1980). Translated surveys were distributed to, and collected from, the participants in person by a research contact in China. The research contact was only responsible for assistance in survey delivery and collection and does not have access to any of the data collected. Identical procedures were used to collect data from all participants, consisting of supervisors and their subordinates. This dyadic data was collected at three points of time. At Time 1, all the relevant demographic information (e.g., age, gender, tenure, etc.), and an independent variable (IV), LMX, were collected from the supervisors. They were asked to complete one survey for each of their subordinates, and to seal the completed surveys in the attached return envelopes. On each of these surveys, the supervisor provided the name of the subordinate that he/she is evaluating. When the surveys were collected from the supervisors, each supervisor and his/her subordinate in each of the surveys were assigned a matching control number prior to Time-2 deliveries, to identify matching supervisor-subordinate dyads. While the control numbers for the subordinates were assigned with the names provided by the supervisors, the control numbers for the supervisors were assigned with each supervisor's office number, not his/her name. For example, the supervisor in office 301 was

assigned the number 301, and the first subordinate on his/her list was assigned the number 301-1. At Time 2 (48 hours from Time 1), all the relevant demographic information (e.g., age, gender, tenure, etc.), and another IV, growth-need strength (GNS), were collected from the subordinates. Time-2 surveys were distributed to the subordinates according to the control numbers. They too were asked to fill out the surveys, and to seal the completed surveys in the attached return envelopes. At Time 3 (5 months from Time 2), performance ratings were collected from the supervisors, and all the other dependent variables (DVs), including commitment, satisfaction, turnover intent, stress, and impression management, were collected from the subordinates. Both the supervisor surveys and the subordinate surveys were delivered according to the control numbers. The supervisors were asked to fill out one survey for each of their subordinates, and the subordinates were asked to complete one survey each. Both the supervisors and the subordinates were once again asked to seal the completed surveys in the attached return envelopes. In order to ensure anonymity, both the supervisors and the subordinates were instructed not to enter any of their own personal identification information, such as name and employee ID, into the surveys. Matching control numbers were stamped onto to the surveys prior to Time 2 and Time 3 to identify matching supervisor-subordinates dyads. At all three points of time, the surveys were delivered to both the supervisors and the subordinates at the beginning of their work shifts, and collected at the end of the shifts.

In total, 13 surveys were distributed to the supervisors of the doctors, and 14 to the supervisors of the nurses, at Time 1 and Time 3; 322 surveys were distributed to the 13 teams of doctors and the 14 teams of nurses, at Time 2 and Time 3. All surveys were completed and returned by the supervisors at both Time 1 and Time 3. From the subordinates, 314 surveys were returned at Time 2, and 310 surveys were returned at Time 3. Data collected produced 135

matching dyads of doctors and 171 matching dyads of nurses. Given the differences in demographics, job requirements and descriptions, as well as human resource management systems, data collected from the doctors was filed as Sample 1, and data collected from the nurses was filed as Sample 2.

Table 2: T-Test Results

	t-test for Equality of Means						
	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Age	5.059	187.403	.000	5.015	.991	3.060	6.971
Gender	9.433	142.346	.000	.509	.054	.402	.616
Tenure with Supervisor	-.155	174.027	.877	-.070	.452	-.962	.822
LMX (supervisor rated)	-.658	127.217	.511	-.04231	.06426	-.16946	.08484
Growth Need	-.663	185.113	.508	-.02984	.04499	-.11860	.05891
Performance Rating	-7.461	190.993	.000	-.29280	.03924	-.37021	-.21539
Performance Index	-.483	162.066	.630	-.03611	.07480	-.18381	.11159
Commitment	-3.976	227.805	.000	-.355	.089	-.531	-.179
Satisfaction	.984	172.898	.326	.03771	.03831	-.03792	.11333
Growth Satisfaction	-1.015	156.071	.312	-.06927	.06827	-.20413	.06559
Turnover Intent	-2.239	228.433	.026	-.16591	.07409	-.31190	-.01992
Stress	-1.280	227.510	.202	-.05510	.04305	-.13994	.02974
Impression Management	-6.983	221.335	.000	-.24746	.03544	-.31730	-.17763

Note: Equal variance was not assumed between the 2 samples. N=102 in Sample 1, and n=130 in Sample 2.

Only 75% of the cases in each sample were retained for hypothesis testing, because both studies were focused on the out-group, i.e., subordinates who did not have a high quality LMX with their direct supervisors. Team size of the doctors (sample 1) varied from 5 to 20 with an average of 12, and team size of nurses (sample 2) varied from 2 to 28 with an average of 15. Fifty-nine (58%) of the doctors were male, and 122 (96%) of the nurses were female. The doctors had an average age of 37, with the youngest at 27 and the eldest at 60; and an average education of a bachelor's or a master's degree, with the minimum of an associate degree and the maximum of a doctorate in medical sciences. The nurses had an average age of 33, with the youngest at 23 and the eldest at 57; and an average education of an associate degree, with the

minimum of high school equivalent, and the maximum of a bachelor's degree in nursing. A series of t-tests were performed to examine how much the two samples differed in the variables involved in both studies. Table 2 presents the t-test results, which suggests that although the two samples were quite different in age, gender, performance ratings, organizational commitment, turnover intent, and usage of impression management, they were similar in their tenure with supervisors, LMX, growth need, performance index, satisfaction and stress.

## 2. Study I: Growth Need, Performance, and Attitudes of Out-group Members

### a. Measures

#### Size of the out-group

The size of the out-group was assessed by phone inquiries with the supervisors, approximately two days prior to survey distribution. The phone inquiries were conducted by the researcher, with two specific questions: “(1) How many employees are there who directly report to you?” and “(2) Among these employees, how many of them do you rely on the most?” The size of the out-group, relative to the team size, was then calculated by dividing the answer to question (1) by the answer to question (2).

#### Leader member exchange (LMX)

Data on LMX was collected from the supervisors. LMX was measured with LMX7 developed by Graen and Cashman (1975) and modified by Graen and Scandura (1995). LMX7 used a five-point scale. An example item on the supervisor survey is “How well do you understand this subordinate's job problems and needs?” For this specific question, the anchors are 1 for “rarely,” 2 for “occasionally,” 3 for “sometimes,” 4 for “fairly often” and 5 for “very often.” (See Appendix A for the items and scales of LMX7.) LMX7 was administered to the

supervisors at Time 1. Cronbach's alpha for LMX was 0.954 in Sample 1, and 0.724 in Sample 2.

### Growth-need strength (GNS)

GNS data was collected from the subordinates at Time 2. GNS is a motivational trait which reflects "the strength of the respondent's desire to obtain 'growth' satisfaction from his or her work" (Hackman & Oldham, 1975, pp. 162-163). It was measured with a modified version of the measure for growth-need strength developed by Hackman and Oldham (1974, 1975) in the Job Diagnostic Survey. The revised GNS scale contained six items, each describing a characteristic of work. An example item is "stimulating and challenging work." The instruction prompted the respondents to indicate, on a five point scale, how much they would like to have each of the six characteristics in his/her work. The scale was anchored in 1 (not at all), 2 (little), 3 (some), 4 (a lot) and 5 (as much as possible). (See Appendix B for the revised version of the GNS scale.) Cronbach's alpha for GNS was 0.874 in Sample 1, and 0.866 in Sample 2.

### Performance

Performance data were collected from the hospital and the supervisors. Performance was measured in terms of objective performance (i.e., performance indices) and subjective performance (i.e., supervisor ratings). While the performance indices were provided by the hospital, the supervisor ratings were collected from the supervisors by using the performance evaluation scale developed by Wright et al. (1995). The scale had 10 items and used a five-point scale anchored in 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree) and 5 (strongly agree). An example item is "I am never disappointed in the quality of work that I receive from this subordinate." (See Appendix C for the performance evaluation scale.) Cronbach's alpha for the performance appraisal scale was 0.958 in Sample 1, and 0.899 in Sample 2.

## Commitment

Commitment data was collected from the subordinates at Time 3, with part of the commitment scale developed by Meyer and Allen (1997). This scale measures employee commitment on three dimensions: affective commitment, normative commitment, and continuative commitment. Each dimension comprises six items to provide a total of 18 items for this scale. This five-point scale is anchored in 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree) and 5 (strongly agree). To preserve scale reliability, the 6 items on normative commitment were dropped, leaving only the 12 items on these two dimensions to be used in the analysis for hypothesis testing. (See Appendix D for the complete commitment scale.) Cronbach's alpha for commitment was 0.823 in Sample 1, and 0.690 in Sample 2.

## Satisfaction

Satisfaction data was collected from the subordinates at Time 3. Two instruments, Overall Job Satisfaction (OJS, Cammann et al., 1983) and the growth-need satisfaction scale in the JDS (Hackman & Oldham, 1974), were used to measure employee satisfaction. The OJS used a total of three items to measure global job satisfaction with a five-point scale anchored in 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree) and 5 (strongly agree). The OJS items included "All in all, I am satisfied with my job;" "In general, I don't like my job;" and "In general, I like working here." The growth-need satisfaction scale in the JDS comprised four items, each of which described an aspect of a job that was relevant to growth-need. Respondents were asked to indicate how satisfied they were with each the four aspects of their jobs on a five-point scale anchored in 1 (extremely dissatisfied), 2 (dissatisfied), 3 (neutral), 4 (satisfied) and 5 (extremely satisfied). An example item was "(Please indicate how satisfied you are with) the feeling of worthwhile accomplishment I get from doing my job." (See Appendix E for the JDS

growth-need satisfaction scale.) Cronbach's alpha for overall satisfaction was 0.899 in Sample 1, and 0.786 in Sample 2; and Cronbach's alpha for growth-need satisfaction was 0.901 in Sample 1, and 0.800 in Sample 2.

### Stress

Stress data was collected from the subordinates at Time 3. Stress was measured with the Job Stress Scale developed by Parker and Decotiis (1983). The scale measures stress on two dimensions: time stress (i.e., feelings of being under constant pressure) and anxiety (i.e., feelings of anxiety related to job), with a five-point Likert-type scale anchored in 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree) and 5 (strongly agree). The scale consisted of eight items on time stress and five items on anxiety. An example item for time stress was "I have too much work and too little time to do it in," and an example item for anxiety was "I have felt fidgety or nervous as a result of my job." (See Appendix F for the Job Stress Scale.) Cronbach's alpha for stress was 0.801 in Sample 1, and 0.842 in Sample 2.

### Turnover intent

Data on turnover intent were collected from the subordinates at Time 3. Turnover intent was measured with the three item scale developed by Seashore et al. (1982). The scale used a five-point Likert-type scale anchored in 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree) and 5 (strongly agree). The items were "It is likely that I will actively look for a new job in the next year;" "I often think about quitting;" and "I will probably look for a new job in the next year." Cronbach's alpha for turnover intent was 0.794 in Sample 1, and 0.898 in Sample 2.

### Controls

Data on relevant demographics, including age, gender, and tenure with supervisor, as well as perceived organizational support (POS), were collected from the subordinates at Time 2.

The demographic variables were included as controls because they have been documented as correlates of most of the dependent variables, such as performance, satisfaction, and turnover intent (Eisenberger et al., 2002; Erdogan & Enders, 2007; Meertz et al., 2007). POS was controlled because it has been posited as a possible substitute of LMX (Wayne et al., 1997). Age was measured in years, and gender was dummy coded for the analysis, such that 1 represents male and 0 represents female. Tenure with supervisor documents how long the subordinate has worked for his/her current direct supervisor. POS measures the degree to which a subordinate perceives the organization as supportive, with a five-point Likert-type scale anchored in 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree) and 5 (strongly agree). Cronbach's Alpha for POS was 0.862 in Sample 1 and 0.676 in Sample 2.

#### b. Analysis

First, the size of the in-group, was computed as a percentage term, by dividing the number of subordinates whom a supervisor said he/she could count on, with his/her team size. The range of the size of the out-group then, was calculated by subtracting the size of the in-group from 1, and it was between 65% and 89% in Sample 1 (which had 12 teams of doctors), and between 61% and 85% in Sample 2 (which had 13 teams of nurses). This finding from the phone inquiries with the supervisors gave some support for H1. As such, the 25-75% cut-off was used as a cut-off to select the cases that belong to the out-group in each sample, leaving 102 (out of 135) for Sample 1, and 130 (out of 171) for Sample 2.

Prior to hypothesis testing, a confirmatory factor analysis (CFA) was performed with LISREL 8.80 (Joreskog & Sorbom, 2004), to test the discriminant validity of LMX, growth-need strength (GNS), and all other study variables: commitment, overall satisfaction, growth-need satisfaction, performance ratings, turnover intent, and stress. Each scale item was constrained to

load on a single factor, and the factors were allowed to correlate. The factor loadings were presented in Table 3, and the test result of the measurement models in Table 4.

Table 3: Factor Loadings

Factors	LMX		Growth Need		Satisfaction		Growth Satisfaction		Performance Rating		Turnover Intent		Impression Management	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
SupLMX1	.54	.23												
SupLMX2	.66	.11												
SupLMX3	.60	.03												
SupLMX4	.64	.21												
SupLMX5	.50	.14												
SupLMX6	.59	.39												
SupLMX7	.57	.37												
GNS1			.23	.20										
GNS2			.36	.33										
GNS3			.27	.17										
GNS4			.46	.35										
GNS5			.42	.28										
GNS6			.38	.33										
Satisfaction1					.26	.13								
Satisfaction2					.38	.67								
Satisfaction3					.31	.04								
Growth-Sat1							.59	.40						
Growth-Sat2							.51	.24						
Growth-Sat3							.60	.49						
Growth-Sat4							.61	.41						
Perform1									.56	.41				
Perform2									.71	.41				
Perform3									.69	.48				
Perform4									.63	.40				
Perform5									.62	.18				
Perform6									.69	.51				
Perform7									.57	.56				
Perform8									.66	.21				
Perform9									.61	.52				
Perform10									.62	.24				
Turnover1											.48	.79		
Turnover2											.38	.50		
Turnover3											.41	.59		
Self-Promote													.23	.03
Ingratiate													.22	.30
Exemplify													.06	N/A

Note: (1) represents Sample 1 and (2) Sample 2.

The eight-factor model showed acceptable fit statistics (Sample 1:  $\chi^2_{(297)} = 459.57$ , RMSEA = 0.074, NFI = 0.84, CFI = 0.92; Sample 2:  $\chi^2_{(108)} = 150.42$ , RMSEA = 0.055, NFI = 0.84, CFI = 0.94). Fit statistics, as well as path estimates generated by SEM may be of limited accuracy and power, as the sample sizes fell below the normal size requirement for an SEM of 8 factors, each with over 3 items. Items from multidimensional scales, including commitment and stress were aggregated as composites in CFA. Commitment consisted of 2 composites: affective commitment and continuance commitment, as normative commitment was removed as a composite for better model fit of the scale. Stress consisted of 2 composites: tension and anxiety. The measurement model omitted growth-need strength (GNS) and growth-need satisfaction in Sample 2 for better model fit. For comparisons, alternate models with fewer factors such that either LMX (in Sample 2) or GNS (in Sample 1) was combined with other variables. The CFA results (see Table 2) showed that the hypothesized models in both samples had superior fit with the data compared with the alternate models. A test for common method variance was conducted according to the structural equation modeling approach (Williams, Buckley, & Cote, 1989), and showed that common method variances accounted for 24% of the total variance in the variables in Sample 1, and 15% in the variables in Sample 2, which are below the threshold of 25 percent (Williams et al., 1989).

Table 4: Results of CFA and Common Method Variance Test

Models		$\chi^2$	df	$\Delta\chi^2$	$\Delta df$	NFI	CFI	RMSEA	Factors in Model 6	AVE	Sqrt(AVE)	ICR
<b>Sample1 (doctors, n=102)</b>												
<b>Hypothesis P2a, b, d, e Measurement Model</b>												
1	Hypothesized Model	459.57	297			0.84	0.92	0.074	LMX	0.06	0.25	0.02
2	Model combining GNS and Satisfaction	817.71	309	358.14	12	0.72	0.79	0.130	GNS	0.61	0.78	0.90
3	Model combining GNS and Growth-Satisfaction	962.84	309	503.27	12	0.70	0.77	0.140	Commitment	0.61	0.78	0.71
4	Model combining GNS and Turnover Intent	793.81	309	334.24	12	0.75	0.83	0.120	Satisfaction	0.75	0.86	0.90
5	One-factor Model	1843.16	324	1383.59	27	0.49	0.54	0.220	Turnover Intent	0.57	0.75	0.80
6	All + Method Model	452.20	276	-7.37	-21	0.84	0.92	0.080	Growth Satisfaction	0.52	0.72	0.81
<b>Hypotheses P2c and P3 Measurement Model</b>												
1	Hypothesized Model	222.91	143			0.93	0.97	0.074	Stress	0.54	0.73	0.69
2	Model combining GNS and PIM	403.02	151	180.11	8	0.88	0.92	0.130	Method	0.24	0.49	0.80
3	Model combining PIM and Performance	426.59	151	203.68	8	0.87	0.91	0.130				
4	Model combining GNS and Performance	993.38	151	770.47	8	0.74	0.77	0.240	GNS	0.58	0.76	0.88
5	One-factor Model	1023.86	152	800.95	9	0.74	0.77	0.240	PIM	0.19	0.43	0.40
6	All + Method Model	294.28	130	71.37	-13	0.92	0.95	0.112	Performance	0.66	0.81	0.95
<b>Sample2 (nurses, n=130)</b>												
<b>Hypothesis P2a, b, d, e Partial Measurement Model*</b>												
1	Hypothesized Model	150.42	108			0.84	0.94	0.055	LMX	0.29	0.53	0.71
2	Model combining LMX and Commitment	203.77	113	53.35	5	0.78	0.87	0.079	Commitment	0.33	0.58	0.34
3	Model combining LMX and Satisfaction	338.26	113	187.84	5	0.00	0.00	0.120	Satisfaction	0.75	0.86	0.90
4	Model combining Satisfaction and Turnover Intent	332.53	113	182.11	5	0.00	0.00	0.120	Turnover Intent	1.13	1.06	1.09
5	One-factor Model	732.65	119	582.23	11	0.39	0.34	0.200	Stress	0.04	0.21	0.06
6	All + Method Model	108.98	92	-41.44	-16	0.89	0.98	0.038	Method	0.15	0.38	0.02
<b>Hypotheses P2c and P3 Measurement Model</b>												
1	Hypothesized Model	232.15	128			0.90	0.95	0.079				
2	Model combining GNS and PIM	397.40	134	165.25	6	0.84	0.89	0.120	GNS	0.04	0.20	0.18
3	Model combining PIM and Performance	403.15	134	171.00	6	0.84	0.89	0.120	PIM	0.10	0.32	0.14
4	Model combining GNS and Performance	1113.91	134	881.76	6	0.57	0.60	0.240	Performance	0.42	0.65	0.87
5	One-factor Model	1116.99	135	884.84	7	0.57	0.60	0.240	Method	0.13	0.37	0.48
6	All + Method Model	247.47	114	15.32	-14	0.89	0.93	0.095				

Note: \* This model omits growth-need strength (GNS) and growth-need satisfaction for better model fit.

Intra-class correlation coefficients (ICC) were calculated to examine the extent of between-group variance in the dependent variables: commitment, overall satisfaction, growth-need satisfaction, performance ratings, performance indices, turnover intent, and stress (Table 5). As shown in Table 3, among these seven variables, turnover intent (ICC = 0.10,  $\chi^2_{(12)} = 22.779$ ,  $p = 0.03$ ) and stress (ICC = 0.11,  $\chi^2_{(12)} = 23.260$ ,  $p = 0.03$ ) in Sample 1 and performance rating (ICC = 0.08,  $\chi^2_{(13)} = 22.762$ ,  $p = 0.04$ ) in Sample 2 had significant between-group variance. These ICC values suggest that group membership may have accounted for about 10% of the variance in turnover intent and about 11% of the variance in stress in Sample 1, and about 8% of the variance in performance rating in Sample 2, and that hierarchical linear modeling would be appropriate for hypothesis testing (Bliese, 2000). However, given the small portions of the variances attributable to group membership, hierarchical moderated regression was used to test all hypotheses related to Study I to preserve consistency in analyses and comparison of results.

Table 5: Results of HLM Null Model Test

Models	$\tau$	$\sigma^2$	df	$\chi^2$	p-val	ICC
Sample1 (doctors, n=102)						
P2a: DV = Commitment	0.004	0.090	12	18.424	0.103	0.050
P2b: DV = Satisfaction	0.006	0.102	12	17.368	0.136	0.060
P2b': DV = Growth-Satisfaction	0.008	0.364	12	16.874	0.154	0.020
P2c: DV = Performance Rating	0.002	0.433	12	12.374	0.416	0.000
P2c', P3b: DV = Performance Index	0.002	0.396	12	11.210	> 0.500	0.000
P2d: DV = DV = Turnover Intent	0.023	0.201	12	22.779	0.029	0.100
P2e: DV = Stress	0.010	0.084	12	23.260	0.025	0.110
Sample2 (nurses, n=130)						
P2a: DV = Commitment	0.000	0.066	13	14.870	0.315	0.000
P2b: DV = Satisfaction	0.000	0.053	13	8.725	> 0.500	0.000
P2b': DV = Growth-Satisfaction	0.000	0.133	13	8.479	> 0.500	0.000
P2c: DV = Performance Rating	0.013	0.159	13	22.762	0.044	0.080
P2c', P3b: DV = Performance Index	0.015	0.516	13	14.183	0.361	0.030
P2d: DV = DV = Turnover Intent	0.000	0.430	13	9.033	> 0.500	0.000
P2e: DV = Stress	0.000	0.122	13	10.262	> 0.500	0.000

According to Baron and Kenny (1986), GNS moderates the relationships between LMX and the dependent variables (Hypothesis 2) if the strength or the direction of these relationships varies with GNS. A hierarchical moderated regression was performed for each of the DVs. After LMX and GNS were centered, the control variables, including age, gender, tenure with supervisor, and perceived organizational support (POS) were entered in Step 1; in Step 2, LMX was entered as the IV; in Step 3, GNS was entered as the moderator; and in the Step 4, the interaction term “LMX\*GNS” was entered. For each of the regression analyses, the omnibus test was first examined to see if the overall model had reached statistical significance. For models with a significant omnibus test, the effect of the interaction term was examined to see if there would be an interaction effect. If the interaction effect turned out insignificant, only the main effects, if significant, were reported from the last step.

#### c. Results

Means, standard deviations, and correlations among study variables in both samples are presented in Table 6. Cronbach’s alpha for each scale is located on the diagonals. Results of the hierarchical moderated regression analyses are presented Table 7, the interaction between LMX and GNS had a significant effect on growth-need satisfaction (H2b) and turnover intent (H2d) in Sample 1, and on stress (H2e) in Sample 2. However, Hypothesis 2a (DV = commitment) and Hypothesis 2c (DV = performance rating) and did not find sufficient support in either sample.

Table 6: Means, Standard Deviations, and Correlations

Sample 1: n = 102		Mean	Std.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Age	37.284	8.230	--														
2	Gender	0.578	0.496	.114	--													
3	Tenure w. Supervisor	5.353	3.876	.402**	-.174	--												
4	POS	3.346	0.278	-.066	.122	.100	(.862)											
5	POPs	3.127	0.643	.301**	.279**	-.106	-.193	(.934)										
6	Growth Need	4.095	0.376	-.184	.110	-.020	.407**	-.058	(.874)									
7	LMX	3.583	0.611	-.044	-.084	.057	.444**	-.406**	.144	(.954)								
8	Commitment	3.012	0.323	-.091	-.040	-.076	-.036	-.350**	-.095	.412**	(.823)							
9	Satisfaction	3.961	0.329	-.066	.059	-.240*	.245*	.058	.070	.142	-.015	(.899)						
10	Growth Satisfaction	3.723	0.609	-.207*	-.030	.029	.517**	-.287**	.179	.459**	.224*	.258**	(.901)					
11	Performance Rating	3.382	0.659	-.026	-.081	.164	.519**	-.404**	.182	.876**	.293**	.137	.481**	(.958)				
12	Performance Index	2.137	0.630	.216*	-.003	.333**	.415**	-.080	.203*	.382**	.007	.074	.216*	.538**	--			
13	Turnover Intent	2.039	0.472	-.332**	-.140	-.251*	-.156	-.265**	.063	-.103	-.049	-.096	-.243*	-.165	-.085	(.794)		
14	Stress	2.989	0.305	-.206*	-.117	-.028	.081	.198*	.121	-.032	.183	-.007	.176	-.009	.091	-.048	(.801)	
15	Impression Management	2.799	0.262	.082	.305**	-.046	.443**	.365**	.412**	.183	-.013	.119	.201*	.191	.385**	-.181	.273**	(.815)
Sample2: n = 130		Mean	Std.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Age	32.269	6.436	--														
2	Gender	0.069	0.255	-.059	--													
3	Tenure w. Supervisor	5.423	2.725	.722**	-.165	--												
4	POS	2.917	0.182	-.119	.036	-.001	(.676)											
5	POPs	3.210	0.440	.204*	-.062	.254**	.126	(.877)										
6	Growth Need	4.110	0.300	.206*	-.134	.212*	-.040	.092	(.866)									
7	LMX	3.626	0.248	.313**	-.098	.255**	.094	.161	.200*	(.724)								
8	Commitment	3.305	0.260	-.033	-.048	.070	-.021	-.131	-.071	.079	(.690)							
9	Satisfaction	3.923	0.229	-.052	-.262**	.003	.159	-.214*	.199*	-.192*	.267**	(.786)						
10	Growth Satisfaction	3.792	0.365	.186*	-.073	.257**	.111	.033	-.081	.230**	.371**	-.069	(.800)					
11	Performance Rating	3.418	0.417	.389**	-.165	.431**	.119	.181*	.195*	.712**	.022	-.169	.298**	(.899)				
12	Performance Index	2.492	0.729	.553**	-.018	.546**	.069	.207*	.163	.584**	.064	-.143	.388**	.709**	--			
13	Turnover Intent	2.205	0.655	-.005	.131	-.114	-.143	-.175*	.169	-.080	-.429**	-.169	-.331**	-.025	-.132	(.898)		
14	Stress	3.044	0.350	.268**	-.008	.149	-.184*	.117	-.101	.319**	.246**	-.250**	.483**	.338**	.265**	.116	(.842)	
15	Impression Management	2.832	0.195	.180*	-.096	.267**	.106	.478**	.383**	.164	.119	.193*	.258**	.173*	.198*	-.129	.096	(.770)

Note: \* p < .05, \*\* p < .01, \*\*\* p < .001. Cronbach's alphas displayed on the diagonal in prentices. Age and Tenure measured in years.

Table 7: Results of Hierarchical Moderated Regressions

Sample 1	b	R <sup>2</sup>	Adj. R <sup>2</sup>	ΔR <sup>2</sup>	b	R <sup>2</sup>	Adj. R <sup>2</sup>	ΔR <sup>2</sup>	b	R <sup>2</sup>	Adj. R <sup>2</sup>	ΔR <sup>2</sup>	b	R <sup>2</sup>	Adj. R <sup>2</sup>	ΔR <sup>2</sup>	
	DV = Performance Rating				DV = Performance Index				DV = Satisfaction				DV = Growth Need Satisfaction				
Step1: Controls:		.298	.269	.298***		.277	.247	.277		.126	.101	.136***		.304	.275	.304***	
Age	-.023				.179				.080				-.212*				
Gender	-.010				-.002				-.026				-.026				
Tenure w. supervisor	.110*				.230*				-				.038				
Perceived Org. Support	.151*				.242*				.300**				.430***				
F(4, 97)			10.286***				9.298***				3.824**				10.567***		
Step2: IV:		.800	.790	.502***		.325	.289	.047		.138	.093	.001		.364	.331	.060**	
Supervisor rated LMX (PLMX)	.802***				.229*				.018				.326**				
F(1,96)			76.853***				9.229***				3.064*				10.976***		
Step3: Moderator:		.800	.787	.000		.333	.291	.008		.139	.085	.001		.366	.326	.003	
Growth Need Strength (GNS)	.004				.101				-.039				-.059				
F(1, 95)			63.382***				7.894***				2.554*				9.156***		
Step4: Interaction:		.800	.785	.000		.342	.293	.009		.149	.086	.011		.421	.378	.055***	
PLMX x GNS	.006				-.099				-.108				.245*				
F(1,94)			53.767***				6.967***				2.360*				9.780***		
		DV = Commitment				DV = Turnover Intent				DV = Stress							
Step1: Controls:		.013	-.027	.013		.166	.132	.166**		.059	.020	.059					
Age	-.091				-.233*				-.195								
Gender	.048				-.128				-.125								
Tenure w. supervisor	-.039				-.143				.019								
Perceived Org. Support	-.242				-.181				.110								
F(4, 97)			0.313				4.825**				1.509						
Step2: IV:		.241	.201	.228***		.169	.126	.003		.068	.019	.009					
Supervisor rated LMX (PLMX)	.537***				-.144				-.081								
F(1,96)			6.084***				3.916**				1.398						
Step3: Moderator:		.248	.192	.007		.177	.126	.008		.073	.014	.005					
Growth Need Strength (GNS)	-.096				.102				.076								
F(1, 95)			5.221***				3.416**				1.240						
Step4: Interaction:		.248	.200	.000		.233	.176	.056**		.086	.018	.013					
PLMX x GNS	.003				-.247**				.121								
F(1,94)			4.428***				4.803**				1.264						

Note: Standardized betas are reported from the final step. N = 102, \*p<0.05, \*\*p<0.01, \*\*\*p<0.001.

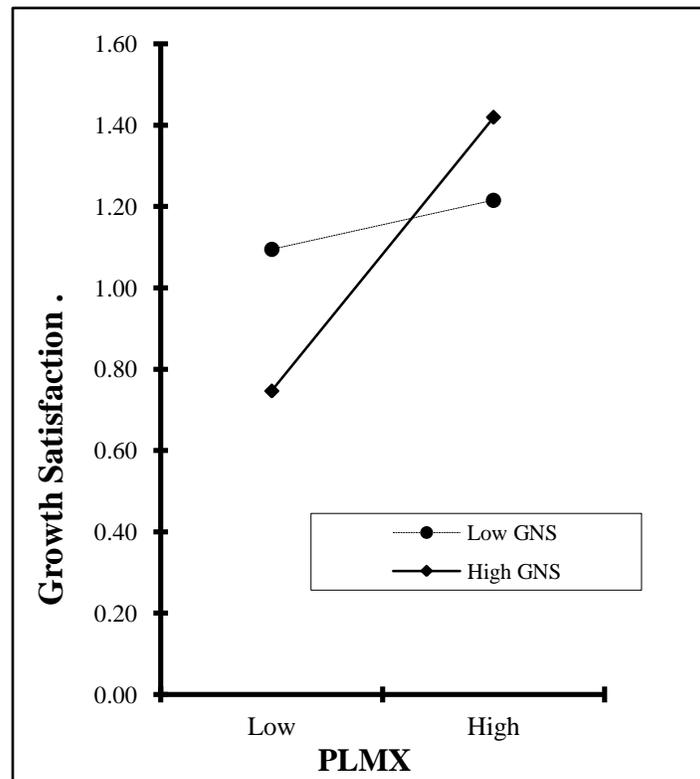
Table 7: Results of Hierarchical Moderated Regressions (continued)

Sample 2	b	R <sup>2</sup>	Adj. R <sup>2</sup>	ΔR <sup>2</sup>	b	R <sup>2</sup>	Adj. R <sup>2</sup>	ΔR <sup>2</sup>	b	R <sup>2</sup>	Adj. R <sup>2</sup>	ΔR <sup>2</sup>	b	R <sup>2</sup>	Adj. R <sup>2</sup>	ΔR <sup>2</sup>	
	DV = Performance Rating				DV = Performance Index				DV = Satisfaction				DV = Growth Need Satisfaction				
Step1: Controls:		.231	.207	.231***		.366	.345	.366***		.099	.071	.099**		.080	.051	.080*	
Age	.032				.215*				.002				.020				
Gender	-.057				.083				-.273**				-.042				
Tenure w. supervisor	.241**				.294**				-.029				.239†				
Perceived Org. Support	.081				.048				.200*				.095				
F(4, 125)			9.408***				18.013***				3.451**				2.728*		
Step2: IV:		.581	.564	.350***		.540	.522	.175***		.154	.120	.054**		.105	.069	.025	
Supervisor rated LMX (PLMX)	.619***				.449***				-.274**				.189*				
F(1,124)			34.381***				29.162***				4.507***				2.904*		
Step3: Moderator:		.581	.561	.000		.540	.518	.000		.209	.170	.055**		.151	.110	.047*	
Growth Need Strength (GNS)	.024				-.015				.234**				-.213*				
F(1, 123)			28.433***				24.124***				5.414***				3.656**		
Step4: Interaction:		.591	.568	.010		.541	.514	.000		.217	.173	.009		.162	.114	.010	
PLMX x GNS	-.103†				.003				.095				-.105				
F(1,122)			25.196***				20.510***				4.843***				3.364**		
		DV = Commitment				DV = Turnover Intent				DV = Stress							
Step1: Controls:		.022	-.009	.022		.054	.023	.054		.098	.069	.098*					
Age	-.198				.127				.051*								
Gender	-.025				.138				.014								
Tenure w. supervisor	.204				-.205				-.056								
Perceived Org. Support	-.057				-.095				-.180*								
F(4, 125)			.698				1.773				3.382*						
Step2: IV:		.030	-.009	.009		.056	.018	.003		.173	.140	.075**					
Supervisor rated LMX (PLMX)	.110				-.096				.310***								
F(1,124)			.777				1.477				5.189***						
Step3: Moderator:		.040	-.007	.010		.103	.060	.047*		.221	.183	.048**					
Growth Need Strength (GNS)	-.100				.241**				-.209*								
F(1, 123)			.860				2.361*				5.807***						
Step4: Interaction:		.041	-.014	.001		.114	.063	.011		.244	.200	.023*					
PLMX x GNS	-.031				-.105				-.156*								
F(1,122)			.749				2.238*				5.621***						

Note: Standardized betas are reported from the final step. N = 130, †p<.10, \*p<.05, \*\*p<.01, \*\*\*p<.001, 2-tail test.

For growth-need satisfaction in Sample 1, the model in Step 1 with the control variables (i.e., age, gender, tenure with supervisor, and POS) explained a significant portion of the variance ( $\Delta R^2 = 0.304, p < 0.001$ ); with LMX added, the model in Step 2 explained a significant incremental portion of the variance ( $\Delta R^2 = 0.060, p < 0.01$ ) over the controls; with GNS added, the model in Step 3 did not explain a significant incremental portion of the variance ( $\Delta R^2 = 0.003, p > 0.05$ ) over the LMX and the controls; however, the addition of the interaction term (LMX\*GNS) in Step 4 explained a significant incremental portion of the variance ( $\Delta R^2 = 0.055, p < 0.001$ ) over the main effects of LMX and GNS combined.

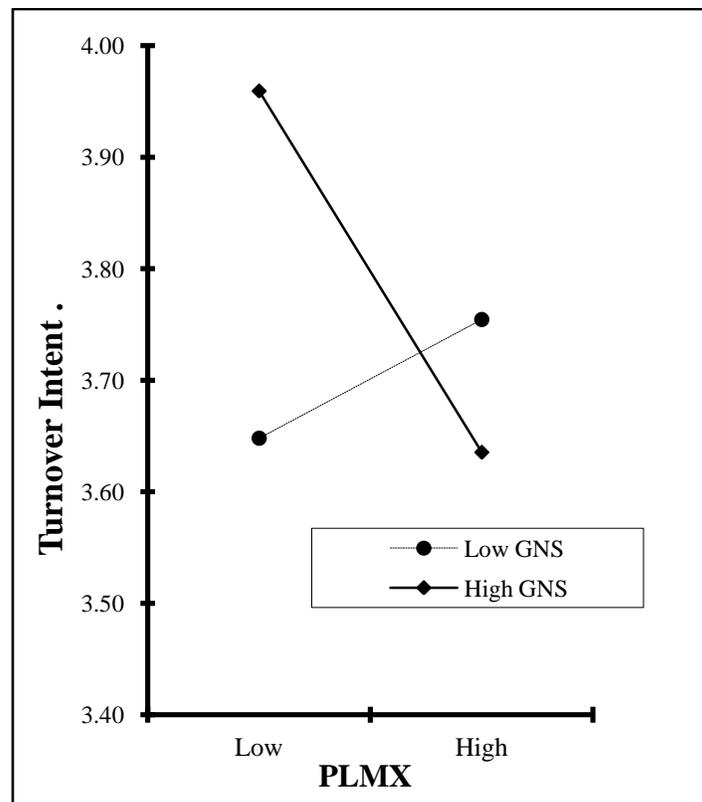
Figure 3: Interaction Effect on Growth Satisfaction in Sample 1



To test whether the relationship between LMX and growth-need satisfaction was significant when GNS was low, a simple slope test was conducted. A simple slope test examines whether the slope of a line between an IV and a DV is significant on a given level of a

moderator. Results of the simple slope test suggest that the relationship between LMX and growth-need satisfaction was significant when GNS was high ( $\beta = 0.673, t = 4.883, p = 0.000$ ) and when GNS was low ( $\beta = 0.311, t = 2.913, p = 0.004$ ). As shown in Figure 3, GNS moderated the strength, and not the direction, of the relationship between LMX and growth-need satisfaction, such that the positive relationship was stronger when GNS was high. Therefore Hypothesis 2b was partially supported in Sample 1, and not supported in Sample 2.

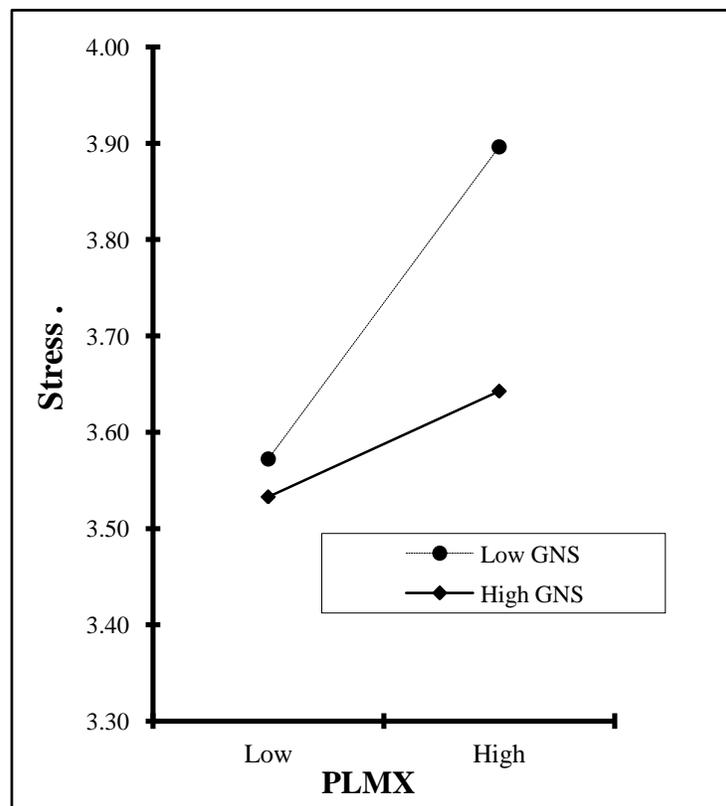
Figure 4: Interaction Effect on Turnover Intent in Sample 1



For turnover intent in Sample 1, the model in Step 1 with the control variables (i.e., age, gender, tenure with supervisor, and POS) explained a significant portion of the variance ( $\Delta R^2 = 0.166, p < 0.01$ ); with LMX added, the model in Step 2 did not explain a significant incremental portion of the variance ( $\Delta R^2 = 0.003, p > 0.05$ ) over the controls; with GNS added, the model in Step 3 did not explain a significant incremental portion of the variance ( $\Delta R^2 = 0.008, p > 0.05$ )

over the LMX and the controls; however, the addition of the interaction term (LMX\*GNS) in Step 4 explained a significant incremental portion of the variance ( $\Delta R^2 = 0.056, p < 0.001$ ) over the main effects of LMX and GNS combined. Results of the simple slope test suggest that the relationship between LMX and turnover intent was significant when GNS was high ( $\beta = -0.427, t = -2.789, p = 0.006$ ) but insignificant when GNS was low ( $\beta = 0.064, t = 0.538, p = 0.592$ ). Therefore Hypothesis 2d was partially supported in Sample 1, and not supported in Sample 2. As shown in Figure 4, GNS moderated both the strength and the direction of the relationship between LMX and turnover intent, such that the relationship was negative when GNS was high and non-existent when GNS was low.

Figure 5: Interaction Effect on Stress in Sample 2



For stress in Sample 2, the model in Step 1 with the control variables (i.e., age, gender, tenure with supervisor, and POS) explained a significant portion of the variance ( $\Delta R^2 = 0.098, p$

< 0.05); with LMX added, the model in Step 2 explained a significant incremental portion of the variance ( $\Delta R^2 = 0.075$ ,  $p < 0.01$ ) over the controls; with GNS added, the model in Step 3 continued to explain a significant incremental portion of the variance ( $\Delta R^2 = 0.048$ ,  $p < 0.01$ ) over the LMX and the controls; however, the addition of the interaction term (LMX\*GNS) in Step 4 explained a significant incremental portion of the variance ( $\Delta R^2 = 0.023$ ,  $p < 0.05$ ) over the main effects of LMX and GNS combined. Results of the simple slope test suggest that the relationship between LMX and turnover intent was insignificant when GNS was high ( $\beta = 0.183$ ,  $t = 1.501$ ,  $p = 0.136$ ) but significant when GNS was low ( $\beta = 0.510$ ,  $t = 4.428$ ,  $p = 0.000$ ). As shown in Figure 5, GNS moderated the strength, but not the direction, of the relationship between LMX and stress, such that this positive relationship only existed when GNS was low. Therefore Hypothesis 2e was partially supported in Sample 2 but not in Sample 1.

### 3. Study II: Growth Need and Impression Management (IM) in the Out-group

#### a. Measures

##### Impression management (IM)

Data on IM were collected from the subordinates at Time 3. IM was measured with part of the scale for Impression Management Tactics developed by Bolino and Turnley (1999). The scale measures IM along five dimensions, each of which has five items, with a five-point Likert-type scale anchored in 1(never), 2 (rarely), 3 (sometimes), 4 (often) and 5 (always). These five dimensions include self-promotion, ingratiation, exemplification, intimidation, and supplication. This study only used the positive dimensions of IM: self-promotion, ingratiation, and exemplification. An example item for self-promotion was “Talk proudly about your experience or education;” for ingratiation “Compliment your colleagues so they will see you as likeable;” and for exemplification “Try to appear like a hard-working, dedicated employee.” (See Appendix

G for the complete scale of Impression Management Tactics.) Due to the lack of reliability of the exemplification dimension in Sample 2, this dimension was removed from analysis for Sample 2. Cronbach's alpha for the 15-item IM is 0.815 in Sample 1 and 0.770 in Sample 2 for the 10-item IM.

### Controls

Data on relevant demographics, including age, gender, tenure with supervisor, and organizational politics, were collected from the subordinates at Time 2. Age was measured in years, and gender was dummy coded for the analysis, such that 1 represents male and 0 represents female. Tenure with supervisor measured how long the subordinate had worked for his/her current direct supervisor. Organizational politics was measured with a shortened version of the 12-item scale developed by (Kacmar & Carlson, 1997). The shortened version contained the 6 positively worded items from the original scale, and retained the five-point Likert-type scale anchored in 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree) and 5 (strongly agree). Cronbach's Alpha for POPs was 0.934 in Sample 1 and 0.877 in Sample 2.

### b. Analysis

According to Baron and Kenny (1986), impression management (IM) mediates the effect of GNS on performance if GNS has a significant effect on IM and performance, respectively; and GNS' effect on performance is reduced when performance is regressed on both GNS and IM at the same time. Further, IM fully mediates the effect of GNS on performance if GNS' effect on performance is reduced to a non-significant level when performance is regressed on both GNS and IM at the same time. A mediated regression (Baron and Kenny, 1986) was conducted for the model as proposed in this study, with performance measured with performance ratings only. In Step 1, performance rating was regressed on GNS; in Step 2, IM was regressed on GNS; in Step

3, performance rating was regressed on both GNS and IM. As control variables, age, gender, tenure with supervisor, and perceive organizational politics, were included in each of the three steps for performance rating.

### c. Results

Means, standard deviations, and correlations among study variables in both samples are presented in Table 5. Correlations from Sample 1 are displayed below the diagonal, and those from Sample 2 are displayed above the diagonal. As shown in Table 8, the mediation model found support in Sample 1 but not in Sample 2.

Table 8: Results of Mediated Regressions

Mediator & Variables	Regression Results from Sample 1						Regression Results from Sample 2					
	b	F	df	R <sup>2</sup>	Adj. R <sup>2</sup>	ΔR <sup>2</sup>	b	F	df	R <sup>2</sup>	Adj. R <sup>2</sup>	ΔR <sup>2</sup>
<u>Step 1: Mediator Regressed on IV</u>												
Controls:		5.392***	97	.182	.148	.182***		14.471***	125	.321	.299	.321***
Age	.034						-.020					
Gender	.163†						-.027					
Tenure w. supervisor	.012						.138					
POPS	.335***						.484***					
Mediator: IM		10.241***	96	.348	.314	.166***		14.898***	124	.375	.350	.055**
IV: GNS	.420***						.242**					
<u>Step 2: DV Regressed on IV</u>												
Controls:		5.410***	97	.182	.149	.182**		8.533***	125	.214	.189	.214***
Age	.094						.010					
Gender	.022						-.157					
Tenure w. supervisor	.089						.264*					
POPS	-.418***						.068					
DV: Perf. Rating		5.127***	96	.211	.170	.028†		7.050***	124	.221	.190	.007
IV: GNS	.174†						.086					
<u>Step 3: DV Regressed on Mediator &amp; IV</u>												
Controls:		5.410***	97	.182	.149	.182***		8.533***	125	.214	.189	.214***
Age	.080						.161					
Gender	-.044						-.096					
Tenure w. supervisor	.084						.263*					
POPS	-.553***						.067					
DV: Perf. Rating		7.314***	95	.316	.273	.134***		5.828***	123	.221	.183	.007
IV: GNS	.005						.085					
Mediator: IM	.402***						.003					

Note: Standardized betas reported from the final step. Sample1: n = 102, Sample2: n=130. †p<.10, \*p<0.05, \*\*p<0.01, \*\*\*p<.001.

A 3-step regression as suggested by Baron and Kenny (1986) was first run for Sample 1, with age, gender, tenure with supervisor, and perception of organizational politics controlled. In Step 1, the regression results of impression management (IM) on growth-need strength (GNS) suggest that GNS had a significant positive effect on IM ( $\beta = 0.420, p < 0.001$ ). In Step 2, the regression results of performance rating on GNS indicate that GNS also had a significant positive effect on performance rating ( $\beta = 0.174, p < 0.06$ ). In Step 3, performance rating was regressed on both self-esteem (mediator) and GNS (IV). The results showed a significant positive effect of IM on performance rating ( $\beta = 0.402, p < 0.001$ ). However, the effect of GNS on performance rating ( $\beta = 0.005, p > 0.10$ ) decreased to a non-significant level, meaning that IM completely transferred the effect of GNS on performance rating. To test whether the overall mediation model was significant, a Sobel test (Sobel, 1982) was conducted. The Sobel test examines whether the indirect effect of GNS on performance rating via IM was significantly different from zero. Results of the Sobel test ( $t = 3.033, p = 0.002$ ) suggested that the mediating effect of IM was significant. Taken together, results from this regression analysis support a full mediation model in Sample 1. However, the results did not support the direction of some of the relationships as hypothesized (H3a, H3b, and H3e), leaving only full support for H3d.

The same 3-step regression was then run for Sample 2, with age, gender, tenure with supervisor, and perception of organizational politics controlled. In Step 1, the regression results of IM on GNS suggest that GNS had a significant positive effect on IM ( $\beta = 0.242, p < 0.01$ ). In Step 2, the regression results of performance rating on GNS indicate that GNS did not have an effect on performance rating ( $\beta = 0.086, p > 0.10$ ). In Step 3, performance rating was regressed on both self-esteem (mediator) and GNS (IV). The results show no significant effect from either GNS or IM on performance rating ( $\beta_{\text{GNS}} = 0.085, \beta_{\text{IM}} = 0.003, p > 0.10$ ). Taken together, the

results from this regression analysis did not support a mediation model in Sample 2, while lending full support for H3d and no support for H3a, H3b, and H3e.

## CHAPTER IV: DISCUSSION

### 1. Discussion of Study Findings

Intrigued by the overwhelmingly positive outcomes associated with a high quality leader-member exchange relationship, this dissertation was started with the question whether the out-group (i.e., members without a high LMX) is larger than the in-group (members with a high LMX). Theory (Dansereau et al., 1975; Graen & Ulbien, 1995) suggests that the differentiation of LMX is necessary and unavoidable, because leaders operate with a finite amount of organizational resources and cannot develop a high LMX with all of their followers. Therefore, it is quite possible that only a small group of employees have the in-group status, and that the majority of employees are placed in the out-group. To test the hypothesis that the out-group is larger than the in-group in size, a preliminary step was taken, where secondary data was used to examine whether the 25/75 cut-off used in the Graen and Cashman (1975) study can still hold up. A set of secondary data of two samples was used to test this cut-off, and the results show that in both samples, job performance ratings were drastically different between the in-group and the out-group. This preliminary finding lends support to the idea that the out-group is larger and lays grounds for the subsequent investigations on the variances among out-group member. These investigations started with brief inquiries with the supervisors in the samples collected for this dissertation, who indicated that they could only consider a small cadre of subordinates within their teams as in-group members. The size of the out-group, was found between 65% and 89% in Sample 1 (which had 12 teams of doctors), and between 61 and 85% in Sample 2 (which had 13 teams of nurses).

Borrowing from theories of person-job fit (Cable & DeRue, 2002; Edwards 1991, 1996), this dissertation reasoned that within the out-group, the relationship between LMX and work outcomes such as commitment, performance, satisfaction, turnover intent, and stress, may vary across members with different levels of growth need strength (GNS). Within the out-group, high-GNS members may sense more of a misfit as they find themselves closer to the low end of LMX, and consequently become less committed, less satisfied, more stressed, perform worse, and have higher turnover intent. These high-GNS members may feel and behave much better when they find themselves closer to the high end of LMX, the in-group. In contrast, members with low GNS may find a good fit when they find themselves in a low LMX, and a misfit when they have a higher LMX. Therefore, it was hypothesized that GNS would moderate the direction of the relationship between LMX and work outcomes, such that the relationship between LMX and commitment (H2a), satisfaction (H2b), performance (H2c) would be positive for those with high GNS and negative for those with low GNS, and that the relationship between LMX and turnover intent (H2d) and stress (H2e) would be negative for those with high GNS and positive for those with low GNS.

Study I was designed to test these hypotheses, with two samples, one consisting of medical doctors (Sample 1) and the other of nurses (Sample 2). Lagged data was collected from these samples, with the controls and the independent variables (i.e., growth-need strength, and LMX) collected five months before all the dependent variables (i.e., commitment, satisfaction, performance, turnover intent, and stress). Results of the study indicate that growth-need did not affect the positive relationship between LMX and commitment (H2a) and between LMX and performance ratings (H2b), but it did influence the strength of the relationships between LMX and growth-need satisfaction and between LMX and turnover intent (H2d) among the doctors

(H2c), and between LMX and stress levels (H2e) among the nurses. As such, the results of Study I provided some support for the hypotheses the study was designed to test (See Table 7 for a summary of the results of hypothesis testing.). These findings, together with their interpretations, explanations and implications, will be discussed next.

The results of the study show that within the out-group (i.e., members without a high LMX), the doctors who had a better relationship with their supervisors were more committed, despite their differences in growth-needs. The nurses' commitment levels, however, were not at all affected by their relationships with their supervisors or their growth-needs. Thus, Study I found no support for an interaction effect of LMX and growth-need on commitment (H2a). The lack of support, from both samples, for the hypothesized moderation model for commitment might be explained by the possibility that the participants did not respond well to the measure used for commitment. Commitment was measured along three dimensions: affective commitment, normative commitment, and continuative commitment, and only the first two dimensions had acceptable reliability in the samples and were used for the analysis. Therefore, it is likely that the measure used for commitment failed to measure commitment among the participants.

When testing H2b, which hypothesized that growth-need would moderate the direction of the relationship between LMX and satisfaction such that the relationship would be positive for those with a high growth-need, Study I found that satisfaction in the out-group, when measured in terms of general satisfaction, was unaffected by LMX among the doctors; and it was negatively affected by LMX among the nurses. In other words, LMX was irrelevant to the doctors when they evaluated their job satisfaction, but a higher LMX could have been too much of a good thing to some of the nurses. It was somewhat troublesome to find that LMX did not

matter to the doctors in job satisfaction, as prior research has documented much empirical evidence for a strong and positive relationship between LMX and job satisfaction (Beehr et al., 2006; Epitropaki & Martin, 2005; Gerstner & Day, 1997). However, a study by (Harris et al., 2005) demonstrated that a high LMX could be a burden at times, as it is often accompanied by more delegation and consequently increased job responsibilities. Thus, nurses who were closer to the in-group might have had to share some of those extra responsibilities on the job and simply not all of them were happy with that.

When satisfaction was measured in terms of growth-need satisfaction, however, growth-need was found to moderate the relationship between LMX and growth-need satisfaction among the doctors, but not among the nurses. It turned out that the positive impact LMX had on growth-need satisfaction held up much more stronger among the doctors with a higher growth need (H2b, see Figure 3), and that this impact did not vary among the nurses across different levels of growth need. That is, a good relationship with the supervisor mattered more for the doctors with a higher growth-need when it came to growth satisfaction (H2b, see Figure 3). This positive relationship between LMX and growth-need satisfaction was expected for the doctors with a higher growth-need, because these doctors would find a better relationship with their supervisors a growth opportunity (Graen et al., 1986). The weaker relationship for the doctors with a moderate growth-need suggests that it is likely that these doctors did not care much for growth-need satisfaction, and therefore their LMX did not have as much of an impact on growth-need satisfaction. On the other hand, nurses who had a better relationship with their supervisors were more satisfied with their growth needs, despite their individual growth-need strength. This finding suggests that a better relationship with the supervisor did signal a growth opportunity to the nurses, and they responded accordingly in terms of growth-need satisfaction.

H2c hypothesized that growth-need would moderate the direction of the LMX-performance relationship such that the relationship is positive for those with a higher growth-need. Testing results of H2c show that growth-need had no impact on the positive relationship between LMX and performance, both objective and subjective (H2b), among both the doctors and the nurses. That is, for both the doctors and the nurses, the better their relationships with their supervisors were, the higher their performance ratings would be. The positive relationship was expected for those with a higher growth-need, because they would see a close-to-in-group status as a part of the jobs that fits their personal need for growth, and put forth more effort at work for better performance outcomes (Cable & DeRue, 2002; Edwards 1991, 1996). However, the positive relationship was not expected for those with a moderate growth-need, because for these individuals, the closer they are to the in-group, the less fit they would feel with their jobs, and consequently, they may not perform well. Also unexpected was the finding that the positive effect of LMX on performance indices did not vary with growth-need strength, even though the finding that LMX had a positive effect on both subjective performance rated by the supervisors and objective performance indices is congruent with the findings from other studies on LMX and job performance among subordinates (Gerstner & Day, 1997; Liden et al., 2006; Vidyanthi et al., 2010). Therefore it is likely growth-need is more relevant to effort level, and not actual performance outcomes as measured by either subjective ratings by supervisors or objective indices computed by machines. If this is true, then the performance indices were simply a measure for an employee's efficiency in using hospital resources and might not have been affected by the employee's growth-need.

As predicted in H2d (see Figure 4), doctors with higher versus moderate levels of growth-need showed different reactions to LMX when it came to turnover intent. For the doctors

with a higher growth-need, the better the relationship with the supervisors, the lower the turnover intent; contrarily, for those with a moderate growth need, their relationship with the supervisors did not affect their turnover intent. Further, compared with doctors with a moderate growth-need, those with a higher growth-need were more likely to turnover when they were in a poor relationship with their supervisors, and less likely to turnover when they were in a good relationship with their supervisors. This finding provides partial support for H2d, suggesting that among out-group members, a good relationship with the supervisor means opportunity and signals fit for those with a higher growth-need, but it does not mean much to those with a moderate growth-need. Thus, out-group members who have a higher growth-need may not react well to a low LMX and may be more likely to turnover. Out-group members with a moderate growth-need may not care for LMX at all. This finding among the doctors was quite unique in that it was a true moderation. Neither LMX nor growth-need had a main effect on turnover intent. In other words, the results suggest that for this sample, the negative relationship between LMX and turnover only existed for those with a moderate growth-need, and the positive relationship between LMX and turnover only existed for those with a high growth-need. However, this finding was not replicated among the nurses, although nurses with a higher growth-need were found more likely to turnover. A possible explanation is that nurses with a higher growth-need did not see much room for growth on their current jobs, and therefore thought of turnover more often.

Last but not least, the interaction of LMX and growth-need was also found to influence stress levels (H2e) among the nurses with a moderate growth-need, but not among those with a high growth-need. As shown in Figure 6, nurses with a low growth-need reported more stress in a better relationship with their supervisors. The positive LMX-stress relationship was expected

for those with a moderate growth-need, because a higher LMX would signal misfit to those with a moderate growth-need, thus incurring more stress. Also apparent in Figure 6 is that those with a moderate growth-need suffered a higher level of stress than those with a high growth-need. This finding was expected for those who were closer to the in-group (right-hand half of the chart in Figure 6), as the higher-growth-need individuals should perceive a better fit with a higher LMX than the low-growth-need individuals. However, this finding was not expected for those who were far away from the in-group (left-hand half of the chart in Figure 6), because the moderate-growth-need individuals should perceive a better fit with a lower LMX than the higher-growth-need individuals. A possible explanation, for the positive relationship between LMX and stress on both levels of growth-need, is the increased delegation that would come with a higher LMX (Graen & Cashman, 1975). Since stress was measured in terms of time related tension and anxiety, stress among the nurses could have been directly related to workloads and indirectly related to LMX. These findings were not replicated among the doctors, however. The interaction of LMX and growth-need did not impact stress level, and neither LMX nor growth-need had a main effect on stress among the doctors. The correlation table (Table 6) offers a plausible explanation for the differences between the doctors and the nurses when it came to stress. Stress was negatively related to age in both samples, suggesting that for both the doctors and the nurses, perhaps wisdom did come with age. As they accumulated more work experience, they became more capable of handling stressful work situations and suffered less from stress. However, stress was positively related to politics among the doctors and not the nurses, and positively related to LMX among the nurses and not the doctors. According to a few recent empirical studies (Miller et al., 2008; Harris et al., 2009), employees who perceive more

organizational politics tend to experience more job related stress. Therefore, stress might have been more related to politics among the doctors and not LMX at all.

Regarding the behavioral variances among out-group members (member without a high LMX), this dissertation has also hypothesized a mediation model, where impression management, as a form of political behaviors, would mediate the negative relationship between growth-need and performance ratings. The arguments for this model were based on theories on person-job fit (Edwards, 1993, 1996) and Cognitive Dissonance Theory (Festinger, 1976). Theories on person-job fit suggest that within the out-group, those with a higher growth-need would be more likely to perceive a misfit with their jobs as they do not receive the benefits of an in-group exchange, and may consequently have performance ratings. The two formulations of Cognitive Dissonance Theory (Festinger, 1976), the self-concept formulation (Aronson, 1968; Thibodeau & Aronson, 1992) and the self-presentation formulation (Tedeschi et al., 1971; Tedeschi & Rosenfeld, 1981), together suggest that within the out-group, members with higher growth-need may experience more severe dissonance and consequently become more active in utilizing dissonance-reduction mechanisms such as impression management. Unfortunately for them, impression management may have a detrimental effect on performance ratings as supervisors tend to see out-group impression management as political behaviors motivated by self-interest (Bolino, 2006). Thus, the hypothesized mediation model depicted a “back fire” scenario for out-group members who would engage in impression management.

Study II was designed to test this mediation model and its accompanying hypotheses, with the two samples used for Study I. Lagged data was collected from these samples, with all the controls and growth-need strength (the independent variables), collected five months before impression management (the mediator) and performance ratings (the dependent variable).

Results of Study II show that, impression management fully mediated the relationship between growth-need and performance ratings among the doctors, such that growth-need was positively related to impression management, which had a positive effect on performance ratings (see Table 9 for individual hypotheses of the mediation model and their test results). These results suggest that doctors with a high growth-need used impression management more often, and that more frequent use of impression management did translate into higher performance ratings. This finding, although against what was hypothesized, indicates that impression management did not back fire for the doctors, but worked toward their favor. Perhaps all hope is not lost for those with a high growth-need in the out-group, if they can use impression management wisely, because proper use of impression management tactics can improve performance ratings after all. However, impression management did not mediate the growth-need and performance relationship among the nurses, even though growth-need was positively related to impression management (H3c). The nurses' performance ratings were actually unrelated to either growth-need or impression management, suggesting that variances in performance ratings might be explained by something other than growth-need or impression management. A closer look at the result of the mediation analysis suggests that the differences in findings between the two samples might be explained by a major difference between the two samples: gender. All nursing supervisors were female, and 90% of the doctor's supervisors were male; over 95% of nurses were female, and about 60% of the doctors were male. According to Wayne and Liden (1994), impression management may work more effectively on performance ratings for female subordinates when they have a male supervisor. Since all the nursing supervisors were female, it is likely that the nurses' impression management attempts did not create the intended impact on performance ratings. This is quite unfortunate for the nurses with a high growth need, because a

recent study indicates that in oriental societies like India and China, female employees may have an advantage over their male counterparts in using impression management to influence their supervisors, even when the supervisor is female (Rai, 2009). As the theory of ambivalence response amplification (ARA, Katz & Glass, 1979) suggests that certain personal characteristics can amplify the outcomes of certain behaviors if these personal characteristics are considered as a source of stigma and disadvantage (Colella and Varma, 2001), Rai (2009) reasoned that since being a female would be considered a source of stigma and disadvantage in oriental societies, female employees' impression management attempts would be more effective.

Table 9: Summary of Hypothesis Testing

Hypothesis	Support
H1: The out-group is larger than the in-group in size.	full
H2a: GNS moderates the direction of the relationship between LMX and commitment such that the relationship is positive for those with high GNS and negative for those with low GNS.	none
H2b: GNS moderates the direction of the relationship between LMX and satisfaction such that the relationship is positive for those with high GNS and negative for those with low GNS.	partial in Sample1
H2c: GNS moderates the direction of the relationship between LMX and performance such that the relationship is positive for those with high GNS and negative for those with low GNS.	none
H2d: GNS moderates the direction of the relationship between LMX and turnover intent such that the relationship is negative for those with high GNS and positive for those with low GNS.	partial in Sample1
H2e: GNS moderates the direction of the relationship between LMX and stress such that the relationship is negative for those with high GNS and positive for those with low GNS.	partial in Sample2
H3a: GNS is negatively related to performance ratings.	none
H3b: IM is negatively related to out-group member performance ratings.	none
H3c: GNS is positively related to IM.	full
H3d: The negative relationship between GNS and performance is, at least, partially mediated by impression management behaviors, such that higher GNS leads to more IM attempts, which, in turn, leads to lower performance ratings.	partial in Sample1

In sum, Study I found that among the doctors, a better relationship with the supervisors brought higher growth satisfaction and lower turnover intent for those with a high growth-need. However, it had a weak influence on growth satisfaction, and no impact on turnover intent, for those with a low growth-need. Among the nurses, a better relationship with the supervisors brought heightened stress for those with a low growth-need. Study II discovered that those with

a higher growth-need used impression management more frequently, and that impression management attempts, contrary to prediction, did improve performance ratings for the doctors. The above discussion of these findings suggests that growth-need may be one of the motivational traits that can illuminate the “different shades of gray” among out-group members (i.e., members without a high LMX). Out-group members with a higher growth-need may care more for a good relationship with the supervisors, at least when it comes to their evaluations on growth satisfaction and turnover intent. They are more satisfied with their growth-needs, and less likely to turnover, when they have a good relationship with their supervisors. As such, supervisors should pay more attention to their subordinates’ growth-needs during their interactions with the subordinates. If possible, they should identify subordinates with higher growth-needs, because these subordinates may react more positively to a good relationship with their supervisors. Findings from Study II also suggest that even for out-group members, impression management is still a useful instrument for better outcomes in performance appraisals. For subordinates who wish to change their out-group status, it may be wise to invest some time and effort in learning impression management tactics and how to use them more effectively.

From a managerial stand point, perhaps more insight may be drawn from the differences in the two samples and in the results of the studies. It is quite possible that the differences between the two professions (doctors vs. nurses) could explain the differences in the results. In most hospitals in China, nurses do not have as much room for promotion as do doctors. Nurses also tend to have less autonomy on the job. Furthermore, the nurses were aware of the perceived lower status of their jobs compared against those of the doctors. Therefore, the nurses might have felt that the jobs they held would not meet their growth needs, regardless of the quality of their relationships with their supervisors. Consequently, the interaction of LMX and growth-

need did not predict well on the nurses' work outcomes related to motivation, such as commitment, performance, and growth satisfaction. A potential suggestion for managerial practice, deduced from this finding, is that jobs with little room for advancement and low autonomy would not create a good fit for employees who have a growth need, but supervisors can make a difference in these employees' work outcomes such as performance and growth satisfaction, as the results from Study I showed that LMX did have a positive effect on these work outcomes among the nurses.

The limited possibility for advancement, coupled with a lower status in the hospital, might have also have place a restriction on the effectiveness of the nurses' impression management tactics. Study II actually showed that the nurses who had a higher growth-need did use impression management more often, but in vain when it came to their performance ratings. On the other hand, the doctors who had a higher growth-need succeeded in using impression management tactics to help secure higher performance ratings. This finding was against prediction, and may have been unique to the sample of doctors. Most studies on LMX suggest that LMX remains stable once established, hence any political attempt to alter one's LMX status, and consequently performance ratings, may be futile, if not detrimental (as predicted). The doctors in Sample 1 obviously tried very hard to impress their supervisors and succeeded, despite the fact that most of them had worked for the same supervisor for over five years and should have been aware of their LMX status. It is likely, that the nature of the challenging and underfunded jobs of the doctors necessitate the frequent and close interactions between the doctors and their supervisors, and that these interactions gave the doctors' impression management attempts a higher chance of success. The fact that higher levels of impression management was reported among both the doctors and the nurses who had a higher growth-need

suggest the findings in Study II may be specific to the Chinese culture and society. Contrary to most Western cultures and societies, where most of the earlier LMX studies were conducted, the Chinese culture is more focused on the long-term, when it comes to the perception of time (Hofstede, 1991), and the Chinese society also imposes tighter control with lower job mobility. What this means is that Chinese employees may see LMX as more fluid, and for reasons of job security, may be more motivated to change their LMX status, than their Western counterparts. In simpler words, if a Chinese employee senses that he/she is in the out-group, he/she would still try to improve his/her supervisors' impressions of him/her, because he/she may believe that he/she can, and have to, change his/her relationship with the supervisor with time and effort. The suggestion for practice, extracted from this part of the discussion, may be more relevant to the increasing number of Western businesses that are conducting long-term operations in China and other Asian countries with similar cultural and societal backgrounds. While forging stable LMX may be functional for the supervisors in the short term, for benefits of efficiency, it may not pay off in the long term if the supervisors, especially the expatriates from the Western home countries, fail to observe the Chinese subordinates effort over time. That is, with Chinese employees, supervisors may not want to draw the line between in-group and out-group too soon, because if they do so, they may miss employees who can perform better in the long run rather than in the short sprint of the initial LMX forming period.

## 2. Limitations & Future Directions

Although there are many employees who do not share a high quality relationship with their supervisors (Maslyn & Uhl-Bien, 2005; Sparrowe & Liden, 1997), there has been little attention on these employees' reactions to an out-group status in terms of work related outcomes, such as satisfaction, performance, turnover intent, and stress levels. For this reason, Bolino and

Turnley (2009) called for research attention to employees in relatively low quality relationships with their supervisors. Inspired by the works of scholars who invested much effort in the study of LMX, this dissertation conducted two studies in examining the dynamics among individual differences and work related attitudinal and behavioral outcomes in out-group members (i.e., members without a high LMX). Results of these studies shed light on some of the issues related to LMX differentiation, and add to our understanding of the dyads that do not have a high quality exchange. First, the conversations with supervisors revealed that almost all of them only trusted, and consequently relied heavily on, a small cadre of the subordinates on their teams. Therefore most of the subordinates in the two samples did not have a high LMX, which is consistent with the suggestions from prior research (Maslyn & Uhl-Bien, 2005; Sparrowe & Liden, 1997), and provides grounds for further investigation on the out-group that consists of members without a high LMX. Second, there appeared to be “different shades of grey” within the out-group, identified by an individual motivational trait, growth-need strength, as growth-need strength was found to moderate the relationship between LMX and work related outcomes, including satisfaction, performance, turnover intent, and stress level. Last but not least, impression management, as a political behavior directed toward superiors and intended for image enhancement, turned out to be functional for those in the out-group when it came to performance appraisals.

However, despite the potential contribution to research, the studies conducted for this dissertation did come with some challenges and limitations. As discussed earlier, some of the hypotheses received partial support in one of the two samples, for two main reasons: either the direction of the hypothesized relationship was not supported, or, the measures used on the dependent variables may not have been valid for these samples. The lack of support for the

hypotheses suggests that better theory development is called for; and the low content validity in some variables indicates that alternative measures should be used, or scale refinement is needed. The size of the samples may also be a reason for the lack of support for some hypotheses. The sample sizes, though sufficient for the regression analyses conducted to test the hypotheses, were below the requirements for the confirmatory factor analysis (CFA), which was conducted to determine the discriminant validity of the measures of the study variables. As a result, the products of the CFA are of limited use for the studies, even though most of them indicated acceptable levels of validity for the measures used in the two studies. As shown in Table 2, the CFA also revealed that some measures did not work well in the two samples, such as the commitment scales, which could be why the moderation model on commitment did not receive support from either sample. Last but not least, the samples may present challenges to the generalizability of the results. The samples were collected in China, one consisting of doctors and the other nurses. Hence the results of the study may be restricted to the Chinese organizational environment, and/or to medicine related professions.

Given that this dissertation may be part of the early work on the out-group, there is much room for improvement of theory and for refinement of measures. For instance, it may be in question whether the results of the two studies can be generalized to employees in other industries and countries, because the samples were collected from a hospital in China. For purpose of establishing cross-industry and cross-culture generalizability, it will be necessary to examine the research questions with comparable data sets from other types of organization, and from countries with different cultural backgrounds. On the other hand, few studies have been conducted on medical professionals in China, especially in relation to LMX and its outcomes.

As such, an alternative direction to carry this research forward could be to focus on LMX and health care professionals in developing economies.

What's more, in the discussion about the fact that certain empirical conditions specific to the samples that might have accounted for the unexpected finding on performance indices, a new question emerged as to what part of performance growth-need is really related to. As a motivational trait, growth-need should be more relevant to effort level, and not necessarily the actual performance outcomes as measured by either subjective ratings by supervisors or objective indices computed by machines. Study I suggests that this may be the case, as the results show that growth-need strength had no effect on both measures of performance in both samples (see Table 5). As such, future research can add to our understanding of growth-need by examining the exact relevant outcomes of growth-need at work.

Further, this dissertation has been based on the assumption that supervisors determine the differentiation between in-group and out-group, and has consequently measured LMX from the supervisor's perspective. However, empirical evidence showed that supervisor rated LMX and subordinate rated LMX did not have much agreement (Hock-Peng, 2009), and supervisor rated LMX might not have been the best measure to capture the differentiation in exchange quality due to social desirability and the consequent lack of variance. To more accurately identify a subordinate's in-group versus out-group status, more recent studies have developed and used other measures, such as relative LMX (RLMX, Kozlowski & Klein, 2000; Henderson et al., 2008), which measures the objective difference between a member's LMX score and his/her team's average LMX score, and LMX social comparison (LMXSC, Vidyarthi et al., 2010), which represents a member's subjective estimate of his/her LMX score in relevance to his/her team's average LMX score. Perhaps an immediate next step that follows this dissertation, is to

validate these newly developed and refined scales with new data, and to use them to reinvestigate the relationships among exchange quality, growth-need, and work outcomes.

While samples and measures may have posed empirical challenges to the studies, theory development regarding within-group differentiation in LMX and its impact on employees may benefit from extended examinations on the relationships investigated in the two studies among LMX, motivational trait, and work outcomes. Although growth-need was found to moderate the relationships between LMX and satisfaction, performance, turnover intent, and stress level, whether these relationships have any intervening mechanisms is still an open question. As Rousseau (1998) put it, there is still a black box between LMX and its outcomes. It was not until recently that research started to tackle this black box, when Bolino and Turnley (2009) proposed an integrative model that may allow future studies focus on the out-group (i.e., members without a high LMX) regarding how out-group members' perception of LMX would impact their attitudes and behaviors at work. As the moderation model tested in Study I was based on theories of person-job fit (Cable & DeRue, 2002; Edwards 1991, 1996), follow-up studies should examine whether followers' perceptions of person-job fit plays a role in the relationship between LMX and its outcomes. With newly developed techniques in analyzing moderated mediation models (i.e. models with moderated indirect effects, see Preacher et al., 2007; Tepper et al., 2008), future research can investigate, with more precision, how motivational traits (e.g. GNS) and perceptions of fit impact the LMX – work outcomes relationships.

Last but not least, it was implied in Study II that in the hope of changing their out-group status, employees with a higher growth-need would try harder at impression management to improve their performance ratings. The study found that among the doctors, those with a higher growth-need did try hard to impress their supervisors, and their efforts did pay off in terms of

performance ratings. However, whether these doctors managed to change their out-group status by means of impression management has yet to be tested. It seems necessary to conduct parallel studies that will collect LMX data at a third time so as to answer this question. Evidence, if any, is found that impression management can change one's out-group status, it would add support to the stream of research that suggest LMX is more fluid than it has been traditionally construed (Hui et al., 2005; Sparrowe & Liden, 1997).

In conclusion, it was the intention of this dissertation to start a line of research that focus on the out-group (i.e., members without a high LMX) in leader-member exchange. Findings from the studies suggest that most supervisors did not, and could not, develop and maintain a high quality exchange relationship with all subordinates. The result was that most subordinates did not have a high LMX. The findings also suggest that among these subordinates, those with a higher growth-need were more responsive to the quality of their relationship with the supervisors, and they would try harder to impress the supervisors. Future studies in this line of inquiries concerning the out-group will benefit from adopting new measures of LMX that can better capture the out-group, and become more informative to research and practice by investing the intervening mechanisms that operate between LMX and its outcomes.

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## APPENDIX A

LMX7 (Graen & Cashman, 1975, Graen & Uhl-Bien, 1995)

LMX7 for supervisors

For each of the following questions, please circle the word/phrase that best represents your answer.

Does this subordinate know where he/she stand with you ...						
1	Does this subordinate usually know how satisfied you are with what he/she does?	rarely	occasionally	sometimes	fairly often	very often
2	How well do you understand this subordinate's job problems and needs?	not a bit	a little	a fair amount	quite a bit	a great deal
3	How well do you recognize this subordinate's potential?	not at all	a little	moderately	mostly	fully
Regardless of how much formal authority you have built into your position, what are the chances that you would use your power to help this subordinate solve problems in his/her work?						
4		none	small	moderate	high	very high
Again, regardless of the amount of formal authority you have, what are the chances that you would "bail this subordinate out," at your expense?						
5		none	small	moderate	high	very high
6	I have enough confidence in my subordinate that he/she would defend and justify my decision if I were not present to do so.	strongly disagree	disagree	neutral	agree	strongly agree
7	How would you characterize your working relationship with your subordinate?	extremely ineffective	worse than average	average	better than average	extremely effective

## APPENDIX B

### Growth-need Strength (Hackman & Oldham, 1974, 1975) Form A

Please indicate how much you would like to have each of the following characteristics in a job.

	not at all	little	some	a lot	as much as possible
1 Stimulating and challenging work	1	2	3	4	5
2 Chances to exercise independent thought and action in my job	1	2	3	4	5
3 Opportunities to learn new things from my work	1	2	3	4	5
4 Opportunities to be creative and imaginative in my work	1	2	3	4	5
5 Opportunities for personal growth and development in my job	1	2	3	4	5
6 A sense of worthwhile accomplishment in my job	1	2	3	4	5

## APPENDIX C

Performance Evaluation Scale (Wright, Kacmar, McMahan, & Deleeuw, 1995)

		strongly disagree	disagree	neutral	agree	strongly agree
1	On the job, this subordinate exhibits an underlying concern for doing things or tasks better, for improving situations.	1	2	3	4	5
2	On the job, this subordinate exhibits zeal about the job and a consequent willingness to work hard and energetically.	1	2	3	4	5
3	On the job, this subordinate exhibits a willingness to go beyond what the situation requires and to act before being asked.	1	2	3	4	5
4	This subordinate exhibits an ability to see the whole, its parts and relation, and use this to set priorities, plan, anticipate, and evaluate.	1	2	3	4	5
5	This subordinate always gets things done on time.	1	2	3	4	5
6	I am never disappointed in the quality of work that I receive from this subordinate.	1	2	3	4	5
7	This subordinate's work habits (tardiness, length of breaks, etc.) are exemplary.	1	2	3	4	5
8	If I have to be out of the office for an extended period of time, I can rest assured that this subordinate will continue to be productive.	1	2	3	4	5
9	I never have to check up on this subordinate.	1	2	3	4	5
10	This subordinate gets along well with co-workers.	1	2	3	4	5

## APPENDIX D

		strongly disagree	disagree	neutral	agree	strongly agree
Affective, Normative, and Continuance Commitment (Meyer & Allen, 1997)						
1	I would be very happy to spend the rest of my career with this organization.	1	2	3	4	5
2	I really feel as if this organization's problems are my own.	1	2	3	4	5
3	I do not feel like "part of the family" at my organization.	1	2	3	4	5
4	I do not feel "emotionally attached" to this organization.	1	2	3	4	5
5	This organization has a great deal of personal meaning for me.	1	2	3	4	5
6	I do not feel a strong sense of belonging to my organization.	1	2	3	4	5
7	I do not feel any obligation to remain with my current employer.	1	2	3	4	5
8	Even if it were to my advantage, I do not feel it would be right to leave my organization now.	1	2	3	4	5
9	I would feel guilty if I left my organization now.	1	2	3	4	5
10	This organization deserves my loyalty.	1	2	3	4	5
11	I would not leave my organization right now because I have a sense of obligation to the people in it.	1	2	3	4	5
12	I owe a great deal to this organization.	1	2	3	4	5
13	It would be very hard for me to leave my organization right now, even if I wanted to.	1	2	3	4	5
14	Too much in my life would be disrupted if I decided I wanted to leave my organization now.	1	2	3	4	5
15	Right now staying with my organization is a matter of necessity as much as desire.	1	2	3	4	5
16	I feel that I have too few options to consider leaving this organization.	1	2	3	4	5
17	One of the few serious consequences of leaving this organization would be the scarcity of available alternatives.	1	2	3	4	5
18	One of the major reasons I continue to work for this organization is that leaving would require considerable personal sacrifice -- another organization may not match the overall benefits that I have here.	1	2	3	4	5

## APPENDIX E

JDS (Hackman & Oldham, 1974)

	extremely dissatisfied	dis- satisfied	neutral	satisfied	extremel y satisfied
1 The amount of personal growth and development I get in doing my job	1	2	3	4	5
2 The feeling of worthwhile accomplishment I get from doing my job	1	2	3	4	5
3 The amount of independent thought and action I can exercise in my job	1	2	3	4	5
4 The amount of challenge in my job	1	2	3	4	5

## APPENDIX F

Job Stress Scale (Parker & Decotiis, 1983: time/anxiety)

		strongly disagree	disagree	neutral	agree	strongly agree
1	Working here makes it hard to spend enough time with my family.	1	2	3	4	5
2	I spend so much time at work, I can't see the forest for the trees.	1	2	3	4	5
3	Working here leaves little time for other activities.	1	2	3	4	5
4	I frequently get the feeling I am married to the company.	1	2	3	4	5
5	I have too much work and too little time to do it in.	1	2	3	4	5
6	I sometimes dread the telephone ringing at home because the call might be job-related.	1	2	3	4	5
7	I feel like I never have a day off.	1	2	3	4	5
8	Too many people at my level in the company get burned out by job demands.	1	2	3	4	5
9	I have felt fidgety or nervous as a result of my job.	1	2	3	4	5
10	My job gets to me more than it should.	1	2	3	4	5
11	There are lots of times when my job drives me right up the wall.	1	2	3	4	5
12	Sometimes when I think about my job I get a tight feeling in my chest.	1	2	3	4	5
13	I feel guilty when I take time off from job.	1	2	3	4	5

## APPENDIX G

### Impression Management Tactics ( Bolino & Turnley, 1999)

	never	rarely	some- times	often	always
1 Talk proudly about your experience or education.	1	2	3	4	5
2 Make people aware of your talents or qualifications.	1	2	3	4	5
3 Let others know that you are valuable to the organization.	1	2	3	4	5
4 Let others know that you have a reputation for being competent in a particular area.	1	2	3	4	5
5 Make people aware of your accomplishments.	1	2	3	4	5
6 Compliment your colleagues so they will see you as likeable.	1	2	3	4	5
7 Take an interest in your colleagues' personal lives to show them that you are friendly.	1	2	3	4	5
8 Praise your colleagues for their accomplishments so they will consider you a nice person.	1	2	3	4	5
9 Use flattery and favors to make your colleagues like you more.	1	2	3	4	5
10 Do personal favors for your colleagues to show them that you are friendly.	1	2	3	4	5
11 Try to appear like a hard-working, dedicated employee.	1	2	3	4	5
12 Stay at work late so people will know you are hard working.	1	2	3	4	5
13 Try to appear busy, even at times when things are slower.	1	2	3	4	5
14 Arrive at work early in order to look dedicated	1	2	3	4	5
15 Come to the office at night or on weekends to show that you are dedicated.	1	2	3	4	5
16 Be intimidating with coworkers when it will help you get your job done.	1	2	3	4	5
17 Let others know that you can make things difficult for them if they push you too far.	1	2	3	4	5
18 Deal forcefully with colleagues when they hamper your ability to get your job done.	1	2	3	4	5
19 Deal strongly or aggressively with coworkers who interfere in your business.	1	2	3	4	5
20 Use intimidation to get colleagues to behave appropriately.	1	2	3	4	5
21 Act like you know less than you do so people will help you out.	1	2	3	4	5
22 Try to gain assistance or sympathy from people by appearing needy in some area.	1	2	3	4	5
23 Pretend not to understand something to gain someone's help.	1	2	3	4	5
24 Act like you need assistance so people will help you out.	1	2	3	4	5
25 Pretend to know less than you do so you can avoid an unpleasant assignment.	1	2	3	4	5