PUTTING EXCHANGE BACK INTO LEADER-MEMBER EXCAHNGE (LMX): AN EMPIRICAL ASSESSMENT OF A SOCIAL EXCHANGE (LMSX) SCALE AND AN INVESITIGATION OF PERSONALITY AS AN ANTECEDENT

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A Dissertation

Submitted to

the Graduate Faculty of

Auburn University

in Partial Fulfillment of the

Requirements for the

Degree of

Doctor of Philosophy

Auburn University

August 8, 2005

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DISSERTATION ABSTRACT

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142 Typed Pages

Directed by Achilles A. Armenakis

In the early 1970s, researchers began investigating a new approach to the study of leadership within organizations. In contrast to traditional theories of leadership, this new approach proposed the study of leaders and members should be on a one-on-one or dyadic basis. As empirical research grew in support of this new method of investigation, researchers began referring to this dyadic interaction as leader-member exchange (LMX). Over the past 30 plus years, LMX has gained significant attention in the eyes of both academics and practitioners alike. Building on this research, this study addressed two significant weaknesses in the existing literature: (a) problems with LMX scale measurement, and (b) unknown antecedents to LMX formation. Specifically, previous scales provided little evidence of psychometrically sound properties. Likewise,

investigators used a handful of scales to measure LMX, many of which seem to have failed to address any type of exchange process. To address this issue, this study developed a psychometrically sound LMX scale that captures the exchange process between leaders and members. Additionally, despite the volumes of empirical investigations into the results effects of LMX, there remains only scant attention devoted to potential antecedents of this phenomenon. To address this issue, this study investigated the role of the Big Five personality traits and perceptions of LMX. In addition to looking at the role of member and leader personality on LMX, the moderating effects of leader personality on the relationship between employee personality and LMX was also investigated. Collectively, the participation of over 300 individuals, in three separate studies, helped to close these gaps in current LMX knowledge.

ACKNOWLEDGEMENTS

It has been a long and fun process getting to this point in my life. I have enjoyed and made the most of what life has given me. More than any other gift, I am grateful the Lord has blessed me with a pure enjoyment of the learning process. For this gift, and for everlasting forgiveness and constant companionship, I am thankful to the Lord, my Savior.

I am also truly grateful for the people who have surrounded me and put up with my opinionated ways. Josh and Heather Grantham, Arvind Prabhakar, Marty Leddy, Jack Walker, Erin Kagey, Marc Hill, John Melton, Duncan Williams, Claire Muth, Maris Ozug, and many more special friends have made my life fun and enjoyable. I truly appreciate the time I have spent with each of you. Special thanks are also in order for an incredible friend and mentor Michael S. Cole. I feel God truly blessed me by placing someone with such similar interests and work habits in my life.

I should also acknowledge and thank my professors, Achilles Armenakis, Junior Feild, Bill Giles, Stan Harris, and a number of other Auburn Faculty for always treating me as an equal. The respect, support, and guidance these individuals have shown me over the last three years has truly changed my life.

Finally, I would like to thank my family. My life has included bad choices, good choices, regrets, and accomplishments. I am truly fortunate that my family has loved me the throughout each. Without their love and support, the completion of this dissertation would be nothing.

STYLE MANUAL

Style manual used: *Publication Manual of the American Psychological Association* (5th ed.).

(2001). Washington, DC: American Psychological Association.

Computer Software used: Miscrosoft Word 2003, SPSS 12.0, AMOS Graphics 5.0.

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I. INTRODUCTION

Overview of Leader-Member Exchange and the Present Study

With more than 30 years of research, a brief review of leader-member exchange (LMX) is needed before getting into the specifics of the study. As such, the format of this study is as follows: (a) an introduction to the development of the LMX construct, (b) an overview of LMX quality, followed by (c) an overview of the benefits of studying the leader-member exchange process. After giving this brief overview, a short section will be devoted to the areas that have failed to be adequately addressed. Having documented areas that lack empirical support, the remainder of the study will be separated into two main subsections: One devoted to the development of a new LMX social exchange scale, and the other devoted to investigating the role of personality in LMX formation. Taken collectively, the reported research details the growth of LMX while addressing two areas that have received far too little attention.

LMX Construct Development

The LMX leadership model of dyadic relationships between supervisors and subordinates was in direct contrast to the accepted average leadership models proposed by the Ohio State and Michigan studies of effective supervision (Graen & Uhl-Bien, 1995). Originally termed vertical dyad linkage (VDL), Graen and colleagues (Dansereau, Graen, & Haga, 1975; Graen & Cashman, 1975; Graen, Novak, & Sommerkamp, 1982; Graen & Scandura, 1987; Liden & Graen, 1980), challenged the prevailing leadership

model of the time, the average leadership style (ALS) model. These traditional approaches to leadership included two basic assumptions: (a) members of an organizational work group who report to the same leader are sufficiently homogeneous with respect to perceptions, interpretations, and reactions, and (b) the leader behaves in a consistent manner towards each member of this work group (Dansereau et al., 1975). Rather than finding a single or "average" managerial behavior, researchers found when asked to describe the behavior of their manager, employees described the same manager in a number of different ways (Graen & Uhl-Bien, 1995). Thus, LMX is generally defined as the one-on-one exchange of organizational commodities between leader and member. Importantly, a number of studies have investigated direct comparisons between ALS and VDL.

For example, in an early test of differentiated leadership styles, Liden and Graen (1980) discovered over 90% of leaders formed different quality relationships with subordinates. Katerberg and Hom (1981) documented ". . . within-group variation in leader behavior continues to predict criteria even after the confounding effects of between-groups leadership variation are removed" (p. 220). Graen, Liden, and Hoel (1982) and Ferris (1985) found LMX to be a better predictor of turnover than ALS. Notably, recent research continues to show support for an LMX perspective over the ALS model of leadership (cf. Schrieshem et al., 1998). Taken collectively, direct comparisons between VDL and ALS have resulted in researchers concluding the ALS model may fail to account for parts of leadership, instead opting to assume error variance for messy data (Dansereau, Cashman, & Graen, 1973). Overall, Dienesch and Liden (1986) concluded "empirically, the LMX relationship explains variance over and above other leadership

approaches. Conceptually, it gives a more complete picture of the range of leadership processes" (p. 631).

Having provided support for unique relationships between leaders and members, researchers began to more clearly define the formation of unique relationships. Because no leader is capable of completing all organizational tasks alone, he or she must delegate some of the organizational assignments. Likewise, because the ensuing work will be a reflection of the leader, he or she will naturally look to subordinates that can be trusted to complete the task in a successful manner (Liden & Graen, 1980). Thus, LMX theory is based on the underlying assumption that organizational leaders only have limited amounts of personal, social, and organizational resources, and, thus, must selectively divide such resources among subordinates (Dansereau et al., 1975; Graen & Scandura, 1987; Graen & Uhl-Bien, 1995). This division of resources leads to different formations of LMX quality. For example, supervisors with 10 or 15 subordinates will consequently have 10 or 15 individual LMX relationships. Moreover, because a manager or supervisor only has a limited amount of time and resources, LMX-quality will inevitably be different between each dyadic pair. Some relationships will develop into high-quality working relationships characterized by mutual trust, respect, and commitment, while others will develop into low-quality relationships that go little beyond the formal employment contract (Dienesch & Liden, 1986).

LMX Quality Development

On a basic level, Maslyn and Uhl-Bien (2001) suggest the leader-member relationship is formed as a series of interactions between the members of the dyad. From each interaction, both supervisors and subordinates gather information as to the nature of

trust, respect, and obligation owed to one another. If these interactions continue in a positive manner, development of a high-quality LMX relationship begins to take shape. On the other hand, if exchanges fail to take place, or if one member of the dyad learns the other party cannot be trusted or fails to reciprocate obligations, the LMX relationship will likely remain at low levels (Dienesch & Liden, 1986; Graen & Scandura, 1987; Maslyn & Uhl-Bien, 2001; Uhl-Bien et al., 2000).

Inevitably, the division of resources leads to different formations of LMX. High-quality LMX relationships are typically characterized by enhanced levels of satisfaction and effectiveness, as well as mutual respect and influence, open communication, greater access to organizational resources, and even extrarole behaviors (Gerstner & Day, 1997). Generally speaking, high-quality LMX relationships typically transcend the formal employment contract (Uhl-Bien & Graen, 1992). In direct contrast to such relationships, subordinates in low-quality LMX relationships receive fewer resources, receive more restricted information, and have fewer promotional opportunities, all of which can lead to job dissatisfaction, low organizational commitment, and potentially employee turnover (Gerstner & Day, 1997; Vecchio, 1997). By and large, low-quality LMX relationships more closely resemble formal employment contracts; thus, leaving such members to be described as "hired hands" (Dansereau et al., 1975).

Overall, LMX theory proposes organizational leaders develop unique relationships with their subordinates. These relationships exist across a continuum ranging from low-quality relationships, characterized as no more than basic employment exchanges, to high-quality relationships, characterized by mutual exchanges that go above and beyond those fundamental to the employment contract.

Benefits of Studying LMX

Before examining the areas of underdevelopment within the LMX literature, the benefits of studying LMX need to addressed. Moreover, there would be little need to take the painstaking steps to fill gaps in a literature that shows little benefit to employees, leaders, and organizations. Fortunately, the rich history and explosion of interest devoted to the topic over the last 30 years has left undeniable evidence of the benefits of studying leader-member exchange.

To begin, it is important to note researchers have defined LMX in terms of emotional support and exchange of valuable resources, and noted it ". . . is pivotal in determining the member's fate with the organization" (Sparrowe & Liden, 1997, p. 522). Further, social exchange theory and the norm of reciprocity suggest employees who perceive leadership support (seen through high-quality LMX relationships), should feel a sense of obligation to reciprocate by performing better and engaging in beneficial actions such as organizational citizenship behaviors. Importantly, strong empirical support has shown beneficial returns for high-quality LMX relationships. For example, LMX has been linked to important organizational variables such as performance (e.g., Dansereau, Alutto, Markham, & Dumas, 1982; Duarte, Goodson, & Klich, 1993; Graen, Novak, et al., 1982), job attitudes (e.g., Dienesch & Liden, 1996), commitment (e.g., Duchon, Green, & Taber, 1986; Manogram & Conlon, 1993; Schriesheim, Neider, Scandura, & Tepper, 1992), and turnover, actual and intended (e.g., Graen, Liden, et al., 1982; Major, Kozlowski, Chao, & Gardner, 1995; Sparrowe, 1994; Vecchio, 1982; Vecchio & Gobdel, 1984). LMX has also been found to positively relate with satisfaction with supervisor (e.g., Mueller & Lee, 2002; Schriesheim & Gardiner, 1992), performance evaluations

(Dienesch & Liden, 1986; Durante, Goodson, & Klich, 1984; Judge & Ferris, 1993), innovation (Basu, 1991; Tierney, 1992), fairness perceptions (Bell, 1994), and career outcomes (Wakabayashi & Graen, 1984). Adding to these early studies, a more recent meta-analysis by Gerstner and Day (1997) discovered significant relationships between LMX and job performance, satisfaction with supervisor, overall satisfaction, commitment, role conflict, role clarity, member competence, and turnover intentions.

Furthermore, Graen, Liden, et al. (1982) found the communication patterns between leaders and employees in high-quality versus low-quality LMX relationships to be significantly different. For example, in low-quality relationships, leaders seldom or never talked to subordinates about their effectiveness; additionally, they failed to get low-quality members involved in discussions on how to effectively manage difficult task assignments. Moreover, they typically took a stance ". . . that the members were expected to do their assigned work and cope with the pressures on their own" (p. 871). On the other hand, high-quality relationships were defined by communication patterns in which leaders and members frequently talked about assignments and details about their job performance. Graen, Liden, et al. (1982) also note leaders appeared to help these subordinates complete difficult task assignments. Adding to this, Fairhurst (1993) noted the communication behaviors in high-quality LMX relationships reinforced affect and relationship building whereas low-quality LMX relationships took on an antagonistic, adversarial, and confrontational communication pattern.

To say subordinates who share high-quality LMX relationships with their supervisors are provided more resources, emotional support, responsibilities, and cooperative interactions than those subordinates in low-quality LMX relationships (Liden

& Graen, 1980) is intuitively appealing from an outsider's perspective. But the real question becomes how does LMX-quality actually influence the employee or the organization? The answer to this question may be summarized in the results of two early studies of the 1980s. Specifically, Wakabayashi and Graen (1984) found, in a longitudinal study, LMX accounted for more than 50% of the variance in managerial progress of managers. Little additional evidence is needed to convince the everyday worker of the importance of LMX, but is there also a more organization-wide benefit to studying LMX?

Importantly, Scandura and Graen (1984) have shown LMX leadership interventions can help improve productivity, job satisfaction, supervisor satisfaction, and even perceived leader support. Furthermore, they found an interaction effect such that initially low-LMX groups responded more positively than initially high-LMX groups to the leadership intervention. Interestingly, Scandura and Graen (1984) conclude "the initially low-LMX group clearly had the potential to consistently produce at higher levels, but it appears that they did not perceive higher performance as being worth the effort" (p. 434). Thus, organizations can actually enhance productivity through attention to LMX. Moreover, results by Scandura and Graen (1984) translated into a 19% improvement in productivity resulting in an estimated annual cost savings of over $5 million (p. 435). Selling the importance of organizational research becomes a much easier task given the long-term career and organizational outcomes influenced by this phenomenon.

Gaps in Current Literature and Reasons for this Study

Although LMX has increasingly been used as a conceptual tool for research within the organizational sciences, there remain a number of areas that need either new investigations or further clarification. The present study answers these specific calls for research by developing an LMX scale that better measures an exchange relationship (e.g., Schriesheim et al., 1999) and by investigating potential antecedents to LMX development (e.g., Deluga, 1998; Smith & Canger, 2004). Following a concise introduction to these two areas, the remainder of the study details specific information and examples.

Measurement problems and LMX. To begin, LMX measurement suffers from two main problems: (a) inadequate psychometric soundness, and (b) inappropriate measurement. For example, a number of researchers have noted the lack of psychometrically sound measurement scales in the LMX field (cf. Dienesch & Liden, 1986; Graen & Uhl-Bien, 1995; Schriesheim et al., 1999; Schriesheim et al., 1992). In fact, in a comprehensive review of LMX literature from its conception in 1972, Schriesheim et al. (1999) noted LMX scales have ranged from two to 25 items. From this investigation, Schriesheim et al. (1999) noted many scales ". . . were developed on an ad-hoc basis or modified from existing measures without adequate psychometric testing" (p. 94). They continue by noting the revised LMX7 (Graen, Novak, et al., 1982; Graen & Uhl-Bien, 1995) scale is the most widely used measure of LMX, but there is no evidence of adequate psychometric testing of the scale. Without a systematic approach to development and validation, some existing LMX scales may not be measuring what they purportedly measure (cf. Nunnally & Bernstein, 1994).

In addition to weakness in psychometric soundness, researchers have also questioned the content of current scales. For example, Liden and Masyln (1998) note while current LMX scales purportedly measure an exchange between leader and member, they may actually be measuring a psychological state representing the extent to which the leader is loyal and likeable (pp. 67 - 68). Other researchers have also noted while LMX is typically described as a social exchange process, it is rarely measured as such (Gerstner & Day, 1997).

Importantly, the more recent LMX literature of the 1990s and 2000s has consistently cited Blau's (1964) theory of social exchange and Gouldner's (1960) norm of reciprocity as a foundation for LMX development (e.g., McNeely & Meglino, 1994; Sparrowe & Liden, 1997; Uhl-Bien & Maslyn, 2003; Wayne et al., 1997; 2002). These theories explicitly state exchange is central to social life. Moreover, social equilibrium and cohesion are dependent on people giving and returning in equivalence (Blau, 1964). While such a give-and-take relationship is theoretically accounted for in current LMX literature, closer attention to these scales raises doubt as to whether or not researchers are currently measuring any type of social exchange at all.

Taken collectively, previous research suggests the need for the development of a leader-member-social-exchange (LMSX) scale. Social exchange is offered as a way to conceptually distinguish the new scale with previous scales. That is, the new LMSX will place more emphasis on the exchange process as described by Blau (1964) than previous scales. As such, this study followed the steps offered by Hinkin (1995; 1998) to produce a psychometrically sound measure of leader-member *social exchange*.

Antecedents to LMX. Although it is widely acknowledged that LMX relationships are influenced by characteristics of leaders and members (Graen & Uhl-Bien, 1995), there is very little research investigating characteristics outside demographic variables. The recent renewed attention devoted to dispositional approaches to leadership and performance (e.g., Judge & Bono, 2000) suggests a strong link between personality and LMX formation. Thus, the second subsection of the study links these two streams of literatures by investigating dispositional antecedents, specifically the Big-Five personality traits, of LMX. In doing so, this study answers calls of a number of different researchers (e.g., Barry & Stewart, 1997; Bauer & Green, 1996; Deluga, 1998; McClane, 1991; Phillips & Bedeian, 1994; Smith & Canger, 2004) who have explicitly called for the investigation of the role of personality and LMX. Furthermore, the present study also investigated personality's role in a three-fold manner: (a) the role of subordinate personality in perceived LMX, (b) the role of supervisor personality in perceived LMX, and (c) the role of personality congruence (i.e., the interaction between supervisor and subordinate personality) in perceived LMX. By investigating these three areas, this study assesses independent and interactional effects of personality which are limitations of previous research.

Overall Purpose of the Study

LMX research has seen consistently encouraging results over the last 30 years, but a number of areas have been left unexplored or inadequately addressed. The present study answers specific calls to address some of these unexplored issues. Specifically, the present study developed a psychometrically sound measure of social exchange between leader and member, and investigated antecedents of LMX development. In doing so, the

study investigated the role of supervisor and subordinates' personality, the role of personality congruence, and the role of specific scale measurement in predictive ability. As such, the remainder of study breaks these issues into two main subsections: The first, devoted to the development of a new leader-member social exchange (LMSX) scale, and the second, devoted to the exploration of personality and LMX.

Exchange in LMX? Development and Assessment of a New Scale

As proposed by Graen and colleagues (Dansereau, et al., 1975; Graen & Cashman, 1975; Liden & Graen, 1980; Graen, Novak, et al., 1982; Graen & Scandura, 1987), leader-member exchange (LMX) is based on the notion that leaders develop unique types of relationships with each individual subordinate. These relationships exist along a continuum of low-quality, in which the relationship is based strictly on the employment contract, to that of a high-quality relationship based on mutual liking, trust, respect, and influence. Early studies of LMX devoted attention to distinguishing between an average leadership style (ALS, in which leaders acted in a consistent manner with all employees) and a vertical dyad linkage (VDL, later developed into LMX in which leaders develop unique relationships). Unfortunately, preoccupation with demonstrating the benefits of studying leadership through a dyad basis appears to have left the field with a considerable deficit in definition and measurement.

As such, recent investigations have attempted to clarify the construct and measurement (e.g., Liden & Masyln, 1998; Sparrowe & Liden, 1997). More recently, the construct of LMX has been defined in terms of social exchange (Blau, 1964) and reciprocity (Gouldner, 1960). These theories propose recipients of positive actions experience a sense of indebtedness. Indebtedness can be reduced when the receiver

returns a similar action or behavior to the donor (Greenberg & Westcott, 1983; Settoon, Bennett, & Liden, 1996). In terms of LMX, social exchange theory suggests employees who perceive leadership support (seen through high-quality LMX relationships), should feel a sense of obligation to reciprocate by performing better and engaging in beneficial organizational actions. Unfortunately, current LMX scales seem to imply an exchange relationship rather than actually measuring if such an exchange is truly perceived by an employee.

In addition to a lack of the *exchange* notion in the measurement of LMX, current measurement scales and research are lacking in a number of statistically sound areas (e.g., Gerstner & Day, 1997; Liden & Masyln, 1998; Schriesheim et al., 1999; Schriesheim et al., 1992; Uhl-Bien & Masylyn, 2003). Of particular note is the lack of psychometric soundness in the most frequently cited scale of LMX (i.e., LMX7; Schriesheim et al., 1999). Among other problems, researchers have changed response scales and even changed items. As such, this study documents previous problems with LMX measurement, provides an exchange-based definition of LMX, and empirically develops a new leader-member social exchange (LMSX) scale.

Issues with Scale Format and Construction

Number of Items

In addition to the lack of evidence of psychometric soundness, the number of scales, and the interchangeable response formats used in previous research leaves results and conclusions questionable at best. For example, originally cited as negotiating latitude, Dansereau et al. (1975) measured LMX with only two items. As the popularity of LMX research grew, so did the number of items; for example, Graen and Cashman

(1975) and Liden and Graen (1980) used a four-item scale; Graen, Liden, et al. (1982) and Ferris (1985) used a five-item scale; Schriesheim et al. (1992) developed a six-item measure; Graen, Novak, et al. (1982) developed a seven-item scale; Liden and Maslyn (1998) developed an 11 item and subsequently 12-item multidimensional scale, and still others have used a 14-item scale (Wakabayashi, Graen, & Uhl-Bien, 1990; Uhl-Bien & Maslyn, 2003), a 17-item scale (Deluga & Perry, 1994), and other researchers have even used a one-item scale (Duchon, Green, & Taber, 1986).

Of the scales, only a handful have demonstrated any type of construct validation (notable exceptions include Graen & Cashman, 1975; Liden & Maslyn, 1998; Schriesheim et al., 1992). Although the most popular LMX scale (i.e., LMX7) is consistently cited in current research, there remains no evidence of psychometric soundness. Even though LMX7 was developed from a four-item measure by Graen and Cashman (1975), who provided construct validation, the new seven-item scale only includes two of the original four items (Liden & Maslyn, 1998). Therefore, the most popular measure of LMX remains unverified.

Item Modification

Schriesheim et al. (1999) reviewed the LMX literature from its conception in 1972 to 1999, and concluded many scales ". . . were developed on an ad-hoc basis or modified from existing measures without adequate psychometric testing" (p. 94). Furthermore, Schriesheim et al. suggest items have been added or subtracted from LMX measures without justification or adequate discussion as to why. Liden and Masyln (1998) also noted researchers frequently modified original anchors from a seven-cell to a five-cell response format, or even changed the response format from "very little

extent/very great extent" to "strongly disagree/strongly agree" without justification or testing. To help demonstrate some of these modifications, Table 1 includes three versions of the "same" LMX7 scale.[1]

Attention to the studies cited in Table 1 reveals previous researchers may have unintentionally referenced incorrect studies or items. For example, Tekleab and Taylor (2003) stated "LMX was assessed with seven items taken from the LMX scale" citing Graen and Scandura (1987). However, nowhere in the Graen and Scandura article are the seven LMX items listed or referenced. Likewise, without any justification or acknowledgment of change, the authors used a five-cell Likert response format (which differs from the original format). Additionally, the items listed in Tekleab and Taylor's (2003; p. 607) manuscript are different from the items listed on the original LMX7 by Scandura and Graen (1984; see Table 1). In addition to modifying the response format, Wayne, Shore, and Liden (1997) also reworded some of the items. Table 1 shows Wayne et al. changed an item from "I have enough confidence in my immediate supervisor. . . " to "My manager has enough confidence in me. . ." Additionally, Vecchio (1985) states "the four-item version of negotiating latitude scale" by Graen, Liden, et al. (1982) was used to measure LMX, but Graen, Liden, et al. (1982) used a five-item scale clearly labeled LMX (p. 479). Moreover, what seems even more improbable is that one of the founders of LMX research has inadvertently cited the wrong LMX work (cf. Scandura & Graen, 1984). Specifically, in Scandura and Graen's (1984) manuscript, credit for the seven-item measure of LMX is given to Liden and Graen (1980) even though Liden and Graen used a four-item vertical exchange scale. The intention of pointing out these seemingly simple mistakes is not to ridicule the work of previous researchers. Instead, it

Table 1

Comparison of Previous LMX Measurements and Response Formats

Scale	Items and Responses Choices
LMX7[a]	1. Do you usually feel that you know where you stand with…do you usually know how satisfied your immediate supervisor is with what you do? Always know where I stand; Usually know where I stand; Seldom know where I stand; Never know where I stand. 2. How well do you feel that your immediate supervisor understands your problems and needs? Completely; Well enough; Some but not enough; Not at all. 3. How well do you feel that your immediate supervisor recognizes your potential? Fully; As much as the next person; Some but not enough; Not at all. 4. Regardless of how much formal authority your immediate supervisor has built into his or her position, what are the chances that he or she would be personally inclined to use power to help you solve problems in your work? Certainly would; probably would; might or might not; no chance. 5. Again, regardless of the amount of formal authority your immediate supervisor has, to what extent can you count on him or her to "bail you out" at his or her expense when you really need it? Certainly would; probably would; might or might not; no chance. 6. I have enough confidence in my immediate supervisor that I would defend and justify his or her decisions if he or she were not present to do so? Certainly would; probably would; maybe; probably not. 7. How would you characterize your working relationship with your immediate supervisor? Extremely effective; better than average; about average; less than average.
LMX7[b]	1. I always know how satisfied my supervisor is with what I do. Strongly disagree, disagree, neutral, agree, strongly agree. 2. My supervisor understands my problems and needs well enough. Strongly disagree – Strongly agree. 3. My supervisor recognizes my potential some but not enough. Strongly disagree – Strongly agree. 4. My supervisor would personally use his/her power to help my solve my work problems. Strongly disagree – Strongly agree. 5. I can count on my supervisor to "bail me out" at his/her expense when I really need it. Strongly disagree – Strongly agree. 6. I have enough confidence in my supervisor to defend and justify his/her decisions when he/she is not present to do so. Strongly disagree – Strongly agree. 7. My working relationship with my supervisor is extremely effective. Strongly disagree – Strongly agree.
LMX7[c]	1. I usually know where I stand with my manager. Strongly disagree, disagree, slightly disagree, neutral, slight agree, agree, strongly agree. 2. My manager has enough confidence in me that he/she would defend and justify my decisions if I were not present to do so. Strongly disagree – Strongly agree. 3. My working relationship with my manager is effective. Strongly disagree – Strongly agree. 4. My manager understands my problems and needs. Strongly disagree – Strongly agree. 5. I can count on my manager to "bail me out," even at his or her own expense, when I really need it. Strongly disagree – Strongly agree. 6. My manager recognizes my potential. Strongly disagree – Strongly agree. 7. Regardless of how much power my manager has built into his of her position, my manager would be personally inclined to use his/her power to help me solve problems in my works. Strongly disagree – Strongly agree.

[a] Scandura and Graen (1984) was the first published study to include the seven items and response formats.
[b] Tekleab and Taylor (2003) give credit for these seven items to Graen and Scandura (1987), but the Graen and Scandura article was a theory building piece and offered no scale items.
[c] Wayne et al. (1997) give credit to Scandura and Grean (1984), but seem to have changed the items.

is only to help emphasize the need for better agreement among researchers on exactly how to measure LMX. As previous researchers have rightly pointed out, we may know less about LMX than we should at this stage of development (Schriesheim et al., 1999).

Item Content

Having documented problems with item modification and scale format, researchers have also questioned the actual content of the items used to measure LMX. In particular is the absence of the exchange notion in leader-member exchange. As the term leader-member exchange implies, LMX is not merely giving by one member of the dyad. Rather it is an interrelated set of exchanges by both parties. Unfortunately, current LMX scales fail to address an exchange by either the leader or the member (Schriesheim et al., 1999). In fact, Gerstner and Day (1997) noted although LMX is conceptually described as a social exchange process, it is rarely measured as such; "the exchange process is inferred but not directly measured" (p. 838). Uhl-Bien and Maslyn (2003) and Sparrowe and Liden (1997) also observed surprisingly little research exists on the reciprocity in leader-member exchange.

Importantly, Graen and Scandura (1987) noted the construct validation of LMX scales is decreased when “tapping into” affective aspects. Furthermore, they suggested predictive validity may be reduced when affect items are included. "Hence, it appears that satisfaction with supervisor is a separate construct and not isomorphic, in relationship to outside variables, with the quality of leader-member exchange" (Graen & Scandura, 1987, p. 191). Adding to this, Liden and Masyln (1998) stated previous scales and the scale developed in their study could:

> . . . be criticized for not really assessing exchanges. Rather, the items in these scales capture psychological states concerning a member's perceptions of such things as the extent to which the leader is loyal and likeable. The exchange in leader-member exchange suggests the need to assess actual exchanges between leader and member. Thus, a recommended project for future research is the development of a social exchange measure of LMX. A social exchange measure, when combined with psychological state measures, such as LMX-MDM[2], would provide a more complete assessment of LMX. (pp. 67-68).

Putting the Exchange Back in Leader-Member-Exchange

Having reviewed literature on LMX over the past 30 years, it appears many of the previously cited problems with LMX research stems from the lack of a clear construct definition. For example, Graen (1976) suggested LMX was based on competence, interpersonal skill, and trust; Cashman, Dansereau, Graen, and Haga (1976) defined LMX as attention and sensitivity; Graen and Ginsburgh (1977) defined LMX in terms of support, reward, and satisfaction, and Graen, Cashman, Ginsburgh, and Schiemann (1977) included influence and latitude. Just as the items grew (as previously documented), so too did the definition of LMX. Recently, authors have made more of an effort to define LMX as an exchange relationship. For example, after a comprehensive review of more than 80 studies, Schriesheim et al. (1999) concluded there was a general consensus that LMX is at its most basic level a phenomenon of the quality of the

exchange relationship between leader and subordinate. Hence, social exchange forms the principle theoretical basis for LMX research (Sparrowe & Liden, 1997).

Early works by Gouldner (1960) and Blau (1964) established much of the theoretical basis for current LMX research. Gouldner's (1960) norm of reciprocity assumes: "(1) people should help those who have helped them, and (2) people should not injure those who have helped them" (Goulder, 1960, p. 171). Adhering to these basic principles promotes stability in organizational and social life. Goulder continues by stating the norm of reciprocity creates a sense of obligation to repay individuals who have acted in a manner that was beneficial to the recipient. As equity and balance theories would suggest, the recipient is indebted to the donor until the favor, resource, or benefit has been repaid. Contextually speaking, when a supervisor goes out of his or her way to counsel or assure a subordinate on a particular task, the subordinate in turn is obligated to repay this action through performance, commitment, or some other beneficiary form of payment to the supervisor. However, in low-quality LMX relationships, the subordinate might not feel a sense of urgency or a need to reciprocate the supervisor's actions; thus, the supervisor no longer feels the need to reciprocate extra-effort or better performance. Essentially, the norm of reciprocity states exchange of goods and services will balance out in the long run, or if people do not reciprocate those who helped, certain penalties will be imposed upon them.

Blau's (1964) social exchange theory closely parallels the norm of reciprocity. Blau stated:

> A person for whom another has done a service is expected to express his gratitude and return a service when the occasion

> arises. Failure to express his appreciation and to reciprocate tends to stamp him as an ungrateful man who does not deserve to be helped. If he properly reciprocates, the social rewards the other receives serve as inducements to extend further assistance, and the resulting mutual exchange of services creates a social bond between the two. (p. 4).

Simply put, one good deed deserves another; if one feels grateful or obligated because of kindness of others, one shall seek to reciprocate by doing favors for others. In organizational life, social exchange provides a normative standard of permissible conduct that brings about social equilibrium and cohesion. Importantly, Blau (1964) states the norm of reciprocity acts to stabilize characteristics of social exchange. As such, social exchange is the more general area of interest while reciprocity helps compel the principle. Therefore, this study used Blau's concept of social exchange as the content domain of the new scale and defines leader-member social exchange (LMSX) as an exchange relationship between leader and member in which the acceptance of something by one party leads to the fulfillment of something by the other party.

Summary of Part One of the Study

Further advancement of the LMX field may be currently constrained by limitations in current LMX measurement. As such, the present study takes the first step toward building a new social exchange scale that should allow researchers to more fully understand the interactions between leaders and members. By following the systematic steps offered by Hinkin (1995; 1998), a scale was created that has all the properties of a psychometrically sound measurement tool needed to advance our understanding of LMX.

Personality and Leader-Member Exchange

Unlike the more traditional one-size fits all approach to leadership, LMX suggests supervisors make distinctions among subordinates. In doing so, a supervisor assigns work roles based on the degree to which he or she trusts and likes the subordinate. Primary and more significant work roles are assigned to those individuals who are trusted and liked, whereas, secondary or less important tasks are assigned to those who are less liked or trusted. Subordinates in high-quality LMX relationships enjoy continuous emotional support while subordinates in low-quality LMX relationships share only formal or work-related relationships (Dienesch & Liden, 1986; Liden, Sparrowe, & Wayne, 1997). While such findings are important to the overall understanding of the LMX concept, there remains little or no evidence of personal or interpersonal attributes associated with these relationships (Phillips & Bedeian, 1994; Yukl, 1989). Therefore, if our understanding of the LMX relationship and its formation are to advance, researchers must begin to empirically test antecedents related to the leader-member exchange process.

Importantly, Phillips and Bedeian (1994) note "if personal attributes associated with exchange quality are identifiable, it may be possible to sensitize work group members to characteristic behaviors indicating such attributes. Such knowledge could be important to group members' career progression and to work group output" (pp. 999-1000). As such, the present study investigated the core personality traits known as the *Big Five*. The investigation of the Big Five is important for a number of theoretical and practical reasons. First, each component of the Big Five has been shown to explain various differences in employee attitudes, behaviors, and performance (e.g., Barrick &

Mount, 1991; Judge, Heller, & Mount, 2002). Second, although the characteristics of supervisors and subordinates have been cited as important influences on LMX (Dienesch & Liden, 1986; Graen & Cashman, 1975; Duchon, et al., 1986), there remains only scant attention devoted beyond demographic characteristics. Third, what limited research that does exist has demonstrated positive results linking a handful of personality traits to LMX and other group interactions (e.g., Deluga, 1998; Mann, 1959; Moos & Speisman, 1962; Phillips & Bedeian, 1994; Turban & Dougherty, 1994; Turban & Jones, 1988). Fourth, previous researchers have specifically called for the investigation of the Big Five and LMX (Bauer & Green; 1996; Deulga, 1998). And finally, no study has made an attempt to empirically investigate the relationship between the Big Five and LMX.

Overview of the Big Five

Through longitudinal studies by a number of researchers (e.g., Costa & McCrae, 1988; 1992), a general description of each of the Big Five traits has emerged. *Extraverts* are characterized as outgoing, assertive, active, and excitement seeking. *Agreeableness* consists of warmth, kindness, gentleness, and trusting. *Conscientiousness* is related to self-discipline and achievement. *Neuroticism*, also known as emotional stability, reflects a tendency to be anxious, nervous, fearful, moody, or depressed. The final factor, *Openness to Experience*, is characterized by creativity, imagination, perception, and thought. Given such a foundation, the following section is separated into two subsections: One specifically addressing proposed independent effects of leader and member personality on LMX, and a second investigating proposed moderating effects of leader personality on member personality and perceptions of LMX.

Independent Effects of Personality on LMX

Although this study later addresses the importance of personality similarity or dissimilarity, it is important to first suggest independent links between each of the Big Five personality traits and LMX. As such, previous research will be used to propose theoretical links between members' personality and their perceived LMX-quality, and between supervisors' personality and members' perceived LMX-quality. Consequently, a number of study hypotheses are offered and later tested.

Conscientiousness

The interaction and interdependence between a manager and a subordinate intuitively suggests the personality trait of conscientiousness will likely be related to the formation of LMX. Importantly, previous research helps support such a claim. For example, conscientious individuals have been characterized as dependable, responsible, prudent, persistent, planful, and organized (Barrick & Mount, 1991). They also tend to be hard-working, loyal, and self-disciplined. Previous researchers have also suggested that conscientious individuals tend to avoid digressions and other impulses to stray off task (Barry & Stewart, 1997). Importantly, of the Big Five, conscientiousness has been consistently found as the most reliable predictor of job performance (Barrick & Mount, 1991; Barrick, Mount, & Judge, 2001; Hurtz & Donovan, 2000). Furthermore, conscientiousness has also been found to be positively related to life satisfaction (DeNeve & Cooper, 1998) and job satisfaction (Judge et al., 2002).

From the leaders' perspective, LMX relationships are dependent on subordinate competence, dependability, and achievement (cf. Duchon, et al., 1986; Graen & Cashman, 1975; Graen & Scandura, 1987). The leaders' perspective should also consider

the subordinates' effort in task assignments. Because conscientiousness also represents a general tendency to be more involved in one's work, it seems likely supervisors will view conscientious subordinates in a more favorable light. In doing so, conscientious subordinates will be more likely to work harder and produce better results further appealing to their supervisors. This cyclical relationship should positively relate to the subordinate's perception of LMX-quality. Furthermore, individuals who exhibit a strong sense of purpose, obligation, and persistence (i.e., those high in conscientiousness) have been found to generally perform better than those who do not (Barrick & Mount, 1991, p. 18). As previous research has shown (e.g., Bauer & Green, 1996; Deluga & Perry, 1994), performance is positively linked to supervisors' perceptions of their subordinates. Hence, conscientious subordinates should be viewed more positively and thus given more resources, benefits, and support. This in turn, should lead to higher perceived LMX-quality. Taken collectively, the following hypothesis is offered:

Hypothesis 1a: Subordinate conscientiousness will positively relate to subordinate perceptions of leader-member-exchange quality.

From the subordinates' perspective, the actions and manner in which supervisors go about their tasks should also positively relate to perceived LMX-quality. For example, Witt (2002) notes "conscientious individuals maintain socially prescribed impulse control (e.g., thinking before acting, delaying gratification, planning, prioritizing, and following rules and norms) that enhances task performance" (p. 838). In terms of managing others, the ability to maintain control and react in a fair manner is likely to influence the subordinates' perception of their leader. As previous research has shown, affect towards another member of a dyad is a strong predictor of satisfaction and

performance (cf., Dienesch & Liden, 1986; Wayne & Ferris, 1990). Likewise, previous research has shown group members high in achievement motivation (a strong component of conscientiousness) are more concerned about total group success (Zander & Forward, 1968). It seems likely leaders high in conscientiousness will show more concern with employee performance than those low in conscientiousness. As previously alluded to, this should foster a cyclical relationship inasmuch as increased attention and concern for subordinates should foster increased effort and better performance, which in turn, should reinforce conscientious leaders' actions. Therefore, the following hypothesis is offered:

Hypothesis 1b: Supervisor conscientiousness will positively relate to subordinate perceptions of leader-member-exchange quality.

Extraversion

While previous research suggests a link between each of the Big Five personality traits and LMX, the very nature of a social relationship and the traits associated with extraversion leave a strong possibility of an influential relationship. For example, extraverts have been found to be socially engaging, expressive, articulate, and comfortable in group settings (Costa & McCrae, 1988; Goldberg, 1990; Watson & Clark, 1997). Extraverts are sociable, gregarious, assertive, adventuresome, ambitious, and typically have a great number of friends (Hogan, 1986; Watson & Clark, 1997). The outgoing nature of extraverts has even been found to relate to willingness to communicate with a stranger (Hammer, Gudykunst, & Wiseman, 1978). Furthermore, because extraverts are predisposed to see the positive experiences of life events, they are more likely to find satisfaction in interpersonal interactions (Watson & Clark, 1997).

Adding to this point, Barry and Stewart (1997) suggest extraverts should feel more comfortable offering verbal contributions to the workplace without fear of intimidation.

In addition to those previously mentioned qualities, researchers have suggested extraverts ". . . can successfully assert themselves and navigate through the hierarchy of their social environment to achieve personal success" (Caligiuri, 2003, p. 73). Related to this point, Mann (1959) found extraversion to be a strong predictor of popularity within a group. Results by Mann make sense as extraverts have been shown to feel confident about their abilities to succeed in a social setting (cf. Thoms, Moore, & Scott, 1996). While extraverts tend to seek interaction with others, novel experiences, and complex, varied, and intense stimuli, introverts, on the other hand, prefer their own company and prefer the familiar to the unfamiliar (Eysenck, 1986). Furthermore, introverts tend to be more introspective and self-occupied (Watson & Clark, 1997) or, as Costa and McCrae (1992) suggest, more reserved and independent. Individuals low in extraversion are susceptible to submissiveness and helplessness (Mann, 1959).

Importantly, a limited number of previous studies have investigated and proposed a relationship between extraversion and LMX. For example, Phillips and Bedeian (1994) suggest extraverts are more likely than introverts to seek interactions with organizational members, thus more likely to develop close relationships with leaders. In addition, extraverts' desire for new and novel experiences may lead them to seek out or negotiate more difficult or challenging task assignments resulting in more trust and admiration by leaders. Although, Phillips and Bedeian did not investigate the role of supervisor extraversion, they did find a relationship between subordinate extraversion and perceived LMX. In addition to findings by Phillips and Bedeian, findings by Turban and

Dougherty (1994) also offer encouraging support. In an investigation of mentoring relationships, Turban and Dougherty found the outgoing nature of extraverted protégés was positively related to proactive behaviors. It seems likely proactive behaviors by a subordinate will positively influence his or her leaders' perception of task performance, ultimately leading to more resources, latitude, and potentially better performance reviews. Taken collectively, proactive and engaging extraverted subordinates should be seen in a more positive light ultimately resulting in a better relationship with their supervisors. As such, the following hypothesis is offered:

Hypothesis 2a: Subordinate extraversion will positively relate to subordinate perceived leader-member-exchange quality**.**

While extraverted qualities seem likely to influence the supervisors' perception of their subordinates, it makes sense that the opposite would be true as well. For example, extraverted supervisors who are talkative and socially engaging should be seen as more fair and open. Previous results support such a proposition. In fact, extraversion has been long shown to be related to leadership within social settings (Costa & McCrae, 1988; Watson & Clark, 1997). Furthermore, Judge et al. (2002) found extraversion to be the most strongly related trait to leader emergence and leader effectiveness. Judge and Bono (2000) found extraversion to predict transformational leadership. Because extraverted leaders are seen as more effective, they should also be offered more trust and respect. Given much of the foundation of LMX research is based on the exchange of respect and trust (Dienesch & Liden, 1986; Grean, 1976), it seems likely leader extraversion and subordinate perceived LMX will be highly related. Therefore, the following hypothesis is offered:

Hypothesis 2b: Supervisor extraversion will positively relate to subordinate perceived leader-member-exchange quality.

Agreeableness

At the core, leader-member exchange is a *social relationship* between a supervisor and subordinate. Just like any relationship, the one between leader and member seems likely to be influenced by the disposition to engage in positive interaction. For example, Judge et al. (2002) note ". . . agreeable individuals have greater motivation to achieve interpersonal intimacy" (p. 531). Likewise, Buss (1991) suggests agreeableness is an important factor in the ability to form reciprocal social alliances. Previous research has also empirically documented agreeableness is strongly related to team interaction and performance (Kichuk & Wiesner, 1997; Mount, Barrick, & Stewart, 1998).

Overall, the traits associated with an agreeable individual seem likely to influence both parties. For example, agreeableness is characterized by cooperation, tact, modesty, sensitivity, kindness, and respect. Agreeable individuals are described as good-natured, cheerful, and caring. An individual high in agreeableness is fundamentally altruistic. "He or she is sympathetic to others and eager to help them, and believes that others will be equally helpful in return. By contrast, the disagreeable or antagonistic person is egocentric, skeptical of others' intentions, and competitive rather than cooperative" (Costa & McCrae, 1992, p. 15). Given that interpersonal liking has been consistently documented to positively relate to LMX (e.g., Dockery & Steiner, 1990; Wayne & Ferris, 1990), the pleasant and positive nature of agreeable subordinates seems likely to positively influence their managers' opinion. Furthermore, agreeable subordinates should

be more likely to accept task assignments without questioning, shoulder more of the workload when asked, and be more flexible when assigned difficult or unclear work roles. Taken collectively, the following hypothesis is offered:

Hypothesis 3a: Subordinate agreeableness will positively relate to subordinate perceived leader-member-exchange quality.

While agreeable subordinates should be perceived more favorably by their supervisors, the agreeable leader should also be seen more favorable. As Tett and Murphy (2002) found, "people prefer those who let them be themselves" (p. 238). As such, it seems likely the agreeable supervisor will be more tolerant of different work styles and habits. Furthermore, the ability of agreeable supervisors to use empathy and sensitivity to understand the feelings of subordinates should certainly benefit the perceived LMX quality. Importantly, limited support for such a contention does exist. For example, experimental studies have shown participants with a warm and directive leader were most motivated to complete a task assignment (Tjosvold, 1984). Likewise, Tjosvold (1984) found subordinates to feel more open, attracted to, and satisfied with leaders who communicate warmth. Heller, Judge, and Watson (2003) suggest agreeable leaders are more likely to encourage subordinates to work together and share information. In doing so, they deemphasize status and power differentials. Such a reduction in power should likely be seen in a positive light. In addition, the caring, respectful, and sensitive leader should be much less likely to take strong negative discipline against a subordinate. Overall, the genuinely warm nature of an agreeable leader should leave a positive impression with his or her workers; thus, the following hypothesis is offered:

Hypothesis 3b: Supervisor agreeableness will positively relate to subordinate perceived leader-member-exchange quality.

Openness to Experience

Although openness to experience has received considerably less attention than the other Big Five traits, there appears to be good reason to believe it will relate to perceived LMX quality. Also referred to as *Intellect* or *Intelligence*, openness is characterized by imagination, culture, curiosity, broad-mindedness, and creativity (Barrick & Mount, 1991). Open individuals are able to think outside the box, question assumptions, and stimulate new perspectives. Open individuals are also at times better able to understand and adapt to new perspectives (Costa & McCrae, 1988; McCrae, 1996). Important to the subordinate side, it has been previously suggested that open individuals may be more motivated to learn upon entry into an organization (cf. Barrick & Mount, 1991). Furthermore, open individuals tend to show a propensity for innovation and astuteness in solving problems (Buss, 1991), something potentially valuable from the organization's standpoint. Overall, open-minded subordinates should be more willing to take on new and challenging roles leading to a more positive evaluation by their supervisor. Therefore, the following study hypothesis is offered:

Hypothesis 4a: Subordinate openness to experience will positively relate to subordinate perceived leader-member-exchange quality.

On the other hand, open leaders should also be viewed favorably. In particular, open leaders should be more likely to engage in intellectually stimulating interactions that encourage the expression of ideas (Bass, 1997; Judge & Bono, 2000). Open leaders also have a less rigid sense of what is right and what is wrong, what is appropriate and what is

inappropriate suggesting the open leader will be more accepting of different work styles. Couple these findings with recent meta-analytic findings by Judge and Bono (2000) and Judge et al. (2002) who found openness was positively related to leadership effectiveness and transformational leadership, and it seems likely open leaders will be viewed in a more positive light. As such, the following hypothesis is offered:

Hypothesis 4b: Supervisor openness to experience will positively relate to subordinate perceived leader-member-exchange quality.

Neuroticism

Unlike the other four traits in the Big Five, neuroticism seems to be a negatively related disposition. Neuroticism is composed of several characteristics including self-esteem and a negative affect component. Self-esteem is important in the present investigation because previous research has shown low-self-esteem individuals tend to withdraw from challenging situations, are less confident in their abilities, less likely to seek feedback, and see themselves as less appealing to others (Brockner, 1988; Campbell, 1990; Turban & Dougherty, 1994).

The second component of neuroticism, negative affect, is defined by a propensity to view the world in a negative emotional state (Watson & Clark, 1984). Negative affectivity seems likely to be an important part of leader-member exchange because individuals high in negative affect tend to focus on the negative aspects of other people and themselves (Levin & Stokes, 1989; Watson & Clark, 1984). Additionally, these individuals tend to be hostile, demanding, and more distant. They also view the world with distress, nervousness, anxiety, and dissatisfaction.

Neurotic individuals tend to be compulsive, defensive, anxious, thin-skinned (McCrae & Costa, 1987), have poor self-image, low self-esteem and low self-efficacy (Judge et al., 2002). Neurotic individuals are also limited in social skills (Judge et al., 1997). In fact, Raja, Johns, and Ntalianis (2004) suggest neurotic individuals ". . . will not engage in relationships that require long-term commitments on their part and demand high social skills, trust in others, and initiative" (p. 351). Given that LMX is at the core of a social relationship that requires interaction and the placement of trust, it seems likely neurotic subordinates will tend not to engage in meaningful conversation with their managers. Furthermore, temperamental and impulsive subordinates may react negatively to task assignments that are complex or above and beyond their formal employment obligations. Employees exhibiting neurotic tendencies such as worry, nervousness, and self-pity will also be less likely than their emotionally stable counterparts to accomplish work tasks in a successful manner (Barrick & Mount, 1991), thus negatively influencing their supervisors' opinion of their performance. As previously mentioned, poor performance has long been shown to negatively influence LMX quality. Taken collectively, the following study hypothesis is offered:

Hypothesis 5a: Subordinate neuroticism will negatively relate to subordinate perceived leader-member-exchange quality.

Given the nature of a leadership position, it seems intuitively likely the ability to deal with stress, frustrations, and anxiety in a meaningful and adjusted manner would be an important quality to have. In a comprehensive review of personality literature extending from 1900 to 1957, Mann (1959) found psychological adjustment to be related to leadership status and popularity within a group. Furthermore, because emotionally

stable (i.e., low neuroticism) individuals tend to have lower levels of anxiety and hostility, Smith and Canger (2004) proposed they are less likely to lose their temper when dealing with subordinates. Likewise, leader self-confidence is important in gaining the trust of followers (Kirkpatrick & Locke, 1991). Because neurotic individuals tend to lack self-confidence and self-esteem, it seems likely followers will show less confidence in their abilities. Overall, it seems a neurotic leader will be viewed in a less favorable manner than an emotionally stable leader; hence, the following hypothesis is offered:

Hypothesis 5b: Supervisor neuroticism will negatively relate to subordinate perceived leader-member-exchange quality.

Summary of Hypotheses 1a – 5b

Figure 1 is a graphical depiction of the first five hypotheses. From the figure, we see four of the Big Five traits, on both the leader and subordinate side, are hypothesized to positively relate to employees' perceived LMX. Employee and supervisors' neuroticism, on the other hand, is hypothesized to be negatively related to the employees' perceived LMX-quality.

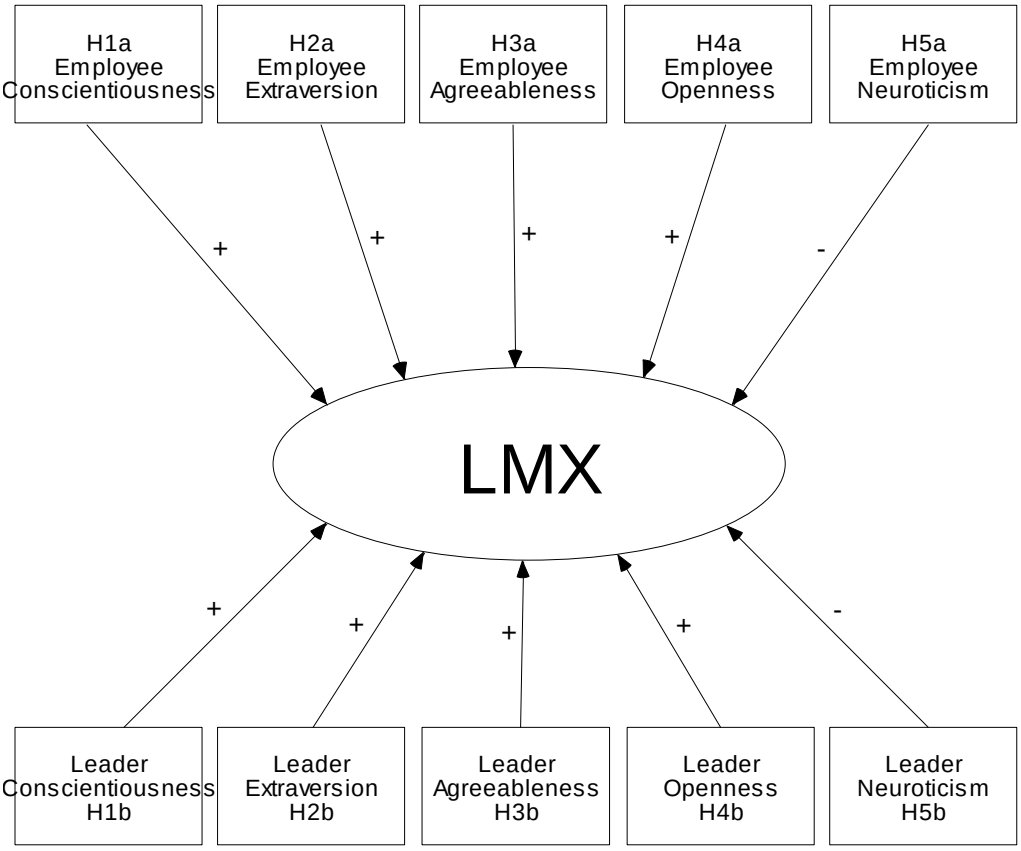

Figure 1. Graphical depiction of the study hypotheses.

Interaction between Employee and Supervisor Personality and LMX

As research devoted to the concept of leader-member exchange (LMX) has increased over the last 30 years, a number of important areas have been left unexplored. One such area is the role of leader and member personality congruence. Although social psychologists have long accepted similarity between individuals on attitudes and personalities are related to interpersonal attraction and liking (Byrne, 1971; Liden, Wayne, & Stilwell, 1993), there remains little evidence in the LMX domain. Given the nature and importance of attraction and liking in LMX development (cf. Dienesch & Liden, 1986; Dockery & Steiner, 1990; Liden, et al., 1993), exploration into leader-member-personality interplay is warranted. To address this interplay, this study explores what role, if any, supervisors' personality plays on the relationship between employees' personality and perceived LMX quality. Before discussing specific hypotheses, clarification regarding the benefits of leader-member-personality similarity/dissimilarity needs to be addressed.

Similarity or Dissimilarity: Which is Better?

Importantly, two contrasting viewpoints are offered to explain group performance. The first hypothesis proposes homogeneous group members are compatible with one another; therefore, these group members are more motivated to work together and more capable of communicating with one another (Muchinsky & Monahan, 1987). Taking this perspective, groups similar in levels of conscientiousness should perform more effectively because each member exerts similar effort towards work responsibilities (Neuman et al., 1999); thus, all work members actively seek to make an equally high effort. In contrast, groups composed of differing levels of conscientiousness

may cause internal problems as some members may be perceived as either a “freeloader” or a “rate-buster” (Neuman et al., 1999, p. 31). To this end, Kichuk and Wiesner (1997) stated heterogeneity of individual characteristics may offer ". . . breeding grounds for interpersonal conflict detrimental to team performance” (p. 202).

The second proposition suggests diverse work teams may be more effective because contrasting personality types allow for divergent thinking that may question some of the assumptions made by a more homogeneous work team. In addition, a mix of personality types may be needed to develop different and novel perspectives, thus helping produce solutions to difficult or abstract problems. As such, this perspective suggests each member adds a unique perspective to work problems. For example, a group comprised of extraverts and introverts will function more effectively because some group members will take on leadership roles (those high in extraversion), while others fill important secondary roles (Neuman et al., 1999). If all group members seek leadership roles (i.e., homogeneity of high extraversion), conflict and power struggles may exist (Barry & Stewart, 1997).

Although little attention has been devoted to the role of personality congruence in terms of dyadic groups (see Deluga, 1998, for an exception), there is a fair amount of empirical and theoretical group personality research that gives insight into the potential role of personality congruence on LMX. For example, Meglino, Ravlin, and Adkins (1991) suggest similarity between individuals may increase behavioral predictability, which would allow two individuals to anticipate actions and ease the quality of interactions (Bauer & Green, 1996). Likewise, similarity may also lead to similar interpretations and understanding of events or task assignments (Bauer & Green, 1996;

Schein, 1985). Bauer and Green (1996) state "when dyad members have similar outlooks owing to similar personalities, leaders may be inclined to view members' performance more positively, to trust them more, and to delegate more to them" (p. 1545).

In addition to speculation, limited empirical results suggest possible support for superiority of the homogeneous dyad pair. For example, Bauer and Green (1996) found positive affect similarity between supervisor and subordinate predicted performance at two different periods of time. Byrne (1971) also found similarity to be related to interpersonal liking, and Pulakos and Wexley (1983) observed perceived similarity between managers and subordinates positively influenced performance ratings of the other. Moreover, both perceived and actual similarity between supervisor and subordinates has been shown to relate to subordinate performance (Turban & Jones, 1988). In a longitudinal study Duchon, et al. (1986) discovered demographic variables were predictive of in- and out-group status between members and leaders, suggesting that LMX quality ". . . may be explained by compatibility of a group member and leader" (p. 56). In a study of nearly 300 newly married couples, Kurdek (1993) documented discrepancies in several of the Big Five traits between couples were significantly related to marital dissolve. Peterson et al. (2003) found personality similarity between CEOs and top management teams (TMTs) and between TMT members influence organizational performance. Moos and Speisman (1962) found compatible work teams on the dimension of dominance-submission were related to team effectiveness. In addition, researchers have found individuals tend to group themselves with others on the basis of perceived similarity (e.g., Turner, 1987). Moreover, out-group members have been found to be perceived as dishonest, untrustworthy, and uncooperative (Brewer, 1979). While

debate is far from over, "the bottom line seems to be that individuals tend to like and trust people who are similar to themselves" (Bauer & Green, 1996, p. 1546).

Having established a general consensus that similarity among group members should positively influence outcomes in many areas, attention can be turned to the role of personality at the dyadic level. Although the dyad is made up of only two individuals, it nevertheless remains the most fundamental type of group. As such, the relationships in the reported investigation differ from past research in a number of important ways. First, the vast majority of research on personality congruence has looked at group similarity between multiple individuals, not pairs (e.g., Barry & Stewart, 1997; Neuman et al., 1999). Second, previous research has looked at dyadic pairs of individuals about equal in power. For example, Kurdek (1993) investigated personality congruence within married couples. Peterson et al. (2003) investigated personality congruence between CEOs and TMT members, and between TMT members. The focus of this investigation is a hierarchical dyad of supervisor and subordinate. A status difference will remain even in high-quality LMX relationships. Accordingly, the following section will address the potential moderating influence of supervisor personality on the relationship between employee personality and perceptions of LMX.

Conscientiousness Similarity

Conscientious workers are characterized as hard working, persistent, dependable, responsible, loyal, and prudent (Barrick & Mount, 1991; Buss, 1991). Conscientiousness also represents a general tendency to be more involved in one's work. Unlike the four other traits included in the Big Five, leader and member conscientiousness congruence has been empirically investigated. Deluga (1998) found leader and member

conscientiousness similarity positively influenced subordinate in-role behaviors. In discussing this finding, Deluga suggested when individuals low in conscientiousness fail to abide by standard rules of dependability, involvement, or performance, conscientious co-workers might react with intense criticism. Such a reaction could severely strain interpersonal relationships and limit further social interaction. On the other hand, pairs of conscientious workers, who have parallel work ethics, should form mutually respective partnerships.

Other findings seem to echo Deluga's (1998) contentions. For example, differences in group conscientiousness level have been shown to be negatively related to team performance (Kichuk & Wiesner, 1997). Meglino et al. (1989) found similarity in work values between dyad members was associated with commitment and satisfaction. Overall, these findings are not surprising given the nature of conscientious individuals; that is, they are achievement-oriented and focused. Differences in what they and their dyadic partner value seem to lead to problems within the relationship. Those individuals who show high urgency and focus seem to get frustrated with members who are more relaxed in execution (cf. Kichuk & Wiesner, 1997). Likewise, differences in outlooks may lead to feelings of frustration or hostility towards the supervisor or subordinate and thus distract the individual from performing at his or her optimum level (cf. Kichuk & Wiesner, 1997). In sum, it seems likely that differences between leaders and members will have a detrimental influence on perceived LMX quality. As such, we posit that

Hypothesis 6: Conscientiousness similarity between employees and their supervisors will positively relate to employees' perceived LMSX quality.

Extraversion Similarity

Extraversion, another Big Five trait, holds a special place within the context of social relationships. Extraverts have been found to be socially engaging, expressive, articulate, and comfortable in group settings (Costa & McCrae, 1988; Goldberg, 1990; Watson & Clark, 1997). In addition and perhaps most important to LMX research is the proactive behavior extraverts typically engage in at the workplace (cf. Turban & Dougherty, 1994). Employees' extraversion has been found to be positively related to perceptions of LMX (Phillips & Bedeian, 1994). Although Phillips and Bedeian (1994) only assessed extraversion from the subordinates' perspective, it nevertheless seems plausible that leader-member-extraversion congruence will influence perceptions of LMX quality. Leader-member extraversion congruence will likely have such an effect because energetic individuals want to be around other energetic individuals and view them more positively than dissimilar individuals (Bauer & Green,1996). Furthermore, because extraverts are predisposed to seek out new and novel experiences in life events, they are more likely to find satisfaction in interpersonal interactions. Given this information, it seems likely that differences in extraversion would potentially cause problems, but two previous studies in a small group context are offered as a caveat.

The first study by Neuman et al. (1999) found diverse group extraversion led to better performance. A second study identified an inverted-U relationship between group member extraversion and group performance (Barry & Stewart, 1997). It seems that, in group performance, too few extraverts lead to problems with leadership and guidance, and too many extraverts lead to problems with power struggles and conflict. Given the results of these two studies, the role of extraversion in a dyadic relationship is not as

clear; however, unlike the groups in the previously cited studies, a dyad does not involve constant interaction between workers of equal power. The dyad, even in higher-quality-LMX relationships, remains a hierarchical relationship between two individuals. Therefore, we expect the role of leader-member extraversion will follow the pattern described by Bauer and Green (1996), that is, extraverted leaders will enjoy more working with extraverted subordinates, and outgoing, expressive subordinates will enjoy more working with outgoing, expressive leaders. Therefore, we predict that

Hypothesis 7: Extraversion similarity between employees and their supervisors will positively relate to employees' perceived LMSX quality.

Agreeableness Similarity

Blau (1964) stated, "since there is no way to assure an appropriate return for a favor, social exchange requires trusting others to discharge their obligations" (p. 94). Given the leader-member relationship is one of social exchanges, the ability to trust dyad members would be a likely influence on perceived LMX quality. Agreeable individuals tend to be respectful, sensitive, and trusting. If one agreeable worker sees the same agreeable qualities in another, it seems intuitively likely these individuals will place more value on their relationship. Furthermore, the ability to place trust and faith in the work of others is a vital component of any working relationship given the complexity and uncertainty inherent in many working environments. Moreover, mutual accommodation and adjustment is likely essential to sustained effective coordination between dyad members. Research on groups larger than a dyad suggests support for such a claim. For example, Peterson et al. (2003) reported agreeableness similarity between chief executives and top management team members influenced organizational performance.

They suggested agreeable teams are more willing to work cooperatively, share critical information, and focus on generating a solution that is best for the collective team. Similarly, other research has also found member agreeableness to strongly relate to team interaction and performance (e.g. Kichuk & Wiesner, 1997; Mount, Barrick, & Stewart, 1998; Neuman et al., 1999). Although these previous studies have involved larger groups, we believe that differences in agreeableness between leader and member will present problems within the dyad. Therefore, we predict the following:

Hypothesis 8: Agreeableness similarity between employees and their supervisors will positively relate to employees' perceived LMSX quality.

Openness to Experience Similarity

Given the curiosity, creativity, and imagination associated with open individuals, there seems to be good reason to investigate the role of openness similarity and dissimilarity in dyad pairs. From our perspective, it appears one of two likely scenarios may exist. The first scenario proposes open-minded individuals will react negatively to close-minded individuals. Thus, openness similarity will positively relate to perceptions of LMX. Specifically, the ability to adopt and appreciate multiple points of view will benefit pairs of supervisors and subordinates. Open-minded supervisors should enjoy the variety and array of creative work produced by open-minded subordinates, and open-minded subordinates should enjoy a manager who does not strictly adhere to conventional ways of thinking. In such situations, each party is likely to enjoy a supervisor/subordinate having a similar level of openness.

On the other hand, the second possible scenario proposes an open-minded individual will be more tolerant of all types of people including close-minded

supervisors/subordinates. Importantly, previous research has shown open individuals tend to be less judgmental of others (cf. Mendenhall & Oddou, 1985), and Haythorn (1953) found improved group functioning when members were more adaptable and accepting of one another. From this perspective, it seems likely differences in personality will not be seen as negatively as in other cases. In particular, open supervisors may not be as negative toward subordinates who lack the creativity or the ability to accomplish a difficult task. Likewise, open subordinates should look at task assignments and other supervisory actions from a more open perspective.

Both possible scenarios are within reason. It could be that an open-minded employee will not tolerate closed-mindedness, or the open-minded employee might tolerate all types of co-workers, supervisors, and/or subordinates. Without guidance from previous dyadic research, we offer a null hypothesis concerning personality congruence, openness to experience, and perceived LMX quality.

Hypothesis 9: Openness similarity or dissimilarity between employees and their supervisors will not relate to employees' perceived LMSX quality.

Neuroticism Similarity

Because differences in personality between partners in a relationship may predispose one or the other partner to distort relationship events or overreact to negative events (Baucom & Epstein, 1990; Bradbury & Fincham, 1991; Kurdek, 1993), it seems likely the negative side of emotional stability will relate to LMX. Specifically, neuroticism refers to the inability to deal with stress, frustration, or anxiety in a meaningful and adjusted manner. Moreover, neurotic individuals are characterized by

embarrassment, insecurity, worry, anxiousness and are severely limited in their social skills (Costa & McCrae, 1992; Judge, Locke, & Durham, 1997).

With regard to different levels of emotional stability, a number of important findings need to be addressed. Within the relationship literature, Kelly and Conley (1987) and Kurdek (1993) found differing levels of married couples' neuroticism significantly related to break-ups. Furthermore, research has demonstrated teams high in neuroticism tend to be less socially cohesive and more conflictual, and the inclusion of even a single emotionally unstable individual may be enough to create tension and an overall negative tone (Barrick et al., 1998). Given such findings, it seems likely that leader-member differences in emotional stability (i.e., neuroticism) will have a negative influence on LMX, insomuch as, one emotionally unstable or highly neurotic individual may potentially disrupt the work environment and the general tone of the relationship. It is also important to recognize dysfunctional beliefs may predispose one to set unattainable standards (Baucom & Epstein, 1990; Eidelson & Epstein, 1982). These dysfunctional beliefs seem likely to influence the perceptions of either subordinate or supervisor, respectively. The biased filter through which neurotic individuals view the world will likely be a significant distraction for their emotionally stable partner. Hence, the following hypothesis is offered:

Hypothesis 10: Neuroticism (emotional stability) similarity between employees and their supervisors will negatively (positively) relate to employees' perceived LMSX quality.

Summary of Part Two of the Study

If our understanding of the LMX relationship and its formation is to advance, researchers must begin to empirically test antecedents related to the social exchange process. While researchers have looked at demographic and affective similarities, there remains a need to investigate more dispositional traits. As such, a number of researchers have specifically called for the investigation of personality's role in the relationships between leaders and members (e.g., Bauer & Green, 1996; Deluga, 1998; Dienesch & Liden, 1986; McClane, 1991; Phillips & Bedeian, 1994; Smith & Canger, 2004; Witt, 2002). Thus, the present study answers both theoretical and empirical calls. In the end, a dispositional approach to LMX may provide an entirely new direction for future research.

II. METHOD AND RESULTS OF STUDY 1 AND 2

In an effort to address both significant limitations addressed in the introduction, a series of independent studies were conducted. The first two studies took the initial steps in the development of a psychometrically sound measurement scale. The third study was used to help validate the scale formed in studies one and two and to test hypotheses 1 - 10. Because the method and results of a scale development study are simultaneous, this study reports the results along with the method for developing the new LMSX scale. The method and results sections for the second part of the study (i.e., the investigation of the Big Five and LMSX formation) more closely resembles a traditional study approach.

Procedure for Developing LMSX

As previously documented, most current LMX scales have offered little or no construct validity. To address this issue, this study followed nine specific steps offered by Hinkin (1998) to demonstrate construct validity.

Step 1: Content domain and item generation. Before developing a psychometrically sound measurement scale, a clear operational definition of the focal construct is needed to present its content domain. It appears early researchers of the LMX phenomena focused on documenting the superiority of a vertical dyad approach over the traditional average leadership style rather than establishing a clear definition of the concept. In particular, LMX was covered by a large umbrella of definitions including areas such as competence, interpersonal skill, trust, attention, sensitivity, support, reward, influence, and latitude

(Cashman et al., 1976; Grean, 1976; Grean et al., 1977; Graen & Ginsburgh, 1977). Importantly, as research devoted to LMX increased, a clearer and more precise definition of the construct began to emerge.

Of particular importance has been the convergence of the theoretical foundation of LMX. Specifically, as the concept evolved and drew considerable attention in the mid-1990s and beyond, researchers began to acknowledge the importance of social exchange as the underlying foundation of the concept (e.g., McNeely & Meglino, 1994; Schriesheim et al., 1999; Settoon et al., 1996; Sparrowe & Liden, 1997; Wayne et al., 1997; Uhl-Bien & Maslyn, 2003). As such, Blau's (1964) theory of social exchange has emerged as the theoretical foundation of modern LMX research.

Blau's (1964) theory of social exchange proposes an individual who provides a commodity to another obligates that individual. To discharge this obligation the other must furnish benefits to the first. Importantly, Blau (1964) distinguishes between social and economic exchange. Specifically, he notes only social exchange engenders feelings of personal obligation. Further, social exchange involves a certain level of uncertainty (i.e., exchanges do not have exact prices or defined terms of agreement). Social exchanges can only be defined in general terms and unlike economic exchange, they always include some element of intrinsic significance. Economic exchange on the other hand includes defined commodities and levels of return.

While the early definition of vertical dyad only accentuated differences in relationships between supervisors and different subordinates, the more complete and modern definition clearly identifies LMX as an exchange relationship between leader and subordinate (Schriesheim et al., 1999). As such, Blau's (1964) definition of social

exchange includes two important characteristics that previous LMX scales have overlooked; specifically, the notion of discharge and unspecified obligations. The notion of discharge emphasizes the idea of "give and take." That is, if someone gives something to another individual, that individual is motivated to discharge the gift (i.e., give something back). Blau also explicitly states social exchanges are defined in general, diffuse terms. This is an important distinction from previous LMX scales which include specific distinctions of exchanges of respect, trust, and loyalty (cf. Liden & Masyln, 1998). In the present study, leader-member social exchange (LMSX) is defined as an exchange relationship between leader and member in which the acceptance of a commodity by one party leads to the fulfillment of unspecified obligations by the other party. Appendix A contains 12 items that were carefully developed to assess the social exchange between leader and member. Items were specifically formulated to be in agreement with Blau's (1964) key concepts of exchange and undefined return.

Study 1

Step 2: Content validity assessment. Content validation of the 12 items found in Appendix A was assessed by subject matter experts (SMEs) in the field of leader-member exchange. Specifically, 54 researchers who had previously published studies on LMX were e-mailed an information letter soliciting their participation in a content validation questionnaire (CVQ). The CVQ was composed of 30 items including 12 LMSX items, seven LMX7 items, and the original 11 LMX-MDM items. Items from LMX7 and LMX-MDM were included in the CVQ to assure that the new items are in fact addressing a social exchange different than previous scales. As seen in Appendix B, the CVQ asked experts to do two things: (a) identify each of the 30 statements as one of three given

constructs (i.e., LMSX, affect, or loyalty), and (b) rate the extent to which the statement matched the given definition. The CVQ included definitions of affect and loyalty provided by Liden and Masyln (1998) in addition to that for leader-member social exchange because they suggested current LMX scales may only assess affective liking or loyalty (Liden & Masyln, 1998). Liden and Maslyn (1998) defined affect as "the mutual affection members of a pair have for each other based primarily on interpersonal attraction, rather than work or professional values;" and loyalty as "the expression of public support for the goals and the personal character of the other member of the LMX dyad. Loyalty involves a faithfulness to the individual that is generally consistent from situation to situation" (p. 50). LMSX differs from these constructs in that it only measures a general exchange, not a specific exchange of liking or loyalty. Finally, an option to label unidentifiable was also included.

In total, 25 of the 54 SMEs returned the CVQ for a response rate of 46%. Combined, the SMEs that responded have published over 100 articles on LMX. Table 2 summarizes how each of the 30 items was identified. Table 2 also gives the mean rating of the extent to which the SME thought it matched the given definition of LMSX (i.e., where appropriate). Hinkin (1995) suggests a correct classification of a minimum of 75% is required to provide evidence of content adequacy. Looking at Table 2, we see 10 of the 12 LMSX items met this standard. The two LMSX items that failed to meet this standard were statement 13 (“I give more than I take with my supervisor”) and statement 16 (“When my supervisor gives me support, I feel I owe it to him or her to return the favor”). The first LMSX item was developed as a reverse scored item, but it seems this distinction confused some of the SMEs. Likewise, second LMSX item appears to do a

Table 2

Results of Content Validity Questionnaire: Number of Times Each Statement was Identified as Each Construct

Original Source of Item	LMSX	Affect	Loyalty	Unidentifiable	% LMSX	Mean rating[a]	*SD*
1. LMSX 1	25	0	0	0	100	2.8	.40
2. LMX-MDM	0	25	0	0	0	-	-
3. LMX7	3	0	21	1	12	1.33	.58
4. LMSX 2	25	0	0	0	100	2.65	.70
5. LMX7	1	7	4	13	4	1.0	-
6. LMX-MDM	1	0	22	2	4	1.0	-
7. LMSX 3	22	0	2	1	88	2.36	.58
8. LMX-MDM	1	0	23	1	4	3.0	-
9. LMX-MDM	1	22	1	1	4	2.0	-
10. LMSX 4	24	0	1	0	96	2.75	.44
11. LMX7	4	0	4	17	16	1.75	.50
12. LMX7	2	1	16	6	8	2.0	-
13. LMSX 5	17	0	2	6	68	1.82	.73
14. LMX-MDM	1	3	6	15	4	1.0	-
15. LMX-MDM	3	0	7	15	12	1.0	-
16. LMSX 6	17	4	1	3	68	1.53	.72
17. LMX7	1	0	24	0	4	1.0	-
18. LMSX 7	22	0	0	3	88	2.25	.81
19. LMSX 10	25	0	0	0	100	2.45	.63
20. LMSX 11	25	0	0	0	100	2.64	.65
21. LMX7	0	1	3	21	0	-	-
22. LMX-MDM	0	23	0	2	0	-	-
23. LMX-MDM	1	0	23	1	4	2.0	-
24. LMX7	1	2	0	22	8	1.0	-
25. LMX-MDM	7	0	10	8	28	1.57	.53
26. LMSX 12	25	0	0	0	100	2.45	.65
27. LMX-MDM	0	2	4	19	0	-	-
28. LMSX 8	25	0	0	0	100	2.45	.77
29. LMSX 9	25	0	0	0	100	2.64	.64
30. LMX-MDM	0	5	4	16	0	-	

[a] When identified as LMSX at least once. 1 = matches only part of the definition; 2 = matches most of the definition; 3 = matches the definition almost exactly

poor job of describing the exchange defined by LMSX. A feeling that one "owes" someone else contradicts the voluntary nature of social exchange.

Table 2 also gives one other important piece of information: An average rating (from 1 = matches only part of the definition to 3 = matches the definition almost exactly) for each intended LMSX item. This rating helps describe the extent to which the experts thought the item adequately represents the given definition of LMSX. From the table, we see 10 of the 12 intended LMSX items rated at least a 2 (matches most of the definition). The two items rated below this level were items 5 and 6 (as would be expected given the first analysis). Given the experts failed to identify items 5 and 6 as LMSX at least 75% of the time, and that when they were identified as LMSX they were not seen as matching at least "most" of the definition of LMSX (M = 1.82; 1.53, respectively), items 5 and 6 (in Appendix A) were dropped from subsequent analyses.

A final examination of the seven LMX7 items and the original 11 LMX-MDM items was conducted. Exactly, 13 of these 18 items were identified as LMSX at least once. Of these 13, 8 were identified as LMSX only once. The remaining items were identified as LMSX from 2 to 7 times. Item 25 "I do work for my supervisor that goes beyond what is specified in my job description" was identified as LMSX 7 times, loyalty 10 times, and unidentifiable 8 times. Importantly, when identified as LMSX, the mean rating was considerably less than 2 (M = 1.57) indicating the item did not do a good job of matching the definition of LMSX. Overall, the 10 new LMSX items were judged as content valid and conceptually distinct from previous LMX items.

Study 2

Step 3: Initial questionnaire administration. Having assessed the content validity of the 12 items, and subsequently dropping two items (5 and 8 in Appendix A), the remaining 10 items were administered to employees in two separate organizations. The first organization was a *Fortune* 500 company. Participation was solicited from the 80 employees of one of the client service departments. In total, 63 of the 80 employees in the department completed an online survey (response rate of 79%). Participants included 18 males (29%) and 45 females (71%) with a combined average age of 34.5 (*SD* = 6.38). All but three employees were Caucasian, while the others were African-American.

The survey was also distributed at one branch of the U.S. Post Office located in the southeast. Unlike the first organization, traditional paper-and-pencil surveys were distributed. Participation was solicited from all employees, and self-addressed stamped envelopes were provided. In total, 47 of 60 surveys were returned (response rate of 78%). Participants included 34 (72%) males and 13 (28%) females with a combined average age of 45.5 (*SD* = 7.05). Participants included 32 (68%) Caucasians, seven (15%) African- Americans, one (2%) Hispanic, four (9%) Asians, one (2%) participant indicated "other," and two (4%) participants failed to indicate their race.

Step 4: Initial item reduction. Before conducting an exploratory factor analysis (EFA), an interitem correlation matrix was assessed. Previous researchers suggest any item that correlates at less than .4 with all other items should be dropped (Kim & Mueller, 1978), with the key assumption being all items belonging to a common domain should have similar intercorrelations (Hinkin, 1998). Moreover, low correlations may indicate the item has been drawn from an inappropriate domain, thus producing error

and/or unreliability (Churchill, 1979; Hinkin, 1998). Intercorrelations of the 10 remaining LMSX items, from the combined set of data collected from organizations 1 and 2 ($N = 110$), are presented in Table 3.

Importantly, Table 3 indicates items LMSX1 and LMSX8 are considerably less than the recommended correlation of .4. In particular, item 1 was not significantly related to five of the other LMSX items and related less than .4 with three of the remaining five items. Item 8 is correlated below .4 with three items. Following the recommendation of Hinkin (1998), items 1 and 8 were dropped from subsequent analysis.

Using the data from the combined sample of 110 employees, the next step was to conduct an exploratory factor analysis using principle axis factoring with the number of factors not specified. As suggested by Hinkin (1998) and others (e.g., Cattell, 1966), the factor structure should be examined using eigenvalues of greater than one and scree plots of the variance explained. If the items have been developed carefully, the eigenvalues and scree plot should equal the number of scales being developed. Importantly, as shown in Table 4, only the one factor solution had an eigenvalue of greater than one (the minimally acceptable standard suggested by Hinkin, 1998). Likewise, the scree plot in Figure 2 indicates the most appropriate solution is a one-factor solution**.** The final resulting solution of the eight items explained 77% of the variance (well above the 60% benchmark suggested by Hinkin, 1998).

Table 3

Means, Standard Deviations, and Intercorrelations for the 10 Remaining LMSX Items

Item	*M*	*SD*	1.	2	3	4	5	6	7	8	9	10
1. LMSX1	5.98	1.06	-									
2. LMSX2	4.81	1.89	.21*	-								
3. LMSX3	4.57	1.65	.29**	.64**	-							
4. LMSX4	4.41	1.67	.27**	.60**	.77**							
5. LMSX7	4.24	1.74	.15	.71**	.65**	.58**	-					
6. LMSX8	4.63	1.76	.44**	.25**	.47**	.52**	.44**	-				
7. LMSX9	4.28	1.70	.17	.67**	.72**	.69**	.84**	.39**	-			
8. LMSX10	4.21	1.77	.15	.71**	.74**	.76**	.82**	.44**	.88**	-		
9. LMSX11	4.19	1.75	.15	.62**	.62**	.63**	.75**	.32**	.86**	.82**	-	
10. LMSX12	4.20	1.81	.17	.59**	.63**	.63**	.80**	.40**	.83**	.81**	.83**	-

Note. $N = 110$.

* $p < .05$

** $p < .01$

Table 4

Exploratory Factor Analysis Results of the LMSX Items[a]

Item	Loading on factor 1	Communality
1. LMSX 2	.77	.59
2. LMSX 3	.79	.62
3. LMSX 4	.78	.60
4. LMSX 7	.87	.76
5. LMSX 9	.94	.88
6. LMSX 10	.94	.89
7. LMSX 11	.89	.79
8. LMSX 12	.88	.78

Note. $N = 110$.

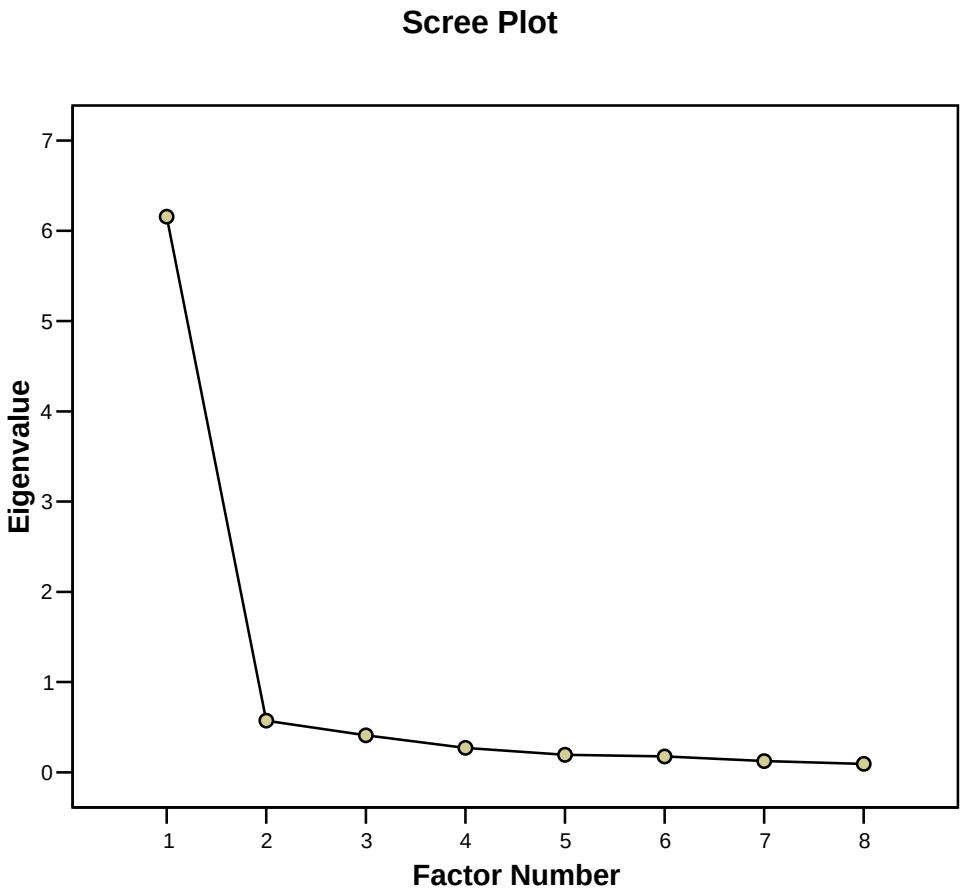

Figure 2. Scree plot of the remaining eight items of LMSX. The plot clearly indicates a one-factor solution is most appropriate.

III. STUDY 3 (METHOD AND RESULTS SECTION FOR FINAL STEPS IN SCALE DEVELOPMENT AND METHOD SECTION FOR PERSONALITY AND LMX)

Study 3 was used in both the scale development process of LMSX and as an investigation into personality and LMX. Consequently, the section labeled *Step 5: Second questionnaire administration* describes both the participants and procedure used in the investigation of personality and LMX.

Step 5: Second questionnaire administration (also Participants and Procedure for the investigation into personality and LMX). Following the exploratory factor analysis, the remaining eight items were administered along with a number of other relevant variables. Participation in the study was solicited from two sources: (a) off-campus distant executive Masters of Business Administration (MBA) students currently enrolled in a large southeastern university, and (b) alumni of the same university. Importantly, previous research has used similar study participants in a number of studies (e.g., Deluga, 1998; Deluga & Perry, 1994; Eby, Butts, Lockwood, & Simon, 2004; Judge & Bono, 2000; McAllister, 1995); thus, these two sources of participants were seen as an appropriate data source.

Participation was solicited through electronic mail. The e-mail described the purpose of the study and the requirements of participation (see Appendix C for the actual e-mail letter). Generally speaking, the e-mail stated participation in the study included the completion of two study surveys: One to be filled out by the student/alumnus, and the other to be filled out by his or her direct supervisor.

MBA and alumni members who indicated their willingness to participate were asked to provide a mailing address where study materials could be sent. Solicitation e-mails were sent to 210 MBA students and 1,500 alumni (500 from each of three graduation classes). In an effort to get as diverse a sample as possible, e-mails were sent to three distinct alumni classes (i.e., 1995, 1999, and 2001). The three classes were chosen to reflect varying years of work experience. In taking this step, it was hoped that the sample would include employees from varying levels of organizational status. A total of 351 MBA/alumni indicated their willingness to participate including 72 MBA students, 68 alumni from the class of 1995, 86 alumni from the class of 1999, and 125 alumni from the class of 2001.

After the MBA/alumni expressed a willingness to participate and provided a mailing address, a packet with study materials was sent through traditional mail. Each packet included two self-addressed stamped envelopes clearly labeled as either "EMPLOYEE SURVEY" or "SUPERVISOR SURVEY." An information letter and survey was included in each separate envelope. Importantly, to ensure anonymity while being able to link employee and supervisor, a number was written on the top-right corner of each of the two surveys in the packet. For example, a packet with two surveys, one for employee and one for supervisor, labeled "1" in the upper-right corner was sent to the first MBA/alumnus who expressed his or her willingness to participate. Likewise, a packet with two surveys labeled "2" in the upper-right corner was sent to the second volunteer. This process was repeated 351 times. Taking this step allowed each participant to remain anonymous while enabling the researcher to match employees with their direct supervisor.

In total, 351 packets including 702 surveys (351 employee survey and 351 supervisor surveys) were sent out. A total of 236 employee surveys were returned (response rate of 67.2%), and a total of 199 supervisor surveys were returned (response rate of 56.7%). Of the 236 employee surveys returned, 41 failed to match-up with a returned supervisor survey. Likewise, of the 199 supervisor surveys returned, four failed to match-up with a returned employee survey. Thus, of the 351 packets sent out, 195 matched pairs were returned for a participation rate of 55.6% of those MBA/alumni who indicated their willingness to participate. The overall participation rate is difficult to calculate because it is unknown whether or not the e-mail was actually received by the MBA/alumni member. In fact, several hundred e-mails were returned to the primary researcher as "undeliverable."

Descriptive statistics of the 195 matched surveys appear in Table 5. The demographic breakdown of participants is as follows: 111 employees were female (57%) and 84 (43%) were male. Moreover, 58 supervisors were female (30%) and 137 were male (70%). The average age of all employees was 30.48 (*SD* = 6.17) while the average age for all supervisors was 40.59 (*SD* = 8.98). The breakdown of employees by race was as follows: 6% (12 respondents) were African American; 91% (178) were Caucasian; 1% (2) were Hispanic; .5% (1) were Asian; and 1% (2) indicated "other." For supervisors, the breakdown was 3% (5) were African American, 94% (183) were Caucasian, .5% (1) were Hispanic, 2% (4) were Asian, and 1% (2) indicated "other." Employees had a mean organizational tenure of 4.18 (*SD* = 3.90) years and had worked

Table 5

Demographic Characteristics for the 195 Matched-pairs of Respondents

Characteristic	Employee	Supervisor
1. Sex		
Male	84	137
Female	111	58
2. Race		
White	178	183
Black	12	5
Hispanic	2	1
Asian	1	4
Other	2	2
3. Age	*M* = 30.48 (*SD* = 6.17)	*M* = 40.59 (*SD* = 8.98)
4. Organizational tenure	*M* = 4.18 (*SD* = 3.90)	*M* = 9.91 (*SD* = 7.93)
5. Tenure under current supervisor	*M* = 2.26 (*SD* = 1.65)	---
6. Number of employees under current supervision	----	M = 14.43 (SD = 19.31)[a]

Note. Total *N* = 390 (195 employees and 195 supervisors).

[a] This number does not include a CEO who indicated that he had over 1,500 employees who directly report to him.

for their current supervisor for a mean of 2.26 (*SD* = 1.65) years. Supervisors had a mean organizational tenure of 9.92 (*SD* = 7.93) years. Additionally, the mean number of employees working under the supervisors' direct control was 14.42 (*SD* = 19.31) employees.[3] There were no significant differences in demographic variables, predictor variables, or criterion variables between the 195 employee surveys that matched a returned supervisor survey and the 41 employee surveys that failed to match a corresponding supervisor survey.

Employee Measures

Personality. Member personality was assessed with the NEO Five-Factor Inventory (NEO-FFI; Costa & McCrae, 1992). A total of 60 items, 12 for each construct, assess individual levels of Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. Respondents were asked to indicate their agreement or disagreement on a five-cell response scale, where 1 = "strongly disagree;" 5 = "strongly agree." Coefficient alphas for each of the scales have typically shown consistent reliability above the .70 level (e.g., Costa & McCrae, 1992; Kichuk & Wiesner, 1997). Coefficient alphas for the present study were .85 for Neuroticism, .78 for Extraversion, .73 for Openness, .68 for Agreeableness, and .81 for Conscientiousness.

Leader-member exchange. LMX was assessed with two measures previously used in the literature, and a third scale composed of eight remaining items developed for this study (i.e., LMSX). As previously cited, LMX7 has employed a variety of response formats. Although no one format has been cited as being more appropriate than another, the seven-cell (strongly disagree to strongly agree) response format was used so it could be later employed to help establish discriminant validity. The seven-cell response format

has been previously used (cf. Liden et al., 1993). In addition to LMX7, the original 11-items in the LMX-MDM scale by Liden and Maslyn (1998) was also included. The 11-items included in the LMX-MDM include four subscales including affect, loyalty, contribution, and professional respect. Coefficient alpha for LMX7 was .90; coefficient alpha for the four subscales of LMX-MDM was .90 for affect, .84 for loyalty, .62 for contribution, and .87 for professional respect.

Job satisfaction. Six items taken from Brayfield and Rothe's (1951) 18-item overall job satisfaction scale were used to measure job satisfaction; the six-item version has been found to have internal consistency measures of .83 to .90 (Fields, 2002). An example item includes "I feel fairly satisfied with my present job." Items were rated from 1 (strongly disagree) to 7 (strongly agree) (cf. Judge & Bono, 2000). Coefficient alpha was .88.

Organizational commitment. The nine-item short version of Organization Commitment Questionnaire (OCQ) was used to assess subordinate commitment (Mowday, Steers, & Porter, 1979). Items include "I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful," and "I really care about the fate of this organization." Items were rated from 1 (strongly disagree) to 7 (strongly agree). Previous research using the short version demonstrated internal consistency ranging from .74 to .92 (Fields, 2002). Coefficient alpha for the present study was .89.

Intentions to quit. Five items from Wayen et al. (1997) were used to assess intentions to quit. Items were rated from 1 (strongly disagree) to 7 (strongly agree). An example item is "I think I will be working at this company five years from now." Wayne

et al. (1997) reported a coefficient alpha of .89; current results found a coefficient alpha of .87.

Leader Measures

Personality. The NEO Five-Factor Inventory (NEO-FFI; Costa & McCrae, 1992), which was used to assess members' personality on the Big Five, was also administered to each subordinate's leader. Coefficient alphas for the five traits were .84 for Neuroticism, .84 for Extraversion, .79 for Openness, .76 for Agreeableness, and .82 for Conscientiousness.

Subordinate performance. Supervisors were asked to rate subordinate contextual performance on 16 items developed by Van Scotter, Motowidlo, and Cross (2000), and task performance on seven items developed by Williams and Anderson (1991). An example of the contextual performance scale includes "While performing his or her job, how likely is it that this person would comply with instructions even when supervisors are not present." Supervisors were asked to rate their subordinate using a five-point cell response format ranging from 1 (not at all) to 5 (extremely likely). Coefficient alpha for the Van Scotter et al. scale was .92**.** For the task performance scale, supervisors were asked to indicate agreement using a 1 (strongly disagree) to 7 (strongly agree) response format, about seven statements. An example statement was "Adequately completes assigned duties." Coefficient alpha was .93.

Control Variables

Because previous research has shown demographic variables could potentially account for variance in performance ratings, employees and supervisors were asked to indicate their gender and race (e.g., Turban & Jones, 1988). To account for any potential

differences due to age differences, participants were also asked to write in their age. Additionally, tenure with the organization is likely to influence both the supervisors' and subordinates' performance; thus, participants were asked to indicate how long they have worked with their current organization. Additionally, employees were also asked to write in how long they have currently worked under their direct supervisor. Supervisors on the other hand, were asked to write in the number of employees that are under their direct control.

Finally, a three-item self-determination scale developed by Spreitzer (1995) was used to assess employees' autonomy. This was done for two reasons: (a) the sample of jobs held by study participants was very diverse, and, (b) researchers have shown personality predicts performance better in jobs with high levels of autonomy (Barrick & Mount, 1993). An example item was "I have significant autonomy in determining how I do my job." Previous coefficient alpha levels for the scale ranged from .79 to .85 (Fields, 2002). Results of the present research found a coefficient alpha of .80.

Personality Congruence

Hypotheses 5 through 10 required interaction terms for each of the five traits. Hence, five mean-corrected interaction terms were created by multiplying the employees' score on a particular trait times the supervisors' score on the same trait. This was done for each of the five traits (e.g., employee agreeableness X supervisor agreeableness, employee openness X supervisor openness).

Data Analyses

The next part of the *Method* section is devoted to reporting the method and results for the final four steps of the scale development process; however, before detailing this

aspect of the study, a brief overview of the data analyses used to test hypotheses 1a through 10 is summarized.

Hypotheses 1 through 5 were tested using structural equation modeling (SEM). Figure 3 represents the SEM model used to test the first five hypotheses. Closer attention to Figure 3 reveals several important notes from the model. First, because there were over 60 indicators for just the personality variables alone, the 10 personality traits (i.e., five for supervisor and five for employee), are represented by a single indicator. The model accounts for the presence of random error variance in each of these factors by setting the error variance at one minus the alpha squared times the sum of the variance for that particular variable (cf. Bollen, 1989). Essentially, reducing latent variables to a single indicator allows for a more parsimonious model. It is also important to note that although not depicted in the model, the model does indeed include a number of control variables (i.e., employee and supervisor race, gender, age, and organizational tenure; number of employees working under the direct supervision of the supervisor, and the perceived autonomy of the employee). This was done by regressing LMSX on the control variables, saving the residuals, and using the residuals as the dependent variable (cf. Turban & Dougherty, 1994). Collectively, results of the SEM depicted in Figure 3 were used to test hypotheses 1 through 5.

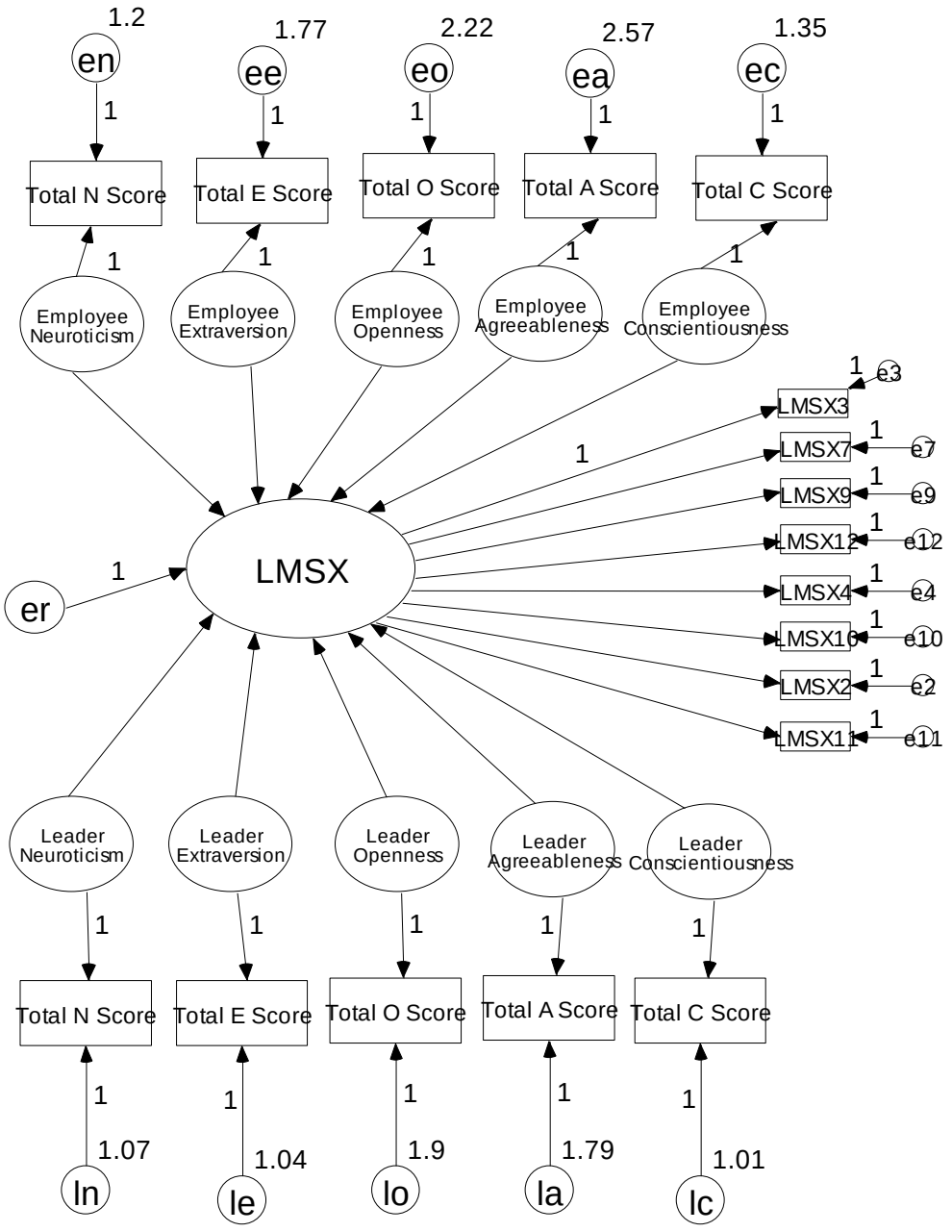

Figure 3. Structural equation model used to test hypotheses 1 - 5.

To test hypotheses 6 through 10, a three-step hierarchical regression model was used. In step one, the 10 control variables were entered. In step two, each of the 10 traits (i.e., 5 for employees and 5 for supervisors) were entered. The final step was to enter the interaction between employees' personality and their supervisors' personality trait scores. To reduce the effect of multicollinearity between the interaction terms and the main effects (Cohen & Cohen, 1983), the interaction terms were centered around zero before estimating the model (Aiken & West, 1991).

Before reporting the results of these analyses, the final four steps in the scale development process are described below. Completing the scale development first was necessary because the new LMSX was used to test hypotheses 1 through 10.

Step 6: Confirmatory factor analysis. Having completed steps 1 through 5 in the scale development process, the remaining eight items were subjected to a confirmatory factor analysis (CFA). Figure 4 represents the eight-item LMSX scale tested. The fit of the new scale can be assessed through the evaluation of a number of statistics and fit indices, namely, the chi-square statistic, which permits the overall fit of the model. The chi-square statistic compares a likelihood ratio of a fully saturated model with that of the proposed model. A significant chi-square would indicate a poor model fit. Other statistics used to evaluate the model fit include Goodness of Fit Index (GFI, which gauges the proportion of observed covariances explained by the model implied covariances), Adjusted Goodness of Fit Index (AGFI, which is similar to GFI but adjusts for model complexity by using degrees of freedom), Normed Fit Index (NFI, which gauges the proportion of improvement of the hypothesized model to that of a null model) Comparative Fit Index (CFI, which is similar to NFI but adjusts for sample size), Index

of Fit (IFI, which is similar to NFI and CFI, but considers model parsimony), Tucker Lewis Index (TLI, which is similar to CFI but adjusts for the number of parameters), and Root Mean Square Error of Approximation (RMSEA, which measures how different the observed chi-square statistic is from that which is expected; Kline, 1998). In general, GFI and AGFI indices over .9 are considered a good fit. NFI, CFI, IFI, and TLI indices greater than .95 are considered a good fit, and RMSEA indices below .08 indicate a good fit.

Results from the CFA indicated LMSX fit the data very well. Specifically, the chi-square statistic was nonsignificant ($\chi^2 = 24.30$, $df = 12$, $p = .112$), indicating the overall fit of the model was good. Likewise, the fit indices including GFI (.97), AGFI (.94), and NFI (.98) were well above the generally accepted .9 level. Additionally, CFI (.99), IFI (.99), and TLI (.99) were also well above the generally accepted .95 level. Furthermore, RMSEA was considerably lower than .08 (.05). Collectively, the model fit the data particularly well.

Step 7: Assessing convergent and discriminant validity. Previous researchers have suggested the most common method of assessing convergent validity is to compare factor loadings from exploratory and/or confirmatory factor analyses with those loadings that would be expected from theory (Liden & Maslyn, 1998). As already discussed, the new LMSX scale should theoretically load on one global factor of exchange. Given that both an EFA and a CFA on separate data sets matched this single-factor *a priori* dimension, evidence for convergent validity exists.

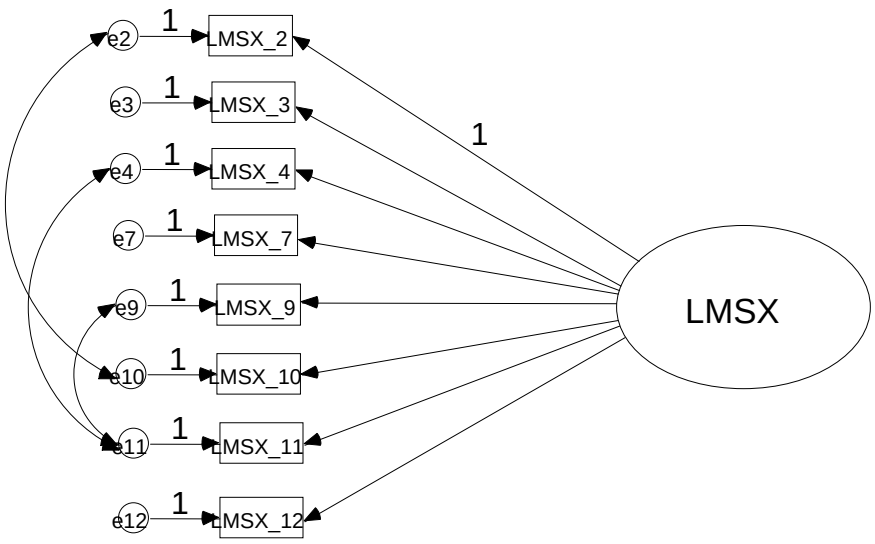

Figure 4. The new LMSX scale as tested in a confirmatory factor analysis.

Another technique used to access convergent validity is an examination of correlations between LMSX and previous constructs that should, based on past theory or empirical findings, be related (Campbell & Fiske, 1959; Liden & Masyln, 1998, p. 61). Although constructed to assess an exchange not addressed in previous scales, one would still expect to find a correlation between LMSX and previous LMX scales. Therefore, the correlations of LMSX with LMX7 and LMX-MDM were assessed. These results, as reported in Table 6, generally confirmed this expectation. Thus, combined with the fit between theory and data, these results provide evidence for convergent validity.

Clear evidence of the one-factor solution using exploratory factor analysis and confirmatory factor analysis on independent samples provides evidence of discriminant validity (cf. Liden & Maslyn, 1998; Rahim & Magner, 1995). Other researchers have used a CFA to test whether or not the new scale is sufficiently distinct from existing measures (cf. Chen, Gully, & Eden, 2001). Therefore, a second CFA was used to test whether or not LMSX was distinct from the most widely cited LMX scale (LMX7). A similar analysis was not performed for LMX-MDM as it is a multidimensional measure. The model in Figure 5 compared the hypothesized model in which LMSX and LMX7 were two separate latent variables that were allowed to covary (Model 1) and a second model where each of the indicators loaded on one global LMX measure. As expected, the model comparison revealed two separate latent factors ($\chi^2 = 38.113$, $df = 1$, $p < .001$). The fit indices also indicated Model 1 was a better fit (GFI = .88, NFI = .92, IFI = .95, TLI = .94, CFI = .95, and RMSEA = .08). Thus, empirical evidence suggests LMSX and LMX7 are in fact measuring different constructs.

Table 6

Means, Standard Deviations, and Intercorrelations for the Three LMX Scales

Variable	*M*	*SD*	1	2	3	4	5	6
1. LMSX	5.24	1.18	-					
2. LMX7	5.44	1.09	.87**	-				
3. LMX-MDM affect	5.70	1.29	.82**	.80**	-			
4. LMX-MDM loyalty	5.51	1.24	.56**	.73**	.49**	-		
5. LMX-MDM contribution	5.81	.93	.31**	.33**	.28**	.37**	-	
6. LMX-MDM professional respect	5.76	1.25	.98**	.64**	.71**	.44**	.31**	-

Note. $N = 195$.

** $p < .01$.

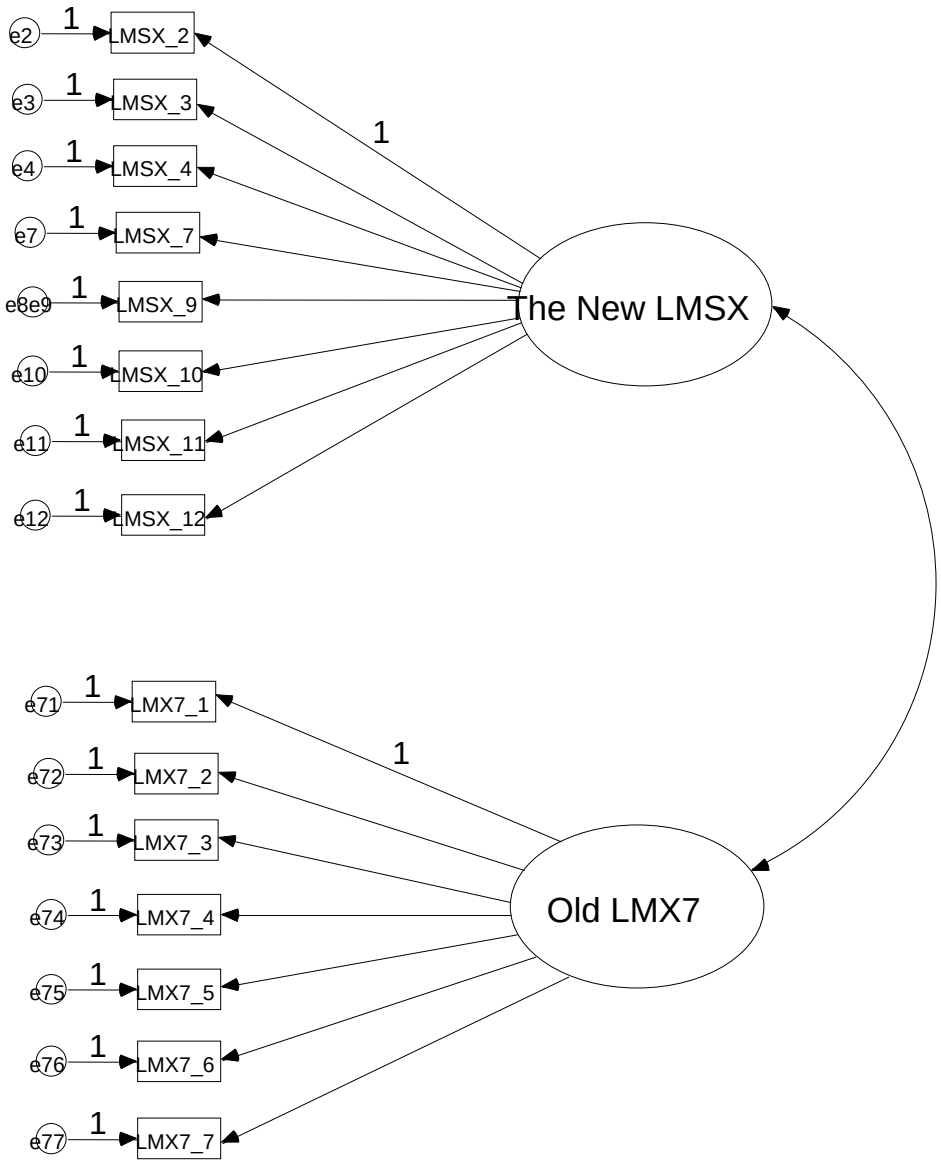

Figure 5. Confirmatory factor analysis testing the distinction between LMSX and LMX7.

Emergence of similar factor solutions between EFA and CFA using different data sets and a second CFA documenting LMSX's distinctness from LMX7 provides strong evidence of discriminant validity.

Step 8: Criterion-related validity. Having provided evidence of content, convergent, and discriminant validity, the usefulness of LMSX needed to be evaluated. After all, there would be little need and/or use for a new scale if it cannot predict as well, if not better, than previously developed scales. As such, a series of hierarchical regression models were undertaken. Descriptive statistics for all variables used in these analyses appear in table 7.

In the first set of hierarchical regression models, ten control variables were entered in step one. In step two, LMSX was entered. Following step 2, six different criterion-related variables previously shown to relate to LMX were regressed on LMSX. The results of these six regression equations appear in Table 8, which shows that LMSX was a significant predictor of job satisfaction ($\beta = .40$, $p < .001$), intentions to quit ($\beta = -.31$, $p < .001$), organizational commitment ($\beta = .47$, $p < .001$), satisfaction with leader ($\beta = .84$ $p < .001$), task performance ($\beta = .22$, $p < .001$), and contextual performance ($\beta = .31$, $p < .001$).

Although LMSX was a significant predictor of a number of important criterion-related variables, true criterion-related validity exists when LMSX can account for unique variance above and beyond previous LMX scales. Thus, another series of hierarchical regression equations was analyzed. In the first set of these new equations, the same 10 control variables were entered in step one. However, in step 2, LMX7 was entered.

Table 7

Means, Standard Deviations, and Intercorrelations for Study Variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Employee gender[a]	-	-														
2. Employee age	30.48	6.17	.16*													
3. Employee race[b]	-	-	.02	-.05	-											
4. Employee tenure w/ org	4.18	3.90	.10	.55**	-.10	-										
5. Years under supervisor	2.26	1.65	-.07	.17*	-.05	.44**	-									
6. Leader gender[c]	-	-	.34*	-.07	-.04	.01	-.06	-								
7. Leader age	40.59	8.98	.05	.00	-.06	.11	.12	.11	-							
8. Leader race[d]	-	-	.12	-.03	.35**	-.05	-.02	.00	.03	-						
9. Leader tenure w/ org	9.92	7.93	.11	.01	.00	.16*	.16*	.11	.55**	-.09	-					
10. # of subordinates	14.43	1931	-.07	.02	.00	.03	.12	-.11	.01	-.01	.00	-				
11. Job satisfaction[e]	5.24	1.14	-.15*	.05	-.03	.00	.06	-.07	.16*	-.09	-.23**	.02	(.88)			
12. Intentions to quit[e]	2.86	1.60	.00	-.11	.04	-.08	-.05	-.08	.17*	.14*	.13	-.02	-.65**	(.87)		
13. Organizational commit.[e]	5.03	1.29	.00	.09	-.03	.04	.03	-.06	-.26**	-.10	-.24**	-.02	.71**	-.69**	(.89)	
14. Satisfaction w/ leader[e]	5.39	1.33	.01	.16*	-.14*	.10	.09	-.09	-.26**	-.10	-.19**	-.18*	.40**	-.36**	.48**	(.85)
15. Task performance[f]	6.12	.89	-.05	. 11	-.12	.11	.04	.02	.22**	-.02	.15*	.09	.00	-.03	-.08	.10
16. Contextual performance[f]	4.19	.52	.06	.07	-.06	.05	.08	.05	. 24**	.03	18*	.12	.05	-.12	.02	.13
17. LMSX[e]	5.24	1.18	.05	.19**	-.12	.09	.07	-.12	-.30**	-.13	-.29**	-.16*	.40**	-.33**	.50**	.85**
18. LMX7[e]	5.44	1.09	-.03	.18*	-.09	.07	.08	-.07	-.21**	-.04	-.20**	-.16*	.43**	-.29**	.46**	.87**
19. LMX-MDM affect[f]	5.70	1.29	.04	.13	.00	.01	.00	-.07	-.26**	-.11	-.26**	-.19**	.38**	-.30**	.44**	.80**
20. LMX-MDM loyalty[f]	5.51	1.24	-.08	13	-.15*	.03	.00	-.06	-.04	-.08	-.09	.03	.35**	-.19**	.30**	.61**
21. LMX-MDM contribution[f]	5.81	.93	.04	.05	-.05	.06	.00	.04	-.02	.01	-.04	.05	.41**	-.21**	.36**	.25**
22. LMX-MDM respect[f]	5.76	1.25	.04	.15*	-.06	.08	.09	-.07	-.19**	-.14*	-.18*	-.06	.42**	-.43**	.49**	.76**

Note. Total *N* employees = 195; total *N* supervisors = 195. * $p < .05$ ** $p < .01$

[a] 84 males; 111 females. [b] 178 Caucasian; 12 African American; 2 Hispanic; 1 Asian; 2 other. [c] 137 males; 58 females. [d] 183 whites; 5 blacks; 1 Hispanic; 4 Asian; 2 other.

[e] Completed by the employee. [f] Completed by the supervisor.

Table 7, continued

Means, Standard Deviations, and Intercorrelations for Study Variables

Variable	15	16	17	18	19	20	21	22
15. Task performance[g]	(.93)							
16. Contextual performance[g]	.68**	(.92)						
17. LMSX[f]	.11	.16*	(.92)					
18. LMX7[f]	.16*	.14	.87**	(.90)				
19. LMX-MDM affect[f]	.05	.11	.82**	.80	(.90)			
20. LMX-MDM loyalty[f]	.24**	.20**	.57**	.73**	.50**	(.84)		
21. LMX-MDM contribution[f]	.03	.13	.31**	.33**	.28**	.37**	(.62)	
22. LMX-MDM respect[f]	-.05	.06	.69**	.64**	.71**	.44**	.31**	(.87)

Table 8

Results of Hierarchical Regression Analyses for LMSX

Variable	Job Satisfaction[a] β	Intentions to quit[a] β	Organizational commitment[a] β	Satisfaction with leader[a] β	Task performance[b] β	Contextual performance[b] β
Step 1:						
E[a] gender	-.14†	.07	.00	.02	-.09	.04
E age	.08	-.10	.06	.12	-.11	.09
E race	.02	-.02	.01	-.13†	-.09	-.07
E tenure w/ org	-.04	-.03	.02	.01	.04	-.06
Tenure under current sup	.09	-.04	.05	.11	-.05	.04
S[b] gender	.03	-.14†	-.02	-.07	.04	.03
S age	-.03	.14†	-.17*	-.23**	.19*	.20*
S race	-.14†	.15*	-.10	-.05	.00	.06
S tenure	-.22**	.08	-.16†	-.08	.05	.07
# employees[c]	.00	-.02	-.03	-.20*	.09	.12
ΔR^2 after step 1	.10*	.08†	.10*	.17***	.09†	.09†
Step 2:						
LMSX	.40***	-.31***	.47***	.84***	.22**	.31**
ΔR^2 after step 2	.12***	.07***	.17***	.56***	.04**	.08***
Overall F	4.68***	3.12***	6.36***	45.08***	2.41**	3.25***
Overall R^2	.22***	.16***	.28***	.73***	.13**	.16***
Adjusted R^2	.17	.11	.24	.71	.07	.11

Note. $N = 195$. β is the standardized regression coefficient. [a] Provided by employee [b] Provided by supervisor [c] Number of employees under the supervisors direct control.

† $p < .10$.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

After entering LMX7, LMSX was entered in step 3. The same six criterion-related variables were then regressed on LMSX. The results of the six new analyses appear in Table 9. LMSX predicted an additional 2% of the variance of intentions to quit (β = -.27, p < .10). Likewise, LMSX predicted an additional 3% of the variance of organizational commitment (β = .36, p < .01), 2% of the variance of satisfaction with leader (β = .33, p < .001), and 4% of the variance of contextual performance (β = .41, p < .01).

The same three-step hierarchical regression analysis was repeated a second time; however, this time, the four components of LMX-MDM were entered in step two. As indicated in Table 10, LMSX predicted an additional 2% of the variance of organizational commitment (β = .30, p < .05), 4% of the variance of satisfaction with leader (β = .39, p < .001), 2% of the variance of task performance (β = .26, p < .05), and 2% of the variance of contextual performance (β = .31, p < .05).

One final set of hierarchical regression equations was analyzed. As with the previous analyses, the 10 control variables were entered in step 1. In step 2, however, both LMX7 and LMX-MDM were entered into the equation. LMSX was again entered in step 3. Results of these analyses are reported in Table 11. Importantly, even after entering 10 different control variables, LMX7, and LMX-MDM, LMSX predicted an additional 1% of variance in organizational commitment (β = .23, p < .10), 2% of the variance in satisfaction with leader (β = .16, p < .05), 1% variance in task performance (β = .24, p < .10), and 4% of the variance in contextual performance (β = .46, p < .001).

It should also be noted, the same set of equations was analyzed in the reverse as well (i.e., entering LMSX first, followed by LMX7 in one set of analyses, and LMSX first followed by LMX-MDM in a second set of analyses, respectively). LMX7

Table 9

Results of Hierarchical Regression Analyses for LMSX and LMX7

Variable	Job Satisfaction[a] β	Intentions to quit[a] β	Organizational commitment[a] β	Satisfaction with leader[a] β	Task performance[b] β	Contextual performance[b] β
Step1:						
E[a] gender	-.14†	.07	.00	.02	-.09	.04
E age	.08	-.10	.06	.12	-.11	.09
E race	.02	-.02	.01	-.13†	-.09	-.07
E tenure w/ org	-.04	-.03	.02	.01	.04	-.06
Tenure under current sup	.09	-.04	.05	.11	-.05	.04
S[b] gender	.03	-.14†	-.02	-.07	.04	.03
S age	-.03	.14†	-.17*	-.23**	.19*	.20*
S race	-.14†	.15*	-.10	-.05	.00	.06
S tenure	-.22**	.08	-.16†	-.08	.05	.07
# employees[c]	.00	-.02	-.03	-.20*	.09	.12
ΔR^2 after step 1	.10*	.08†	.10*	.17***	.09†	.09†
Step 2:						
LMX7	.41***	-.26***	.42***	.83***	.22**	.22**
ΔR^2 after step 2	.12***	.06***	.15***	.54***	.04**	.04***
Step 3:						
LMSX	.10	-.27†	.36**	.33**	.07	.41**
ΔR^2 after step 2	.00	.02†	.03**	.02***	.00	.04**
Overall F	4.87***	2.86***	5.90***	61.77***	2.32**	3.03***
Overall R^2	.24***	.16***	.28***	.80***	.13**	.17***
Adjusted R^2	.19	.10	.23	.79	.08	.11

Note. $N = 195$. β is the standardized regression coefficient. [a] Provided by employee [b] Provided by supervisor [c] Number of employees under the supervisor's direct control.

$^{\dagger}p < .10$. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Table 10

Results of Hierarchical Regression Analyses for LMSX and LMX-MDM

Variable	Job Satisfaction[a] β	Intentions to quit[a] β	Organizational commitment[a] β	Satisfaction with leader[a] β	Task performance[b] β	Contextual performance[b] β
Step 1:						
E[a] gender	-.14†	.07	.00	.02	-.09	.04
E age	.08	-.10	.06	.12	-.11	.09
E race	.02	-.02	.01	-.13†	-.09	-.07
E tenure w/ org	-.04	-.03	.02	.01	.04	-.06
Tenure under current sup	.09	-.04	.05	.11	-.05	.04
S[b] gender	.03	-.14†	-.02	-.07	.04	.03
S age	-.03	.14†	-.17*	-.23**	.19*	.20*
S race	-.14†	.15*	-.10	-.05	.00	.06
S tenure	-.22**	.08	-.16†	-.08	.05	.07
# employees[c]	.00	-.02	-.03	-.20*	.09	.12
ΔR^2 after step 1	.10*	.08†	.10*	.17***	.09†	.09†
Step 2:						
MDM affect	.05	.01	.09	.41***	.18†	.23*
MDM loyalty	.09	.03	.02	.28***	.27*	.12
MDM cont.	.30***	-.09	.23***	-.07	-.06	.05
MDM respect	.22*	-.38***	.30***	.34***	-.24*	-.11
ΔR^2 after step 2	.24***	.15***	.23***	.62***	.08**	.06*
Step 3:						
LMSX	.09	-.11	.30*	.39***	.26*	.31*
ΔR^2 after step 3	.00	.00	.02*	.04***	.02*	.02*
Overall F	6.17***	3.63***	6.56***	57.99***	2.81***	2.58***
Overall R^2	.34	.23	.36*	.83***	.19*	.18*
Adjusted R^2	.19	.10	.23	.79	.08	.11

Note. $N = 195$. β is the standardized regression coefficient. [a] Provided by employee [b] Provided by supervisor [c] Number of employees under the supervisor's direct control.

$^{\dagger} p < .10$. $^{*} p < .05$. $^{**} p < .01$. $^{***} p < .001$.

Table 11

Results of Hierarchical Regression Analyses for LMSX, LMX7, and LMX-MDM

Variable	Job Satisfaction[a] β	Intentions to quit[a] β	Organizational commitment[a] β	Satisfaction with leader[a] β	Task performance[b] β	Contextual performance[b] β
Step 1:						
E[a] gender	-.14†	.07	.00	.02	-.09	.04
E age	.08	-.10	.06	.12	-.11	.09
E race	.02	-.02	.01	-.13†	-.09	-.07
E tenure w/ org	-.04	-.03	.02	.01	.04	-.06
Tenure under current sup	.09	-.04	.05	.11	-.05	.04
S[b] gender	.03	-.14†	-.02	-.07	.04	.03
S age	-.03	.14†	-.17*	-.23**	.19*	.20*
S race	-.14†	.15*	-.10	-.05	.00	.06
S tenure	-.22**	.08	-.16†	-.08	.05	.07
# employees[c]	.00	-.02	-.03	-.20*	.09	.12
ΔR^2 after step 1	.10*	.08†	.10*	.17***	.09†	.09†
Step 2:						
LMX7	.21	-.10	.28*	.54***	.18	.00
MDM affect	-.05	.06	-.05	.14*	.10	.23*
MDM loyalty	.00	.07	-.10	.04	.19†	.12
MDM cont.	.30***	-.09	.23***	-.08*	-.06	.05
MDM respect	.20*	-.38***	.28***	.30***	-.26*	-.10
ΔR^2 after step 2	.25***	.15***	.25***	.69***	.09**	.07*
Step 3:						
LMSX	-.02	-.09	.23†	.16*	.24†	.46**
ΔR^2 after step 3	.00	.00	.01†	.02*	.01†	.04***
Overall F	5.92***	3.89***	6.20***	65.54***	2.62***	2.60***
Overall R^2	.35	.23	.37†	.86*	.19†	.19**
Adjusted R^2	.29	.17	.30	.84	.12	.12

Note. *N = 195*. β is the standardized regression coefficient. [a] Reported by employee [b] Reported by supervisor [c] Number of employees under the supervisor's direct control.

$^{\dagger}p < .10$. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

accounted for an additional 2% of the variance of job satisfaction, but could not account for additional variance in the other five criterion-related variables. LMX-MDM accounted for an additional 7% of variance of job satisfaction ($p < .01$), 3% of variance of intentions to quit($p < .05$), and 3% of variance of organizational commitment ($p < .05$), but failed to account for additional variance in satisfaction with leader, task performance, and contextual performance Taken collectively with the results found in Tables 7, 8, 9, and 10, LMSX clearly demonstrated criterion-related validity and accounted for unique variance unaccounted for by existing LMX measures.

Step 9: Internal consistency assessment. One final step to providing construct validity was to assess the internal consistency (coefficient alpha) of LMSX. The data from the 110 employees in study two revealed an internal consistency of .96 while the data from the 195 employees in study three showed an internal consistency of .92. The final eight items that compose LMSX appear in Table 12.

Table 12

LMSX Items[a]

My manager and I have a two-way exchange relationship.
I do not have to specify the exact conditions to know my manager will return a favor.
If I do something for my manager, he or she will eventually repay me.
I have a balance of inputs and outputs with my manager.
My efforts are reciprocated by my manager.
My relationship with my manager is composed of comparable exchanges of giving and taking.
When I give effort at work, my manager will return it.
Voluntary actions on my part will be returned in some way by my manager.

[a] Response format ranging from 1 = strongly disagree to 7 = strongly agree.

IV. RESULTS OF PERSONALITY AND LMSX

Main Effects of Personality and LMSX

Table 13 displays descriptive statistics and intercorrelations among the variables for both the employee and the supervisor. Structural equation modeling was used to test Hypotheses 1a through 5b. It should be noted the model tested included a number of correlated error terms; however, such parameter specifications for psychological constructs have been justified by previous researchers (e.g., Byrne, Shavelson, & Muthen, 1989). Figure 6 presents the result of this model. The fit indices indicated the model fit the data well. Specifically, the chi-square was nonsignificant ($\chi^2 = 129.74$, df = 171, p = .121), the TLI was .98, the GFI was .93, the CFI was .99, and RMSEA was .03. Collectively, the overall fit of the model was acceptable.

SEM results depicted in Figure 6 indicated employee conscientiousness was significantly related to LMSX ($\beta = .34$, $p < .001$); thus, hypothesis 1a was supported. A significant regression weight was also found for employee extraversion ($\beta = .15$, $p < .05$) and neuroticism ($\beta = -.28$, p , .001); thus, support was also found for hypotheses 2a and 5a. The path from employee agreeableness to LMSX was nonsignificant, thus results failed to support hypothesis 3a. The path between employee openness and perceived LMSX was also significant ($\beta = -.28$, $p < .001$), but in the opposite direction. That is, employee openness to experience actually had a negative influence on LMSX. This is an interesting finding and will be discussed later, but, for testing purposes, Hypothesis 4a was not supported.

Table 13

Means, Standard Deviations, and Intercorrelations for Study Variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Employee gender[a]	-	-														
2. Employee age	30.48	6.17	.16*													
3. Employee race[b]	-	-	.02	-.05	-											
4. Employee tenure w/ org	4.18	3.90	.10	.55**	-.10	-										
5. Years under supervisor	2.26	1.65	-.07	.17*	-.05	.44**	-									
6. Autonomy	5.73	1.08	-.05	.06	-.21**	.09	.06	(.80)								
7. Leader gender[c]	-	-	.34**	-.07	-.04	.01	-.06	.04	-							
8. Leader age	40.59	8.98	.05	.00	-.06	.11	.12	-.01	.11	-						
9. Leader race[d]	-	-	-.12	-.03	.35**	-.05	-.02	-.13	.00	.03	-					
10. Leader tenure	9.92	7.93	.11	.01	.00	.16**	.16**	-.01	.18	.55**	-.09	-				
11. # of employees	14.43	19.31	-.07	.02	.00	.03	.12	.05	-.11	.01	-.01	.00	-			
12. Employee neuroticism	17.80	7.32	-.07	-.15*	.11	-.14	-.05	-.15*	-.05	.05	.10	.09	-.06	(.85)		
13. Employee extraversion	31.43	6.05	-.08	.02	-.05	.08	.02	.25**	.04	.05	.10	.01	.03	-.45**	(.78)	
14. Employee openness	25.90	5.51	-.11	-.17*	.02	-.12	.01	.05	-.03	.05	.05	-.01	.05	.12	-.08	(.73)

Note. Total *N* employees = 195; total *N* supervisors N = 195. [a] 84 males; 111 females. [b] 178 Caucasians; 12 African Americans; 2 Hispanic; 1 Asian; 2 other.
[c] 137 males; 58 females. [d] 183 whites; 5 blacks; 1 Hispanic; 4 Asian; 2 other.

Table 13, continued

Means, Standard Deviations, and Intercorrelations for Study Variables

Variable	15	16	17	18	19	20	21	22
15. Employee agreeableness	(.68)							
16. Employee conscientious	.08	(.81)						
17. Leader neuroticism	-.03	-.07	(.84)					
18. Leader extraversion	.05	.15*	-.53**	(.84)				
19. Leader openness	.10	-.06	-.12	.33**	.(79)			
20. Leader agreeableness	.17*	.15*	-.30**	.32**	.10	(.76)		
21. Leader conscientiousness	.14	.08	-.28**	.14*	.02	.22**	(.82)	
22. LMSX	.08	.29**	-.11	.05	-.10	.19**	.23**	(.92)

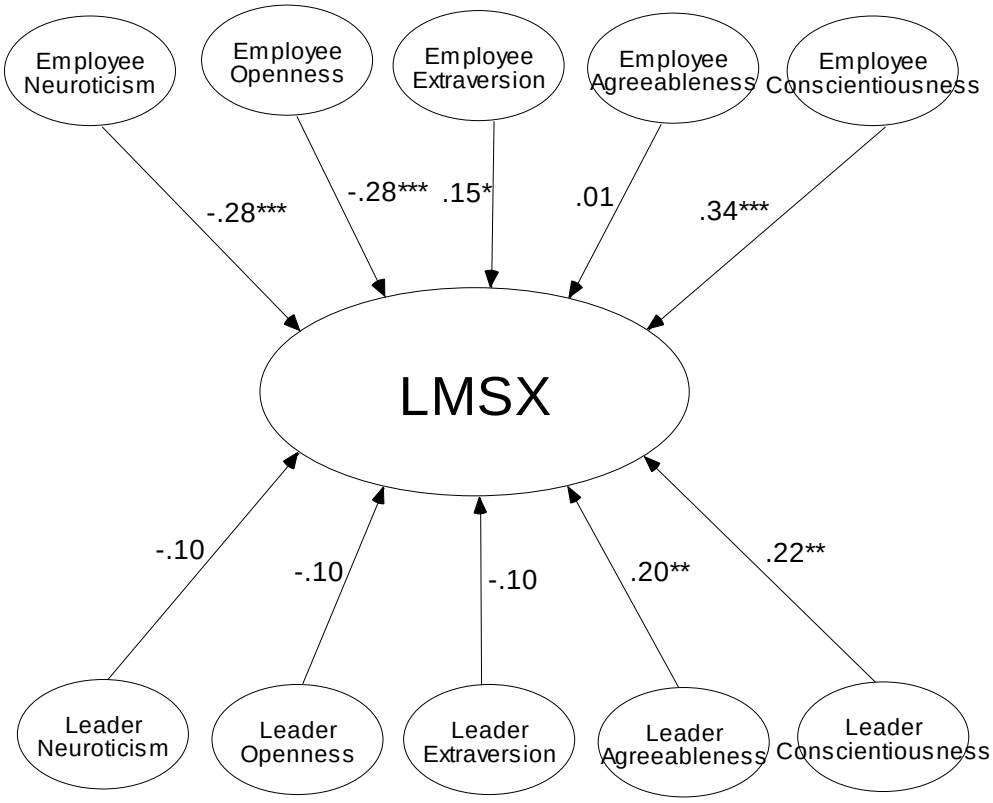

Figure 6. Results of the structural equation model used to test study hypotheses. All statistics are standardized path coefficients.

* $p < .05$ ** $p < .01$ *** $p < .001$

Hypotheses 1b, 2b, 3b, and 4b theorized a positive relationship between a supervisor level of conscientiousness, extraversion, agreeableness, and openness to experience and employees' perception of LMSX, respectively; hypothesis 5b suggested a negative relationship between supervisor neuroticism and employees' perceived LMSX. Results from the SEM depicted in Figure 6 indicated leaders' conscientiousness (β = .22, p < .01) and agreeableness (β = .20, p < .01) level was significantly related to employees' perceived LMSX. Thus, hypotheses 1b and 3b were supported. However, hypotheses 2b, 4b, and 5b were not supported.

Interactive Effects of Employee and Supervisor Personality

To test hypotheses 6 through 10, hierarchical moderated regression was used in which the control variables were entered in step 1; in step two, the main effects of employees' traits and supervisors' traits were entered, and in step three, the interactive effects of the five traits were entered. Results appear in Table 14. Results indicated the interaction between employee and supervisor personality accounted for an additional 5% of the variance of LMSX after accounting for 10 control variables and the individual effects of personality. Specifically, the interaction between conscientiousness (β = .12, p < .05), extraversion (β = .12, p < .05), and agreeableness (β = .11, p < .05) were significantly related to employees' perception of LMSX. The interaction between employees and supervisors' openness to experience was not significant, thereby supporting hypothesis 9 (which was a null hypothesis). The interaction between employee and supervisor neuroticism was not significant; thus hypothesis 10 was not supported.

Table 14

Results of Moderated Regression Analyses for Personality and LMSX

Variable	LMSX β	
Step 1: Control Variables		
Employee gender	.12†	
Employee age	.14†	
Employee race	-.03	
Employee tenure w/ org.	-.03	
Tenure under current supervisor	.11	
Autonomy	.38***	
Leader gender	-.14*	
Leader age	-.18*	
Leader race	-.06	
Leader tenure w/ org.	-.19**	
# of subordinates under direct control	-.20***	
ΔR^2 after Step 1		.36***
Step 2: Main Effects		
Employee neuroticism	-.13*	
Employee extraversion	-.02	
Employee openness	-.17*	
Employee agreeableness	-.01	
Employee conscientiousness	.17*	
Leader neuroticism	.01	
Leader extraversion	-.05	
Leader openness	-.06	
Leader agreeableness	.15*	
Leader Conscientiousness	.15*	
ΔR^2 after Step 2		.17***
Step 3: Interaction		
Employee Neuroticism X Supervisor Neuroticism	.05	
Employee Extraversion X Supervisor Extraversion	.12*	
Employee Openness X Supervisor Openness	-.08	
Employee Agreeableness X Supervisor Agreeableness	.11*	
Employee Conscientiousness X Employee Conscientiousness	.12*	
ΔR^2 after Step 3		.05**
Overall F	9.07***	
Overall R^2	.58**	
Overall Adjusted R^2	.52	

Note. Total $N = 390$ (195 employees/195 supervisors).
† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .00$.

To better interpret the moderating effects of personality congruence, interaction plots were made for each of the significant interactions. Plots were made at one standard deviation above and below the mean for the supervisor trait and for the subordinate trait. Figure 7 depicts the moderating effects of supervisor conscientiousness on the relationship between employee personality and employee perception of LMSX. The plot indicates that when employees are relatively low in conscientiousness, their perception of LMSX remains fairly stable regardless of the conscientiousness level of their supervisor. However, when employees rate high on conscientiousness, their LMSX ratings are higher when their supervisors possess greater levels of conscientiousness. This finding is consistent with hypothesis 7. Figure 8 depicts the moderating effects of supervisors' extraversion on the relationship between employees' extraversion and employees' perceptions of LMSX. As expected, employees low in extraversion perceived higher-quality LMSX when the supervisor is also low in extraversion. When employees are high in extraversion, LMSX is slightly higher when the supervisor is also high in extraversion. This is consistent with hypothesis 7. Figure 9 depicts the relationship between supervisor agreeableness, employee agreeableness, and perceived LMSX. The plot suggests disagreeable employees perceive agreeable and disagreeable supervisors similarly. However, agreeable employees' rate perceived LMSX significantly higher when the supervisor is also agreeable. As expected, this is consistent with hypothesis.

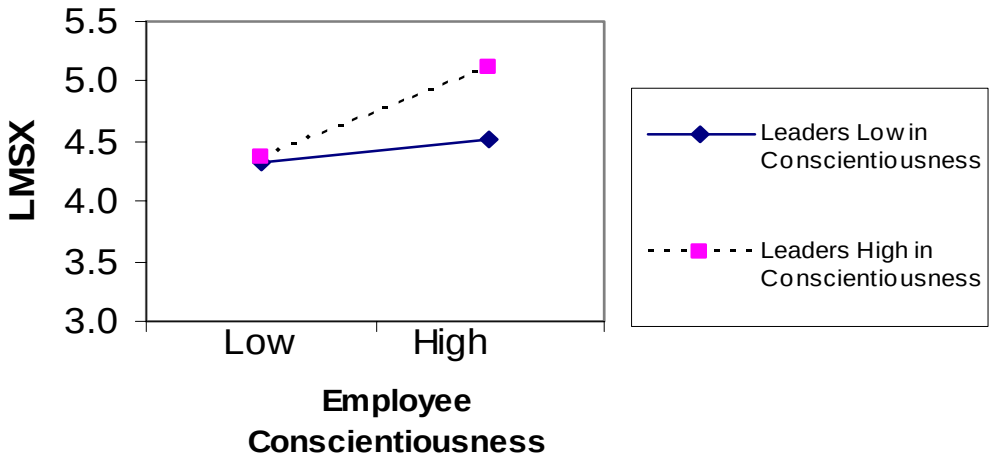

Figure 7. Plot of moderating effects of leader conscientiousness on the relationship between employee conscientiousness and perceived LMSX-quality.

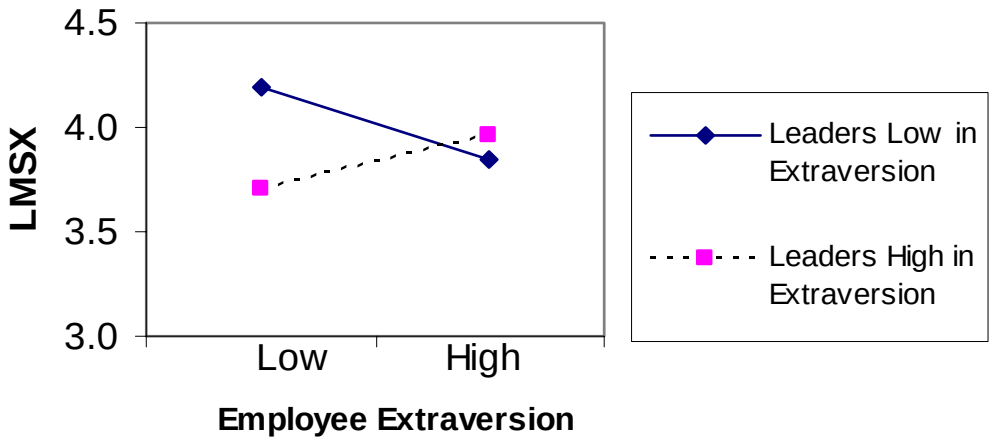

Figure 8. Plot of moderating effects of leader extraversion on the relationship between employee extraversion and perceived LMSX-quality.

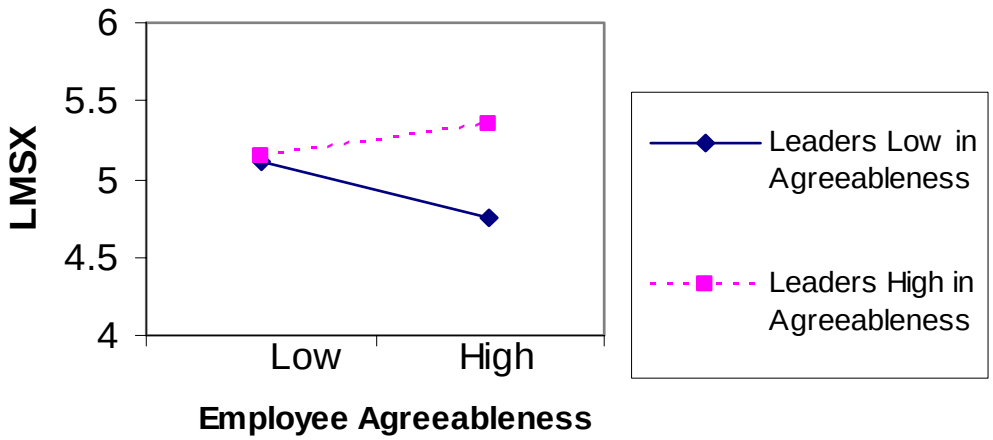

Figure 9. Plot of moderating effects of leader agreeableness on the relationship between employee agreeableness and perceived LMSX-quality.

V. DISCUSSION

By developing a specific LMX scale focused on the exchange between leader and member and by investigating the influence of personality on perceptions of LMX, this study answered the calls of many researchers (e.g., Bauer & Green, 1996; Deluga, 1998; Dienesch & Liden, 1986; Gerstner & Day, 1997; Heller et al, 2003; Liden & Masyln, 1998; McClane, 1991; Phillips & Bedeian, 1994; Sparrowe & Liden, 1997; Smith & Canger, 2004; Uhl-Bien & Maslyn, 2003; Witt, 2002). Results from three studies and over 300 total participants have important implications for researchers and practitioners alike. However, before discussing the results in more depth, a number of study limitations need to be addressed.

Limitations

To begin, the manner in which the new LMSX items was developed can be questioned. Specifically, a deductive item generation from the seminal work of Blau (1964) was used rather than an inductive approach such as asking a sample of respondents to provide a general description of their relationship with their supervisor. However, the deductive approach, when done properly, has an advantage of helping establish content validity (Hinkin, 1998). While not uncommon in social science literature, it nevertheless remains impossible to tell whether or not the 12 original items listed in Appendix A included the entire spectrum of general exchange between leader and subordinate.

A second limitation of the study is the predictive power of LMSX. Although statistically significant, the results reported in Tables 8, 9, and 10 show LMSX has only modest predictive ability above and beyond LMX7 and LMX-MDM. Table 7 shows LMSX is in fact a strong predictor of a number of important organizational outcomes, but when accounting for LMX7 and LMX-MDM, the predictive power is relatively low. Two points can be made in defense of LMSX. First, LMSX was a significant predictor even though the results in Tables 7, 8, 9, and 10 included 10 control variables. After controlling for 10 different potential influencing factors, and controlling for both LMX7 and LMX-MDM, LMSX still accounted for a significant amount of variance for several criterion-related variables.

Additionally, LMX7 could not account for additional variance above and beyond LMSX for intentions to quit, organizational commitment, satisfaction with leader, task performance, or contextual performance. Likewise, LMX-MDM could not account for additional variance above and beyond LMSX for satisfaction with leader, task performance, or contextual performance. LMX-MDM did account for unique variance for job satisfaction, intentions to quit, and organizational commitment, but given that LMX-MDM is composed of four subscales, the constraints to account for additional variance are rather high. Thus, although modest, the predictive power of LMSX is important.

There were some study limitations in the investigation of personality and LMX. First, the participants in study 3 came from a variety of organizations. This design was used to include as many different combinations of personalities as possible. Rather than having one or two supervisor personalities coupled with 200 subordinate personalities,

the use of alumni and MBA students from different organizations allowed for a mixture of 195 combinations of personalities. While this was a considerable advantage for the purposes of this study, such a design excludes the investigation of within and between group analyses. Future research would be well served in replicating this study within a single organization.

A second and particularly significant limitation of Study 3 was the use of the NEO-FFI to measure the 10 predictor variables. This issue will be addressed in depth below, but it should be noted here as a potential limitation as well. Specifically, the NEO-FFI is composed of 60 items that purportedly measure neuroticism, extraversion, openness to experience, extraversion, and conscientiousness. Attempting to measure the complexity of human personality, and subsequently predict, with such broad and unconditional parameters is less than ideal (McAdams, 1992). Additionally, the NEO-FFI does not allow an investigation into specific facets of personality. That is, personality traits are actually composed of specific facets related to the general trait. Previous researchers have suggested using facets, in addition or instead of, the general traits to predict criterion-related variables (cf. Barrick et al., 2001). This is especially important to the present study, as will be later discussed, when findings seem counter-intuitive or are unexpected.

Lastly, some of the relationships in study 3 where employees furnished both predictor and criterion data may have been biased by common-method variance. Although this possibility cannot be ruled out entirely, this potential limitation may be less of a concern in the present study than in others for four reasons. First, personality traits are stable, and tend not to change much over time (Costa & McCrae, 1992). Therefore,

collecting personality items at one time, and LMSX at another, does not seem likely to change the results. Second, structural equation modeling acknowledges measurement error not accounted for in other statistical analyses. Third, residual analysis of error terms revealed no evidence of bias. Fourth, common-method explanation does not easily account for differences found in interaction terms. Thus, results seem to be only minimally influenced by common-method bias.

General Discussion of LMSX

Although the title directly implies an exchange of some kind, leader-member *exchange* has failed to assess an exchange of any kind for over 30 years. Researchers have hinted at, alluded to, and even specifically called for the development of a social exchange measure of LMX. Thus, the principal objective of the reported research was to develop and evaluate a new measure of leader-member social-exchange. By following the systematic steps suggested by Hinkin (1998), it appears the new LMSX scale is a psychometrically sound answer to these calls. While LMSX will not end the "healthy controversy" surrounding the measurement of the LMX construct (Graen & Uhl-Bien, 1995, p. 236), it does provide a measure of high psychometric quality that could potentially advance the state of knowledge of the field.

Importantly, the results and analyses reported in this study should be viewed as preliminary in nature. Replication and comparison is certainly needed before making any definite conclusions. Nevertheless, results do open up a variety of potential research streams in relation to social exchanges between employees and supervisors. First, it seems the next logical step would be to assess the social exchange between employees and supervisors from the "leaders" perspective. Given that members view some type of

exchange as taking place, it seems potentially worthwhile to investigate if leaders perceive the same degree of exchange as their employees.

General Discussion of Personality and LMSX

For over 30 years, investigators have linked LMX to dozens of important personal and organizational outcomes, yet there remains only scant attention devoted to the potential antecedents to exchange formation. While researchers readily acknowledge the influence of personal characteristics on LMX (Deluga, 1998; Gerstner & Day, 1997; Graen & Uhl-Bien, 1995; Phillips & Bedeian, 1994), they have yet to investigate characteristics beyond demographic variables. Thus, the primary purpose of Study 3 was to evaluate the relationship between employee and supervisor personality on perceived LMSX. Importantly, results indicated personality does relate to perceptions of LMSX. Specifically, employee neuroticism and openness to experience was negatively related to perceptions of LMSX while employee extraversion and conscientiousness was positively related to perceived LMSX. Supervisor agreeableness and conscientiousness were both positively related to the employees' perception of LMSX. Additionally, three supervisor traits (i.e., extraversion, agreeableness, and conscientiousness) moderated the relationship between their employees' personality traits and perceptions of LMSX. Thus, personality interaction is also an important factor in LMSX formation. Collectively, each of the main and interaction effects found has important relevance to both practitioners and researchers alike.

To begin, an analysis of the relationship between conscientiousness and LMSX is intuitively understandable. If nothing else, LMSX is an interpersonal relationship between individuals in a social setting; thus, the manner in which the other person

conducts himself or herself seems like an influential factor. Conscientious employees are hard working, persistent, dependable, and take responsibility for their own actions (Barrick & Mount, 1991). The positive relationship between employee conscientiousness and perceptions of LMSX support the notion that supervisors notice the effort of these workers. Recall, LMSX is a cyclical relationship in that harder work by an employee should produce a favorable response by the supervisor, which in turn, acts as a positive reinforcer for the behaviors that elicited the positive reaction in the first place. Thus, when employees work hard and make a considerable effort toward accomplishing the goals and task assignments given by supervisors, the employee is given more trust and favorable assignments in the future. These actions by the supervisor encourage further effort and hard work by the employee.

Importantly, it appears the other side of this relationship is also true. That is, the conscientious supervisor who maintains impulse control and who follows the rules and norms of the organization is seen in a more favorable light (cf. John & Srivasta, 1999; Witt, 2002). Additionally, the positive relationship between supervisor conscientiousness and employee perceived LMSX supports the idea that the organized conscientious supervisor actually facilitates higher quality relationships with his or her employees. Deluga (1998) suggested that conscientious supervisors may give more clear-cut definitions and instructions, or feel more personally responsible to help. Each of which could help reduce role uncertainty and promote better performance by employees. Couple this finding with the relationship between employee conscientiousness and LMSX, and it appears conscientious subordinates and supervisors share the same

approach toward their responsibilities. This approach seems to, in turn, foster a mutually beneficial LMSX relationship.

In addition to conscientiousness, extraversion is intuitively linked to LMSX. Specifically, results seem to support the notion that employees' predisposition to find positive experiences in life events facilitates satisfaction and enjoyment in interpersonal interactions (cf. Watson & Clark, 1997). Previous research has shown extraverts to be more expressive, articulate, and comfortable asking questions (Barry & Stewart, 1997; Costa & McCrae, 1988; Goldberg, 1990; Watson & Clark, 1997). Thus, a complementary explanation for the positive relationship found between extraverted employees and LMSX is that these employees are not afraid to ask for: (a) clarification of duties or tasks or (b) more difficult or challenging work assignments. Importantly, Liden and Masyln (1998) conceptualized professional respect as one aspect of LMX. Accordingly, extraverted employees who are willing to ask for clarification or more accountability should garner favorable attention from their supervisors.

It was somewhat surprising that supervisor extraversion did not influence employees' perceptions of LMSX. While results do not allow for further clarification, it seems possible that the same willingness to express oneself that positively influenced the relationship between employee extraversion and perceptions of LMSX, may actually work in an opposite direction for supervisors. That is, an assertive and/or dominant supervisor may speak more freely and openly with employees (cf. Mann, 1959). In fact, previous research has looked at supervisory behavior in terms of delivery method, direct versus indirect (Komacki, Zlotnick, & Jensen, 1986). Thus, the extraverted supervisor may be more willing to openly question or challenge an employee. This of course is only

speculation, but results linking supervisor agreeableness and employees' perceived LMSX does give some credence to the explanation.

This alternative explanation provides the basis for a relationship between agreeableness and LMSX. The positive relationship between leader agreeableness and employee LMSX supports Tett and Murphy's (2002) contention that "people prefer those who let them be themselves" (p. 238). It seems likely agreeable supervisors may be more willing to help subordinates because they feel the helpfulness or favor will be equally returned (cf. Costa & McCrae, 1992). Consequently, the subordinate can correct, adjust, and/or improve on current performance. Moreover, as the cyclical relationship of LMSX suggests, improved performance will facilitate a higher quality relationship, fostering continued interpersonal growth between the dyad.

The failure to find a relationship between employee agreeableness and LMSX is not as surprising as it may first appear. While the nature of agreeable employees suggests supervisors will have a positive affect towards employees, this does not necessarily translate into better performance for the employee. In fact, in a meta-analysis of previous meta-analyses, Barrick et al. (2001) found agreeableness to be a particularly weak predictor of performance. Thus, agreeable employees that are not performing are unlikely be given favorable assignments or tasks. Therefore, a relationship between employees' agreeableness and perceptions of LMSX may not materialize.

Just as previous research suggested a strong link between conscientiousness and LMX, so to do previous findings about neuroticism. Specifically, results support the notion that the social exchange between neurotic employees and their supervisors may be negatively impacted by their limited social skills and the hesitation to engage in long-

term relationships that require trust. The null finding with respect to supervisors' neuroticism was somewhat surprising but understandable. Hypothesis 5b suggested a negative link between supervisors' neuroticism and employees' perceived LMSX because the inability to cope with managerial pressures seems likely to have a negative impact on the department and the organization as a whole. Furthermore, it was believed that displays of hostility or anger, which are associated with neuroticism, towards employees would negatively influence their perception of LMSX-quality. In hindsight, this relationship is not as clear as originally thought. Without data including the individual facets of neuroticism, it is difficult to interpret the exact meaning of the null findings. Future research would benefit from analyses of the relationship between individual facets of neuroticism and perceptions of LMSX. Specifically, the hypothesized relationship might hold true with the anxiety or hostility facets, but may be opposite or at least less substantial with the self-consciousness or vulnerability facets. In particular, it is easy to imagine an employee that could take advantage or even exploit a leader who lacks the confidence to be clear and direct. Such a relationship, while potentially harmful for the leader, would certainly benefit the employee. However, without further data, such speculation is only offered in an effort to stimulate further research.

One of the most intriguing aspects of the reported findings was the negative association found between employee openness to experience and LMSX. Here, more than with any of the other traits, is why using the NEO-FFI was a limitation of the study. Results could have been easily interpreted if findings revealed a null relationship between openness and LMSX as previous meta-analytic research indicates openness is a rather

poor predictor of performance (Barrick et al., 2001). But, the finding that openness is actually negatively associated with perceptions of LMSX raises a number of possibilities. For example, do open employees believe their creative and novel work solutions are unappreciated by the supervisors? Alternatively, do the wide interests and fantasy of open employees distract their work efforts, leaving managers to place less trust in them? As another possibility, do supervisors see the non-conforming rebellious side of open individuals and decide not to give them important tasks, promotions, or assignments? There appears to be few answers for these questions in the current literature or in this study. Future research that includes each facet of openness to experience may be able to shed some light on these questions and the results of the reported research.

While the main effects reported in Figure 6 are in and of themselves important to understanding LMSX formation, the interaction effects in Table 13 present just as compelling evidence of the importance of personality as an antecedent to LMSX formation. Specifically, results indicated supervisors' conscientiousness, extraversion, and agreeableness moderated the relationship between employees' conscientiousness, extraversion, and agreeableness and perceived LMSX, respectively.

The plot of the moderating effects of supervisors' conscientiousness on the relationship between employee personality and employee perception of LMSX was found to be as expected. Figure 6 shows virtually no difference in LMSX ratings of supervisors high or low in conscientiousness suggesting employees uninvolved in their work (i.e., those low in conscientiousness) have little interest in the work habits or their leaders. On the other hand, those hard-working, organized, and persistent workers high in conscientiousness recognize the hard-working nature of their supervisors. It was a little

surprising to see conscientious employees did not react more negatively to supervisors that were low in conscientiousness. In fact, LMSX ratings of supervisors low in conscientiousness remained virtually identical for both conscientious employees as well as their counterparts low in conscientiousness. One possible explanation for this finding is that conscientious employees feel a sense of loyalty to their supervisors. This loyalty may have shown up in the form of higher than expected LMSX ratings. In a similar vein, conscientious employees may trust their supervisor to do the right thing. Nevertheless, there remains a difference in ratings between those leaders high in conscientiousness and those low in conscientiousness.

In addition to supervisors' conscientiousness, supervisors' extraversion was found to moderate the relationship between employees' extraversion and perceptions of LMSX. The results depicted in Figure 7 suggest shy and introspected introverts appreciated similar attributes in their supervisors. Individuals low in extraversion are low in assertiveness and dominance, thus leaving them susceptible to being taken advantage of or feelings of submissiveness (Mann, 1959). Results support the notion that these employees find comfort and acceptance in relationships where both parties feel the same way.

On the other hand, extraverted employees rated supervisors high in extraversion and supervisors low in extraversion comparably. Implied in hypothesis 7 was that outgoing and expressive subordinates should enjoy the company of outgoing and expressive supervisors. However, results appear to suggest extraverted employees value the interpersonal relationships with different kinds of individuals. Accordingly, extraverts can still rate the social exchange between themselves and their reserved and

independent supervisors high. Thus, the relationship between employee extraversion and supervisor extraversion seems to be unique in that manner.

Perhaps one of the more easily explained findings was that of the supervisors' agreeableness and employees' agreeableness. Importantly, when employees were uncooperative and intolerant, as in the case of those low in agreeableness, the level of supervisors' agreeableness failed to play a role in the formation of reciprocal social alliances as seen in LMSX ratings. However, employees' demonstrating respect and trust, as in the case of those high in agreeableness, seem to expect a similar level of respect and trust in return. In fact, the results of moderated regression analyses and the interaction plot showed disagreeable supervisors' had more of an impact when employees' were high in agreeableness. That is, LMSX ratings for disagreeable supervisors were rated lower by agreeable employees than by disagreeable employees. The interaction between supervisor and employee agreeableness is consistent with previous findings that suggest even a single disagreeable member of a team can be harmful to the overall performance of the team (e.g., Barrick et al., 1998; Kichuk & Wiesner, 1997; Peterson et al., 2003). Moreover, subordinates and supervisors similarly high in agreeableness seem to form a mutually beneficial relationship. These individuals are kind, courteous, sensitive, and show respect and tact for each other. This shared approach to interpersonal relationships may predispose the subordinate and supervisor to view each other in a positive manner. Consequently, these mutually beneficial relationships should be advantageous to the employee, the supervisor, and the organization as a whole.

The findings in regard to the last two hypotheses, that is, the relationships between employees' neuroticism and openness to experience with perceptions of LMX would be moderated by supervisors' neuroticism and openness to experience, are particularly interesting. First, it was somewhat surprisingly that the two individual levels of neuroticism failed to interact. It was thought that two neurotic individuals would especially antagonize each other in a social setting. Consequently, one possible explanation for the null finding is that one emotionally stable person, either the employee or supervisor, can potentially compensate for the neurotic tendencies of the other. It also seems plausible that the embarrassment and shyness neurotic individuals feel towards the general public might diminish as they work with the same individuals, either as a supervisor or as a subordinate, over time. Furthermore, the anxiety and worry typically associated with neuroticism may not have been as controlling in LMSX formation. Unfortunately, the specific facets of neuroticism (e.g., anxiety, hostility, self-consciousness, vulnerability, impulsiveness, depression) were not included in the reported study. Consequently, the results can only be used to speculate and suggest future research.

Similarly, it was interesting to find that supervisors' openness did not show more of an influence on the relationship between employees' openness and perceptions of LMSX. Previous studies have linked both creativity and openness to experience with effective leadership (Judge et al., 2002; Yukl, 1998). However, there has never been an investigation of how open individuals judge other open individuals. On the surface, it would appear the broad-minded and openly accepting employees would enjoy similar qualities in their supervisors, but this relationship has been left mostly unexplored. One

possible explanation for this is that open employees are more tolerant and willing to accept a variety of leadership styles. The reverse might also be true; that is, open supervisors may be willing to accept both traditional and non-traditional work styles. Here again, it would be advantageous to explore the specific facets of openness to experience and LMSX.

Practical Implications of Personality and LMSX

The relevance of these findings for employees, supervisors, organizations, and researchers is evident in a number of ways. First, for more than 30 years researchers have investigated the effects of leader-member exchange without investigating potential antecedents as to how these relationships form. Importantly, the present study found that personality antecedents for both members and leaders related to perceptions of LMSX. Given that LMX has been found to strongly relate to (a) performance (e.g., Dansereau, Alutto, Markham, & Dumas, 1982; Duarte, Goodson, & Klich, 1993; Graen, Novak, et al., 1982), (b) job attitudes (e.g., Dienesch & Liden, 1996), (c) commitment (e.g., Duchon, Green, & Taber, 1986; Manogram & Conlon, 1993; Schriesheim, Neider, Scandura, & Tepper, 1992), (d) turnover, actual and intended (e.g., Graen, Liden, et al., 1982; Major, Kozlowski, Chao, & Gardner, 1995; Sparrowe, 1994; Vecchio, 1982; Vecchio & Gobdel, 1984), (e) satisfaction with supervisor (e.g., Mueller & Lee, 2002; Schriesheim & Gardiner, 1992), (f) performance evaluations (Dienesch & Liden, 1986; Durante, Goodson, & Klich, 1984; Judge & Ferris, 1993), (g) innovation (Basu, 1991; Tierney, 1992), (h) procedural and distributive justice (Bell, 1994; Scandura, 1994), and (i) career outcomes (Wakabayashi & Graen, 1984), it seems exceedingly important to understand how these relationships are formed.

In terms of practical suggestions for managers and organizations, it does not seem unrealistic to suggest considering personality similarity in work assignments, transfers, promotions, and even selection efforts. Conscientious employees recognize the hard-working and persistent nature of conscientious supervisors and seem to be motivated to overcome differences and work towards organizational goals (cf. Deluga, 1998). Likewise, shy and unassertive introverts appear to be more comfortable working with supervisors that take the same introspective approach. This perceived compatibility increased employees perceptions of LMSX in the current study. Similarly, employees high in agreeableness noticed differences and similarities with their supervisors' level of agreeableness. Specifically, the higher quality LMSX perceived between pairs of agreeable employees and supervisors should positively influence the way they negotiate and compromise on reaching organizational goals.

Ultimately, the findings of the reported study should help emphasize the benefits of LMSX in organizational outcomes. Organizational commitment, job satisfaction, organizational citizenship behaviors, and literally dozens of other important organizational outcomes are influenced by the relationships between leaders and members. An attempt to maximize these relationships seems to be the most crucial step for the next generation of social exchange researchers. Actively considering manager and subordinate personality congruence is one practical and tangible way to begin this exploration.

Overall Conclusion

The results of the current investigation have implications for theory and practice. Current LMX measurement scales have been criticized for lacking psychometric

properties and a failure to measure an exchange between leader and member. To rectify this concern, the present study followed the systematic approach suggested by Hinkin (1998) and developed a psychometrically sound LMSX scale that measured an exchange between leader and member. Likewise, although leader-member exchange relationships have been investigated since the early 1970s, virtually no empirical research exists on individual antecedents beyond demographic variables. A few notable exceptions have been made (e.g., Phillips and Bedeian, 1994), but these studies have failed to account for both leader and member antecedents. This study was the first to systematically investigate potential dispositional antecedents to the formation of LMX. Collectively, the reported series of studies should be used to start a new generation of LMSX research.

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FOOTNOTES

[1]It is important to note this table is offered only as an example of changes made. Scandura and Graen (1984) and Graen, Novak et al. (1982) offered no evidence of psychometric soundness of the seven-item LMX scale; therefore, changes made by more recent authors do not seem to necessarily represent problems.

[2]LMX-MDM is a multidimensional measure of LMX developed by Liden and Maslyn (1998). The dimensions include affect, loyalty, contribution, and professional respect

[3]This mean excludes a CEO who indicated over 1500 employees report direct to him.

APPENDICES

Appendix A

1. If my manager does something for me, I will return the favor at some point.
2. My manager and I have a two-way exchange relationship.
3. I do not have to specify the exact conditions to know my manager will return a favor.
4. If I do something for my manager, he or she will eventually repay me.
5. I give more than I take with my supervisor. (R)
6. My opinion has an influence on my manager, and his or her opinion has an influence on me.
7. I have a balance of inputs and outputs with my manager.
8. When my supervisor gives me support, I feel I owe it to him or her to return the favor.
9. My efforts are reciprocated by my manager.
10. My relationship with my manager is composed of comparable exchanges of giving and taking.
11. When I give effort at work, my manager will return it.
12. Voluntary actions on my part will be returned in some way by my manager.

Appendix B

Content Validity Survey

Instructions: Please read the following three definitions before completing the survey. Following the three definitions, there are 30 statements that describe a particular event. You are asked to decide which of the three definitions most accurately reflects that statement. If you feel none of the three definitions match, please write in **unidentifiable**.

In addition, you are also asked to rate to what extent the statement represents the definition. Please use the following scale:

> Write in **1** if you think the statement *matches only part* of the definition.
> Write in **2** if you think the statement *matches most* of the definition.
> Write in **3** if you think the statement *matches* the definition *almost exactly*.

Please use the following three definitions:

> **Affect**: The mutual affection members of a pair have for each other based primarily on interpersonal attraction, rather than work or professional values.
>
> **Loyalty**: The expression of public support for the goals and the personal character of the other member of a relationship. Loyalty involves faithfulness to the individual that is generally consistent from situation to situation.
>
> **LMSX**: An *exchange* relationship between manager and subordinate in which the acceptance of something by one party leads to the fulfillment of something by the other party.

Example: If you felt the following sentence was an exact match of the definition of *Affect*, you would type or write the word ***Affect*** and the number ***3*** in the space provided. Likewise, if you thought the second sentence did not match any of the definitions provided, you would write in the word ***Unidentifiable***.

Statement	Definition	Extent of Match
I like my manager as a person	Affect	3
I feel very little loyalty to this organization.	Unidentifiable	N/A

Please Begin on Page 2.

Statement	Definition	Extent of Match
1. If my manager does something for me, I will return the favor at some point.		
2. I like my supervisor very much as a person.		
3. I can count on my manager to "bail me out," even at his or her own expense, when I really need it.		
4. My manager and I have a two-way exchange relationship.		
5. My manager understands my problems and needs.		
6. My supervisor defends my work actions to a superior, even without complete knowledge of the issue in question.		
7. I do not have to specify the exact conditions to know my manager will return a favor.		
8. My supervisor would come to my defense if I were "attacked" by others.		
9. My supervisor is the kind of person one would like to have as a friend.		
10. If I do something for my manager, he or she will eventually repay me.		
11. My manager recognizes my potential.		
12. Regardless of how much power my manager has built into his or her position, my manager would be personally inclined to use his/her power to help me solve problems at work.		
13. I give more than I take with my supervisor.		
14. I respect my supervisor's knowledge of and competence on the job.		
15. I am willing to apply extra efforts, beyond those normally required, to further the interests of my work group.		
16. My opinion has an influence on my manager, and his/her opinion has an influence on me.		
17. My manager has enough confidence in me that he/she would defend and justify my decisions if I was not present to do so.		
18. I have a balance of inputs and outputs with my manager.		
19. My relationship with my manager is composed of comparable exchanges of giving and taking.		
20. When I give effort at work, my manager will return it.		
21. I usually know where I stand with my manager.		
22. My supervisor is a lot of fun to work with.		
23. My supervisor would defend me to others in the organization if I made an honest mistake.		
24. My working relationship with my manager is effective.		
25. I do work for my supervisor that goes beyond what is specified in my job description.		
26. Voluntary actions on my part will be returned in some way by my manager.		
27. I am impressed with my supervisor's knowledge of his/her job.		
28. When my supervisor gives me support, I feel I owe it to him or her to return the favor.		
29. My efforts are reciprocated by my manager.		
30. I admire my supervisor's professional skills.		

Appendix C

Dear Student/Alumni,

You are invited to participate in a research study aimed at investigating the relationships between employees and supervisors. This study is being conducted by Jeremy Bernerth under the supervision of Dr. Achilles Armenakis. We hope to learn how employees and supervisors' personalities interact to influence their working relationship. You were selected as a possible participant because you are a currently enrolled Executive Masters of Business (EMBA) student (or because you are an alumni of Auburn University).

If you decide to participate, we will be sending you a packet that contains two envelopes. One is labeled "Employee," which contains a survey you will be asked to fill out; the other is labeled "Direct Supervisor," which you will be asked to give to your direct supervisor. This envelope contains a survey your direct supervisor will be asked to fill out. Each survey will take approximately 15 - 20 minutes to complete.

It is very important to note that the survey is completely ANONYMOUS. There will be absolutely no way to identify you or your supervisor. Your supervisor will not be able to see your responses, and you will not be able to see his or hers. To ensure the confidentiality of your responses, a self-addressed stamped envelope will be provided for you and your supervisor to mail the completed survey back to us. This will ensure you are unable to see your supervisors' responses, and he/she is unable to see your responses. A code number will be used to pair responses with the employer.

Any information obtained in connection with this study will remain anonymous. Information collected through your participation will be used to fulfill the dissertation requirements of Auburn University. Results may be published in a professional journal, and/or presented at a professional meeting. Participants must also be informed that they may withdraw from participation at any time, without penalty, however, after they have provided anonymous information they will be unable to withdraw their data after mailing the survey back to Mr. Bernerth since there will be no way to identify individual information.

Your decision whether or not to participate will not jeopardize your future relations with Auburn University, the College of Business, or the Department of Management.

If you have any questions we invite you to ask them now. If you have questions later Jeremy Bernerth (334-844-6539, bernejb@auburn.edu) will be happy to answer them.

For more information regarding your rights as a research participant you may contact the Office of Human Subjects Research by phone or e-mail. The people to contact there are Executive Director E.N. "Chip" Burson (334) 844-5966 (bursoen@auburn.edu) or IRB Chair Dr. Peter Grandjean at (334) 844-1462 (grandpw@auburn.edu) .

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE WHETHER OR NOT YOU WISH TO PARTICIPATE IN THIS RESEARCH STUDY. IF YOU DECIDE TO PARTICIPATE, THE DATA YOU PROVIDE WILL SERVE AS YOUR AGREEMENT TO DO SO.

_____

Investigator's signature Date