

UNIVERSITY OF SOUTHERN QUEENSLAND

**AN EXPLORATORY STUDY OF LEADER-MEMBER
EXCHANGE IN CHINA, AND THE ROLE OF *GUANXI* IN THE
LMX PROCESS**

A Dissertation submitted by
Gwenda Latham, MBA

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KEY WORDS

Leader-member exchange (LMX)

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ABSTRACT

This thesis investigated how *guanxi* was related to exchange relationships between supervisors and subordinates in China. Since *guanxi* is a relationship-based phenomenon and extends into all levels and domains of Chinese society, it was argued that it would be associated with the relationships that were established between supervisors and subordinates.

This thesis used a model of both supervisors' and subordinates' perspectives of leader member exchange (LMX) and the impact of *guanxi* on those relationships. The thesis replicated some established relationships, and then added to the literature by providing an elaboration of how *guanxi* is related to LMX through its different dimensions. A multi-dimensional approach to LMX and a differential behaviours approach to *guanxi* were used to test hypotheses.

In order to establish *guanxi*'s influence on leadership relations in China, this thesis used LMX as the dependent variable, which was measured using the multi-dimensional LMX-MDM scale. The thesis first tested the variables of perceived similarity, perceived liking and perceived subordinate performance as antecedents of LMX, since previous research in western countries had found them to be predictors of LMX (Engle & Lord 1997; Kacmar et al. 2009; Liden et al. 1993). *Guanxi* was introduced as a moderating variable, since it was hypothesized that it would influence the relationships between the three predictor variables and LMX-MDM.

Data were collected from five manufacturing organizations in the Jiangmen region of southern China. Both supervisors and subordinates responded to the questionnaire. The sample comprised 284 supervisor-subordinate dyads.

Correlation and hierarchical regression analyses of the data were conducted in order to test hypotheses concerning the moderating role of *guanxi* in the relationships between supervisors and subordinates.

The results showed that all predictor variables had positive relationships with LMX-MDM, but that these results differed according to the different dimensions of LMX-MDM that were used as dependent variables. *Guanxi* as a moderator had the greatest impact on the loyalty and contribution dimensions of LMX-MDM.

The results differed between supervisors' and subordinates' perspectives. While *guanxi* had a direct positive effect on all dimensions of LMX-MDM from the supervisor's perspective, it had a direct effect on only two dimensions from the subordinates' perspective.

The implications are that the more social features of relationships are crucial aspects of overall relationships at work, and that theory development of LMX needs to distinguish between these and other aspects of exchange relationships by adopting a multi-dimensional approach. The study also indicates that *guanxi* between

supervisors and subordinates has an impact on exchange relationship, and that further work on which particular LMX dimensions are affected by *guanxi* needs to be undertaken.

The thesis was the first study that combined multi-dimensional LMX theory with the impact of *guanxi* on LMX in China. The thesis showed how LMX manifests itself in China and how the indigenous practice of *guanxi* influences the supervisor-subordinate exchange relationship. It showed that *guanxi* was a positive force in relationships between supervisors and subordinates, but that the positive impact was reflected through different dimensions of LMX, and to varying degrees between dimensions of LMX. It therefore revealed the importance of using a multi-dimensional, rather than uni-dimensional, measure of LMX. It demonstrated that supervisors and subordinates had different views of LMX, and different attitudes towards the impact of *guanxi* in their dyadic relationships. It therefore highlighted the importance of taking both supervisor and subordinate perspectives when leadership relations are the focus of research. This implies that theory development requires a dual perspective approach towards LMX and a multi-dimensional operationalization of LMX. It also implies that in practice, higher quality exchange relationships can be developed within organizations, and that this development can be directed through one or more dimensions of LMX, and can be directed at either or both supervisors and subordinates. It indicates that companies may take positive steps to enhance *guanxi*, and thus gain benefits through *guanxi*-augmented exchange relationships. Further implications are that the organizational benefits of *guanxi* are not only available to domestic Chinese companies, they can be developed by foreign companies wishing to set up operations in China.

CERTIFICATION OF DISSERTATION

I certify that the ideas, experimental work, results, analyses, software and conclusions reported in this dissertation are entirely my own effort, except where otherwise acknowledged. I also certify that the work is original and has not been previously submitted for any other award, except where otherwise acknowledged.

Signature of Candidate

Date

ENDORSEMENT

Signature of Supervisor/s

Date

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TABLE OF CONTENTS

KEY WORDS	ii
ABSTRACT	iii
CERTIFICATION OF DISSERTATION	v
ACKNOWLEDGEMENTS.....	vi
TABLE OF CONTENTS.....	vii
LIST OF FIGURES	xii
LIST OF TABLES	xiii
CHAPTER 1 INTRODUCTION	1
1.1 Background to the research.....	1
1.2 Research problem	4
1.2.1 Major bodies of theory	4
1.2.2 Research sub-questions	6
1.3 Justification for the research	6
1.3.1 Theoretical contribution	8
1.3.2 Practical contribution	9
1.4 Methodology	9
1.5 Outline of the thesis	10
1.6 Definitions.....	11
1.7 Delimitations of scope and key assumptions	12
1.8 Publication from thesis.....	12
1.9 Conclusion	13

CHAPTER 2 LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT	14
2.1 Introduction	14
2.2 Traditional leadership theories	14
2.3 Social exchange theory as foundation of LMX	15
2.4 Role theory as foundation of LMX.....	16
2.5 Development of LMX theory	16
2.5.1 VDL theory – the forerunner to LMX.....	16
2.5.2 LMX as a relationship quality continuum	17
2.5.3 Development of process oriented models of LMX	17
2.6 LMX and organizational outcomes	19
2.7 Measurement of LMX	19
2.8 Dimensions of LMX.....	20
2.8.1 Theoretical justification for a multi-dimensional approach towards LMX	20
2.8.2 Empirical justification for a multi-dimensional approach towards LMX	22
2.9 Theoretical background and development of LMX-MDM	22
2.10 LMX-MDM as an overall measure of LMX.....	24
2.11 LMX-MDM as a multi-dimensional measure of LMX	25
2.12 Perspectives of LMX.....	29
2.13 LMX in China	29
2.14 Antecedents of LMX.....	31
2.14.1 Perceived similarity as antecedent of LMX	31
2.14.2 Perceived liking as antecedent of LMX	36
2.14.3 Perceived subordinate performance as antecedent of LMX.....	39
2.15 Guanxi.....	42
2.15.1 Origins of <i>guanxi</i>	43
2.15.2 Confucianism and <i>guanxi</i>	43
2.15.3 The complexity of <i>guanxi</i>	44

2.15.4	Classification of <i>guanxi</i>	45
2.15.5	<i>Guanxi</i> and organizational outcomes	46
2.15.6	Particularistic <i>guanxi</i> versus differential behaviours <i>guanxi</i>	47
2.15.7	Measurement of <i>guanxi</i>	49
2.15.8	<i>Guanxi</i> and LMX.....	50
2.16	Conclusion	55
CHAPTER 3	METHODOLOGY	56
3.1	Introduction	56
3.2	Justification for the methodology.....	56
3.3	Justification for the individual level of analysis.....	58
3.3.1	Theoretical justification for the individual level of analysis	58
3.3.2	Empirical justification for the individual level of analysis	59
3.4	Research procedures	60
3.4.1	Sample	60
3.4.2	Data collection method.....	62
3.4.3	Materials	62
3.4.3.1	Subordinates' questionnaire	62
3.4.3.2	Supervisors' questionnaire	67
3.4.4	Ethical clearance.....	69
3.4.5	Development of questionnaires	69
3.4.6	Sampling strategy and procedure	69
3.4.7	Ethical considerations.....	70
3.4.8	Data analysis techniques used	71
3.5	Conclusion	72
CHAPTER 4	RESULTS	73
4.1	Introduction	73
4.2	Significance of tests.....	73
4.3	Data screening.....	73
4.3.1	Missing data	74
4.3.2	Outliers – univariate	74

4.3.3	Outliers – bivariate	74
4.3.4	Outliers – multivariate	74
4.3.5	Multicollinearity	75
4.3.6	Normality, linearity and homoscedasticity	75
4.4	Descriptive statistics	76
4.5	Correlations.....	77
4.6	Hypothesis testing	85
4.6.1	Perceived similarity, perceived liking, perceived subordinate performance, <i>guanxi</i> and overall LMX-MDM.....	85
4.6.2	Perceived similarity, perceived liking, perceived subordinate performance, <i>guanxi</i> and the LMX-MDM dimension of affect	90
4.6.3	Perceived similarity, perceived liking, perceived subordinate performance, <i>guanxi</i> and the LMX-MDM dimension of loyalty	95
4.6.4	Perceived similarity, perceived liking, perceived subordinate performance, <i>guanxi</i> and the LMX-MDM dimension of contribution	100
4.6.5	Perceived similarity, perceived liking, perceived subordinate performance, <i>guanxi</i> and the LMX-MDM dimension of professional respect	105
4.7	Conclusion	110
	CHAPTER 5 DISCUSSION.....	111
5.1	Introduction	111
5.2	The research question re-visited.....	113
5.3	Perceived similarity, perceived liking, perceived subordinate performance, <i>guanxi</i> and overall LMX (Hypotheses H1a, H2a, H3a, H4a, H5a, H6a).....	114
5.4	Perceived similarity, perceived liking, perceived subordinate performance, <i>guanxi</i> and the LMX-MDM dimension of affect (Hypotheses H1b, H2b, H3b, H4b, H5b, H6b)	117
5.5	Perceived similarity, perceived liking, perceived subordinate performance, <i>guanxi</i> and the LMX-MDM dimension of loyalty (Hypotheses H1c, H2c, H3c, H4c, H5c, H6c).....	120
5.6	Perceived similarity, perceived liking, perceived subordinate performance, <i>guanxi</i> and the LMX-MDM dimension of contribution (Hypotheses H1d, H2d, H3d, H4d, H5d, H6d)	122

5.7	Perceived similarity, perceived liking, perceived subordinate performance, <i>guanxi</i> and the LMX-MDM dimension of professional respect (Hypotheses H1e, H2e, H3e, H4e, H5e, H6e).....	125
5.8	Overall conclusions.....	127
5.9	Implications for theory	127
5.10	Implications for practice	128
5.11	Limitations	129
5.12	Further research	130
5.13	Conclusion	131
	REFERENCES.....	132
	APPENDIX A – SUBORDINATES’ QUESTIONNAIRE	162
	APPENDIX B - ADJUSTED PERCEIVED SIMILARITY SCALE (SUBORDINATE)	168
	APPENDIX C - ADJUSTED LMX-MDM SCALE (SUBORDINATE)	169
	APPENDIX D – SUPERVISORS’ QUESTIONNAIRE	170
	APPENDIX E - ADJUSTED PERCEIVED SIMILARITY SCALE (SUPERVISOR).....	176
	APPENDIX F - ADJUSTED LMX-MDM SCALE (SUPERVISOR)	177
	APPENDIX G - CONSENT TO PARTICIPATE IN SURVEY	178

LIST OF FIGURES

Figure 3. 1 Model of predictors and moderator of LMX	58
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LIST OF TABLES

Table 3.1	Number of supervisors and subordinates from five manufacturing enterprises.....	61
Table 4.1	Descriptive statistics of measured variables from subordinates' perspective.....	76
Table 4.2	Descriptive statistics of measured variables from supervisors' perspective.....	77
Table 4.3	Means, standard deviations and correlations for study variables (subordinates' perspective)	78
Table 4.4	Means, standard deviations and correlations for study variables (supervisors' perspective)	81
Table 4.5	Correlations between supervisors' and subordinates' ratings of the same variables	84
Table 4.6	Hypotheses tested, with summary of support (S)/non-support (NS) for hypotheses from subordinates' perspective (Sub) and from supervisors' perspective (Sub), when overall LMX-MDM was the dependent variable.....	86
Table 4.7	Hierarchical regression analysis of LMX-MDMS-overall on perceived similarity, perceived liking, perceived subordinate performance and the moderator of <i>guanxi</i> (subordinates' perspective)	87
Table 4.8	Hierarchical regression analysis of LMX-MDML-overall on perceived similarity, perceived liking, perceived subordinate performance and the moderator of <i>guanxi</i> (supervisors' perspective)	89
Table 4.9	Hypotheses tested, with summary of support (S)/non-support (NS) for hypotheses from subordinates' perspective (Sub) and from supervisors' perspective (Sub), when LMX-MDM-affect was the dependent variable.....	91
Table 4.10	Hierarchical regression analysis of LMX-MDMS-affect on perceived similarity, perceived liking, perceived subordinate performance and the moderator of <i>guanxi</i> (subordinates' perspective)	92
Table 4.11	Hierarchical regression analysis of LMX-MDML-affect on perceived similarity, perceived liking, perceived subordinate performance and the moderator of <i>guanxi</i> (supervisors' perspective)	94

Table 4.12	Hypotheses tested, with summary of support (S)/non-support (NS) for hypotheses from subordinates' perspective (Sub) and from supervisors' perspective (Sub), when LMX-MDM-loyalty was the dependent variable.....	96
Table 4.13	Hierarchical regression analysis of LMX-MDMS-loyalty on perceived similarity, perceived liking, perceived subordinate performance and the moderator of <i>guanxi</i> (subordinates' perspective)	97
Table 4.14	Hierarchical regression analysis of LMX-MDML-loyalty on perceived similarity, perceived liking, perceived subordinate performance and the moderator of <i>guanxi</i> (supervisors' perspective)	99
Table 4.15	Hypotheses tested, with summary of support (S)/non-support (NS) for hypotheses from subordinates' perspective (Sub) and from supervisors' perspective (Sub), when LMX-MDM-contribution was the dependent variable	101
Table 4.16	Hierarchical regression analysis of LMX-MDMS-contribution on perceived similarity, perceived liking, perceived subordinate performance and the moderator of <i>guanxi</i> (subordinates' perspective)	102
Table 4.17	Hierarchical regression analysis of LMX-MDML-contribution on perceived similarity, perceived liking, perceived subordinate performance and the moderator of <i>guanxi</i> (supervisors' perspective)	104
Table 4.18	Hypotheses tested, with summary of support (S)/non-support (NS) for hypotheses from subordinates' perspective (Sub) and from supervisors' perspective (Sub), when LMX-MDM-professional respect was the dependent variable	106
Table 4.19	Hierarchical regression analysis of LMX-MDMS-professional respect on perceived similarity, perceived liking, perceived subordinate performance and the moderator of <i>guanxi</i> (subordinates' perspective)	107
Table 4.20	Hierarchical regression analysis of LMX-MDML-professional respect on perceived similarity, perceived liking, perceived subordinate performance and the moderator of <i>guanxi</i> (supervisors' perspective)	109
Table 5.1	Section names and associated hypotheses.....	112

CHAPTER 1

INTRODUCTION

1.1 Background to the research

China is a country which has been through tremendous societal changes, and which is rapidly industrializing (OECD 2010). The changes might lead observers to think that China is becoming more westernized and is casting off its traditional norms and practices. However, there is a paradox in Chinese society: capitalism is being embraced, while at the same time, Confucian-based cultural values and established behavioural norms remain very strong (Guo & Miller 2010; Hofstede & Bond 1988; Ralston et al. 1995; Ralston et al. 2008).

The philosophy of Confucianism is that man is a relational being, and that a person cannot be considered in isolation from his relationships (Bond & Hwang 1986; Redding 1990). People adopt multiple standards of behaviour for interactions with different people at different hierarchical levels of society. The honouring of role requirements ensures that social stability is maintained (Bond & Hwang 1986; Warner & Zhu 2002). The phenomenon of *guanxi* has a strong connection to Confucianism since *guanxi* involves the establishment and maintenance of relationships. The relationships of *guanxi* involve mutual interest and benefit, reciprocal obligation and indebtedness (Hwang 1987; King 1991; So & Walker 2006). Relationships are regarded as extremely important across all strata of Chinese society, and *guanxi* ensures that relationships are kept in harmony.

Since *guanxi* involves relationships, it would be expected to have an impact on the type of relationships that are established at work between people in different hierarchical levels. The leadership theory that considers the supervisor-subordinate relationship is LMX theory. There is thus a hypothesized connection between *guanxi* and LMX since both are concerned with relationships.

Effective leadership has been recognized as important for growth and development at all levels of society - national, regional, local and organizational (Barrick et al. 1991; Bass 1997; Carmeli, Gelbard & Gefen 2010; Carmeli, Schaubroeck & Tishler 2011; Den Hartog et al. 1999; Ensley, Hmieleski & Pearce 2006; Jones & Olken 2005; Lowe, Kroeck & Sivasubramaniam 1996). Leadership researchers have created a wealth of theories to explain this phenomenon, including leadership traits (Korman 1968; Stogdill 1948), leadership styles (Bass 1990), contingency leadership (Fiedler 1967, 1972a, 1972b; House 1971), leadership behaviours (Fleishman 1953a, 1953b; Halpin 1954), motives for leadership (Miner 1978), leadership ethics (Burns 1978), team leadership (Hackman, Brousseau & Weiss 1976) and substitutes for leadership (Kerr & Jermier 1978), among others.

The focus in all of the above mentioned theories is on the leader. Subordinates' abilities or characteristics may influence the leader's style or behaviour, but it is the leader's style, actions, motivation, ethics or reactions to situations that determine whether leadership is effective or otherwise. In traditional leadership theories, subordinates exist under a leadership situation, rather than taking an active role in the type of leadership that evolves in an organization. However, since there can be no leaders without followers, it is apparent that, rather than being passive players in the leadership situation, followers may themselves be active contributors to leadership effectiveness.

The leadership theory that reflects the contribution of both leaders and followers to leadership effectiveness is that of LMX, which has at its core the dyadic relationship between leader and follower. LMX theory holds that leaders establish different relationships with different followers (Dienesch & Liden 1986; Graen & Uhl-Bien 1995).

The origins of LMX lie in the Vertical Dyad Linkage (VDL) model of leadership (Dansereau, Graen & Haga 1975; Graen & Cashman 1975) in which some subordinates are given a high degree of negotiating latitude while other subordinates are given a low degree of negotiating latitude by their supervisors. This differential treatment by supervisors towards subordinates results in in-groups and out-groups. Those subordinates who become members of the in-group are given more leadership attention, receive more interesting job assignments and are evaluated more favourably by the supervisor, and hence experience more job satisfaction and have better interpersonal relations with supervisors (Cashman et al. 1976; Dansereau, Graen & Haga 1975). Those subordinates who become members of the out-group are given less responsibility and less interesting work tasks, receive less favourable performance evaluations, and their relations with the supervisor are based on formal exchanges only (Liden & Graen 1980).

The VDL theory evolved into LMX theory in which there is a process of development of supervisor-subordinate relationships (Dienesch & Liden 1986; Graen & Scandura 1987). This development involves supervisors testing subordinates with certain tasks or assignments. When a subordinate accepts and completes such tasks successfully, the relationship becomes a high-quality exchange relationship characterized by trust, loyalty and positive work contributions. A low-quality relationship between the supervisor and subordinate is characterized by adherence to the employment contract only.

The VDL theory explained supervisor-subordinate relationships in terms of an in-group/out-group dichotomous classification (Graen & Cashman 1975). The LMX theory explains those relationships in terms of a relationship quality continuum, with relationships varying from high to low quality according to the outcomes of various interactions between supervisors and subordinates.

Dienesch and Liden (1986) proposed a multi-dimensional model of LMX, whereby three 'exchange currencies' of 'affect', 'loyalty' and 'contribution' form the exchange relationship between supervisor and subordinate. The exchange

relationship can be built on one, two or all three dimensions, resulting in a high-quality or low-quality relationship. Building on Dienesch and Liden's (1986) work, Liden and Maslyn (1998) identified a fourth dimension, that of 'professional respect', and developed and validated a multi-dimensional LMX scale which was named LMX-MDM.

Of the various predictors of LMX that have been investigated, perceived similarity, perceived liking and perceived subordinate performance have received support. Perceived similarity is a strong predictor of LMX (Bauer & Green 1996; Bernerth et al. 2008; Engle & Lord 1997; Liden, Wayne & Stilwell 1993; Schaubroeck & Lam 2002; Suazo, Turnley & Mai-Dalton 2008) whereas demographic similarity is relatively unimportant in LMX development (Graen & Cashman 1975; Green, Anderson & Shivers 1996; Kacmar et al. 2009; Liden, Wayne & Stilwell 1993; Murphy & Ensher 1999). Perceived liking is a predictor of LMX (Day & Crain 1992; Dockery & Steiner 1990; Kacmar et al 2009; Liden, Wayne & Stilwell 1993; Wayne & Ferris 1990), as is perceived subordinate performance (Bauer & Green 1996; Deluga & Perry 1994; Kim & Organ 1982; Liden, Wayne & Stilwell 1993; Nahrgang, Morgeson & Ilies 2009).

Most of the studies of LMX and its predictors have used the uni-dimensional measure of LMX7 (Graen & Scandura 1987), rather than the multi-dimensional measure of LMX-MDM (Liden & Maslyn 1998). So although the relationships between predictors and overall LMX have been established, when a uni-dimensional LMX measure is used, it is not known through which currencies of exchange those relationships have been developed. A multi-dimensional measure of LMX not only demonstrates the various types of high-quality exchange relationships that may occur, but is also consistent with Role Theory (Graen 1976; Katz & Kahn 1978) and Social Exchange Theory (Blau 1964; Gouldner 1960; Sparrowe & Liden 1997) upon which LMX theory is based.

The LMX-MDM scale not only includes different currencies of exchange, it is the only scale that has an affect component. The previously established relationships between predictors and uni-dimensional LMX may in fact neglect the importance of affect. In the case of the predictors of perceived similarity and perceived liking, there is an established similarity-attraction relationship: an expression by one person of similar opinions to another person results in increasingly positive interactions between the two, and an increase in mutual attraction (Byrne 1971; Byrne & Griffett 1973). In addition, the 'halo' effect demonstrates that the affective influence of global evaluation on evaluations of specific attributes is strong (Nisbett & Wilson 1977). So it is likely that perceived similarity and perceived liking are predictors of LMX through the affect dimension.

It is also likely that perceived subordinate performance predicts LMX through the dimensions of contribution and professional respect. Perceived subordinate performance refers to the work effort of subordinates, their output, and their degree of competence on the job. It is reasonable to think that these aspects would be reflected in the perception of a dyad partner's contribution to the exchange relationship as well as the degree of professional respect accorded to a dyad partner.

Questions regarding the operation of LMX are relevant in China, which is a relationship based society. China has its own particular cultural characteristics that make any study of relationships contingent upon an understanding of those characteristics and, in particular, the impact of *guanxi*.

There is a connection between *guanxi* and LMX, since both involve relationships - LMX with relationships at work, *guanxi* with both work and non-work relationships (Law et al. 2000, Wong, CS et al. 2003). Thus, it is likely that *guanxi* plays a role in the exchange relationships between supervisors and subordinates because Confucianism dictates that people conduct themselves according to their place in the social order, and observe certain rituals in their interpersonal relationships. It is therefore likely that the role of *guanxi* in the LMX process may be that of moderator.

Although there have been studies in China that have validated both the uni-dimensional LMX7 scale and the multi-dimensional LMX-MDM scale (Schaubroeck & Lam 2002; Wang et al. 2005), it is not known how *guanxi* exerts its influence on LMX, or whether *guanxi* has a direct or an indirect influence on LMX. In addition, it is not known through which dimensions of LMX *guanxi*'s impacts are manifested. It may be that the influence of *guanxi* on LMX is an indirect one through the predictor variables of perceived similarity, perceived liking and perceived subordinate performance. However, the writer has not found any studies that have examined the role of these antecedents of LMX-MDM in China. There is thus a need for an examination and testing of all such relationships.

1.2 Research problem

The problem addressed in this research is:

To what extent is guanxi related to aspects of the supervisor-subordinate relationship in private manufacturing enterprises in China?

In this thesis, I argue that *guanxi* is a ubiquitous phenomenon in China that extends into the work context and positively influences the LMX relationship. I further argue that this association is more pronounced for supervisors than for subordinates because the prevailing Confucian influenced culture obliges those in higher hierarchical positions to be generous and kind towards those in inferior positions.

1.2.1 Major bodies of theory

The major bodies of theory which will be covered in chapter 2 are briefly presented here.

Throughout this thesis, the abbreviation of LMX refers to the theory of leader member exchange. Different scales of LMX have been developed, and the two that

An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

are specifically discussed in this thesis are the uni-dimensional LMX7 scale and the multi-dimensional LMX-MDM scale. When the specific scales are discussed, the two mentioned abbreviations are used. When the theory of leader member exchange is discussed, it is referred to as LMX.

The theory of LMX is the major theoretical basis for this thesis. LMX theory holds that a supervisor establishes different relationships with different subordinates (Dansereau, Graen & Haga 1975; Dienesch & Liden 1986; Graen & Scandura 1987). Some relationships become high-quality, whereby trust, loyalty and extra consideration characterize the relationship. Other relationships are low-quality and are characterized by adherence to the employment contract only (Dansereau, Graen & Haga 1975; Liden & Graen 1980; Liden & Maslyn 1998).

LMX theory has its foundations in social exchange theory and role theory. Social exchange theory considers that supervisors and subordinates develop interpersonal relationships, and that favourable treatment of a subordinate by a supervisor will result in the subordinates developing a feeling of obligation towards the supervisor (Bateman & Organ 1983; Gouldner 1960). A ‘norm of reciprocity’ prevails, which serves to maintain social stability, since there is an implicit understanding by all parties of the rights and duties involved in reciprocal obligations (Gouldner 1960; Liden, Sparrowe & Wayne 1997).

Role theory takes the position that a person acts in relation to and in response to expectations of others (Kahn et al. 1964; Katz & Kahn 1978). Expectations are communicated in many ways, both directly and indirectly, and are influential in a person’s behaviour and motivation (Katz & Kahn 1978).

Both social exchange theory and role theory provide support for regarding LMX as a multi-dimensional concept. Dienesch and Liden (1986) developed a multi-dimensional model of LMX in order to reflect the various ways in which exchange relationships could be developed. The ‘currencies of exchange’ that they developed were those of affect, loyalty and contribution. Liden and Maslyn (1998) added another dimension - professional respect - in their operationalization of LMX, and created the multi-dimensional LMX-MDM scale. It is the LMX-MDM scale that is used in this thesis because it highlights the different ways that exchange relationships develop, and it acknowledges that all high-quality exchanges are not necessarily the same – they can be based on one or more distinct currencies of exchange.

Role theory and social exchange theory also provide a window into the operation of *guanxi* in Chinese society, since *guanxi* involves adherence to normative expectations and to the norm of reciprocity. *Guanxi*, however, is distinct from LMX: LMX is concerned with vertical dyadic relationships at work, whereas *guanxi* is concerned with all dyadic relationships, both work and non-work. This distinction has been confirmed in a study by CS Wong et al. (2003) that used an LMX scale in order to demonstrate the discriminant validity of *guanxi*.

1.2.2 Research sub-questions

1. To what extent is supervisor-subordinate perceived similarity related to the quality of the supervisor-subordinate relationship in private manufacturing enterprises in China?
2. To what extent is supervisor-subordinate perceived liking related to the quality of the supervisor-subordinate relationship in private manufacturing enterprises in China?
3. To what extent is perceived subordinate work performance related to the quality of the supervisor-subordinate relationship in private manufacturing enterprises in China?
4. To what extent does *guanxi* moderate the relationship between supervisor-subordinate perceived similarity and the quality of the supervisor-subordinate relationship in private manufacturing enterprises in China?
5. To what extent does *guanxi* moderate the relationship between supervisor-subordinate perceived liking and the quality of the supervisor-subordinate relationship in private manufacturing enterprises in China?
6. To what extent does *guanxi* moderate the relationship between perceived subordinate work performance and the quality of the supervisor-subordinate relationship in private manufacturing enterprises in China?

For the above questions, I conclude in this thesis that perceived similarity, perceived liking and perceived subordinate performance contribute to high-quality relationships between subordinates and supervisors in China. I also conclude that the contribution of each is manifested in different aspects of the supervisor-subordinate relationship. A further conclusion is that subordinates and supervisors differ in their perceptions of the relative contributions of perceived similarity, perceived liking and perceived subordinate performance in high-quality relationships. Furthermore, I conclude that *guanxi* influences the supervisor-subordinate exchange relationship in China in different ways. I argue that although *guanxi* is a concept based on mutual obligation, supervisors are more likely than subordinates to act upon these obligations because the Confucian-based culture places responsibility for the welfare of those in inferior positions upon those in superior positions.

1.3 Justification for the research

In 1978 the government of the People's Republic of China implemented the so-called Open Door Policy for foreign trade and investment in order to open China up to the international market (Boisot & Child 1996; Fairbank & Reischauer 1989;

An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

Martinsons 1999; Zhang 2004). Since 1980, five Special Economic Zones and a number of Open Coastal Areas have been created. The purpose of these zones and areas is to develop a foreign oriented economy, to develop export industries, to accelerate the infusion of new technology into Chinese industries, and to lead the country in economic development (Yeung, Lee & Kee 2009). In order to achieve these goals, preferential policies for conducting business and investment in the zones and areas have been implemented (The Information Office of Jiangmen Municipal People's Government 2005). As a result, very high rates of growth in the Special Economic Zones and Open Coastal Areas have been achieved, and have contributed greatly to China's development. In the three decades from 1979 to 2009, China's real increase in gross domestic product ranged from 3.8% to 15.2% per annum <<http://www.chinability.com/GDP.htm>>. Its average annual GDP rate of growth between 1989 and 2011 was 9.3% <<http://www.tradingeconomics.com/china/gdp-growth-annual>>. The privatization drive and the ongoing reforms since 1978 of state-owned enterprises have generated much interest, resulting in significant research being conducted into the operations and leadership of state-owned enterprises and foreign joint ventures (Han, Kakabadse & Kakabadse 2010; Li et al. 1999; Liu, Burridge & Sinclair 2002; Selvarajah & Meyer 2008; Smith, Wang & Leung 1997; Wang & Takao 1994; Zhang 2001).

However, there has been little research into leadership within domestic private enterprises in China. Yet it is the domestic private sector that is growing at the most rapid rate. The *siying qiye* forms of private enterprises in China are those enterprises that are 'owned by individuals, employ more than eight people; can take forms of sole proprietorship, partnerships, limited liability companies, shareholding cooperatives' (Asian Development Bank 2003, p. 6). Data from the State Administration of Industry and Commerce show that China's private enterprises increased from 4.3 million in 2006 to more than 8.4 million at the end of 2010, with an average annual growth rate of 14.3 percent during the period (Xiao 2011). In 2000, 24 million people were employed by the *siying qiye* (International Finance Corporation 2000). By the end of 2010, that figure had risen to 180 million people employed (Xiao 2011). The private sector is now responsible for 60 percent of Chinese GDP (EAF team, ANU 2010) and is now the engine of growth for the whole of China.

With this pace of development occurring in China, it is tempting to conclude that China is shedding its time-honoured cultural values and leadership practices. However, the reality is that traditional cultural values and practices prevail; the traditional Confucian value of interpersonal competence is still regarded as the most important attribute of a leader (Ling, Chia and Fang 2000). Strongly associated with social and business relations in China is the concept of *guanxi*, a system of interpersonal relationships involving mutual indebtedness and favour exchange (Alston 1989; Bond & Hwang 1986; Farh et al. 1998). The practice of *guanxi* does not have a direct western equivalent, but interpersonal relationships, nevertheless, are of significance to social science researchers. In particular, the western-developed leadership theory of LMX rests on the assumption that leaders develop individual relationships with each member of their organizations (Dansereau, Graen & Haga 1975; Graen & Cashman 1975; Liden & Graen 1980). Since the Chinese practice of

guanxi is based on interpersonal relationships, and since LMX is a theory of relationships, there arises an opportunity to explore how these two concepts are related.

Research has yielded significant information about both LMX theory (Day & Crain 1992; Dienesch & Liden 1986; Graen & Uhl-Bien 1995; Liden & Maslyn 1998; Liden, Sparrowe & Wayne 1997; Schriesheim, Castro & Cogliser 1999; Wang, Law & Chen 2008), and the operation of *guanxi* in China (Chen & Chen 2004; Fu, Tsui & Dess 2006; Hui, Law & Chen 1999; Hwang 1987; Jacobs 1979; Leung, Heung & Wong 2008; Tsui & Farh 1997). However, the writer has not found any study that combines multi-dimensional LMX theory and the impact of *guanxi* on the development of multi-dimensional LMX in a Chinese context. The contribution of this thesis will therefore be to establish if and how *guanxi* is related to LMX in China. An additional contribution of the thesis will be to establish whether the impact of *guanxi* is felt through individual dimensions or a combination of individual dimensions of LMX in China.

If this thesis can discover the extent to which *guanxi* is related to the relationship between supervisors and employees, there are both theoretical and practical outcomes. The understanding of how the LMX theory operates in China, a context different to that in which most of the current LMX research has been conducted, can be enhanced. Such an insight may be of great practical use, given the rise of China in global commerce and political influence (Ikenberry 2008; Kaplinsky 2006).

1.3.1 Theoretical contribution

This thesis will be the first study that explains the impact of *guanxi* on different dimensions of LMX in a mainland China context. It will provide an explanation of the role of *guanxi* in the relationships that develop between supervisors and subordinates in China. It will show how LMX theory operates in China, a context different to that in which most of the current LMX research has been conducted. It will provide a partial replication and an extension of earlier studies that have investigated LMX in various contexts (for example, the United States, Germany, Turkey, India, the United Kingdom).

It will provide an explanation of how different antecedents contribute to LMX in China through different LMX dimensions. Consequently it will provide justification for the use of a multi-dimensional, rather than uni-dimensional, measure of LMX.

The expected relationship between LMX and *guanxi* needs to be tested in China, since LMX is a western-developed theory and may display different characteristics in an Asian context. Further, the testing of LMX and the role that *guanxi* plays in LMX will allow researchers to more completely explain the suitability of applying LMX in China.

The thesis will highlight the differences between supervisors' and subordinates' perceptions of LMX. Consequently, it will provide justification for using the perspectives of both supervisors and subordinates in LMX research.

The thesis will provide details on the hypothesized interactions between three antecedents and *guanxi* on LMX. It will be the first study that shows how *guanxi* relations are manifested through different dimensions of LMX in China.

1.3.2 Practical contribution

If the extent of *guanxi* in Chinese private enterprises can be determined, companies can take steps to cultivate appropriate *guanxi* connections in order to create more effective organizational leadership and thus to achieve desirable organizational outcomes. And, companies wishing to set up operations in China may then be armed with an understanding of how effective leadership manifests itself and develops in Chinese organizations.

If researchers can determine the impact of *guanxi* on particular dimensions of LMX, measures taken to develop *guanxi* can be more specifically focused on those dimensions of more importance. This could be a more cost effective strategy than general measures taken to improve overall LMX.

1.4 Methodology

This thesis uses correlation and regression analyses in order to determine the relationships between predictor variables and an outcome variable within the context of LMX theory, and to assess the impact (if any) of *guanxi* on those relationships. The analyses are conducted from two perspectives, that of the supervisor and that of the subordinate.

The predictor variables are those of perceived similarity, perceived liking and perceived subordinate performance, all of which previous research has found to be associated with LMX (Bauer & Green 1996; Engle & Lord 1997; Kacmar et al. 2009; Lefkowitz 2000; Liden, Wayne & Stilwell 1993; Nahrgang, Morgeson & Ilies 2009). The outcome variable is LMX, considered as a multi-dimensional construct.

Since it is hypothesized that *guanxi* has an impact on the strength of the relationships between predictor and outcome variables, *guanxi* is treated as a moderating variable. Moderation is tested using the method described by Aiken and West (1991).

Pearson's *r* is used to determine the associations between independent and criterion variables. Regression analysis is used to determine how well the

independent variables predict the outcome variable of LMX, and to determine the moderating effect of *guanxi* in these relationships.

The type of regression analysis used is that of hierarchical regression, which is appropriate when the researcher wishes to determine the relative importance of a predictor variable, over and above the contributions of other predictors, to a criterion variable (Cohen et al. 2003). In this case, prior research has established the relationships between the three predictors of perceived similarity, perceived liking and perceived subordinate performance and the criterion variable of LMX. By adding the moderator of *guanxi* to the regression in a sequential manner, it can be determined how much it adds to the criterion variable. Chapter 4 provides further details of the justification for the methodology.

For all analyses, both subordinates' and supervisors' perspectives are utilized. Meta-analyses have revealed low correlations between supervisor and subordinate perceptions of LMX in those studies that have measured both perspectives (Gerstner & Day 1997; Sin, Nahrgang & Morgeson 2009), indicating that supervisors' and subordinates' views of LMX diverge significantly. This thesis follows recommendations by previous researchers (Gerstner & Day 1997; Greguras & Ford 2006; Scandura 1999; Scandura & Schriesheim 1994; Schriesheim, Neider & Scandura 1998) that a dual perspective approach be followed so that the researcher can determine if perceptions are common to both supervisors and subordinates.

The data for this thesis are based on a quantitative cross-sectional survey. The survey instrument was translated into Chinese, and then back-translated, following Brislin's (1986) procedure. The survey was administered face to face on the organizations' premises. A face to face method was chosen because it was considered that this would maximize the response rate. In addition, by using a face to face method whereby the respondents handed their completed questionnaires directly to research assistants, it was thought that respondents would be reassured that their responses would be confidential. Chapter 4 provides further details of the data collection.

The findings show the following: 1) perceived similarity, perceived liking and perceived subordinate performance all predict LMX, 2) the influence of the predictor variables differs across the separate dimensions of LMX-MDM, 3) *guanxi*'s moderating role varies between the different dimensions of LMX-MDM, and 4) results differ between subordinates and supervisors.

1.5 Outline of the thesis

Chapter 1 provides background information to the research. It presents the research problem, the justification for the research, and the methodology adopted for the investigation of the research problem. It also provides definitions of key terms, and presents an outline of the thesis. Chapter 2 presents the literature review. Chapter 3 provides details of the methodology employed, chapter 4 presents the

results of the data analysis, while chapter 5 presents a discussion of the findings, as well as implications for theory and practice.

1.6 Definitions

Since researchers often adopt different definitions of the same terms, the key terms are defined below in order to establish the positions taken in this thesis.

Perceived liking – a form of affect that refers to the perceived degree of interpersonal attraction in a relationship (Liden, Wayne & Stilwell 1993).

Perceived similarity – the extent to which a subordinate/supervisor perceives a supervisor/subordinate to be similar to himself or herself (Turban & Jones (1988).

Perceived subordinate performance – the subjective judgment of a subordinate's work output and contribution (Chen, Tsui & Farh 2002).

Guanxi- the quality of relationships between two parties formed mainly for instrumental purposes in fulfilling personal objectives of the parties involved (Wong, CS et al. 2003).

Leader member exchange (LMX) – the quality of the relationship that a supervisor and subordinate develop (Dienesch & Liden 1986).

This thesis adopts the multi-dimensional view of LMX which forms the basis of the LMX-MDM scale of Liden and Maslyn (1998). The four dimensions of the LMX-MDM scale are defined below.

Affect – ‘the mutual affection the members of the dyad have for each other based primarily on interpersonal attraction rather than work or professional values’ (Liden & Maslyn 1998, p. 50).

Loyalty – ‘the expression of public support for the goals and the personal character of the other member of the LMX dyad’ (Liden & Maslyn 1998, p. 50).

Contribution – ‘perception of the current level of work-oriented activity each member puts forth toward the mutual goals (explicit or implicit) of the dyad’ (Liden & Maslyn 1998, p. 50).

Professional respect – ‘perception of the degree to which each member of the dyad has built a reputation, within and/or outside the organization, of excelling at his or her line of work’ (Liden & Maslyn 1998, p. 50).

Further discussion of the above key terms is detailed in chapter 2.

1.7 Delimitations of scope and key assumptions

This thesis is limited to the multi-dimensional view of LMX, as represented by the LMX-MDM scale, rather than the uni-dimensional view that dominated research into LMX until the mid-1990s. The multi-dimensional view was employed since both role theory (Kahn et al. 1964; Katz & Kahn 1978) and social exchange theory (Blau 1964; Gouldner 1960), which provide the bases for LMX theory, offer support for regarding LMX as multi-dimensional.

LMX, as measured by the LMX-MDM scale, is the dependent variable, while the predictor variables are limited to perceived similarity, perceived liking and perceived subordinate performance. Research has provided support for these variables as predictors of LMX (Bauer & Green 1996; Lefkowitz 2000; Liden, Wayne & Stilwell 1993).

The moderating variable is *guanxi*. *Guanxi* is treated as a concept of differential behaviours among people. Research has provided support for *guanxi* as a variable that contributes to positive relationships between supervisors and subordinates (Chen, Tsui & Farh 2002; Hui et al. 1998; Wong, Wong & Wong 2010) and to successful organizational operations in China (Warren, Dunfee & Li 2004; Wong & Huang 2003; Xin & Pearce 1996).

The perspectives taken are those of both supervisors and subordinates. Correlations between supervisors' and subordinates' perceptions of LMX in those studies that have measured both perceptions have been low (Gerstner & Day 1997; Sin, Nahrgang & Morgeson 2009). Since these different perceptions of supervisors and subordinates could be affected by different factors, a dual perspective approach is taken (Gerstner & Day 1997). The leaders in this sample are at the supervisor level, while the subordinates are the immediate subordinates of the supervisors.

The sample was taken from private manufacturing organizations in the Pearl River Delta region of southern China. It was a convenience sample, so the findings are generalizable to the sample, but may not be generalizable to the whole of China. However, given that the sample comprised enterprises that had set up operations in the Special Economic Zone under the government's policy initiatives (Jiangmen Municipal People's Government 2005), it is reasonable to suggest that the findings might also extend to businesses operating in the other Special Economic Zones of China.

1.8 Publication from thesis

From the research process and data collection for this thesis, I co-authored and presented the following paper.

Latham, G & Gordon, R 2009, 'Beware of different *guanxi* measurements when doing research in China', paper presented at the 23rd Australia and New Zealand Academy of Management Conference, Melbourne, December.

1.9 Conclusion

This chapter laid the foundation for the thesis. It introduced the research problem and research questions. It then justified the research, presented definitions, briefly described and justified the methodology, provided an outline of the thesis and specified its limitations. Building on this groundwork, the report can proceed with a detailed description of the research.

CHAPTER 2

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Introduction

Chapter 1 has argued that the LMX theory of leadership can explain why the same supervisors may have different relationships with different subordinates. It has also argued that perceived similarity, perceived liking and perceived subordinate performance are important influences on exchange relationships. However, previous research has not made clear how perceived similarity, perceived liking and perceived subordinate performance manifest themselves through different components of the exchange relationship. Previous research has generally adopted just one side of the exchange relationship, usually that of the subordinate. However, since there are two sides to the exchange relationship, the perspectives of those two sides ought to be taken into account if a complete understanding of LMX is to be achieved. Chapter 1 has also argued that relationships in China are of critical importance, and that the indigenous concept of *guanxi* influences all interactions. There is thus a probable connection between LMX and *guanxi*. Further, there is a need for research to establish if *guanxi* influences the process of LMX and to examine how individual dimensions of LMX may be influenced by *guanxi*.

Chapter 2 reviews the literature concerning the early development of VDL theory and its evolution into LMX. The LMX theoretical foundations of social exchange theory and role theory are reviewed, followed by the development of the process oriented models of LMX. LMX measurement issues and associated problems are also discussed. The development of multi-dimensional empirical work is followed by an explanation of the importance of different perspectives of LMX. This is followed by a review of the LMX antecedents of perceived similarity, perceived liking and perceived subordinate performance. Hypotheses associated with the research are then presented.

Chapter 2 continues with a review of the origins of *guanxi* and its association with Confucianism. This is followed by a classification of *guanxi*, and the differing ways that *guanxi* has been measured. The proposed association between *guanxi* and LMX is then discussed. Hypotheses associated with the research problem are then presented.

2.2 Traditional leadership theories

Most organizational leadership theories until the 1970s assumed that one leadership style was adopted for use with all subordinates across institutions (Liden

An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

& Graen 1980). This assumption of an average leadership style (ALS) was found in trait theories (Korman 1968; Stogdill 1948) and behavioural theories (Fleishman 1953a, 1953b; Halpin 1954). The focus of these leadership theories was on the characteristics of the leader and how these characteristics determined whether the leader was effective or ineffective (Graen & Uhl-Bien 1995). These theories assumed that the subordinates of a superior were a homogeneous group of individuals, considered generically as the ‘work group’, and that the superior behaved in the same manner toward each of the work group members (Dansereau, Graen & Haga 1975).

Fiedler’s contingency theory (Fiedler 1967, 1972a, 1972b) took the position that a leader’s most effective style was determined by leader-member relations, task structure and leader position power. The path goal theory of leadership (House 1971; House & Mitchell 1974) described the way that leaders clarified the path for goal achievement by subordinates. Effective leadership was dependent on employee and environmental contingent factors, as well as leadership styles which may be supportive, directive, participative or achievement-oriented. Both Fiedler’s contingency theory (Fiedler 1967, 1972a, 1972b) and the path goal theory of leadership (House 1971; House & Mitchell 1974) shifted the focus from an exclusive concentration on the leader to a consideration of situational factors for effective leadership, but none of those situational factors encompassed individual differences or dyadic relationships.

However, LMX theory takes the view that the same leadership style is not necessarily used with all subordinates, but that the supervisor develops a different relationship with each subordinate (Dansereau, Graen & Haga 1975; Graen & Cashman 1975; Liden & Graen 1980; Graen, Novak & Sommerkamp 1982; Graen & Scandura, 1987; Liden & Maslyn 1998). It is this LMX differentiation (Liden et al. 2006) that makes LMX theory a radical departure from all previous leadership theories.

2.3 Social exchange theory as foundation of LMX

Social exchange theory (Blau 1964; Gouldner 1960) has provided a major theoretical foundation for LMX. Social exchange theory holds that supervisors develop interpersonal relationships with their subordinates, and that a subordinate who has received favourable treatment will develop a feeling of obligation towards the supervisor (Bateman & Organ 1983; Gouldner 1960). According to the norm of reciprocity (Gouldner 1960), a subordinate who receives support, either tangible or intangible, from their supervisor feels obliged to reciprocate by displaying behaviours or attitudes that the supervisor values, such as improved job performance and organizational citizenship behaviour.

There are three elements of the norm of reciprocity: equivalence (the degree to which what is given is approximately equivalent to what was received), immediacy (the time period between giving and receiving, when obligations still to be fulfilled

are generated), and interest (the motive of making an exchange) (Gouldner 1960). Through these elements, the social systems are maintained in balance since there is an implicit understanding of reciprocal obligations, with each party to a relationship having rights and duties which maintain that relationship (Liden, Sparrowe & Wayne 1997). The reciprocal exchange does not include explicit bargaining (Molm 2003); rather, the interactions are dependent on the actions of another person (Blau 1964). This interdependence reduces risk and encourages cooperation (Molm 1994), and consequently, there is potential for a high-quality relationship to develop (Cropanzano & Mitchell 2005).

2.4 Role theory as foundation of LMX

Role theory (Kahn et al. 1964; Katz & Kahn 1978) has provided further theoretical foundations for LMX. According to role theory, a person in an organization is faced with a set of role expectations from that group of colleagues who depend on the person's performance in some manner (Katz & Kahn 1978). The group of colleagues develops expectations about required behaviours, norms, attitudes or values as part of the person's role. These expectations are communicated in many ways, either directly or indirectly. Consequently, the expectations influence the person's behaviour and his or her motivation for role performance (Biddle 1986; Katz & Kahn 1978). In this process, the person plays an active part in that he or she may accept, reject or renegotiate roles. The person may receive multiple sets of expectations, and may or may not be able to act in accordance with those expectations (Tsui 1984).

2.5 Development of LMX theory

LMX theory has gone through various levels of development since the 1970s. It began as an in-group/out-group classification, and evolved into the process oriented models that form the basis of most current LMX research.

2.5.1 VDL theory – the forerunner to LMX

LMX theory grew from the Vertical Dyad Linkage (VDL) model of leadership (Cashman et al. 1976; Dansereau, Graen & Haga 1975; Graen 1976; Graen & Cashman 1975) in which supervisors differentiate among their subordinates. Early investigations of LMX found that different respondents reported different descriptions of the same supervisor (Graen 1976; Graen, Liden & Hoel 1982; Graen, Novak & Sommerkamp 1982; Graen & Schieman 1978). From such findings came the VDL theory, whereby some subordinates, because of their competence, trustworthiness or willingness to take on responsibility, are given preferential treatment, or 'negotiating latitude', by the supervisor. These subordinates become in-group members and make contributions that go beyond their specified job duties

(Cashman et al. 1976; Dansereau, Graen & Haga 1975). They display increased effort and personal loyalty towards supervisors (Schriesheim et al. 2001). In exchange, supervisors provide the in-group members with rewards such as support, organizational resources or greater attention. Those subordinates who are not given preferential treatment form the out-group, and are given less responsible and more mundane work tasks, while their relationships with the supervisor are based on more formal exchanges (Liden & Graen 1980). These subordinates do not make efforts beyond normal work expectations, and consequently do not receive benefits in exchange from their supervisors.

2.5.2 LMX as a relationship quality continuum

The VDL model of leadership evolved into LMX, which incorporated role theory. According to role theory (Kahn et al. 1964; Katz & Kahn 1978) organizational members carry out their work tasks in a manner that is dependent on their role expectations. Graen's (1976) theoretical work, based on Kahn et al.'s (1964) model, proposed that roles were determined only partially by formal job descriptions; many roles were more often determined through informal routes. During this role making process, interpersonal exchanges between individuals and a new member are used to influence the new member to behave in a certain way, or to comply with role expectations. The leader plays a relatively more significant part in this process because of his or her greater authority and power (Graen 1976).

However, a leader has limited time and energy, and therefore can only develop close working relationships with a few subordinates (Graen 1976). Rather than a classification into the two VDL categories of in-group and out-group, these differential relationships with individual subordinates can be classified along a relationship quality continuum. Those relationships based only on the specifications in the employment contract are low-quality relationships (low LMX), and those relationships based on mutual trust, support (Liden & Graen 1980), and liking (Dansereau, Graen & Haga 1975), are high-quality relationships (high LMX).

2.5.3 Development of process oriented models of LMX

Graen and Scandura (1987) extended LMX theory by focusing on the LMX process of development. In their role making model of LMX, they presented a development process of three phases: role-taking, role-making and role-routinization. In the first phase of role-taking, the supervisor communicates a sent role to the subordinate, and this constitutes pressure on the individual to conform to a role expectation. The subordinate's reaction indicates to the supervisor whether he or she, the supervisor, should instigate another event. This first phase then provides the supervisor with an opportunity to test the subordinate's willingness and motivation to develop a high-quality relationship with the supervisor.

The second phase of role-making involves the supervisor presenting a challenging task to the subordinate (Graen & Scandura 1987). Acceptance by the subordinate enables the supervisor-subordinate relationship to develop into a high-quality exchange relationship based on social exchange, with its concomitant reciprocal behaviours and attitudes. The second phase is where the supervisor and subordinate begin to strengthen the relationship (Bauer & Green 1996).

The third phase of role-routinization is reached when the behaviours of supervisor and subordinate become interdependent (Graen & Scandura 1987), after which the quality of their exchanges remains stable (Liden, Sparrowe & Wayne 1997). This phase indicates a mature relationship of common understandings, trust, collaboration and mutual expectations.

A significant extension of LMX theory was advanced by Dienesch and Liden (1986) who developed a three-stage process oriented model of LMX. The first stage is the initial interaction between supervisor and subordinate, when characteristics and behaviours of both supervisor and subordinate influence the interaction and the initial development of LMX. The second stage is that of delegation, where the supervisor ‘tests’ the subordinate with a trial assignment. The third stage is the subordinate’s behaviour in response to the task, and the supervisor’s subsequent attributions for the subordinate’s behaviour. These attributions may be influenced by certain biases and a subordinate’s upward influence behaviour. Behaviour and attributions then, are the vital factors in LMX development, but contextual factors such as work group composition, organizational policies, a supervisor’s power, and organizational culture may affect LMX development (Dienesch & Liden 1986). In Dienesch and Liden’s (1986) model, the three-stage process results in an exchange quality relationship that can be classified along continuous dimensions of loyalty, mutual affection and positive work contributions.

Both Dienesch and Liden’s (1986) model and Graen and Scandura’s (1987) model provide a process view of LMX. Major reviews of the literature (Dienesch & Liden 1986; Graen & Uhl-Bien 1995; Liden, Sparrowe & Wayne 1997; Schriesheim, Castro & Coglisier 1999) and meta-analyses (Gerstner & Day 1997; Ilies, Nahrgang & Morgeson 2007; Sin, Nahrgang & Morgeson 2009) reveal that this theoretical approach has provided the foundation for most empirical LMX research.

Since the LMX model was first proposed (Dansereau, Graen & Haga 1975; Graen 1976; Graen & Cashman 1975), various studies have been conducted in order to document these differentiated relationships, with much support being found. The supervisor-subordinate relationship itself has been investigated in terms of the role making process (Graen 1976; Graen & Scandura 1987), decision influence (Scandura, Graen & Novak 1986), influence tactics (Wayne & Ferris, 1990), member affect (Day & Crain 1992; Liden 1985), antecedents to LMX (Bauer & Green 1996; Bernerth et al. 2008; Duchon, Green & Taber 1986; Kacmar et al. 2009; Liden, Wayne & Stilwell 1993), and organizational outcomes (Gerstner & Day 1997; Ilies, Nahrgang & Morgeson 2007; Rosse & Kraut 1983; Scandura, Graen & Novak 1986; Vecchio & Gobdel 1984; Wang et al. 2005).

2.6 LMX and organizational outcomes

The importance of LMX theory is reflected in the large body of work that has shown associations between high-quality LMX and various positive organizational outcomes (Graen & Uhl-Bien 1995; Liden, Sparrowe & Wayne 1997). LMX has been consistently found to be negatively related to turnover (Dulebohn et al. in press; Graen, Liden & Hoel 1982), turnover intentions (Gerstner & Day 1997; Han & Jekel 2011; Vecchio & Gobdel 1984) and psychological contract breach (Chen, Tsui & Zhong 2008; Suazo, Turnley & Mai-Dalton 2008). It has been found to be positively related to organizational commitment (Brunetto, Farr-Wharton & Schacklock 2009; Gerstner & Day 1997; Yousaf et al. 2011), job satisfaction (Bhal, Gulati & Ansari 2009; Dulebohn et al. in press; Erdogan & Enders 2007; Turban, Jones & Rozelle 1990), productivity (Scandura & Graen 1984), subordinate extra-role performance (Liden & Graen 1980; Wayne & Green 1993), trust in supervisor (Wat & Shaffer 2005), employee well-being (Epitropaki & Martin 2005), organizational social exchange (Loi, Mao & Ngo 2009), justice perceptions (Piccolo et al. 2008) and organizational citizenship behaviour (Hui, Law & Chen 1999; Ilies, Nahrgang & Morgeson 2007; Walumbwa, Cropanzano & Goldman 2011; Wang, Chu & Ni 2010).

Further positive relationships have been found with degree of delegation (Bauer & Green 1996; Scandura, Graen & Novak 1986; Schriesheim, Neider & Scandura 1998), satisfaction with the leader (Dansereau, Graen & Haga 1975; Duchon, Green & Taber 1986; Vecchio & Gobdel 1984), corporate social responsibility (Ouyang 2011), newcomer social integration (Chen & Eldridge 2011) and the mitigation of dysfunctional effects of unmet expectations (Major et al. 1995). A large body of work has shown that performance ratings are positively associated with LMX (Bauer et al. 2006; Graen, Novak & Sommerkamp 1982; Judge & Ferris 1993; Kacmar et al. 2003; Loi et al. 2011).

2.7 Measurement of LMX

A large and significant body of work on LMX now exists, but also significant is that much of the work done in the LMX field has resulted in many measures having been developed and used in empirical testing. The first version of the LMX theory was the Vertical Dyad Linkage model (Cashman et al. 1976; Dansereau, Graen & Haga 1975), where a two-item measure of negotiating latitude was used for its measurement. Further items were later added (Graen & Cashman 1975; Graen, Novak & Sommerkamp 1982; Liden & Graen 1980; Vecchio 1985), and the new measure came to be known as LMX.

The operationalization of the LMX construct has since gone through many versions (Gerstner & Day 1997). LMX has been measured with a 2 item scale (Cashman et al. 1976; Dansereau, Graen & Haga 1975), a 4 item scale (Graen & Cashman 1975; Graen & Ginsburgh 1977; Graen & Schiemann 1978; Liden & Graen 1980), a 5 item scale (Graen, Liden & Hoel 1982), a 6 item scale (Duchon, Green & Taber 1986; Schriesheim et al. 1992), a 7 item scale (Duarte, Goodson & Klich 1993;

An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

Green, Anderson & Shivers 1996; Liden, Wayne & Stilwell 1993; Scandura & Graen 1984), an 8 item scale (Jones, Glaman & Johnson 1993), a 12 item scale (Liden & Maslyn 1998; Wakabayashi & Graen 1984; Wakabayashi et al. 1980), a 14-item scale (Wakabayashi, Graen & Uhl-Bien 1990), a 16 item scale (Dockery & Steiner 1990), and a 17 item scale (Deluga & Perry 1994). This inconsistent operationalization of the LMX construct has created difficulties in making meaningful comparisons of results from different studies that have used different LMX measures (Gerstner & Day 1997).

Although many LMX scales have been developed, it is the uni-dimensional LMX7 scale that has most commonly been used (Gerstner & Day 1997). The LMX7 scale was first developed by Graen, Novak and Sommerkamp (1982), and reported by Scandura and Graen (1984). However, several researchers (Liden & Maslyn 1998; Schriesheim, Castro & Cogliser 1999) have criticized the LMX7 scale for its lack of adequate psychometric information. In a review of the development of LMX, Graen and Uhl-Bien (1995) recommended that the LMX7 scale, with minor changes, be used to measure the quality of exchange relationships. However, the authors did not publish psychometric information for this modified scale. The LMX7 scale has been the basis for a great deal of LMX research (Gerstner & Day 1997; Graen & Uhl-Bien 1995; Ilies, Nahrgang & Morgeson 2007; Liden, Sparrowe & Wayne 1997), yet the fact that it may not be a sound measure of LMX (Liden & Maslyn 1998; Schriesheim, Castro & Cogliser 1999) suggests a need for the development of a psychometrically sound measure of LMX.

2.8 Dimensions of LMX

Graen and Uhl-Bien (1995) acknowledged that there were multiple dimensions of LMX, and suggested that these sub-dimensions were respect, trust, and obligation. Despite this acknowledgment of several dimensions, the authors argued that the dimensions were so highly correlated, they could be measured with a single measure of LMX. Although the LMX7 scale has been criticized due to its uni-dimensionality (Liden & Maslyn 1998; Schriesheim, Castro & Cogliser 1999), Gerstner and Day (1997), in a meta-analysis, recommended it when uni-dimensional exchange quality was being investigated, since they found it to be the soundest instrument that had been developed up to that point in time. However, a uni-dimensional LMX measure does not capture the complexities of different exchange relationships, so a multi-dimensional approach towards LMX provides scope for unravelling those complexities.

2.8.1 Theoretical justification for a multi-dimensional approach towards LMX

Despite uni-dimensional measures of LMX having been used in most studies of LMX until the mid-1990s (Schriesheim, Castro & Cogliser 1999), a multi-dimensional approach is more in line with the foundations of the theory. That

foundation has been provided by role theory (Graen 1976; Katz & Kahn 1978) and social exchange theory (Blau 1964; Gouldner 1960).

Graen and Scandura's (1987) model proposed that a three-phase developmental process occurred during various role making episodes, these phases being role taking, role making and role routinization. Supervisors communicated their expectations to subordinates through work tasks, and the degree of subordinate compliance with these expectations determined the nature of the supervisor's reciprocation. This reciprocation could take the form of providing work related resources, giving challenging task assignments, and providing autonomy to the subordinate (Graen & Scandura 1987). Since these exchanges were work-related, LMX was considered to be a uni-dimensional construct (Graen 1976; Graen & Scandura 1987; Graen & Uhl-Bien 1995). However, role theory emphasises that roles are multi-dimensional (Katz & Kahn 1978). Supervisors may play the roles of resource allocator, negotiator, liaison figure, and so on, while some subordinates may concentrate on work tasks, others on social behaviours, and others still on both (Motowidlo 1994; Werner 1994). Consequently, the different roles taken on by the members of the dyad contribute to different types of LMX relationships (Dienesch & Liden 1986; Liden & Maslyn 1998).

Social exchange theory also provides support for regarding LMX as multi-dimensional (Dienesch & Liden 1986; Liden & Maslyn 1998; Sparrowe & Liden 1997). According to social exchange theory, exchanges of resources and support create an obligation to reciprocate (Gouldner 1960). The division of labour creates this mutual dependence of people, and gives rise to a 'norm of reciprocity' which 'defines certain actions and obligations as repayments for benefits received' (Gouldner 1960, p. 170). It is only social exchange, as opposed to economic exchange, that generates feelings of personal obligation and gratitude (Blau 1964). Economic exchanges involve specific material obligations, so each party knows the precise manner in which obligations are to be discharged. In contrast, the obligations associated with social exchange are diverse and imprecise, and do not have a specific standard of measurement (Blau 1964). What is actually exchanged may be equal or unequal, and may be tangible or intangible. In an organizational context, various material and non-material goods are exchanged (Liden & Maslyn 1998), for example, advice, friendship, information, resources (Krackhardt 1992; Sparrowe & Liden 1997), and therefore, differentiated relationships can develop according to the dimensions of social exchange that occur between dyad members. Seemingly similar high-quality relationships measured with a uni-dimensional LMX scale may actually be dissimilar since, for example, one high-quality relationship may be based on friendship, while another high-quality relationship may be based on contributions to a work project (Liden & Maslyn 1998; Liden, Sparrowe & Wayne 1997).

A multi-dimensional approach towards LMX is therefore consistent with its theoretical foundations supplied by role theory (Katz & Kahn 1978) and social exchange theory (Blau 1964; Gouldner 1960). A multi-dimensional approach enables researchers to show how different roles and different types of social exchange contribute to different LMX relationships.

2.8.2 Empirical justification for a multi-dimensional approach towards LMX

Empirical work has provided support for LMX as a multi-dimensional construct. In Liden, Wayne and Stilwell's (1993) longitudinal study on the early development of LMX, the authors found that affective variables of expectations, perceived liking and perceived similarity were important contributors to LMX development. Previous work had suggested that performance was the principal variable in LMX development (Graen 1976; Graen & Scandura 1987). However, Liden, Wayne and Stilwell's (1993) work showed that perceived liking and perceived similarity made greater contributions to LMX than supervisor ratings of perceived subordinate performance. In addition, perceived subordinate performance was a significant predictor of LMX only at 2 weeks, whereas perceived liking and perceived similarity were significant predictors at 2 weeks as well as later time periods. Liden, Wayne and Stilwell's (1993) results thus provided support for Dienesch and Liden's (1986) proposal that LMX was a multi-dimensional construct.

Additional support for conceptualizing LMX as a multi-dimensional construct came from the work of Schriesheim, Neider and Scandura (1998) who found that subordinate and supervisor LMX were significantly related to delegation and had similar main and moderating effects for perceived subordinate performance and satisfaction. In Schriesheim, Neider and Scandura's (1998) regression models, even though subordinate LMX and supervisor LMX were entered after delegation, both LMX measures still demonstrated strong relationships with performance and satisfaction. If performance had been the main determinant of LMX, the delegation variable should have explained most of the variance in outcomes (Schriesheim, Neider & Scandura 1998). That it didn't explain variance provided further support for treating LMX as multi-dimensional.

2.9 Theoretical background and development of LMX-MDM

Dienesch and Liden (1986) applied the multi-dimensional perspectives of role theory and social exchange theory to LMX, and developed three different exchange currencies: mutual affection (affect), expressions of public support (loyalty), and task related behaviours (contribution). Since an exchange may be based on one, two or all three currencies of exchange, LMX should be viewed as a multi-dimensional, rather than uni-dimensional, construct (Dienesch & Liden 1986).

Affect, as applied by Dienesch and Liden (1986) and utilized in this thesis, is the interpersonal liking of one dyad member for the other. Interpersonal liking would influence the 'tone' of the supervisor-subordinate interaction, resulting in a friendlier working atmosphere. In interpersonal relationships, affect is recognized as the main element (Zajonc 1980). Empirical work has confirmed that affect is an important element in LMX development (Dockery & Steiner 1990; Liden, Wayne & Stilwell 1993), and that this may be an important factor in explaining inconsistencies in performance ratings (Liden & Mitchell 1989). Objective subordinate performance often does not correlate well with LMX (Vecchio 1982; Vecchio & Gobdel 1984),

An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

while supervisors' ratings of subordinates' performance do correlate (Deluga & Perry 1994; Graen & Cashman 1975; Liden & Graen 1980; Nahrgang, Morgeson & Ilies 2009). It is likely that the importance of affect in LMX is responsible for the difference (Liden & Mitchell 1989). Other studies show a relationship between a supervisor's liking of a subordinate and performance appraisal (Cardy & Dobbins 1986; Tsui & Barry 1986). In addition, perceived subordinate performance in high-quality exchanges is rated higher than objective performance measures would warrant (Duarte, Goodson & Klich 1993, 1994), with the implication that affect is responsible for the discrepancy.

Loyalty, as defined by Dienesch and Liden (1986) and used in this thesis, is the extent to which the supervisor and subordinate publicly express support for one another. Some studies had found support for loyalty as an outcome of LMX (Graen 1976; Graen & Scandura 1987). However, loyalty is more a dimension than an outcome of LMX, since it plays an important role in the development and maintenance of LMX (Dienesch & Liden 1986; Liden & Maslyn 1998).

Contribution, as defined by Dienesch and Liden (1986) and employed in this thesis, is the perception of the effort expended by supervisor and subordinate toward mutual work related goals. Contribution is important for the development of LMX, since the subordinate who accepts a challenge offered by the supervisor develops a higher quality relationship with the supervisor than those subordinates demonstrating lesser competence (Dunegan, Duchon & Uhl-Bien 1992; Graen 1976; Graen & Scandura 1987; Liden & Graen 1980; Scandura, Graen & Novak 1986). In addition, when high-quality relationships are established, subordinates carry out work that goes beyond what is specified in the formal job contract, thus contributing to even higher quality LMX (Graen 1976; Liden & Graen 1980, Wayne & Green 1993).

In a study designed to build on Dienesch and Liden's (1986) work and to identify LMX dimensions, Liden and Maslyn (1998) used rigorous testing methods to develop and validate a new multi-dimensional measure of LMX, the LMX-MDM. This scale provided support for the dimensions of affect, loyalty and contribution that Dienesch and Liden (1986) had developed. In doing so, Liden and Maslyn (1998) presented the only LMX scale that includes an affect dimension.

Dienesch and Liden (1986) acknowledged that other dimensions of LMX may exist. Further possible dimensions are suggested by social exchange theory (Cropanzano & Mitchell 2005; Homans 1958). These might include trust, respect, openness and honesty (Graen & Scandura 1987). Liden and Maslyn (1998), in their development of the LMX-MDM scale, sought to identify LMX dimensions in addition to those put forward by Dienesch and Liden (1986). In doing so, Liden and Maslyn (1998) not only validated Dienesch and Liden's (1986) dimensions of affect, loyalty and contribution, they identified a fourth dimension, that of professional respect.

Professional respect, as defined by Liden and Maslyn (1998) and utilized in this thesis, is the perception that a supervisor or subordinate has excelled in his or her field of work. Professional respect is highly correlated with judgements of others as

supervisors (Bass 1990), and this applies in both formal and informal leadership situations (Fernandez 1991).

2.10 LMX-MDM as an overall measure of LMX

The overall LMX-MDM can be used when researchers are interested in uni-dimensional LMX (Liden & Maslyn 1998). Consequently, researchers have found relationships between organizational outcomes and the overall measure of LMX-MDM.

A curvilinear relationship exists between overall LMX-MDM and turnover in high turnover environments (Morrow et al. 2005). This is consistent with findings of poor LMX employees being ‘pushed’ out of organizations and good LMX employees being ‘pulled’ out by appealing competitors (Harris, Kacmar & Witt 2005). At the executive level, overall LMX-MDM is not related to performance or turnover intention for executives rated high on extraversion, but is related for executives rated low on extraversion (Bauer et al. 2006).

The extent to which employees identify their supervisor as a representative of the organization positively moderates the relationship between overall LMX-MDM and affective organizational commitment (Eisenberger et al. 2010). This influence extends to in-role and extra-role performance (Eisenberger et al. 2010). LMX, as measured by overall LMX-MDM, fully mediates the relationship between transformational leadership and task performance as well as organizational citizenship behaviours (Wang et al. 2005). And the association between individually-bargained employment arrangements and organizational citizenship behaviour is stronger for workers with low LMX (LMX-MDM) or low team member exchange (Anand et al. 2010).

There is a positive relationship between job satisfaction and LMX, as measured by overall LMX-MDM, and this relationship is stronger when supervisors have high perceived organizational support (Erdogan & Enders 2007). At low levels of overall LMX-MDM, work value congruence is positively related to job satisfaction (Erdogan, Kraimer & Liden 2004). However, for individuals enjoying high-quality exchange relationships, work value congruence is not related to job satisfaction (Erdogan, Kraimer & Liden 2004).

Contextual variables have a bearing on supervisor-subordinate relationships. In cultures exhibiting high respect for people, intangible aspects of communication, such as the level of kindness and sensitivity, are important for LMX, as measured by overall LMX-MDM (Erdogan, Liden & Kraimer 2006). In cultures with increased levels of aggressiveness more tangible aspects, such as equity of reward distribution, are more important for LMX (Erdogan, Liden & Kraimer 2006). At the organizational level, contextual variables such as team orientation are related to supervisor-subordinate relationships, as measured by LMX-MDM (Erdogan, Liden & Kraimer 2006). In addition, the relationship quality of the individual, relative to

that of coworkers, has motivational properties for subordinates beyond the general quality of the overall LMX-MDM relationships (Vidyarthi et al. 2010).

In terms of work performance, overall LMX-MDM differentiation is positively associated with individual performance for low LMX subordinates, but not related for high LMX subordinates (Liden et al. 2006). However, overall LMX-MDM differentiation does not directly influence group performance (Liden et al. 2006). Furthermore, high-quality exchange relationships, as measured by overall LMX-MDM, weaken the positive effects of personality on subordinate task performance (Kamdar & Van Dyne 2007).

The majority of the research that has found a positive relationship between overall LMX-MDM and job performance has been conducted among firms located in their own countries and employing their own nationals. It may be expected that that relationship would differ when those contextual factors vary. However, the same positive relationship between overall LMX-MDM and job performance is found among expatriates who are living and working in nations other than their home countries (Kraimer, Wayne & Jaworski 2001).

All of the studies mentioned in this section used the overall measure of LMX-MDM, thereby treating it as a uni-dimensional measure of LMX. In Liden et al.'s (2006) study, three different overall measures of LMX were used, Liden and Maslyn's (1998) multi-dimensional scale, Settoon, Bennett and Liden's (1996) multi-dimensional scale, and the uni-dimensional LMX7 scale (Graen & Uhl-Bien 1995). The authors found that the three different LMX measures were strongly correlated. Liden et al.'s (2006) study provided important information regarding the relationship between LMX differentiation and group and individual performance, but in using the overall LMX-MDM score rather than each of the dimensions of LMX-MDM, it did not allow for a discovery of the different ways in which different exchange relationships are manifested.

2.11 LMX-MDM as a multi-dimensional measure of LMX

The real strength of the LMX-MDM measure lies in its multi-dimensional nature, and those studies that have used it have found that different antecedents predict different dimensions of LMX-MDM, and different LMX-MDM dimensions predict different outcomes. The following discussion provides an explanation.

The examination of LMX dimensions was undertaken by Settoon, Bennett and Liden (1996) when they studied the relationship between LMX and perceived organizational support in a US hospital. Settoon, Bennett and Liden (1996) used the multi-dimensional measure of LMX that Liden and Maslyn (1993) had developed as a precursor to the LMX-MDM scale. The findings of the authors' confirmatory factor analysis supported the four factor model of Liden and Maslyn's (1993) multi-dimensional scale, as well as a single higher order factor. The model with the four first-order factors loading on one general second-order factor was as consistent with

the data as the model with a four factor solution only. This finding provides support for using an aggregate measure of LMX-MDM when an overall measure of LMX is required, but also provides support for using the multi-dimensional LMX-MDM scale when specific aspects of the exchange relationship are of interest.

Wang et al. (2005) used the LMX-MDM scale in a sample of 162 matched supervisor-subordinate dyads in China. The authors validated the four factor model and one higher order factor of Liden and Maslyn's (1998) LMX-MDM scale. That LMX is a multi-dimensional construct is founded on role theory and social exchange theory (Blau 1964; Katz & Kahn 1978; Gouldner 1960), and is not negated by the findings of a higher order factor. The findings of Wang et al. (2005) provide further support for the usefulness of using the single factor model of LMX-MDM when researchers are interested in an overall exchange relationship, rather than the more complex relationships that LMX-MDM dimensions reveal.

Greguras and Ford's (2006) study of 422 matched supervisor-subordinate dyads was designed to assess the dimensionality and validity of Liden and Maslyn's (1998) LMX-MDM scale, to determine whether the dimensions differentially predicted attitudes and behaviours, and to compare the multi-dimensional LMX-MDM scale with the uni-dimensional LMX7 scale. The authors' findings supported the four factor structure and single higher order factor of Liden and Maslyn's (1998) multi-dimensional model. Greguras and Ford (2006) found that the LMX-MDM dimensions differentially predicted criteria. They examined five outcomes of LMX: satisfaction with supervisor, affective organizational commitment, job involvement, in-role performance and organizational citizenship behaviour (OCB). They found that not only did different LMX-MDM dimensions predict different outcomes, but that results differed between supervisors and subordinates. From the subordinates' perspective, affect predicted satisfaction with supervisor and affective organizational commitment, loyalty predicted satisfaction with supervisor and in-role performance, and contribution predicted affective organizational commitment and job involvement. Subordinates' perception of professional respect did not predict any of the outcomes. This is in contrast to results from the supervisor's perspective, where professional respect was an important predictor of in-role performance and OCB. In addition, the authors found that the multi-dimensional LMX-MDM scale predicted attitudes and behaviours above those predicted by the uni-dimensional LMX7 scale.

Maslyn and Uhl-Bien (2001) used both the uni-dimensional LMX7 scale and the multi-dimensional LMX-MDM scale in a sample of 232 matched supervisor-subordinate dyads in order to analyse the relationship between effort expended toward relationship development and LMX, and to compare the results when the two different LMX scales were used. When the composite LMX-MDM scale was used, the authors found similar results to those when the LMX7 scale was used. However, when the individual dimensions of LMX-MDM were used, the authors found unique effects for the varying dimensions. From the subordinates' perspective, effort by the supervisor was positively related to the loyalty and professional respect dimensions, but not to the contribution or affect dimensions of LMX-MDM, whereas subordinates' own effort was positively related to the contribution dimension, but not to the other three dimensions of LMX-MDM. Maslyn and Uhl-Bien's (2001) study

highlighted the fact that differential components of LMX are not revealed by the LMX7 scale alone. Researchers should therefore examine LMX dimensions in order to gain a more specific understanding of exchange relationships.

Feedback plays a role in shaping individuals' behaviour and in influencing performance, since feedback can motivate individuals to improve performance (Geister, Konradt & Hertel 2006; Kluger & DeNisi 1996; Zhang & Lu 2002). Feedback-seeking behaviour of supervisors is associated with different dimensions of LMX, as measured by the LMX-MDM scale (Lee et al. 2005). For supervisors, both their own negative-seeking feedback and their own positive-seeking behaviour from subordinates are positively associated with the LMX-MDM dimensions of affect, loyalty and contribution, while professional respect is associated with other kinds of feedback-seeking behaviours. The subordinates' perspective shows a different view. For subordinates, affect, contribution and professional respect are positively associated with supervisors' negative-seeking behaviour, while affect is negatively associated with supervisors' positive-seeking feedback (Lee et al. 2005).

The positive relationship between LMX and organizational commitment has been well established (Duchon, Green & Taber 1986; Gerstner & Day 1997; Schriesheim et al. 1992). When good quality relationships between supervisors and subordinates are established, the organization receives the benefit in terms of increased organizational commitment by employees (Ilies, Nahrgang & Morgeson 2007). However, when LMX is measured with a multi-dimensional scale, different relationships with LMX are revealed. Affective commitment is positively associated with the dimensions of affect, contribution and professional respect (Ansari, Kee & Aafaqi 2007; Lee 2005; Schyns & Wolfram 2008). Normative commitment is positively associated with the dimensions of affect, contribution and professional respect (Ansari, Kee & Aafaqi 2007; Lee 2005), while continuance commitment is positively associated with contribution, but negatively associated with affect (Ansari, Kee & Aafaqi 2007).

Studies have shown that high-quality LMX leads to greater job satisfaction (Gerstner & Day 1997). However, most studies have used a uni-dimensional measure of LMX when establishing that relationship (Gerstner & Day 1997). Use of the multi-dimensional LMX-MDM scale yields more detailed information. Positive relationships exist between job satisfaction and all four dimensions of LMX-MDM (Schyns & Wolfram 2008). However, the associations of job satisfaction with loyalty and contribution are stronger than the associations of job satisfaction with affect and professional respect (Schyns & Wolfram 2008).

Occupational self-efficacy refers to judgments about one's own capabilities of executing certain professional tasks (Bandura & Cervone 1983), and is positively associated with LMX (Murphy & Ensher 1999). However, Murphy and Ensher's (1999) study employed a uni-dimensional LMX scale. When the multi-dimensional LMX-MDM scale has been employed, differing outcomes are apparent. Subordinates view contribution as the only dimension of LMX-MDM to be of importance in their occupational self-efficacy. However, for supervisors, respect is

the only dimension that has a positive and significant relationship with occupational self-efficacy (Schyns & Wolfram 2008).

Procedural justice climate refers to individual employees' assessment of the overall fairness of their work environment (Naumann & Bennett 2000). It has a positive association with subordinates' perceptions of supervisors' relationship skills (Alexander & Ruderman 1987). However, there are different types of relationship skills, and when LMX-MDM is the measure of relationship quality, procedural justice climate has a positive relationship with the LMX-MDM dimension of professional respect only (Ansari, Kee & Aafaqi 2007).

Communication frequency is positively associated with LMX when a uni-dimensional LMX scale is used (Yrle, Hartman & Galle 2002). When the multi-dimensional LMX-MDM scale is used, communication frequency is positively associated with all four dimensions of the scale from the subordinates' perspective, (Sin, Nahrgang & Morgeson 2009). However, from the supervisors' perspective, communication frequency has a positive association with the affect dimension only (Sin, Nahrgang & Morgeson 2009). When dyadic interaction intensity is the outcome variable, it has positive associations, from the subordinates' perspective, with the LMX-MDM dimensions of affect and professional respect. But from the supervisors' perspective, dyadic interaction intensity is positively associated with loyalty and professional respect only (Sin, Nahrgang & Morgeson 2009).

Transactional leadership is an exchange relationship in which subordinates are rewarded for good performance and disciplined for poor performance (Bass 1990, 1997). Transformational leadership is characterized by supervisor-subordinate relationships that go beyond pure economic and social exchange, and where subordinates are motivated to look beyond self-interest for the good of the group (Bass 1990, 1997). Both transactional and transformational leadership are associated with high-quality LMX when a uni-dimensional measure of LMX is used, with transformational leadership having the stronger association (Howell & Hall-Merenda 1999). But when the multi-dimensional LMX-MDM scale is used, transformational leadership is positively related to all dimensions of LMX-MDM, with the strongest relationship being that with the dimension of affect. Transactional leadership is negatively associated with the loyalty dimension of LMX-MDM only (Lee 2005).

The LMX-MDM scale was designed to assess different aspects of LMX relationships and to reflect the multi-dimensionality of the LMX construct. The development and subsequent testing of the LMX-MDM scale has thus given researchers a valid measure of exchange relationships, and one which reflects the multi-dimensional nature of such relationships. However, most of the above studies were conducted in western countries, where cultural standards differ from those in China. LMX-MDM dimensions may manifest themselves differently in China. In addition, the impact of *guanxi* on exchange relationships may further differentiate LMX in China from LMX in western countries. There is thus a need for research to determine how the different dimensions of LMX-MDM operate in China.

2.12 Perspectives of LMX

The issue of perspective is a further area of differentiation of LMX research. Both the LMX7 scale (Graen & Uhl-Bien 1995) and the LMX-MDM scale (Liden & Maslyn 1998), when they were first developed, measured exchange quality from the subordinate's perspective only. Although supervisor versions of both scales have been developed (Greguras & Ford 2006; Liden, Wayne & Stilwell 1993; Paglis & Green 2002), most studies have taken the perspective of the subordinate (Mahsud, Yukl & Prussia 2010; Major et al. 1995; Nystrom 1990; Scandura & Pellegrini 2008; Uhl-Bien et al. 1990). In Gerstner and Day's (1997) meta-analysis, 69 samples measured LMX from the subordinates' perspective, while only 22 samples used the supervisors' ratings of LMX. However, since the dyadic relationship is at the core of LMX theory, the perspectives of both members ought to be taken into account if complete understanding of that dyadic relationship is to be achieved, and if the issue of biased responses is to be addressed (Dalal 2001). The supervisors' and subordinates' perspectives may be quite different and may produce differing effects. Consequently, Scandura (1999) and Gerstner and Day (1997) recommended that a dual perspective approach be adopted in order to determine whether perceptions of supervisors and subordinates are shared. Gerstner and Day (1997), in their meta-analysis, found a mean weighted significant low correlation of .29 between supervisors' and subordinates' perceptions of LMX. In another meta-analysis, Sin, Nahrgang and Morgeson (2009) found a significant low correlation of .37 between the two perspectives. These low correlations support the contention that supervisors' and subordinates' perspectives are not interchangeable. In addition, the low correlations support the argument that studies of LMX should take a dual perspective approach since different perceptions could be affected by different factors, and could lead to different organizational outcomes (Gerstner & Day 1997).

Those studies that have taken a dual perspective approach (Cogliser et al. 2009; Greguras & Ford 2006; Huang et al. 2008; Keller & Dansereau 1995; Markham et al. 2010; Maslyn & Uhl-Bien 2001; Werbel & Henriques 2009; Yagil 2006) have therefore been in a position to discover whether views of relationship quality are shared and if not, to discover possible reasons for the differences. A dual perspective approach would allow researchers to test whether antecedents of LMX differ according to which perspective is being used. It would enable a comparison of the predictive validity of LMX according to the perspective taken. It would also allow researchers to determine whether the LMX is the same construct when measured from different perspectives.

2.13 LMX in China

There have been few studies of LMX in China, but interest has been recently growing. Schaubroeck and Lam (2002), using Hong Kong and US samples of tellers and their supervisors who were employed by the same multi-national bank, conducted confirmatory factor analysis on Graen and Uhl-Bien's (1995) LMX7 scale. Schaubroeck and Lam (2002) confirmed the uni-dimensionality of the LMX7 scale

An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

in both Hong Kong and US samples, as well as statistical equivalence of the measurement properties of the factor analysis indices across the two samples.

In a mainland China sample, when LMX7 represented LMX, work unit climate and supervisory control of rewards were positively related to LMX (Aryee & Chen 2006). From another mainland China sample, feedback-seeking behaviour predicted LMX (Lam, Huang & Snape 2007). From a Hong Kong sample, personality similarity predicted LMX (Schaubroeck & Lam 2002).

LMX, as represented by LMX7, was negatively related to turnover in a Hong Kong sample (Lam 2003) and to worker burnout in a mainland China sample (Huang et al. 2010). From different mainland China samples, LMX was positively related to in-role performance (Hui, Law & Chen 1999), organizational citizenship behaviour (Hui, Law & Chen 1999; Hui, Lee & Rousseau 2004) and affective commitment (Pan, Zhou & Zhou 2010) in China. And from a Taiwan sample, LMX was positively related to job satisfaction (Liao, Hu & Chung 2009).

Additional China based-studies show that supervisors' perceptions of employees' breach of the psychological contract contributes to low-quality LMX, as measured by the LMX7 scale (Chen, Tsui & Zhong 2008). Furthermore, both supervisor and teammate versions of LMX7 have unique, positive effects on self-efficacy, and indirect effects on employee creativity through self-efficacy (Liao, Liu & Loi 2010).

The multi-dimensional LMX-MDM scale has been used in several studies in Chinese societies. Wang et al. (2005) validated the LMX-MDM scale in China, and found that LMX mediated the relationship between transformational leadership and performance. However, the authors' findings were based on an overall measure of the scale only. This is useful when uni-dimensional LMX is the construct of interest, but its use in Wang et al.'s (2005) study meant that details as to which dimensions of LMX-MDM mediated the transformational leadership/performance relationship were not revealed. Given that relationships and role requirements are of paramount importance in China (Chan 2008; Chen & Chen 2004; Hwang 1987; Redding 1990), it may be that the more interpersonal LMX-MDM dimensions of affect and loyalty are greater contributors to high-quality LMX in China than the dimensions of contribution and professional respect. These relationships can only be confirmed if the multi-dimensional LMX-MDM scale is used in China-based empirical studies.

Further findings of studies using the LMX-MDM scale in China are that different dimensions have different influences on task performance and contextual performance (Wang, Law & Chen 2008). Task performance refers to formally recognized role requirements of a job, whereas contextual performance comprises extra-role activities that are not explicitly included in formal job responsibilities (Bateman & Organ 1983). Affect is positively related to task performance, and to contextual performance through interpersonal facilitation and job dedication, while contribution is positively associated with job dedication. Neither loyalty nor professional respect is related to measures of performance (Wang, Law & Chen 2008).

In two empirical studies that were jointly designed to develop and validate a *guanxi* scale in China, CS Wong et al. (2003) used the LMX7 scale in order to demonstrate the discriminant validity of the *guanxi* scale. This was done because, although both LMX and *guanxi* are concerned with relationships, LMX concentrates on the working relationships between supervisors and subordinates, while *guanxi* encompasses both work and non-work relationships between supervisors and subordinates. The two studies used different samples, and in both samples, results confirmed that LMX, as measured by the LMX7 scale, is a distinct concept from *guanxi*. However, since it was the uni-dimensional LMX7 scale that was used to demonstrate discriminant validity of CS Wong et al.'s (2003) *guanxi* scale, LMX7 may not have had the same degree of discrimination that the LMX-MDM would have. The LMX-MDM not only is a multi-dimensional scale, but one of its dimensions is that of affect, a dimension that is not incorporated into the LMX7 scale. There is thus a need to establish how the dimension of affect, as well as the other dimensions of LMX-MDM, reveals relationships that may be not revealed by a uni-dimensional scale.

These studies provide some preliminary insights into how supervisor-subordinate relationships manifest themselves in China, but further efforts are needed in order to discover the factors that are associated with each of the LMX dimensions.

2.14 Antecedents of LMX

Of the various antecedents to LMX that have been studied, those of perceived similarity, perceived liking and perceived performance have received most support in the literature.

2.14.1 Perceived similarity as antecedent of LMX

In the social psychology literature, the relationship between perceived similarity and interpersonal attraction has been confirmed in many studies (Byrne 1961, 1971; Byrne, Bond & Diamond 1969; Byrne & Griffitt 1973; Pandey 1978; Pilkington & Lydon 1997; Singh & Tan 1992; Singh et al. 2007). In this context, interpersonal attraction and liking together are referred to as *affect*, which is the major component of interpersonal relationships (Zajonc 1980). When two people express similar views of various topics, their interaction becomes increasingly positive and pleasant, and mutual attraction increases (Byrne & Kelly 1981). This constitutes a rewarding interaction and is a contributor to the formation of a positive relationship (Byrne 1961). The mutual attraction is a positive linear function of the proportion of perceived shared similar attitudes or opinions between the two people (Byrne 1971). There is thus a reinforcement effect whereby attraction increases as the shared similar attitudes or opinions become more known to the two people (Byrne & Griffitt 1973). This triangular relationship among attraction, affect and reinforcement has affective responses as the fundamental concept (Byrne 1971, 1992).

Attraction is positively related to perceived similarity along dimensions of self-concept, repression-sensitization, need for approval, self-esteem, dominance-submissiveness, and several other variables (Byrne & Griffitt 1973). In addition, the similarity-attraction relationship is apparently ubiquitous, since it has been verified in studies in all age groups, among different socio-economic groups, and in culturally diverse countries of India, Mexico, Japan, and the United States (Baron, Byrne & Kantowitz 1980; Byrne et al. 1971) and in Chinese societies (Bond & Hwang 1986). The ubiquitous nature of the similarity-attraction relationship is such that it can be regarded as a functional universal, that is, perceived similarity serves a similar function across cultures (Heine, Foster & Spina 2009; Norenzayan & Heine 2005).

The similarity-attraction relationship is important to LMX since affect is a key factor in the development of LMX (Dienesch & Liden 1986; Liden & Maslyn 1998). Perceived similarity contributes to positive relationships between supervisors and subordinates, and this is consistent from both supervisor and subordinate perspectives (Wexley et al. 1980). Perceived similarity is communicated to each dyad member by a series of role episodes, and the discovery by one member of the dyad of similar attitudes in the other dyadic party creates a rewarding and satisfying experience, thus contributing to positive interpersonal relations (Wexley et al. 1980). This relationship is confirmed by other findings showing perceived similarity to be a positively reinforcing experience for the dyad members (Wexley & Pulakos 1983). In addition, supervisors and subordinates who have similar perceptions of growth-need strength (Hackman & Oldham 1980) are likely to develop a positive relationship (Huang & Iun 2006).

Perceived attitudinal similarity between supervisors and subordinates is an important predictor of performance ratings (Bates 2002; Pulakos & Wexley 1983; Turban & Jones 1988; Wexley et al. 1980). In particular, when supervisors and subordinates share similarities of extraversion, conscientiousness and emotional stability, each of these attitudes has a direct effect on higher performance ratings from both supervisors and subordinates (Strauss, Barrick & Connerley 2001). In addition, some of these attitudinal variables have indirect effects, through perceived liking, on performance ratings (Strauss, Barrick & Connerley 2001). As well as personality similarity, perceived shared similar beliefs and perceived similarity in work attitudes are strong interpersonal predictors of subordinates' performance ratings by supervisors (Schmitt et al. 1996; Zalesny & Kirsch 1989).

Subordinates' impression management behaviour influences subordinates' performance ratings through supervisors' perceived liking of and perceived similarity to subordinates (Wayne & Liden 1995). Not only do these findings provide support for the similarity-attraction paradigm (Byrne 1971), Wayne and Liden (1995) found that similarity perceptions could predict subordinates' performance ratings 20 weeks before performance was rated, thus indicating that the similarity-attraction relationship is an enduring one.

People form perceptions of themselves and others by making comparisons to prototypes. Because of a desire to protect one's self-image, they perceive themselves as being close to the prototypes, and therefore rate themselves favourably (Wayne,

Liden & Graf 1997). When other people are perceived as being close to the prototype, the more similar they appear to be. Consequently, those who are perceived to be similar would be rated more favourably than others who are further away from the prototype. Confirmation of this situation has come from several studies showing that perceived similarity of supervisors and subordinates is associated with high performance ratings and promotability assessments (Pulakos & Wexley 1983; Turban & Jones 1988; Wayne, Liden and Graf 1997). In addition, subordinates who have been rated as similar by their supervisors report their relationships with supervisors in positive terms, and report confidence and trust in their supervisors (Turban & Jones 1988).

In studies that have specifically used an LMX scale, a clear relationship between perceived similarity and high LMX has been demonstrated. Engle and Lord's (1997) investigation of the relationship of cognitive factors to perceived liking and LMX found that perceived attitudinal similarity was strongly related to LMX ratings from both subordinates' and supervisors' perspectives. Liden, Wayne and Stilwell (1993) conducted a longitudinal study with newly formed supervisor-subordinate dyads, and assessed the participants' responses at 0-5 days, 2 weeks, 6 weeks and 6 months. Liden, Wayne and Stilwell (1993) found that not only did perceived similarity predict LMX from both supervisors' and subordinates' perspectives, it was a significant predictor of LMX at 6 weeks and 6 months when they controlled for LMX at the earlier time period. Similar results were found in Phillips and Bedeian's (1994) study when they examined the role of certain personal and interpersonal attributes in LMX. They examined supervisor-perceived subordinate attitudinal similarity, subordinate introversion/extraversion, subordinate locus of control, and subordinate growth need strength, and found that perceived attitudinal similarity had the strongest association with LMX quality.

There are different types of similarity. Surface level actual similarity is represented by demographic variables, while deep level perceived similarity is based on the degree to which supervisors and subordinates believe the two parties share values, perspectives, attitudes, abilities and outlook. None of the surface level similarity variables are related to LMX, whereas all of the deep level similarity variables are significantly related to LMX (Kacmar et al. 2009). This relationship of similarity with LMX has been confirmed in other studies that show demographic variables as being relatively unimportant in LMX development (Dienesch & Liden 1986, Graen & Cashman 1975; Green, Anderson & Shivers 1996; Liden, Wayne & Stilwell 1993; Murphy & Ensher 1999; Suazo, Turnley & Mai-Dalton 2008).

Perceived cognitive similarity plays a role in psychological contract breach and LMX (Suazo, Turnley & Mai-Dalton 2008). The psychological contract is a reciprocal exchange agreement between the employee and the employer (Rousseau 1995). However, an individual employee interacts with his or her immediate supervisor rather than with the employing organization, and consequently regards the supervisor as the primary representation of the organization (Coyle-Shapiro & Shore 2007; Tekleab & Taylor 2003). The exchange relationship between supervisors and subordinates therefore is of particular importance to the psychological contract between employees and the organization. Subordinates' perceived cognitive

similarity to supervisors is negatively related to psychological contract breach, but LMX fully mediates the relationship (Suazo, Turnley & Mai-Dalton 2008). This leads to the conclusion that perceived similarity of cognitive style leads to high LMX, with its concomitant increase in interaction and communication, which then reduces subordinates' belief that their psychological contracts have been breached (Suazo, Turnley & Mai-Dalton 2008).

Personality similarities and differences can be viewed in terms of the 'Big Five' personality traits of emotional stability, extraversion, openness, agreeableness and conscientiousness. These five traits are considered to be the five broadest and most significant influences on human behaviour (Costa & McCrae 1992), and have been found to be cross-culturally generalizable (Digman & Shmelyov 1996; McCrae & Costa 1997; Yoon et al. 2002; Yik & Bond 1998). Since perceived similarity is a significant predictor of LMX (Kacmar et al. 2009; Liden, Wayne & Stilwell 1993; Phillips & Bedeian 1994), an examination of the role of perceived similarity of the Big Five personality traits can provide a more comprehensive picture of the components of perceived similarity that predict LMX.

Emotionally unstable people have limited social skills due to their feelings of embarrassment, insecurity, worry and anxiousness (Costa & McCrae 1992), so they are unwilling to enter into balanced social exchange relationships. Extraverts desire social engagement and interaction, and since high-quality LMX is characterized by high interaction (Bauer & Green 1996), it is likely that congruence in extraversion would result in high LMX. Openness contributes to LMX due to the interactive nature of the supervisor-subordinate relationship, and the need for reciprocity in social relationships (Gouldner 1960; Sparrowe & Liden 1997). Agreeableness refers to a person's tendency to be kind, gentle, trusting, honest, altruistic and warm, and to place importance on social relations (McCrae & Costa 1987). Agreeableness in a person indicates to another that that person can be trusted and is dependable. Agreeableness is therefore important for the establishment of reciprocal social partnerships (Kamdar & Van Dyne 2007). Conscientious employees demonstrate responsibility and a willingness to work well, so they would expect that their supervisor would return those actions in some form, and in this way an exchange relationship based on reciprocity would develop. If obligations arising from conscientiousness are not reciprocated, it is unlikely that high-quality LMX would develop (Kamdar & Van Dyne 2007).

Perceived similarity in four of the five personality traits (emotional stability, openness, agreeableness and conscientiousness) promotes higher quality LMX, and differences in these four traits negatively influence the perceived relationship quality between supervisors and subordinates (Bernerth et al. 2008). In Bernerth et al.'s (2008) study, perceived similarity in extraversion was the only variable that did not predict perceptions of LMX, an unexpected finding, given that Phillips and Bedeian (1994) did find that extraversion predicted LMX. Perceived conscientiousness similarity also predicts productivity and higher quality LMX (Deluga 1998), while perceived similarity between supervisors' and subordinates' emotional intelligence is associated with higher quality exchange relationships (Sears & Holmvall 2010).

The building of a high-quality exchange relationship is similar to a trust building process (Turban & Jones 1988). Personal characteristics that would be expected to be related to trust between supervisors and subordinates are in fact related (Bauer & Green 1996). Consequently, perceived personality similarity is positively related to early and later performance ratings of subordinates, which in turn are related to LMX quality and the changes in LMX over time (Bauer & Green 1996). Personality similarity is also likely to lead to trusting, high-commitment relationships between supervisors and subordinates (Schaubroeck & Lam 2002).

Further support for perceived similarity as an antecedent of LMX has come from a recent meta-analysis (Dulebohn et al. in press). From nine samples that specifically investigated perceived similarity as an antecedent, there was a mean true score correlation of .50 with LMX. This correlation was the fourth strongest correlation of the 21 antecedents of LMX that were included in the meta-analysis.

Research in western countries has consistently found perceived similarity to be a predictor of LMX (Engle & Lord 1997; Liden et al. 1993; Phillips & Bedeian 1994). And since LMX has been found to be applicable in China (Schaubroeck & Lam 2002; Wang et al. 2005; Wang et al. 2008), the following hypothesis is presented.

H₁ Perceived similarity between a supervisor and subordinate is positively related to overall LMX and each of the dimensions of LMX-MDM - affect, loyalty, contribution, and professional respect - in private manufacturing enterprises in China.

H_{1a} Perceived similarity between a supervisor and subordinate is positively related to overall LMX in private manufacturing enterprises in China.

H_{1b} Perceived similarity between a supervisor and subordinate is positively related to LMX-MDM-affect in private manufacturing enterprises in China.

H_{1c} Perceived similarity between a supervisor and subordinate is positively related to LMX-MDM-loyalty in private manufacturing enterprises in China.

H_{1d} Perceived similarity between a supervisor and subordinate is positively related to LMX-MDM-contribution in private manufacturing enterprises in China.

H_{1e} Perceived similarity between a supervisor and subordinate is positively related to LMX-MDM-professional respect in private manufacturing enterprises in China.

2.14.2 Perceived liking as antecedent of LMX

Affect is the major component of interpersonal relationships (Zajonc 1980). Cognitive processes are influenced by affective judgments which can influence further information processing and assessment. In fact cognition can never take place without affect, whereas affect can occur without cognition (Zajonc 1980). The importance of perceived liking in the appraisal of people is demonstrated by the halo effect whereby a global evaluation of a person influences the valuation of individual attributes of that person, even when information allowing completely independent assessment is available (Nisbett & Wilson 1977). The halo effect demonstrates the importance of the affective influence of global evaluation on evaluations of specific attributes (Nisbett & Wilson 1977). Research on the similarity-attraction paradigm and the importance of affect in interpersonal relationships (Byrne 1971; Zajonc 1980) has led many researchers (Day & Crain 1992; Dockery & Steiner 1990; Liden, Wayne & Stilwell 1993; Liden, Sparrowe & Wayne 1997) to investigate the relationship between perceived liking and LMX.

Some researchers have focused on the relationship between affect and performance evaluations since supervisors would like subordinates whose performance was higher than others (Cardy & Dobbins 1986; Landy & Farr 1980; Lefkowitz 2000; Robbins & DeNisi 1994; Tsui & Barry 1986; Varma, DeNisi & Peters 1996; Vilela et al. 2007; Wayne & Ferris 1990). The higher perceived subordinate performance would reflect positively on the supervisors and would make for more pleasant working relationships with subordinates, and in this way LMX would be enhanced.

Perceived liking, even when irrelevant to the task performance being rated, positively influences raters' evaluations of ratees (Cardy & Dobbins 1986). And interpersonal affect is systematically related to rating errors of leniency, halo effect, range restriction and level of interrater agreement (Tsui & Barry 1986). Raters who like ratees give the most lenient performance ratings, while raters who do not like ratees give the least lenient performance ratings. This same relationship between affect and leniency in performance ratings applies to superiors, peers and subordinates (Tsui & Barry 1986).

Supervisors may give higher performance ratings to subordinates due to the affective nature of the relationship, rather than on the basis of objective performance (Duarte, Goodson & Klich 1993). Supervisors would most likely have positive feelings towards employees who demonstrate dependability and responsibility, and would therefore give high performance ratings to those subordinates. Supervisors' positive affective feelings towards subordinates could also result in biased performance ratings if the ratings were based on factors other than actual subordinates' performance. The results of Duarte, Goodson and Klich's (1993) study showed that high performance ratings were given to both high and low LMX subordinates who performed well. However, high LMX subordinates who performed poorly were given high performance ratings which were inconsistent with objective performance measures, while the ratings of low LMX subordinates were

consistent with objective performance measures. These results point to perceived liking being of greater significance than perceived subordinate performance in the development of exchange quality (Duarte, Goodson & Klich 1993). Other studies have found similar results, that is, perceived liking explains a significant proportion of the variance in performance ratings over and above that explained by technical proficiency (Bates 2002; Judge & Ferris 1993; Lefkowitz 2000; Strauss, Barrick & Connerley 2001; Tsui & O'Reilly 1989).

Affect has a direct influence on performance ratings, and an indirect effect through its influence on the cognitive processing of performance evaluations (Robbins & DeNisi 1994). Perceived liking influences both the process and the outcome of performance evaluation. In addition, raters rely on less information for evaluating ratees when they like ratees than when they do not like ratees. So the positive influence of perceived liking on performance appraisal is magnified due to the raters not seeking information that might contradict their bases for liking ratees (Robbins & DeNisi 1994).

Building on Robbins and DeNisi's (1994) findings, Varma, DeNisi and Peters (1996) hypothesized that an intervention designed to facilitate cognitive processes would result in a weaker relationship between affect and performance ratings. In their field study, the type of intervention that they chose was a performance diary for raters to keep on ratees. When performance diaries were used, it was thought that the influence of perceived liking on performance ratings would be reduced, since raters would be able to refer to their diaries for performance information rather than their memories. The results showed that not only was perceived liking significantly associated with performance ratings, the use of diaries strengthened, rather than weakened, the influence of perceived liking.

Beyond the performance appraisal context, perceived liking has been found to be a significant predictor of LMX (Engle & Lord 1997; Lefkowitz 2000; Wayne, Shore & Liden 1997). Wayne and Ferris (1990) conducted a laboratory experiment and a field study of matched supervisor-subordinate dyads in order to evaluate the effects of perceived liking, impression management and performance on LMX from the supervisors' perspective. Both studies provided strong support for supervisor perceived liking of subordinates as a significant determinant of exchange quality. Results from the laboratory and field studies converged, enabling a high level of confidence to be placed in the findings.

Day and Crain (1992) found similar results to those of Wayne and Ferris (1990) when they investigated the role of affect and ability in LMX perceptions in a laboratory setting. Rather than use self-reported perceived liking for a subordinate, Day and Crain (1992) used positive affect (PA) and negative affect (NA), which are regarded as independent of one another, and which are basic dimensions of affect (Watson 1988). In addition, PA and NA are often considered to be more specific and objectively measured affect variables than perceived liking (Watson 1988). Day and Crain (1992) found that for supervisors, a higher-quality relationship was established with subordinates who were low on NA than with subordinates who were high on NA. Similarly, supervisors established a positive relationship with subordinates who

were high on PA. For subordinates, a higher quality of exchange was associated with supervisors who were high on PA. In summary, both supervisors and subordinates liked dyad partners who were interested, active, excited and alert, and when these traits were in existence, high-quality exchange relationships developed. Other studies show that subordinate negative affectivity, where subordinates demonstrate nervousness, anger or disgust, is a significant predictor of low-quality exchange relationships between subordinates and supervisors (Hui, Law & Chen 1999).

Since affect occurs early in the development of interpersonal relationships (Zajonc 1980), the developers of process oriented developmental models of LMX have emphasised that the initial interaction between supervisor and subordinate is of prime importance to the mature exchange relationship (Dienesch & Liden 1986; Graen & Cashman 1975; Liden & Graen 1980). Dockery and Steiner's (1990) correlation and regression results from a laboratory study showed that supervisors' perceived liking of subordinates during the initial interaction was a significant predictor of LMX.

However, not only is perceived liking important in the initial stages of LMX development, its influence remains strong in more established exchange relationships. In a longitudinal study of newly formed dyads, Liden, Wayne and Stilwell (1993) collected data at 2 weeks, 6 weeks and 6 months. Results not only provided strong support for perceived liking as a predictor of LMX at each time period, they revealed that perceived liking early in the relationship predicted variance in LMX at later time periods.

Further support for perceived liking as an antecedent of LMX has come from a recent meta-analysis (Dulebohn et al. in press). From 19 samples that specifically investigated perceived liking as an antecedent, there was a mean true score correlation of .49 with LMX. This was the fifth strongest correlation of the 21 antecedents of LMX that were included in the meta-analysis.

Research in western countries has consistently found perceived liking to be a predictor of LMX (Dockery & Steiner 1990; Wayne & Ferris 1990; Wayne, Shore & Liden 1997). And since LMX has been found to be applicable in China (Aryee & Chen 2006; Hui, Lee & Rousseau 2004; Wang et al. 2008), the following hypothesis is presented.

H₂ Perceived liking between a supervisor and subordinate is positively related to overall LMX and each of the dimensions of LMX-MDM - affect, loyalty, contribution, and professional respect - in private manufacturing enterprises in China.

H_{2a} Perceived liking between a supervisor and subordinate is positively related to overall LMX in private manufacturing enterprises in China.

- H_{2b} *Perceived liking between a supervisor and subordinate is positively related to LMX-MDM-affect in private manufacturing enterprises in China.*
- H_{2c} *Perceived liking between a supervisor and subordinate is positively related to LMX-MDM-loyalty in private manufacturing enterprises in China.*
- H_{2d} *Perceived liking between a supervisor and subordinate is positively related to LMX-MDM-contribution in private manufacturing enterprises in China.*
- H_{2e} *Perceived liking between a supervisor and subordinate is positively related to LMX-MDM-professional respect in private manufacturing enterprises in China.*

2.14.3 Perceived subordinate performance as antecedent of LMX

The role making LMX models (Dienesch & Liden 1986; Graen & Scandura 1987) emphasise the importance of perceived subordinate performance in LMX development. In these models, the supervisor assigns various tasks to the subordinate, and after task acceptance and completion, assesses the subordinate's performance and competence in carrying out those tasks. This cycle of assignment and assessment forms one of the bases for the level of exchange relationship that develops, with high-quality exchanges forming with high competence and high performance subordinates.

Many studies have investigated the role of perceived subordinate performance as an antecedent of LMX, and have found it to be a strong predictor of LMX. In Dockery and Steiner's (1990) study, both correlation and regression analyses supported the hypothesis, from the supervisors' perspective, that supervisor-rated subordinate performance predicted LMX. For the subordinates' perspective, the association between performance and LMX was supported by correlation results only. The stronger relationship from the supervisors' perspective is likely due to supervisors regarding subordinates with high ability as promoting organizational effectiveness, and thus contributing to high LMX. Subordinates, on the other hand, would place emphasis on interpersonal aspects rather than their performance when rating their relationships with supervisors (Dockery & Steiner 1990).

The positive association between performance and LMX that was found in Dockery and Steiner's (1990) study has been found in other work. An earlier study by Kim and Organ (1982) used the construct of Non-contractual Social Exchange (NSE) to represent the exchange relationship between supervisors and subordinates. NSE is a continuum, one end of which represents a purely contractual exchange with formal rules and procedures regulating behaviour, and with neither party 'owing'

An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

anything to the other as individuals. As the parties' behaviours go beyond contractual prescriptions and become increasingly governed by the more flexible arrangements of the norm of reciprocity (Gouldner 1960), the relationship moves towards greater degrees of NSE. At this end of the continuum, obligations of each party to the other become more implicit, trust characterizes the relationship, and the distinction between task and interpersonal aspects of the relationships becomes hazy. Kim and Organ (1982) experimentally tested the influence of subordinate competence, task stress and supervisor orientation on NSE. The findings were that, regardless of the leadership orientation of the supervisor, subordinates' competence had a strong effect on exchange quality between supervisors and subordinates,

Although the relationship between perceived subordinate performance and LMX is strong, there are some different findings between field and laboratory studies. Wayne and Ferris' (1990) laboratory experiment and field study showed that supervisor-rated subordinate performance was an important predictor of supervisor-perceived LMX in the laboratory experiment but not in the field study. In another organizational setting, Snyder and Bruning's (1985) study confirmed that supervisors initiated higher quality exchanges with more competent subordinates. However, Snyder and Bruning's (1985) study differed from that of most other studies that have measured subordinate competence, in that perceived subordinate performance was a self-assessed measure, so the results may not be directly comparable to other studies.

Other work has provided support for the positive relationship between perceived subordinate performance and LMX. Deluga and Perry's (1994) study used a perceived subordinate performance scale that measured ability to work independently and cooperatively, problem solving ability, motivation to work hard and potential for promotion. The authors confirmed that perceived subordinate performance predicted LMX. Additional support came from Day and Crain's (1992) research. However, in Day and Crain's (1992) study, although perceived subordinate performance was positively associated with LMX, that relationship was suppressed by high Negative Affect (NA). For those subordinates who were high on Positive Affect (PA), the performance-LMX relationship was positive, but there was no association for low PA subordinates.

The duration of the supervisor-subordinate dyad and its role in the relationship between perceived subordinate performance and LMX has been investigated. The study of Duarte, Goodson and Klich (1994) found that high perceived subordinate performance was positively associated with high LMX for both short duration and long duration dyads. However, low perceived subordinate performance was associated with low LMX in short duration dyads, but with high LMX in long duration dyads. This counter intuitive finding may be due to the performance of the longer duration subordinates being less important to supervisors than the performance of more recently hired subordinates (Duarte, Goodson & Klich 1994). Also, supervisors may believe that they can improve the performance of subordinates who have been under their supervision for some time, so giving poor performers high ratings reinforces that belief (Duarte, Goodson & Klich 1994). An additional consideration is that the performance of the work group is important for the evaluation of the supervisors' performance. High evaluations of subordinates may

reflect the supervisors' wish to boost his or her own performance ratings (Ilgen & Favero 1985).

Social exchange theory has explained why a subordinate will accept a role request from a supervisor even when the request goes beyond the expectations of the employment contract (Blau 1964). When a subordinate expends time and energy in fulfilling a supervisor's request, that subordinate will expect the supervisor to reciprocate in some way (Eisenberger, Cotterell & Marvel 1987). When reciprocation occurs, a positive social exchange is created. This suggests that a subordinate's good performance will lead to high-quality LMX at some later time period. Longitudinal studies of LMX provide an opportunity to test this concept.

Several longitudinal studies have found positive relationships between perceived subordinate performance and LMX. Liden, Wayne and Stilwell (1993) conducted a longitudinal study at 2 weeks, 6 weeks, and 6 months with newly formed dyads. They found that perceived subordinate performance at 2 weeks was a significant predictor of supervisor perceived LMX, but not at later time periods. It is likely that this result was due to the importance of affective variables such as expectations, perceived similarity and perceived liking, to LMX development (Liden, Wayne & Stilwell 1993).

Further longitudinal research came from Bauer and Green's (1996) study that was designed to test the relationship between LMX and perceived similarity, perceived subordinate performance and delegation. The authors collected data from both supervisors and subordinates at 12 weeks and 34 weeks after subordinates' job entry. They found that a supervisor's rating of a subordinate's performance was an important predictor of LMX, and that increased delegation arising from high perceived subordinate performance was also predictive of LMX. This finding was consistent with the trust-building and role taking models of LMX development (Dienesch & Liden 1986; Graen & Scandura 1987).

Over time, different quality exchange relationships develop. Nahrgang, Morgeson and Ilies (2009), in a longitudinal study of 330 dyads over a period of 8 weeks, examined the development of LMX. The authors found that different quality exchange relationships developed over time, and that perceived subordinate performance significantly predicted the change in supervisor LMX across time. These findings point to a confirmation of the role making models of LMX (Dienesch & Liden 1986; Graen & Scandura 1987), whereby a series of role episodes over time determines the eventual quality of LMX.

In summary, LMX has been found to be an applicable construct in China (Chen et al. 2008; Hui, Law & Chen 1999; Lam et al 2007). Research in western countries has consistently found perceived subordinate performance to be a predictor of LMX (Bauer & Green 1996; Liden et al. 1993; Nahrgang et al. 2009). However, that relationship has been established with the uni-dimensional LMX7 scale. A multi-dimensional approach towards LMX allows the identification of the ways in which perceived subordinate performance influences LMX in China through specific dimensions. Hence, the following hypothesis is presented.

An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

- H_3 *Perceived performance of a subordinate is positively related to overall LMX and each of the dimensions of LMX-MDM - affect, loyalty, contribution, and professional respect - in private manufacturing enterprises in China.*
- H_{3a} *Perceived performance of a subordinate is positively related to overall LMX in private manufacturing enterprises in China.*
- H_{3b} *Perceived performance of a subordinate is positively related to LMX-MDM-affect in private manufacturing enterprises in China.*
- H_{3c} *Perceived performance of a subordinate is positively related to LMX-MDM-loyalty in private manufacturing enterprises in China.*
- H_{3d} *Perceived performance of a subordinate is positively related to LMX-MDM-contribution in private manufacturing enterprises in China.*
- H_{3e} *Perceived performance of a subordinate is positively related to LMX-MDM-professional respect in private manufacturing enterprises in China.*

2.15 Guanxi

Relationships at all levels in Chinese societies are of paramount importance (Ang & Leong 2000; Chow & Ng 2004; Hwang 1987; Jacobs 1979; Luo 2005; Pye 1995; Tsang 1998), and are greatly influenced by the Chinese cultural phenomenon of *guanxi* (Bian & Ang 1997; Chang & Holt 1991; Chen & Chen 2004; Han & Altman 2010). Since LMX is a theory of relationships, it would seem that *guanxi* should be a significant influence in the development of LMX in China.

The indigenous Chinese concept of *guanxi* does not have a direct western equivalent, but can be loosely translated as relationships. However, 'relationship' is too simple a definition since it does not capture the implicit elements of mutual interest and benefit, exchange of favours, reciprocal obligation and indebtedness that are essential aspects of *guanxi* (Hwang 1987; King 1991; So & Walker 2006; Yang 1994; Yeung & Tung 1996). Personal networks exist in many societies, but it is the pervasive nature of *guanxi* and its distinct ways of operation that make it a uniquely Chinese phenomenon (Gu, Hung & Tse 2008).

2.15.1 Origins of *guanxi*

Guanxi arose in Chinese society as a result of the strong influence of Confucian ethics which formed the basis of the education system for officials during the Han Dynasty (206 BC – 8 AD), and which developed into the official state philosophy (Fairbank & Reischauer 1989). Despite the political and social changes that have occurred in China since that time, the influence of the Confucian code of ethics, with its emphasis on the proper conduct of personal relationships, has endured to the present day (Chan 2008; Jacobs, Gao & Herbig 1995; Ralston et al. 2006). Confucianism remains an important and pervasive influence in all strata of Chinese society (Alston 1989; King 1991; Tsui & Farh 1997; Walder 1983), and is still highly valued (Selvarajah & Meyer 2008; Wei et al. 2010). This includes the current Chinese communist government, which promotes and emphasises Confucian values through the state controlled media (Fu & Tsui 2003).

2.15.2 Confucianism and *guanxi*

Confucian philosophy rests on the assumption that man exists, not as an individual, but through his relationships to others (Bond & Hwang 1986). A person therefore cannot be considered in isolation from his context or from his relationships (Bond & Hwang 1986; Redding 1990; Redding & Wong 1986). These relationships are structured hierarchically, with people adopting multiple standards of behaviour for interactions with different people (Hwang 1987). Social order and the harmony of relationships, which are considered to be of particular importance in Chinese culture, come about through each party honouring his or her role requirements (Bond & Hwang 1986; Warner & Zhu 2002). *Guanxi* has arisen from this hierarchical structure because the prescribed roles of all relationships create obligations that the social norms dictate must be met (Chang & Holt 1991; Farh et al. 1998; Han & Altman 2010; Redding & Wong 1986). These norms and standards of behaviour apply in all settings, and they are of particular significance in the business context, where *guanxi* plays a vital role (Luo 1997; Vanhooacker 2004; Wall 1990; Warren, Dunfee & Li 2004; Wood, Whiteley & Zhang 2002).

King (1991), in his study of Confucianism, found that the term *guanxi* is not used in the Confucian classics, but the word *lun* is, and it is in the meaning of *lun* that the derivation of *guanxi* is found. *Lun* has a complex meaning, and refers to the importance of human relationships. The most important relationships are the Five Cardinal Relationships (*wu lun*): ruler-subject, father-son, husband-wife, elder brother-younger brother, and friend-friend (Chen & Chen 2004; King 1991). Each party to the relationship is obligated to act in accordance with the rules of correct behaviour (*li*) which comprise both rights and responsibilities for each party (Bond & Hwang 1986). The obligations of those in superior roles (ruler, father, husband, elder brother) are to be benevolent, righteous and kind toward those in inferior roles (subject, son, wife, younger brother) (Cheng et al. 2004; Farh & Cheng 2000; Tsui et al. 2004). Those in inferior roles have an obligation to show respect to their superiors by demonstrating obedience, loyalty and filial piety (Farh & Cheng 2000;

Tsui et al. 2004). Confucius' Li Ji (The Book of Rites, see Farh & Cheng 2000) laid out the rituals for regulation of interpersonal relationships and civil behaviour, and when relationships are conducted according to the rituals, universal order and social hierarchy are maintained (Bond & Hwang 1986; Gabrenya & Hwang 1996).

2.15.3 The complexity of *guanxi*

An additional meaning of *lun* is social order or differentiated order (Fei 1992) which is maintained by people adopting differential behaviours toward others according to the level of their relationships. These levels of relationships have been likened by Fei (1992) to the ripples created when a stone is thrown into water. While the individual is at the centre, the concentric circles of ripples represent different quality relationships with other people (Fei 1992). Those relationships existing within the innermost ripple are closer and have higher quality *guanxi* than the relationships existing within the outermost ripple (Chang & Holt 1991; Chen & Chen 2004; Wong, CS et al. 2003). Individuals are expected to know their positions and to adopt different behaviours according to the distance between the centre and the ripple (Wong, CS et al. 2003). It is possible, and often desirable, for people to establish a different level of relationship, and the means by which people attempt to do so is by adopting appropriate behaviours for the level of relationship to which they aspire (Chang & Holt 1991). This establishment and building of relationships is known as *la guanxi* or 'pulling *guanxi*' (Chang & Holt 1991; Chen & Chen 2004; Wong, CS et al. 2003; Yang 1994), and reflects the flexibility of relationships that can move towards or away from the centre, thus making *guanxi* closer or more distant (Chen & Chen 2004; Fu, Tsui & Dess 2006).

The literal meaning of *guanxi* is connection, and it is derived from two words: *guan* and *xi* (Chen & Chen 2004; Wong, CS et al. 2003). *Guan* means a 'gateway' or a 'pass' while *xi* means 'linkage'. *Guanxi* therefore refers to the connection between two human beings through a system of linkages which people can choose to open or keep locked (Wong, CS et al. 2003; Yeung & Tung 1996). But the word 'connection' in this context has an expanded meaning since *guanxi* encompasses implicit elements of mutual interest and benefit, exchange of favours, sentiment, reciprocal obligation and indebtedness, (Hwang 1987; King 1991; So & Walker 2006; Yang 1994). The Chinese language itself has the expression of to 'walk *guanxi*' which refers to a person using his or her connections to achieve specific purposes (Ambler 1995; Chang & Holt 1991; Chen & Chen 2004; Wong, CS et al. 2003).

The full meaning of *guanxi* incorporates the concepts of trust (*xing*), sentiment (*ganqing*), human feeling (*renqing*), face (*mianzi*), and reciprocity (*bao*) (Bian & Ang 1997; Chen & Chen 2004; Fu, Tsui & Dess 2006; Yang 1994). There is a very high level of trust among Chinese family members who are considered to be more reliable than any other group, while there is a low level of trust among society at large (Cheng & Rosett 1991; Chow & Ng 2004; Redding 1990). China's underdeveloped legal framework reinforces the need for trust since reliance cannot be placed in formal procedures or institutions, but rather in proven trustworthy

interpersonal relationships (Cheng & Rosett 1991; Kiong & Kee 1998; Xin & Pearce 1996). While trust between family members is taken for granted, the establishment and building of trust within a non-family interpersonal relationship is essential for building close *guanxi* (Bian & Ang 1997; Chen & Chen 2004; Redding 1990). The higher the level of trust, the closer the relationship, and therefore the higher the quality of *guanxi* will be.

Through the influence of *guanxi*, the Confucian principle of social harmony is maintained. One of the key components of *guanxi* is *mianzi* or ‘face’, which is the concept of protecting one’s own dignity and self-respect, and at the same time ensuring that no-one else’s dignity is lost (Redding & Ng 1982). Face is a powerful motivating force for individual behaviour and social interactions, and is fundamental to *guanxi* dynamics. Without *mianzi*, a person is low in status and has limited social resources to develop *guanxi* (Chen 2004; Redding & Ng 1982). Since man is regarded as a relational being, loss of face and the associated diminution of *guanxi* is a major concern for Chinese people (Bond & Hwang 1986). People will therefore pay great attention to actions that will gain face for oneself, save one’s face, give face to others, and prevent others from losing face (Bond & Hwang 1986; Chen 2004; Redding & Ng 1982).

In managing *guanxi*, *renqing* is an important component. *Renqing* is a social expression of human feelings (Chen 2004; Yang 1994). Since it involves the proper way of conducting oneself in social exchange, there is an obligation for people to not only exchange favours, but to do so with grace and concern for the human feelings involved. If one does not follow this social norm, that person is regarded as being ignorant of behavioural propriety and incapable of managing interpersonal relationships (Chen 2004; Wong, Wong & Wong 2010; Yang 1994). *Guanxi* is a form of social exchange, and *renqing* provides the moral force for people to conduct their social exchange in a friendly manner and to place importance on the bond of reciprocity. In this way, *renqing* reinforces the obligations of a *guanxi* relationship.

2.15.4 Classification of *guanxi*

Both Yang (1993) and Hwang (1987) have classified the strength of *guanxi* relationships in terms of the nature and purpose of interactions, this classification resulting in three categories.

The first category of socio-affective *guanxi* refers to family (*jia ren*) relationships where social interactions satisfy the need for belonging and emotional attachment (Chen & Chen 2004; Hwang 1987; Leung, Heung & Wong 2008). Not only are these family ties the closest of all *guanxi*, the social norms of Chinese society ensure that the highest degrees of trustworthiness, loyalty and obligation exist within family relationships (Fu, Tsui & Dess 2006; Tsui & Farh 1997).

The second category of instrumental *guanxi* refers to the relationship between strangers (*sheng ren*) where there is no expectation of affection or obligation but

rather an expectation of objective and fair exchanges similar to those occurring between buyers and sellers (Chen & Chen 2004; Hwang 1987; Leung, Heung & Wong 2008), and where interactions are temporary and mostly utilitarian (Tsui & Farh 1997). *Shengren* based *guanxi* is the most distant, the least reliable and the least useful relationship (Chen & Chen 2004).

The third category of mixed *guanxi* is found among familiar people (*shou ren*) such as co-workers, and involves both material exchanges and those of affection (Fu, Tsui & Dess 2006; Hwang 1987). For example, affective exchanges between co-workers may be playing sport together or having dinner parties, while instrumental exchanges may be helping a colleague solving a work problem or cooperating at work (Chang & Holt 1991).

Guanxi then, falls into three categories of relationship closeness, with family being the closest, strangers being the most distant, and familiar people lying between the two (Hwang 1987; Yang 1993). The three categories are not fixed, as it is possible for people to move between categories as a result of taking action to build, or 'pull', *guanxi* (Chang & Holt 1991; Fan 2002b).

2.15.5 *Guanxi* and organizational outcomes

Guanxi is associated with various organizational outcomes. *Guanxi* is positively related to subordinates' trust in their supervisor (Farh et al. 1998; Hui et al. 1998; Wong, Ngo & Wong 2003; Wong, Wong & Wong 2010), corporate social responsibility (Ouyang 2011) and subordinates' organizational citizenship behaviour (Lin & Ho 2010; Wong, Ngo & Wong 2003). It is positively related to favourable evaluations in mainland China and Taiwan (Farh et al. 1998), and is significantly related to Chinese work team effectiveness in Taiwan (Chou et al. 2006). *Guanxi* between supervisors and subordinates has a positive relationship with organizational commitment (Cheung et al. 2009) and to procedural justice perceptions in mainland China (Chen et al. 2011). *Guanxi* between supervisors and subordinates increases the positive impact that effective participatory management has on both organizational commitment and OCB (Cheung & Wu 2011). *Guanxi* is positively associated with job satisfaction, and negatively associated with job turnover (Cheung et al. 2009), while the acceptance and support that *guanxi* provides are the main reasons for managers' reluctance to leave their organizations (Li & Madsen 2010). In a study from mainland China, Wang, Long and Liu (2011) found that LMX and *guanxi* were positively related, with a significant correlation of .58.

Loyalty and commitment to a supervisor are significant factors among those who have *guanxi*, and this is reflected in extra effort and favourable work evaluations (Chen, Tsui & Farh 2002; Tsui & Farh 1997). *Guanxi*-generated commitment to supervisors has a direct effect on organizational commitment (Wong 2001), and *guanxi*-generated loyalty to supervisors is more important than organizational commitment in explaining turnover intention and job satisfaction (Chen 2001; Chen,

Tsui & Farh 2002). In addition, *guanxi* is a significantly positive factor in open exchange between managers and employees (Chen & Tjosvold 2006, 2007).

The reciprocity and moral obligations associated with *guanxi* mean that transactions between *guanxi* partners are guaranteed by interpersonal trust, thereby leading to reduced transaction costs (Ambler 1995; Davies et al. 1995; Standifird & Marshall 2000). *Guanxi* promotes trust in salespersons (Lee & Dawes 2005), and provides businesses with sustainable competitive advantage (Fock & Woo 1998; Tsang 1998). It smooths the path of international firms' entry into China (Abramson & Ai 1999; Yeung & Tung 1996), and helps internationally oriented SMEs to enter international markets more rapidly and profitably (Zhou, Wu & Luo 2007).

2.15.6 Particularistic *guanxi* versus differential behaviours *guanxi*

Before an interpersonal relationship can be acknowledged, there needs to be some kind of base for that relationship to be developed. According to Jacobs (1979, 1982), a *guanxi* base exists when there are direct particularistic ties between two individuals. Ties of shared identification may be ascribed, such as kinship, natal origin, or surname, or may involve shared past experience, such as having been neighbours, classmates, co-workers, teacher/student or supervisor-subordinate (Farh et al. 1998; Jacobs 1979). The shared commonalities are not necessarily contemporaneous – two people may have worked for the same company but at discrete time periods, yet still legitimately claim to have a *guanxi* base (Chen & Chen 2004). These particularistic ties have expressions in the Chinese language. The word *tong* means same or common or shared, and is used to denote different types of *guanxi* bases (Chen & Chen 2004; Jacobs 1979). Examples of some common expressions of claimed ties are: *tong xiang* (same natal origin) *guanxi*, *tong xue* (same educational institution) *guanxi*, and *tong shi* (same workplace) *guanxi* (Chang & Holt 1991; Chen & Chen 2004). The use of these expressions provides an indication of the scope and complexity of *guanxi*, as well as its general acknowledgment by the populace as an integral part of Chinese society.

The significance of particularistic ties has led some authors (Farh et al. 1998; Tsui & Farh 1997) to define and operationalize *guanxi* as the existence of direct particularistic ties. Using a dichotomized *guanxi* variable of whether the ties exist or not, Farh et al.'s (1998) study found a positive relationship between supervisor-subordinate *guanxi* and subordinate trust in supervisor. However, the study's treatment of *guanxi* as a fixed attribute only looked at the *guanxi* bases, and did not consider the quality of the *guanxi* relationships. Two persons may share a *guanxi* base, but the mere existence of a *guanxi* base does not in itself ensure that the two persons will share a strong relationship or engage in *guanxi* building (Chen & Chen 2004; Wong, CS et al. 2003). Having a shared base of, say, the same home town, does not necessarily mean that two persons have *guanxi*, rather it means that those two people have a shared base from which *guanxi* may or may not be developed (Bian & Ang 1997; Zhang & Zhang 2006). So a *guanxi* measure that indicates only the presence or absence of a particularistic tie does not capture the full extent or

quality of a relationship. Tsui and co-authors subsequently acknowledged the narrow confines of the dichotomous *guanxi* scale in their 1997 study, and made modifications to their original framework in order to take into account the nature of a *guanxi* relationship, not just the *guanxi* base (Tsui, Farh & Xin 2000).

The nature of a *guanxi* relationship is mostly referred to in terms of degrees of closeness (Chang & Holt 1991; Chen & Chen 2004; Chen & Peng 2008; Fu, Tsui & Dess 2006). For *guanxi* to become 'close', two dynamic norms of behaviour must operate: (1) social interaction and (2) utilization and helping (Hwang 1987; Jacobs 1979; Kiong & Kee 1998; Wong, CS et al. 2003).

Social interaction, such as greetings, visits, dinners, and exchanging gifts, is essential to both the development and the maintenance of close *guanxi*, since it enables the level of trust between two people to be established. Without social interaction, *guanxi* becomes distant, and over time dissolution of the *guanxi* relationship may result (Kiong & Kee 1998; Wong, CS et al. 2003).

Helping behaviours are the expected actions that one will undertake when a *guanxi* partner is in need. The help extended to each party does not necessarily have to be of equal benefit, and help given by one party does not have to be immediately returned by the other party. However, it is essential for the maintenance of *guanxi* that the one who provides the help can depend on the recipient to return the favour in time of need (Hwang 1987).

The obligations of *guanxi* may create disadvantages for relationship partners. Obligations may become too numerous or too difficult to repay. One partner may be required to reciprocate a favour that is disproportionate to the request by the other partner. Although exchanges do not have to be equal, continual requests by one party for unequal exchanges place stress on the relationship. And yet it is difficult to avoid returning favours because favours cannot be quantitatively assessed, and because the Confucian based culture that gives rise to *guanxi* obliges people to return favours. In such situations, people may prefer not to cultivate *guanxi* in the first place in order to avoid the difficulties of meeting obligations (Kiong & Kee 1998). In addition, once people place themselves in a *guanxi* network, they are locked into interdependent relationships with others, and are socially obliged to help them when requested. Consequently, people lose autonomy and freedom of choice, and so may try to avoid building *guanxi* in order to avoid this dependence (Chen 2004; Fan 2002a).

However, despite the possible negative consequences of *guanxi*, it remains a very strong influence on interpersonal relations (Chan 2008; Ralston et al. 2006; Wei et al. 2010). The differential behaviours and exchanges of *guanxi* are regarded as ethical and meaningful in Chinese societies (Han & Altman 2009). They create reciprocal obligations that have no time limit, and consequently, people become bonded over long periods of time (Alston 1989). The strength of a *guanxi* relationship, then, is indicated by the socially dictated behaviours of the persons involved in that relationship.

2.15.7 Measurement of *guanxi*

In order to acknowledge the dynamic view of *guanxi*, researchers have developed measures of *guanxi* that take into account specific behaviours that demonstrate the degree of closeness of a *guanxi* relationship (Chen et al. 2009; Chen & Peng 2008; Law et al. 2000; Wong, CS et al. 2003). A process view of *guanxi* reflects the developmental aspects of relationship making, rather than a static view of *guanxi* as represented by the dichotomous *guanxi* scale of Farh et al. (1998).

Chen and Peng (2008) developed and validated a co-worker *guanxi* scale, and found support for *guanxi* as a relational attribute that could be enhanced or diminished by specific behaviours of the dyad members. However, their 9-item, 2-factor scale that the authors called ‘coworker relationship closeness’ combined non-specific behaviours and perceptions of the attributes of other persons and, in addition, included some items in a factor that were not relevant to that factor. For example, the item ‘We understand each other’ was included in the instrumental factor, yet this item is more of a perception than an action. The expressive factor of Chen and Peng’s (2008) scale included items such as ‘We have similar personalities’ and ‘We have similar interests and hobbies.’ However, positive responses on these items do not necessarily mean that two persons have *guanxi*, since the items are merely perceptions about another person, and do not reflect the helping behaviours that are typical of those who have *guanxi* relationships. Such perceptions could be made about persons with whom there is no *guanxi* at all. Chen and Peng’s (2008) scale then, cannot capture all the components that *guanxi* entails.

Chen et al. (2009) developed and validated a three dimensional *guanxi* scale that reflected certain behaviours that are associated with *guanxi*. The three dimensions were affective attachment, personal-life inclusion and deference to supervisor. Chen et al.’s (2009) scale does not include a celebration dimension. Yet the common occurrence of celebrating special events with *guanxi* partners (for example) and the exchange of plaques to mark those events are indicative of the part that celebration plays in *guanxi* (Jacobs 1979; Yang 1994). Indeed, in this thesis, the use of CS Wong et al.’s (2003) *guanxi* scale demonstrated that the celebration dimension of *guanxi* was an important contributor to the supervisors’ good relationships with subordinates. Chen et al.’s (2009) scale does not include a financial assistance dimension, yet this thesis’ use of CS Wong et al.’s (2003) scale demonstrated that the *guanxi* dimension of financial assistance contributed to the LMX relationship. The non-inclusion of this dimension in Chen et al.’s (2009) scale may mean that the scale does not fully cover the *guanxi* construct. Chen et al.’s (2009) *guanxi* scale does include relevant behaviours for *guanxi* development, but it may not be as comprehensive a scale as the *guanxi* concept warrants.

Law et al.’s (2000) work on the development of a behaviour based supervisor-subordinate *guanxi* scale was extended and refined by CS Wong et al. (2003) who conducted two studies in order to develop, validate and test a *guanxi* scale based on behaviours between dyadic members. The first study’s exploratory factor analysis validated the five-factor structure of the *guanxi* scale, and established convergent and

discriminant validity of the scale. In order to cross validate the factor structure of the *guanxi* scale in a second study, CS Wong et al. (2003) used LISREL 8.14 (Jöreskog & Sörbom 1993) to conduct a confirmatory factor analysis. The results showed *guanxi* to be a distinct concept from LMX, affective commitment and satisfaction with supervisor. The results also showed that *guanxi* mediated the relationship between relational demography and organizational outcomes, and that *guanxi* contributed to satisfaction with supervisor over and above that explained by LMX, as measured by a uni-dimensional scale. As a result of the rigorous testing and validation of this scale, researchers now have a multi-dimensional scale of *guanxi* that reflects the type of behaviours that partners engage in when *guanxi* exists between them.

2.15.8 *Guanxi* and LMX

Because *guanxi* refers to relationships between individuals, there is a connection between *guanxi* and the supervisor-subordinate relationship. The Confucian concept of *wu lun* has established that human relationships should be regulated by the five cardinal relationships, and that people should accept their positions in the hierarchy. When these rules of behaviour are followed, social order and harmony are ensured. These expectations of differentiated order extend into organizational life (Shi & Westwood 2000). Subordinates prefer a leadership style in which the supervisor maintains social harmony and practises consideration in relationships with subordinates (Bond & Hwang 1986). The supervisor-subordinate relationship is viewed as similar to that of the father-son relationship as described in the Confucian classics (Wei et al. 2010). Supervisors at work are regarded as having the same sort of authority that the father of the family has (Liu, S 2003; Tsui et al. 2004). Subordinates accept the authority of the superior, and in exchange the superior uses his or her authority with consideration and concern for subordinates, in a similar way that a father shows concern and protection for his children (Liu, S 2003). This traditional view of the supervisor as being a patriarchal figure with strong relationships with each subordinate remains entrenched in Chinese society, with great importance being attached to the supervisor-subordinate relationship (Wall 1990).

Guanxi has further implications in the work context. Even though performance appraisal based on objective criteria has become more common in China since the 1990s (Ding, Akhtar & Ge 2009), there is still an attitude among employees that performance appraisal should be based on behaviours rather than results (Cai, Morris & Chen 2011). Supervisors, when assessing the performance of subordinates, take *guanxi* into account (Bozionelos & Wang 2007). Supervisors regard this as avoiding negative consequences of not taking *guanxi* into account. Supervisors consider the loss of face that poor performance evaluations would bring, and are therefore reluctant to give low ratings to subordinates (Bozionelos & Wang 2007). In addition, supervisors may slant performance appraisals in a positive direction in order to have harmonious *guanxi* with subordinates (Fu & Kamenou 2011). So, objectivity of

performance evaluations, although known to be desirable, is diminished as a result of the importance placed on *guanxi* considerations.

Interpersonal relationships remain as one of the most fundamental influences on the operation of society at large (Han & Altman 2009; Wong 2010; Zhuang, Xi & Tsang 2010). The reforms carried out in China since 1978 have altered the economic environment (Boisot & Child 1996; Zhang 2004), but the rule of man and personal decision making, features that have been dominant for centuries in China, remain central characteristics of Chinese society (Faure & Fang 2008; Liu, B 2003). In such a relationship based society, China appears to provide fertile ground for studies of LMX.

Role theory and social exchange theory provide further rationale for the manifestation of *guanxi* and its role in affecting dyadic relationships.

Role theory takes the view that human behaviour is dependent upon the expectations of the individual and of others. People learn these expectations through experience, and then act in ways that are consistent with those expectations (Biddle 1986). Functional role theory describes socially regulated behaviour as being due to actors in the social system conforming to normative expectations. The characteristic and appropriate behaviours of people occupying social positions have been learned, so the social system is one of stability, where actors themselves not only conform to norms, but sanction others for non-conformity (Bates & Harvey 1975; Parsons & Shils 1951).

Conforming to norms is a crucial determinant of social behaviour in China, where *guanxi* influences the Confucian principle of social harmony, and stability is maintained by people acting according to learned expectations (Bond & Hwang 1986; Fei 1992). When people do not conform to norms, social sanctions result in loss of *mianzi* or 'face'. Face is an integral part of *guanxi*, and a loss of face means that a person loses his or her social standing (Redding & Ng 1982). Role expectations are also of importance in LMX relationships, since role theory provides theoretical foundation for LMX (Katz & Kahn 1978; Liden & Maslyn 1998). Whether high quality or low quality LMX relationships develop is partly dependent upon the degree to which dyad members fulfill expected roles (Dienesch & Liden 1986). So, role theory provides a base for both *guanxi* and LMX. However, the two are distinct concepts. *Guanxi* adds to a dyadic relationship in a way that is different from and beyond a work relationship that is based on similarity or liking or work performance. It is therefore hypothesized that the relationship between perceived similarity, perceived liking and perceived subordinate performance on the one hand and LMX on the other is positively moderated by *guanxi*.

Social exchange theory provides a further explanation for the influence of *guanxi* on LMX relationships. Social exchange theory holds that when a person helps another, this creates an expectation and an obligation on the part of the one who has been helped to return the favour (Bateman & Organ 1983; Gouldner 1960). This norm of reciprocity is based on the individual's trust that the other party will fulfill their obligations (Holmes 1981), although the time of the return of the favour

and the form it may take is often unknown (Gouldner 1960; Organ 1990). There is an implicit understanding of reciprocal obligations, with each party having rights and duties that maintain the relationship, and this in turn maintains the stability of the social system. Within the social system, people have different status, and while the norm of reciprocity ensures that obligations are met, those obligations may vary according to the status of the individuals involved in the social exchange (Gouldner 1960).

Guanxi is a form of social exchange since it imposes reciprocal obligations on people to help *guanxi* partners and to exchange favours, thus maintaining social stability (Han & Altman 2010; Hwang 1987). Social exchange theory provides a foundation for LMX, since exchanges between a supervisor and a subordinate - for example, advice, information, friendship – create obligations on each party to reciprocate (Sparrowe & Liden 1997). Since LMX involves obligations arising from working relationships, and since *guanxi* involves obligations arising from both work and non-work relationships, it would be expected that *guanxi* complements a supervisor-subordinate exchange relationship based on similarity, liking or work performance.

This view of *guanxi* as an influence on relationships within organizations was found to apply in the work of Cheung and Wu (2011) whose results from a China-based study showed that *guanxi* positively moderated the relationship between effective participatory management and organizational commitment. Organizational commitment in China reflects more of a commitment to supervisors because of the importance placed on ‘personalism’ (Redding 1990), and because loyalty to people takes precedence over loyalty to organizations in Chinese societies (Farh & Cheng 2000). Since *guanxi* itself is a phenomenon of interpersonal relationships, and since it has further impacts on other relationships, it is hypothesised that *guanxi* positively moderates the relationship between perceived similarity, perceived liking and perceived subordinate performance on the one hand and LMX on the other.

Although both LMX and *guanxi* are concerned with relationships, LMX is theoretically distinct from *guanxi* (Law et al. 2000; Wong, CS et al. 2003). CS Wong and colleagues (2003), in their development and validation of a multi-dimensional *guanxi* scale, measured existing management constructs that were closely related to *guanxi* in order to demonstrate discriminant validity of *guanxi*. LMX and organizational citizenship behaviour (OCB) (Organ 1988) were the two constructs selected. LMX and *guanxi* are similar in that both measure a dyadic relationship. However, whereas LMX theory is concerned with the various exchanges that occur within the vertical dyad, *guanxi* can apply to all dyadic relationships, and encompasses interactions between colleagues that occur both at work and outside work. Regarding OCB, *guanxi* is similar in that both constructs measure extra-role activities that go beyond formal role requirements and beyond what is included in the employment contract (Smith, Organ & Near 1983). However, *guanxi* differs from OCB in that OCB is a ‘good soldier’ syndrome of contributing extra-role behavior for the sake of the system or organization (Organ 1988; Smith, Organ & Near 1983), whereas *guanxi* is a set of activities that an employee carries out to re-affirm his or her relationship with a specific colleague (Wong, CS et al.

2003). The exploratory factor analysis on the LMX, OCB and *guanxi* items that CS Wong et al. (2003) conducted confirmed the discriminant validity of the *guanxi* construct.

The LMX scale that was used in CS Wong et al.'s (2003) study was the uni-dimensional LMX7. LMX7 does not have an affect component, whereas the multi-dimensional LMX-MDM scale does include an affect component. Consequently, if the LMX-MDM scale had been used, it would have been expected to highlight even greater differences between LMX and *guanxi*.

LMX and *guanxi*, although distinct, share a relationship perspective. *Guanxi* is an investment in social relationships at all levels and across all sectors of Chinese society, and it plays a central role in business conduct and social relations (Luo 1997). It is therefore likely that, given a society where 'personalism' (Redding 1990) and interpersonal relationships define many behaviours, the exchanges between supervisors and subordinates are of particular significance in China.

Since both *guanxi* and LMX are concerned with interpersonal relationships, yet are distinct from each other, it is likely that *guanxi* has an impact on exchange relationships within vertical dyads at work. The following hypotheses regarding this impact of *guanxi* are presented.

H₄ Guanxi between a subordinate and supervisor positively moderates the relationship between subordinate-supervisor perceived similarity and overall LMX, and each of the dimensions of LMX-MDM - affect, loyalty, contribution, and professional respect - in private manufacturing enterprises in China.

H_{4a} Guanxi between a subordinate and supervisor positively moderates the relationship between subordinate-supervisor perceived similarity and overall LMX in private manufacturing enterprises in China.

H_{4b} Guanxi between a subordinate and supervisor positively moderates the relationship between subordinate-supervisor perceived similarity and LMX-MDM-affect in private manufacturing enterprises in China.

H_{4c} Guanxi between a subordinate and supervisor positively moderates the relationship between subordinate-supervisor perceived similarity and LMX-MDM-loyalty in private manufacturing enterprises in China.

H_{4d} Guanxi between a subordinate and supervisor positively moderates the relationship between subordinate-supervisor perceived similarity and LMX-MDM-contribution in private manufacturing enterprises in China.

- H_{4e} Guanxi between a subordinate and supervisor positively moderates the relationship between subordinate-supervisor perceived similarity and LMX-MDM-professional respect in private manufacturing enterprises in China.*
- H₅ Guanxi between a subordinate and supervisor positively moderates the relationship between subordinate-supervisor perceived liking and overall LMX, and each of the dimensions of LMX-MDM - affect, loyalty, contribution, and professional respect - in private manufacturing enterprises in China.*
- H_{5a} Guanxi between a subordinate and supervisor positively moderates the relationship between subordinate-supervisor perceived liking and overall LMX in private manufacturing enterprises in China.*
- H_{5b} Guanxi between a subordinate and supervisor positively moderates the relationship between subordinate-supervisor perceived liking and LMX-MDM-affect in private manufacturing enterprises in China.*
- H_{5c} Guanxi between a subordinate and supervisor positively moderates the relationship between subordinate-supervisor perceived liking and LMX-MDM-loyalty in private manufacturing enterprises in China.*
- H_{5d} Guanxi between a subordinate and supervisor positively moderates the relationship between subordinate-supervisor perceived liking and LMX-MDM-contribution in private manufacturing enterprises in China.*
- H_{5e} Guanxi between a subordinate and supervisor positively moderates the relationship between subordinate-supervisor perceived liking and LMX-MDM-professional respect in private manufacturing enterprises in China.*
- H₆ Guanxi between a subordinate and supervisor positively moderates the relationship the perceived performance of a subordinate and overall LMX, and each of the dimensions of LMX-MDM - affect, loyalty, contribution, and professional respect - in private manufacturing enterprises in China.*
- H_{6a} Guanxi between a subordinate and supervisor positively moderates the relationship between the perceived performance of a subordinate and overall LMX in private manufacturing enterprises in China.*

- H_{6b} *Guanxi between a subordinate and supervisor positively moderates the relationship between the perceived performance of a subordinate and LMX-MDM-affect in private manufacturing enterprises in China.*
- H_{6c} *Guanxi between a subordinate and supervisor positively moderates the relationship between the perceived performance of a subordinate and LMX-MDM-loyalty in private manufacturing enterprises in China.*
- H_{6d} *Guanxi between a subordinate and supervisor positively moderates the relationship between the perceived performance of a subordinate and LMX-MDM-contribution in private manufacturing enterprises in China.*
- H_{6e} *Guanxi between a subordinate and supervisor positively moderates the relationship between the perceived performance of a subordinate and LMX-MDM-professional respect in private manufacturing enterprises in China.*

2.16 Conclusion

This chapter has reviewed the literature concerning the relationships of perceived similarity, perceived liking and perceived subordinate performance with LMX. It has also reviewed the literature concerning the indigenous concept of *guanxi*. It has discussed the issue of dimensionality of LMX, and the measurement problems associated with some LMX scales. It has highlighted a past research problem of only taking one perspective of the exchange relationship. It has also highlighted some measurement problems associated with *guanxi*.

The following chapter will describe and justify the methodology used for the testing of the thesis' hypotheses.

CHAPTER 3

METHODOLOGY

3.1 Introduction

Chapter 2 provided an account of the literature pertaining to, and giving rise to the research questions. Chapter 3 describes the methodology used to provide the data to investigate those research questions. Section 1.4 of chapter 1 provided an introduction to the methodology; this chapter builds on that introduction and provides an account of how appropriate procedures were followed. The chapter is organized around the following major areas: justification for the methodology, justification for the individual level of analysis, the sample, the materials, the survey procedures, and data processing methods.

3.2 Justification for the methodology

The theory of LMX has provided the guidelines for the design and strategy of this thesis. LMX theory holds that instead of an average leadership style (Dansereau, Graen & Haga 1975; Graen 1976; Graen & Cashman 1975) that is applied across all levels of an organization and to all employees, different relationships between a supervisor and subordinates develop in organizations. Some dyadic relationships develop into high-quality relationships whereby the supervisor and subordinates engage in trusting, helpful, mutually supporting relationships. Other dyadic relationships are regarded as low-quality, whereby the relationships are characterized by compliance with the employment contract only. It is the high-quality relationship that is associated with many positive outcomes for the organization.

The exchange relationship in LMX has frequently been regarded as a uni-dimensional concept (Graen 1976; Graen & Cashman 1975; Graen & Uhl-Bien 1995), but role theory, which has provided the base for LMX research, emphasises the multi-dimensional nature of roles (Katz & Kahn 1978; Jacobs 1971). A multi-dimensional perspective of LMX takes into account the complex nature of exchange relationships, recognizes that those relationships can vary from low to high-quality, and allows researchers to determine how different exchange relationships develop (Dienesch & Liden 1986; Liden & Maslyn 1998). It is the multi-dimensional approach towards LMX that has provided the theoretical framework for this thesis.

Of the antecedents to LMX that have been investigated, those of perceived liking, perceived similarity and perceived subordinate performance provided further focus for this thesis. Perceived liking has been found to have a significant influence on the supervisor-subordinate relationship in organizations (Byrne 1971; Dockery &

Steiner 1990; Lefkowitz 2000; Liden, Wayne & Stilwell 1993; Wayne & Ferris 1990). Likewise, perceived similarity has been found to be related to the quality of the supervisor-subordinate relationship (Kacmar et al. 2009; Liden, Wayne & Stilwell 1993; Phillips & Bedeian 1994; Sears & Holmvall 2010; Schaubroeck & Lam 2002; Turban & Jones 1988). And support for member performance as an antecedent of LMX has been found in several studies (Bauer & Green 1996; Deluga & Perry 1994; Dockery & Steiner 1990; Nahrgang, Morgeson & Ilies 2009; Wayne & Ferris 1990).

The setting for this thesis was China, a context different from those in which most of the existing LMX research has taken place. It was therefore important to consider significant culturally-specific phenomena that may influence the operation of LMX in China. A phenomenon that is of particular importance, and which was a key variable in this thesis, is that of *guanxi*. The indigenous concept of *guanxi* can be loosely described as a system of interpersonal relationships, but it is more complex than that. It involves adherence to prescribed roles, social obligations, reciprocity, standards of behaviour, exchange of favours and mutual interest and benefit (Chang & Holt 1991; Farh et al. 1998; Hwang 1987; So & Walker 2006). These *guanxi*-dictated behaviours are embedded in all settings and layers of Chinese society. The role and importance of *guanxi* to successful organizational operations in China has been well documented (Alston 1989; Luo 1997; Wall 1990; Warren, Dunfee & Li 2004; Wong & Huang 2003; Xin & Pearce 1996), and is recognized as an all pervasive, crucial, and socially accepted and understood phenomenon of Chinese society (Chow & Ng 2004; Luo 2005; Luo 1997; Tsang 1998; Wall 1990; Wood, Whiteley & Zhang 2002).

Both LMX and *guanxi* are concerned with relationships, but the two are theoretically distinct (Law et al. 2000; Wong, CS et al. 2003). Whereas LMX refers to the relationship between supervisor and subordinate, *guanxi* refers to all dyadic relationships, not just those between supervisor and subordinate. LMX focuses on the vertical dyadic relationship, whereas *guanxi* can apply to both vertical and lateral relationships, and can involve both work and non-work interactions.

Despite the clear conceptual differences between LMX and *guanxi*, the two constructs are related in that they both refer to the quality of relationships, and it is this that provides focus for this thesis. It is posited that while perceived liking, perceived similarity and perceived subordinate performance have significant predictive ability for LMX, those relationships are themselves influenced by *guanxi* between supervisor and subordinate. This thesis has taken the perspectives of both supervisors and subordinates, and has assessed the significance of the predictors of perceived liking, perceived similarity and perceived subordinate work performance to LMX in China, and the moderating role of *guanxi* in the relationship between the three above mentioned predictors and the quality of LMX. This is diagrammatically represented by Figure 3.1. The model is a conceptual one. How the concepts are operationalized is the subject of succeeding sections. The model in Figure 3.1 is applicable to both supervisors and subordinates.

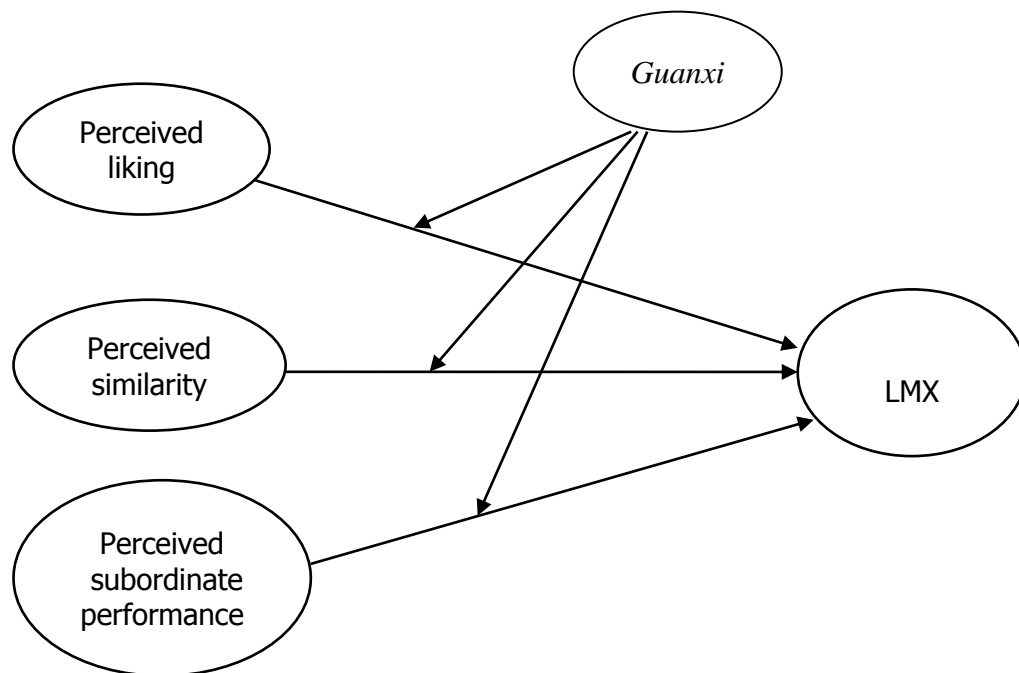


Figure 3.1 Model of predictors and moderator of LMX

3.3 Justification for the individual level of analysis

The findings of this thesis are expected to apply to the individual level of analysis, for which there is both theoretical and empirical justification.

3.3.1 Theoretical justification for the individual level of analysis

Role theory takes the view that a person's behaviour is dependent upon the expectations of the individual and of others (Biddle 1986). An individual, or 'focal person', in an organization responds to the expectations of the members of a role set and to his or her received role, which is the focal person's perception of the messages sent by the role set (Katz & Kahn 1978). The ensuing role behaviour of the individual is a response to those expectations. Although roles exist in and are influenced by the social framework, it is the combination of role expectations, sent roles and role pressures that culminate in the role behaviour of the individual (Shivers-Blackwell 2004). Roles define individual selves and guide individual perception and action (Callero, Howard & Piliavin 1987). The importance of the

An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

individual in role theory therefore provides a basis for adopting an individual level of analysis in this thesis.

3.3.2 Empirical justification for the individual level of analysis

Further justification for using the individual level of analysis comes from empirical studies. Most LMX research has adopted a single perspective only, usually that of the subordinate (Gerstner & Day 1997; Graen & Uhl-Bien 1995; Liden & Maslyn 1998). Those studies that have used the perspectives of both supervisor and subordinate show poor convergence of supervisor and subordinate views of exchange quality (Brower, Schoorman & Tan 2000; Zhou & Schriesheim 2009, 2010). Tekleab and Taylor (2003), in their study on levels of agreement on obligations of the psychological contract, found a correlation of .34 between supervisors and subordinates in their perceptions of LMX. Cogliser et al. (2009), in a study on the relationship between congruence in supervisor and subordinate ratings of LMX and subordinate job performance, found a correlation of .27 between supervisor and subordinate perspectives of LMX. Paglis and Green (2002), in a study of 127 matched dyads, found a correlation of .19 between supervisor and subordinate perspectives of LMX. Kacmar et al.'s (2009) study of the predictive ability of deep level and surface level similarity for LMX found a correlation of .34 between the perspectives of supervisors and subordinates. In a longitudinal study, Liden, Wayne and Stilwell (1993) found significant correlations ranging from .16 and .26 between the two perspectives of LMX across three time periods. Cogliser et al. (2009) undertook a study on the relationship of LMX with job performance and work attitudes, and found a correlation of .27 between supervisor and subordinate LMX perceptions. In the 24 samples that measured LMX from both perspectives in Gerstner and Day's (1997) meta-analysis, there was a correlation of .29 between supervisor and subordinate perspectives of LMX. Sin, Nahrgang and Morgeson's (2009) meta-analysis revealed a true score correlation of .37 between supervisor and subordinate ratings of LMX from 63 independent samples measuring LMX from both perspectives. Other authors (Campbell & Lee 1988; Harris & Schaubroeck 1988) have found similar differences between supervisors' and subordinates' ratings of perceived subordinate performance, and have suggested that differences in hierarchical levels are responsible.

Schriesheim, Castro and Yammarino (2000), using a WABA analysis, reported a correlation of .26 between the two perspectives, and found that the relationship between perceived subordinate performance and LMX functioned predominantly at the individual level of analysis. Cogliser and Schriesheim (2000) specifically tested levels of analysis in a study of the relationship between work unit context and LMX. The authors' WABA analysis showed that LMX quality operated at both the within-group and between-group levels, which is regarded as an individual-level effect (Henderson et al. 2009).

Schyns and Wolfram (2008) used the multi-dimensional LMX scale of Liden and Maslyn (1998) in a study of LMX and its outcomes, and found that only one of

the four LMX dimensions showed a significant correlation between supervisor and subordinate perspectives of LMX, that correlation being .38. Sin, Nahrgang and Morgeson's (2009) meta-analysis included 9 samples which used Liden and Maslyn's (1998) multi-dimensional LMX-MDM scale and which collected data from both supervisors and subordinates. The results not only showed low correlations between supervisors' and subordinates' perspectives of the LMX dimensions, but also that those correlations differed between dimensions, .38 for affect, .32 for loyalty, .33 for contribution and .21 for professional respect.

As a result of these empirical findings, Zhou and Schriesheim (2010) conducted two studies to specifically test the differences between supervisors' and subordinates' perceptions of their LMX relationships. Zhou and Schriesheim (2010) used interview and survey data to examine the differing perceptions of supervisors and subordinates towards LMX quality. The authors employed a basket of qualitative and quantitative measures for their testing and analyses of the following: differential foci of supervisors and subordinates, differential weight given by the two perspectives, and classification of LMX sub-dimensions as task or socially oriented. They found strong support for a lack of construct convergence between the two perspectives. Supervisors were more likely to place a higher importance on task-related exchange dimensions when assessing LMX quality, and subordinates were more likely to place higher importance on socially-related exchange dimensions when evaluating LMX quality. Such lack of convergence suggests that there is little commonality in perceptions of exchange quality between supervisors and subordinates. Zhou and Schriesheim (2010) concluded that the large variance in supervisors' and subordinate's LMX ratings indicated that an individual level of analysis was appropriate for LMX research. Their findings supported Brower, Schoorman and Tan's (2000) argument that, since LMX is not similarly perceived by supervisors and subordinates, LMX research should be conducted on the basis of two perspectives. This evidence from empirical research therefore provides further support for the individual level of analysis that has been adopted in this thesis.

3.4 Research procedures

This section provides information about the sample, the data collection method, the survey materials, the development of questionnaires, the sampling strategy and procedure, ethical procedures and the techniques that were used for data analysis.

3.4.1 Sample

Data were collected from five private manufacturing enterprises located in the Jiangmen economic zone of the Pearl River Delta region of China in September 2007. All of the companies manufacture and assemble parts for motor cycles and cars, with one company also assembling complete motor cycles. Survey data were collected on site during working hours. Following Brislin's (1986) recommendations, all

questionnaire items, except for the *guanxi* scale of differential behaviours which was already in Chinese, were translated into Chinese by bi-lingual scholars, using the simplified Chinese characters that are used in mainland China, and then back-translated by different bi-lingual scholars to ensure consistency of meaning.

Data were collected from 380 subordinates and 38 of their supervisors. Each subordinate completed one questionnaire concerning his or her relationship with his or her supervisor. Each supervisor completed ten questionnaires concerning his or her relationships with ten different subordinates. Questionnaires were coded to allow matching of supervisors' and subordinates' questionnaires. All respondents were full time employees of their organizations. Table 3.1 shows the number of subordinates and supervisors surveyed from each of the organizations.

Table 3.1 Number of supervisors and subordinates from five manufacturing enterprises

Organization No.	No. of employees in company	No. of employees in dept.	No. of supervisors surveyed	No. of subordinates surveyed
1	250		4	40
2	300		5	50
3	300		5	50
4	100		5	50
5, dept. A	10,000	560	9	90
5, dept. B	10,000	450	10	100
Total			38	380

Demographic data were missing from 96 cases, so these 96 cases were removed from the data set. This resulted in 284 matched response sets for analysis, representing a 74.7% response rate.

Of this sample of 284, 3.5% of supervisors had completed primary school, 34.2% had completed middle school, 41.2% had completed high school, and 21.1% had completed 3 years of tertiary college. The average age of supervisors was 31.2 years. The gender division of supervisors was 70.1% male and 29.9% female. Average organizational tenure of supervisors was 4.7 years.

Among subordinates, 7.0% had completed primary school, 46.8% had completed middle school, 41.2% had completed high school, and 4.9% had completed 3 years of tertiary college. The average age of subordinates was 25.3 years. The gender division of subordinates was 58.8% male and 41.2% female. Subordinates' average organizational tenure was 1.8 years, while the subordinates' average tenure with their current supervisors was 1.3 years.

An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

3.4.2 Data collection method

Personal administration of questionnaires was chosen as the method of data collection. Because of the author's friendship with a colleague who had close *guanxi* with a business consultant in China, permission was given to conduct data collection on site. All organizations agreed to allow their employees to halt their work in order to complete the questionnaires. For each organization, the questionnaires were able to be completed in one location since the organizations provided separate rooms for the assembly of respondents. For this data collection, the author had the assistance of three Mandarin speaking scholars, whose roles were to distribute the questionnaires, to explain the voluntary nature of participation, to provide instruction as to how the questionnaires were to be completed, to answer clarifying questions, and to collect the completed questionnaires. It was expected that this method of data collection would yield high cooperation and a high response rate, and this proved to be the case.

3.4.3 Materials

Two different versions of the questionnaire were given to respondents, a supervisor version or a subordinate version, according to the position of each respondent. All of the scales included in the survey are established in the literature. There were some adaptations of some scales, and these are detailed in the following sub-sections.

3.4.3.1 Subordinates' questionnaire

The subordinates' questionnaire included questions on demographic information and social desirability, and scales for the subordinates' perceptions of the following: 1) perceived similarity to supervisors (PSS), 2) perceived liking of supervisors (PLS), 3) perceived job performance of themselves (PSPS), 4) *guanxi* between themselves and their supervisors (GNXS), and 5) the quality of their relationships with their supervisors (LMX-MDMS).

Each of these constructs is now defined, along with an explanation of the psychometric properties and the measurement scale of each. The complete survey package for subordinates can be viewed in Appendix A.

Subordinate perceived similarity to the supervisor - PSS

Subordinate perceived similarity with the supervisor was defined as the extent to which a subordinate perceives a supervisor to be similar to himself or herself (Turban & Jones 1988). Subordinate perceived similarity with the supervisor was measured by using an adaptation of a scale developed by Liden, Wayne and Stilwell (1993). Those author's six-item scale included three items developed by Turban and Jones (1988): 'My supervisor and I are similar in terms of our outlook, perspective and

values', 'My supervisor and I see things in much the same way', and 'My supervisor and I are alike in a number of areas'. The remaining three items were those developed by Liden, Wayne and Stilwell (1993): 'My supervisor and I handle problems in a similar way', 'My supervisor and I think alike in terms of coming up with a similar solution for a problem', and 'My supervisor and I analyze problems in a similar way'. All six items were summed to create the measure of perceived similarity. Liden, Wayne and Stilwell (1993) reported a Cronbach alpha reliability of .91 for their measure of subordinate perceived similarity with the supervisor. Liden, Wayne and Stilwell (1993) also reported test-retest reliabilities between 2 and 6 weeks ($r = .69$), between 6 weeks and 6 months ($r = .74$), and between 2 weeks and 6 months ($r = .55$).

Because the first item of Liden, Wayne and Stilwell's (1993) scale was triple barrelled, that question was broken down into three separate items for this thesis, thus creating an eight-item scale (see Appendix B for the adjusted subordinate version of the scale for perceived similarity). Subordinates responded on a 7-point Likert scale ranging from 'strongly disagree' (1) to 'strongly agree' (7). The Cronbach alpha for this thesis was .85.

Subordinate perceived liking of the supervisor – PLS

Perceived liking was defined as a form of affect that refers to the perceived degree of interpersonal attraction in a relationship (Liden, Wayne & Stilwell 1993). Subordinate perceived liking of the supervisor was measured using items developed by Wayne and Ferris (1990) that mirror the items measuring supervisor perceived liking of the subordinate ($\alpha = .94$). Sample items are: 'I like my supervisor very much as a person', and 'I get along well with this supervisor'. Subordinates responded on a 7-point Likert scale ranging from 'strongly disagree' (1) to 'strongly agree' (7). The Cronbach alpha reliability estimate for this thesis was .81.

Subordinate perceived self performance - PSPS

Perceived subordinate work performance was defined as the subjective judgment of a subordinate's work output and contribution (Chen, Tsui & Farh 2002). The subordinate's perception of his/her own performance was measured with four items that mirrored the scale developed by Farh and Cheng (1999) for supervisor perceived performance of the subordinate. A sample item is 'My performance can always meet the requirements of my supervisor'. Subordinates responded on a 7-point Likert scale ranging from 'strongly disagree' (1) to 'strongly agree' (7). The Cronbach alpha for this thesis was .78.

Subordinate guanxi with the supervisor – GNXS

Guanxi was defined as the quality of relationship between two parties formed mainly for instrumental purposes in fulfilling personal objectives of the parties involved (Wong, CS et al. 2003). Subordinate *guanxi* was measured with the five factor 15-item scale of *guanxi* which was developed and cross validated by CS Wong et al. (2003) in two different studies of Hong Kong managers and their subordinates.

From the first study, CS Wong et al. (2003) reported discriminant validity of the *guanxi* scale from the constructs of organizational citizenship behaviour (OCB) and LMX. There was a correlation between *guanxi* and Podsakoff et al.'s (1990) OCB scale of .16, while the correlation between *guanxi* and Scandura and Graen's (1984) LMX scale was .31. Factor analysis established convergent validity of the *guanxi* construct, and confirmed the five factor structure. In the second study CS Wong et al. (2003) cross validated the *guanxi* scale on another sample, and reported internal consistency estimates (alpha coefficients) for the five *guanxi* dimensions of .82, .81, .69, .73 and .78.

CS Wong et al.'s (2003) empirically validated *guanxi* scale is a multi-dimensional measure that takes into account differential behaviours that are appropriate for people with different degrees of *guanxi* closeness. The five behaviour categories are: social activities, financial assistance, giving priority to a person, celebrating special events, and emotional support. Subordinates were asked to express the likelihood of them doing certain activities with or for their supervisors. Sample items are: 'Play tennis (or some other two person sport) with him/her', 'Lend him/her money', 'Miss a work meeting in order to visit him/her in the hospital', 'Celebrate special events (birthday, holidays) with him/her', and 'Listen to his/her fears and worries'. Responses were made on a five point Likert scale (1 = very unlikely; 5 = very likely). This thesis' alphas for the five *guanxi* dimensions from the subordinates' perspective were .79, .79, .56, .72, .78, and .88 for the overall *guanxi* measure. The reliabilities of the individual sub-scales have been reported here for completeness. However, it is the overall measure of *guanxi* only that has been used in the thesis.

Subordinate perceived leader member exchange – LMX-MDMS

LMX was defined as the quality of the relationship that a supervisor and subordinate develop (Dienesch & Liden 1986). The subordinate view of exchange quality was measured with the multi-dimensional scale, LMX-MDM, developed by Liden and Maslyn (1998), which is based on role theory (Katz & Kahn 1978; Jacobs 1971) and social exchange theory (Gouldner 1960; Sparrowe & Liden 1997). There are four dimensions of LMX-MDM: affect, loyalty, contribution, and professional respect. The corresponding coefficient alphas reported by Liden and Maslyn (1998) were .90, .78, .60 and .92 from a student sample, and .90, .74, .57 and .89 from an organizational sample.

Liden and Maslyn (1998) reported that the four dimensions of the LMX-MDM scale fell under a second order factor. Confirmatory factor analysis showed that each of the four dimensions contributed to overall LMX, with a reliability of .89 for the composite item from an organizational sample. Liden and Maslyn (1988) therefore concluded that the composite item of the LMX-MDM scale could be used when overall LMX is the construct of interest. Consequently several studies have confirmed the four factor structure and have reported a higher order factor for the LMX-MDM scale (Erdogan & Enders 2007; Greguras & Ford 2006; Settoon, Bennett & Liden 1996; Wang et al. 2005). Additional studies have aggregated all the

items of the LMX-MDM scale to measure overall LMX (Bauer et al. 2006; Erdogan & Enders 2007; Kraimer, Wayne & Jaworski 2001; Wang et al. 2005).

The LMX-MDM scale is viewed as being one of only two LMX scales that have undergone adequate psychometric testing to show reliability and validity (Schriesheim, Castro & Cogliser 1999). Liden and Maslyn (1998) reported that discriminant validity of the LMX-MDM scale was derived from support for the 4-factor model using exploratory factor analysis and confirmation using confirmatory factor analysis with independent samples (Bagozzi, Yi & Phillips 1991; Rahim & Magner 1995). The authors demonstrated further discriminant validity of the LMX-MDM scale by testing correlations with constructs that theory or past empirical findings say should not be significantly correlated. Correlations of .12, .25, .00, and .00 between satisfaction with co-workers and affect, loyalty, contribution, and professional respect respectively established additional support for the discriminant validity of the LMX-MDM scale.

In order to establish convergent validity, Liden and Maslyn (1998) reported the correlations of the four dimensions of the LMX-MDM scale with an existing measure of LMX, the LMX7 scale (Scandura & Graen 1984). The correlations of .71, .71, .55, and .70 from an organizational sample, and .64, .53, .33, and .42 from a student sample between LMX7 and affect, loyalty, contribution, and professional respect respectively confirmed convergent validity of the LMX-MDM scale.

For criterion related validity, Liden and Maslyn (1998) separately regressed six outcomes of organizational commitment, autonomy, satisfaction with work, satisfaction with supervision, turnover intentions, and performance (supervisor rating) on the four LMX-MDM dimensions. They reported that the LMX-MDM dimensions helped to explain variance in four of the six outcome variables, after accounting for the effects of the other dimensions, thus confirming criterion related validity.

The authors reported further validity through correlations of the LMX-MDM scale with the Couch and Keniston's (1960) scale for assessing acquiescence, and with the complete form of the Crowne and Marlowe Social Desirability Scale (Crowne & Marlowe 1960). The correlations suggested that LMX-MDM is not susceptible to these two common response biases.

Wang et al. (2005) translated the LMX-MDM scale into Chinese, using the standard translation/back translation procedure of Brislin (1980), and then used the scale in a pilot study of 262 bank employees in the People's Republic of China in order to assess its psychometric characteristics in a Chinese sample. They conducted a confirmatory factor analysis (CFA) with LISREL 8.50 (Jöreskog & Sörbom 2001) to test the four-dimensional structure of LMX-MDM. They found that a four factor model, with an overall second-order factor, fitted their data ($\chi^2 = 74.92$, $df = 50$, $p < .01$; RMSEA = .05; CFI = .98; TLI = .97). The coefficient alphas for the four dimensions of affect, loyalty, contribution and professional respect were .82, .63, .80 and .86 respectively.

Wang et al. (2005), in their main study of 162 supervisor-subordinate dyads in China, conducted another confirmatory factor analysis to further assess the LMX-MDM scale, and reported findings of four first-order factors plus one second-order factor ($\chi^2 = 86.97$, $df = 50$, $p < .01$; RMSEA = .08; CFI = .96; TLI = .95). The coefficient alphas for the four dimensions of affect, loyalty, contribution and professional respect were .85, .68, .83 and .88 respectively.

The original LMX-MDM scale of Liden and Maslyn (1998) had 12 items, but one of the items was double barrelled. Item 10 on the original scale, 'I respect my supervisor's knowledge of and competence on the job', was split into two items for this thesis, thus creating a 13 item scale (see Appendix C for the adjusted subordinate version of the LMX-MDM scale). Sample items are: 'My supervisor is a lot of fun to work with', 'My supervisor would come to my defense if I were 'attacked' by others', 'I do not mind working my hardest for my supervisor', and 'I admire my supervisor's professional skills'. Responses were made on a 7 point Likert scale (1 = strongly disagree, 7 = strongly agree). The coefficient alphas for the affect, loyalty, contribution and professional respect dimensions from the subordinates' perspective in this thesis were .76, .66, .66, and .81 respectively, and .83 for the overall measure of LMX-MDMS.

Control variables

In order to control for potential confounding, the following six potential covariates were analysed: age, gender, organizational tenure, supervisor tenure, education and social desirability. Age was measured in years, while organizational tenure and supervisor tenure was measured in months. Gender was measured by a dichotomous variable, with 1 designating males and 0 designating females. Education was measured on a categorical scale to identify levels of education completed: primary school, middle school, high school, college (3 years), University bachelor, and Masters or PhD. These categories of education are the standard ones used in China.

Social desirability derives from the need for individuals to seek social approval, which can be attained by engaging in culturally acceptable behaviour (Crowne & Marlowe 1960, 1964). This tendency of people to present themselves in what they consider to be a favourable manner, rather than presenting their true attitudes, can result in biased responses and the disguising of relationships between variables. In order to control for social desirability, the nine-item Good Impression scale from the Chinese Personality Assessment Inventory-2 (CPAI-2) (Cheung et al. 2001) was used. The CPAI-2 consists of 22 personality scales, 2 clinical scales and 3 validity scales, the Good Impression scale being one of the validity scales. The CPAI-2 was developed and validated in China and Hong Kong in order to provide a reliable and valid instrument of specific relevance to Chinese people (Cheung et al. 1996). In this thesis, nine items with a 'true' or 'false' response (scored true = 1, false = 0) were recorded, with reverse scoring resulting in a possible score range of 0 to 9 when responses were summed. Higher scores indicated a greater tendency toward responding in a socially desirable manner.

3.4.3.2 Supervisors' questionnaire

The supervisors' questionnaire included questions on demographic information and social desirability, and scales for the supervisors' perceptions of the following: 1) perceived similarity to subordinates (PSL), 2) perceived liking of subordinates (PLL), 3) perceived job performance of subordinates (PSPL), 4) *guanxi* between themselves and their subordinates (GNXL), and 5) the quality of their relationships with their subordinates (LMX-MDML).

Each of these constructs is defined in the following section, along with an explanation of the psychometric properties and the measurement scale of each. The complete survey package for supervisors can be viewed in Appendix D.

Supervisor perceived similarity with the subordinate - PSL

Supervisor perceived similarity with the subordinate was measured with a scale developed by Liden, Wayne and Stilwell (1993). The six items of this scale mirror the items that Liden, Wayne and Stilwell (1993) used to assess subordinates' perceived similarity with the supervisor. A sample item is 'My subordinate and I analyze problems in a similar way'. Liden, Wayne and Stilwell (1993) summed the six items, and reported a Cronbach alpha of .92. The authors reported test-retest reliabilities between two and six weeks ($r = .75$), between six weeks and six months ($r = .79$), and between two weeks and six months ($r = .60$).

One of the items from Liden, Wayne and Stilwell's (1993) scale was triple barrelled ('My subordinate and I are similar in terms of our outlook, perspective and values'), so it was broken down into three separate items for this thesis, thus creating an eight-item scale (see Appendix E for the adjusted supervisor version of the scale for perceived similarity). Supervisors responded on a 7-point Likert scale ranging from 'strongly disagree' (1) to 'strongly agree' (7). The Cronbach alpha for this thesis was .89.

Supervisor perceived liking of the subordinate - PLL

Perceived liking was defined as a form of affect that refers to the perceived degree of interpersonal attraction in a relationship (Liden, Wayne & Stilwell 1993). Supervisor perceived liking of the subordinate was measured using three items developed by Wayne and Ferris (1990): 'I like my subordinate very much as a person', 'I think my subordinate would make a good friend', and 'I get along well with this subordinate'. Supervisors responded on a 7-point Likert scale ranging from 'strongly disagree' (1) to 'strongly agree' (7). Wayne and Ferris (1990) reported a Cronbach alpha reliability of .94 for their measure of supervisor perceived liking of the subordinate, while the alpha for this thesis was .83.

Supervisor perceived performance of subordinate - PSPL

Perceived subordinate work performance was defined as the subjective judgment of a subordinate's work output and contribution (Chen, Tsui & Farh 2002). The supervisor's perceived performance of the subordinate was measured by a four item scale developed by Farh and Cheng (1999). This scale was originally in Chinese, as part of a study conducted in Taiwan. It has subsequently been used in several other Chinese contexts (Chen & Aryee 2007; Chen & Francesco 2003; Chen, Tsui & Farh 2002), and these studies have provided an English translation, using a standard translation and back-translation procedure (Brislin 1980), of the scale. The items include: 'This subordinate makes an important contribution to the overall performance of our work unit', 'This subordinate can always fulfill the jobs assigned by the supervisor on time', 'This subordinate is one of the excellent employees in our work unit', and 'The performance of this subordinate can always meet the requirements of the supervisor'. Supervisors responded on a 7-point Likert scale ranging from 'strongly disagree' (1) to 'strongly agree' (7). The 3 studies mentioned above that provided an English translation of the scale reported Cronbach alphas of .76, .76 and .80. The Cronbach alpha for this thesis was .87.

Supervisor guanxi with subordinate - GNXL

Guanxi was defined as the quality of relationship between two parties formed mainly for instrumental purposes in fulfilling personal objectives of the parties involved (Wong, CS et al. 2003). Supervisor *guanxi* was measured with the same items as the subordinate *guanxi* measure. Supervisors were asked to express the likelihood of them doing certain activities with or for their subordinates. Sample items are: 'Go over to his/her home', 'Lend money to his/her family', 'Skip a social event to run an errand with him/her', 'Exchange birthday or holiday gifts', and 'Discuss your personal thoughts and feelings with him/her'. Responses were made on a five point Likert scale (1 = very unlikely; 5 = very likely). For the supervisors' perspective, the alphas in this thesis for the five dimensions of *guanxi* were .78, .72, .70, .72, .72, and .85 for the overall *guanxi* measure. The reliabilities of the individual sub-scales have been reported here for completeness. However, it is the overall measure of *guanxi* only that has been used in the thesis.

Supervisor perception of leader member exchange – LMX-MDML

The supervisors' view of exchange quality was measured with 13 items that parallel the subordinates' view of exchange quality (Greguras & Ford 2006). The original LMX-MDM scale of Liden and Maslyn (1998) had 12 items, but one of the items was double barreled. Item 10 on the original scale, 'I respect my subordinates' knowledge of and competence on the job', was split into two items, as was done on the subordinates' questionnaire, for this thesis. (See Appendix F for the adjusted supervisor version of the LMX-MDM scale). The resulting measure, LMX-MDML, also adopted a 7 point Likert scale (1 = strongly disagree, 7 = strongly agree). Sample items are: 'This subordinate is the kind of person one would like to have as a friend', 'This subordinate defends my decisions, even without complete knowledge of the issue in question' and 'I respect this subordinate's competence on the job'.

The coefficient alphas in this thesis for the affect, loyalty, contribution and professional respect dimensions were .80, .81, .60 and .88 respectively, and .82 for the overall measure of LMX-MDML.

Control variables

In order to control for potential confounding, the same six potential covariates as were used in the subordinates' questionnaire were used in the supervisors' questionnaire. The control variables were: age (years), gender (1 = male; 0 = female), organizational tenure (months), supervisor tenure (months), education (categorical) and social desirability [using the Good Impression Scale from Cheung et al.'s (2001) Chinese Personality Assessment Inventory-2 scale].

3.4.4 Ethical clearance

This research project involved human participants, so an application for ethics clearance was made to the University of Southern Queensland's Human Research Ethics Committee. That committee gave approval for the research programme. The ethics approval number is HOSTU624.

3.4.5 Development of questionnaires

The questionnaire items elaborated above which were in English were translated into Mandarin Chinese by bi-lingual scholars. Following Brislin's (1986) procedure, all items were back-translated by different bi-lingual scholars in order to ensure consistency of meaning. As a further check, the subordinate questionnaire was completed by 15 mainland Chinese university business students who were then asked to comment on any perceived difficulties or necessary clarification of the items. The feedback received indicated that no changes to the questionnaire were necessary.

3.4.6 Sampling strategy and procedure

Some months prior to the arrival on site of the author and assistants, the organizations had been contacted by a China business consultant with whom one of the assistants had close *guanxi*. This assistant in turn had close *guanxi* with the author. The consultant had requested the organizations to grant the author and assistants time to administer the surveys. Agreement from the organizations' managers was obtained, this being due to the *guanxi* that the business consultant had with those in the organizations' managerial hierarchy.

Using a convenience sampling strategy, data from all five organizations were collected on site by the author and three Chinese assistants during working hours. One assistant was a Mandarin speaking Professor of Management with extensive

An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

experience in China based research, while the two other assistants were Mandarin speaking mainland Chinese graduate students who had been given training in data collection methods, and who had been briefed as to their roles in this data collection process. The author and three assistants met with supervisors in all organizations so as to explain the procedure and the voluntary nature of the data collection. All supervisors consented to participating in the survey (see Appendix G for consent form). Each supervisor was informed that the survey would ask questions about his or her relationships with 10 individual subordinates, those subordinates being selected on a convenience basis. The names of the subordinates were written on a list for the supervisor to identify when completing his or her questionnaires. Each supervisor then completed the questionnaires which were handed directly to the research assistants. The names of supervisors and subordinates were coded so that subsequent matching of completed questionnaires could be carried out.

In four companies, the selected subordinates were requested to go to rooms that were set up with tables and chairs. The Mandarin speaking assistants explained the procedures to the subordinates, and advised that participation was voluntary and that anyone who did not wish to complete the questionnaire was free to withdraw his or her involvement. A written explanation was also given to each subordinate, as well as a consent form which the subordinates were asked to sign if they agreed to complete the survey (see Appendix G for consent form). All subordinates consented to participating in the survey. The subordinates then completed the questionnaires, which were then immediately collected by the assistants. In the fifth company, there was no separate room for questionnaire completion, so subordinates completed the questionnaires at their work stations, with the assistants walking around to clusters of subordinates and providing the same instructions and explanations of procedures and voluntary participation as were given in the previously mentioned four companies. The questionnaires were then completed and handed directly to the assistants. Each supervisor was asked to complete 10 questionnaires, and this was carried out in their individual offices, after which the completed questionnaires were handed directly to the assistants.

3.4.7 Ethical considerations

Since the questionnaire asked subordinates to give opinions about their supervisors' behaviours and attitudes, it was recognized that the type of information requested may have made the respondents wary of giving true responses. Respondents may have had concerns about the confidentiality of the information and about possible negative consequences if that information was made available to their supervisors. In order to allay such concerns, the assistants stressed to the respondents that all questionnaires were entirely confidential, that the only persons who would examine the questionnaires would be the author and assistants, and that the questionnaires would be physically transported out of China by the author and assistants. When subordinates had completed the questionnaires, the assistants collected them directly from each subordinate, and in so doing the subordinates were able to see the questionnaires being placed in the hands of the assistants.

3.4.8 Data analysis techniques used

This thesis set out firstly to test the relationships between perceived liking, perceived similarity and perceived subordinate performance on the one hand, and LMX on the other hand, and secondly, to establish how *guanxi* influenced those relationships. It has been established in the literature that perceived liking is a significant antecedent of exchange quality (Dockery & Steiner 1990; Lefkowitz 2000; Wayne, Shore & Liden 1997; Wayne & Ferris 1990), as is perceived similarity (Bauer & Green 1996; Bernerth et al. 2008; Engle & Lord 1997; Kacmar et al. 2009; Liden, Wayne & Stilwell 1993; Phillips & Bedeian 1994). Perceived subordinate performance has also been established as a predictor of exchange quality (Bauer & Green 1996; Dansereau, Graen & Haga 1975; Deluga & Perry 1994; Graen & Cashman 1975; Liden & Graen 1980; Nahrgang, Morgeson & Ilies 2009; Wayne & Ferris 1990). What has not been established, and what this thesis has contributed to the literature, is how *guanxi* moderates the relationships between the three above-mentioned antecedents and LMX.

Since this thesis was concerned with the effects of *guanxi* on LMX on top of the previously established relationships of perceived liking, perceived similarity and perceived subordinate performance with LMX, a sequential method of analysis was called for. Hierarchical regression analysis was therefore used. This data analysis technique highlights the relative importance of a predictor, based on how much it adds to the prediction of a criterion, over and above the contributions of other predictors. Hierarchical regression analysis enables the researcher to examine the significance of the incremental increases in R^2 when more than one predictor is of interest or a set of predictors is of interest (Petrocelli 2003). The procedure entails predictor variables being entered in a sequence, and then the R^2 and partial regression and correlation coefficients being determined as each predictor variable joins the others (Cohen et al. 2003).

The hierarchical order of entry of the predictor variables is determined by the researcher, and this order should be based on certain principles (Cohen et al. 2003). The first principle is that variable entry should be selected to reflect causal priority. That is, 'no independent variable entering later should be a presumptive cause of an independent variable that has been entered earlier' (Cohen et al. 2003, p.158). When this principle is adhered to, hierarchical regression yields two major advantages: (1) the maximum extraction of causal inference, and (2) a unique partitioning of the total variance of the dependent variable that can be accounted for by individual predictors as indicated by the increase in R^2 (Cohen et al. 2003). The authors therefore recommend entering static demographic variables before entering dynamic variables. In this thesis, a series of hierarchical regression models, each with four steps, was conducted from both subordinates' and supervisors' perspectives. Cohen et al.'s (2003) recommendation was followed, so demographic information and the social desirability term were entered in step 1 of the hierarchical regression.

A second principle of order of entry is that the variables should be entered according to their research relevance (Cohen et al. 2003). The independent variables

that have a previously established relationship with the dependent variable should be added in step 2. In this thesis, therefore, the independent variables of perceived liking, perceived similarity and perceived subordinate performance were entered in step 2 because each of those variables have been found to predict LMX (Bauer & Green 1996; Deluga & Perry 1994; Dockery & Steiner 1990; Liden, Wayne & Stilwell 1993; Phillips & Bedeian 1994; Wayne, Shore & Liden 1997; Wayne & Ferris 1990). The addition of these variables in step 2 allowed the testing of hypotheses 1, 2 and 3.

In step 3, the moderator variable of *guanxi* was added, and in step 4, three interaction terms of *guanxi* with perceived liking, perceived similarity and perceived subordinate performance were added in order to test hypotheses 4, 5 and 6. The interaction variables were entered last because in this way the R^2 for the interaction over and above that contributed by the main effects could be identified (Cohen et al. 2003). If interaction terms were to be added before the main variables incorrect conclusions would be drawn (Lubinski 1983). With the interaction terms being the last to be added to the regression, hypotheses 4, 5 and 6 were tested.

The use of hierarchical regression then, enabled the researcher to first determine the predictive contribution of perceived liking, perceived similarity and perceived subordinate performance, after controlling for demographic variables and social desirability, to LMX. It then enabled the researcher to determine the contribution of the interaction of *guanxi* with those three predictor variables to LMX.

3.5 Conclusion

This chapter has provided an overview of the thesis design, details of the sample and the materials used, the ethical issues involved, and an explanation of the procedures used in the thesis. It has justified the use of the variables selected, and has justified the level of analysis to which the findings of this thesis apply. It has further provided an explanation of and justification for the data analysis techniques employed in the thesis. The following chapter presents the results of the data analysis.

CHAPTER 4

RESULTS

4.1 Introduction

Chapter 4 presents the details of this research that has investigated the model of predictors and moderator of LMX. The purpose of the chapter is to present the details of the data analyses in accordance with the methodology detailed in chapter 3, and to test the stated hypotheses.

This chapter begins with an explanation of how the significance of tests was reported. This is followed by an explanation of the data screening procedures, which includes treatment of missing data, and testing for univariate, bivariate and multivariate outliers, multicollinearity, normality, linearity and homoscedasticity. Descriptive statistics and correlations between measured variables are then presented. Hypothesis testing is subsequently detailed, beginning with a summary table of the hypotheses tested and the results. This is followed by details and results of hypotheses testing from subordinates' and supervisors' perspectives. A chapter summary, with a link to the next chapter, is then presented.

4.2 Significance of tests

This thesis has adopted the suggestion of Coolican (2009) that the significance of test results should be reported in three ways based on p the probability level:

- 'Significant': $.05 > p < .01$;
- 'Highly significant': $.01 > p < .001$; and
- 'Very highly significant': $p < .001$

All probabilities are based on two-tailed tests.

4.3 Data screening

This section reviews the procedures followed for the treatment of missing data, outliers, multicollinearity, normality, linearity and homoscedasticity.

4.3.1 Missing data

In one of the companies, there was a communication problem whereby supervisors thought that they were instructed not to complete the social desirability questions and the questions asking for demographic information. Due to this miscommunication, all 90 cases from this company were discarded. Additionally, there were further random missing data on demographic variables, so the usable sample was reduced to 284.

The percentage of missing data for dependent and main independent variables varied from 0% to 3.9%, which according to the preliminary analysis, was data missing at random. According to Tabachnick and Fidell (2001), when data are missing at random, expectation-maximization (EM) methods provide the most reasonable approach to imputation of missing data, since the EM iterative two step procedure produces realistic estimates of variance. In this thesis, missing data were imputed by the expectation-maximization algorithm of the Missing Values Analysis of SPSS for the dependent and main independent variables.

4.3.2 Outliers – univariate

The detection of univariate outliers was assessed by examining standardized scores. Tabachnick and Fidell (2001) suggest identifying those cases with a standard score of ± 3.29 as outliers, and in this sample, there were 32 scores that were above that threshold. However, if we use the guidelines of Hair et al. (1998), which suggest a threshold value of standard scores in the range of 3 to 4, there were only 2 scores that fell marginally outside this range. All the standardized scores that were identified as possible outliers were those that would be expected to occur naturally in outer ranges, so none of these scores was deleted.

4.3.3 Outliers – bivariate

Bivariate detection of outliers was then done through inspection of scatterplots, which showed that although there were some relatively isolated points, none was so far away from the other observations that deletion was considered.

4.3.4 Outliers – multivariate

Multivariate detection of outliers was undertaken by an examination of Mahalanobis distance measures. Although a small percentage of observations exceeded the critical chi square value at a conservative alpha level of .001, none of the observations demonstrated real uniqueness compared to the rest of the sample population, so no observation was deleted as a multivariate outlier.

4.3.5 Multicollinearity

This thesis has tested moderator effects, and therefore product terms have been included in the testing. Typically, there is a high correlation between product terms and independent variables when interactions are included in regression analyses, leading to instability in the estimates of the coefficients and possibly flawed statistical inferences (Aiken & West 1991; Marsh et al. 2004). In order to reduce the extent of multicollinearity, Aiken and West's (1991) procedure of centering independent variables around their means was followed.

To assess the degree of multicollinearity after centering, the first step was to examine bivariate correlations of predictor variables. For the subordinate predictor variables, the significant bivariate correlations varied from .15 to .53 (see table 4.3), while for the supervisor predictor variables, the significant bivariate correlations varied from .14 to .65 (see table 4.4). Both of these upper limits were within the typical criterion of correlations greater than .90 indicating bivariate multicollinearity (Hair et al. 1998).

To assess multivariate multicollinearity, the variance inflation factors were examined. The range of 1.06 to 2.9 in variance inflation factors across all the regression models in the analysis was less than the common cutoff criterion of 4 for deciding when a given independent variable displays a problematic multicollinearity level (Garson 2011). A further test of multicollinearity was to examine the condition indices which represent the collinearity of combinations of variables in the data set. For the subordinate analysis, there were no condition indices above 15, while for the supervisor analysis, the highest condition index was 17, but for this factor, no variable had a variance proportion of more than .50. Since the threshold value of condition indices for the identification of a multicollinearity problem is in a range of 15 to 30, with 30 the most commonly used value (Hair et al. 1998), the diagnostics showed that the regression assumption of no multicollinearity was met.

4.3.6 Normality, linearity and homoscedasticity

The assumptions of linear regression were tested for each of the variables. Scatterplots of standardized residuals plotted against standardized predicted values demonstrated that the assumptions of linearity and multivariate homogeneity of variance were met. Most variables were moderately negatively skewed. An examination of histograms and normal probability plots showed that the assumptions of multivariate normality, linearity and homoscedasticity were not violated.

4.4 Descriptive statistics

The variable name, the number of subjects, the mean and the standard deviation for each of the measured variables from the subordinates' perspective are shown in table 4.1 below.

Table 4.1 Descriptive statistics of measured variables from subordinates' perspective

Variable	N	Mean	Std. Deviation
LMX-MDM-affect	284	5.0110	1.08975
LMX-MDM-loyalty	284	4.0583	1.25337
LMX-MDM-contribution	284	4.4950	1.16851
LMX-MDM-respect	284	5.3887	1.03500
LMX-MDM-overall	284	4.7883	.81324
Perceived Similarity	284	3.9758	.92629
Perceived Liking	284	5.0395	1.19331
Perceived Subordinate Performance	284	4.6988	.99352
<i>Guanxi</i> -social	284	3.0978	.84212
<i>Guanxi</i> -finance	284	3.0906	.83697
<i>Guanxi</i> -priority	284	3.0688	.65738
<i>Guanxi</i> -celebration	284	3.2210	.72427
<i>Guanxi</i> -emotion	284	3.5798	.77032
<i>Guanxi</i> -overall	284	3.2116	.57400
Valid N (listwise)	284		

The variable name, the number of subjects, the mean and the standard deviation for each of the measured variables from the supervisors' perspective are shown in table 4.2 below.

Table 4.2 Descriptive statistics of measured variables from supervisors' perspective

Variable	N	Mean	Std. Deviation
LMX-MDM-affect	284	5.2605	.99569
LMX-MDM-loyalty	284	4.2533	1.32747
LMX-MDM-contribution	284	4.7888	1.02162
LMX-MDM-respect	284	5.2221	1.03364
LMX-MDM-overall	284	4.9074	.70650
Perceived Similarity	284	4.2168	.95925
Perceived Liking	284	5.3231	1.03045
Perceived Subordinate Performance	284	5.3489	.92444
<i>Guanxi</i> -social	284	3.3643	.82386
<i>Guanxi</i> -finance	284	3.2702	.66715
<i>Guanxi</i> -priority	284	3.3299	.64459
<i>Guanxi</i> -celebration	284	3.2831	.58583
<i>Guanxi</i> -emotion	284	4.0764	.49496
<i>Guanxi</i> -overall	284	3.4648	.43809
Valid N (listwise)	284		

4.5 Correlations

The means, standard deviations and correlations between variables, measured from the subordinates' perspective, are reported in Table 4.3 below.

Table 4.3 Means, standard deviations and correlations for study variables (subordinates' perspective)

Variable	Mean	SD	1	2	3	4	5	6	7	8
1. SEXS			1							
2. ED-PRIMS			-.30***	1						
3. ED-MIDS			-.22***	-.26***	1					
4. ED-COLLS			.16**	-.06	-.21***	1				
5. COTENS-months	21.39	19.80	.02	-.02	-.07	.01	1			
6. SUPTENS-months	15.56	16.60	-.05	.03	-.02	-.04	.79***	1		
7. AGES-years	25.26	7.83	-.25***	.31***	-.02	.05	.26***	.26***	1	
8. GIMS	4.45	2.01	-.14*	.08	-.05	.06	.07	.15*	.14*	1
9. MDMS-affect	5.01	1.09	-.07	-.01	.14*	.08	.01	.06	.14*	.32***
10. MDMS-loyalty	4.06	1.25	-.10	-.11	.03	.04	.00	.07	.20**	.09
11. MDMS-cont	4.50	1.17	-.14*	-.00	.07	-.03	-.00	.06	.19**	.14*
12. MDMS-respect	5.39	1.04	-.09	.06	.08	.01	.04	.11	.11	.21***
13. MDMS-overall	4.79	.81	-.14*	-.02	.11	.03	.02	.10	.22***	.26***
14. PSS	3.98	.93	-.09	-.04	.01	.04	-.05	-.05	.16**	.18**
15. PLS	5.04	1.19	.00	.03	.09	.01	.02	.09	.12*	.32***
16. PSPS	4.70	.99	-.14*	-.05	.02	.04	.15*	.22***	.24***	.32***
17. GNXS-social	3.10	.84	.19**	-.22***	.03	.14*	-.00	-.01	-.07	.04
18. GNXS-fin	3.09	.84	.10	-.17**	.01	.04	-.00	-.04	-.19**	-.04
19. GNXS-prior	3.07	.66	-.03	-.10	-.01	.04	-.01	.02	-.04	.07
20. GNXS-celeb	3.22	.72	.04	-.04	.06	-.00	-.07	-.08	-.09	.07
21. GNXS-emot	3.58	.77	.02	-.07	.07	.05	.00	.03	.03	.10
22. GNXS-overall	3.21	.57	.09	-.17**	.04	.07	-.02	-.02	-.10	.06

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

Table 4.3 (cont.) Means, standard deviations and correlations for study variables (subordinates' perspective)

Variable	Mean	SD	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1. SEXS																
2. ED-PRIMS																
3. ED-MIDS																
4. ED-COLLS																
5. COTENS-months	21.39	19.80														
6. SUPTENS-months	15.56	16.60														
7. AGES-years	25.6	7.83														
8. GIMS	4.45	2.01														
9. MDMS-affect	5.01	1.09	1													
10. MDMS-loyalty	4.06	1.25	.30***	1												
11. MDMS-cont	4.50	1.17	.31***	.32***	1											
12. MDMS-respect	5.39	1.04	.56***	.29***	.37***	1										
13. MDMS-overall	4.79	.81	.73***	.67***	.69***	.79***	1									
14. PSS	3.98	.93	.51***	.46***	.36***	.43***	.61***	1								
15. PLS	5.04	1.19	.64***	.28***	.28***	.53***	.60***	.53***	1							
16. PSPS	4.70	.99	.24***	.27***	.30***	.14*	.32***	.32***	.27***	1						
17. GNXS-social	3.10	.84	.26***	.15*	.13*	.19***	.25***	.27***	.31***	.16**	1					
18. GNXS-fin	3.09	.84	.12	.22***	.28***	.17**	.27***	.27***	.16**	.07	.45***	1				
19. GNXS-prior	3.07	.66	.23***	.31***	.34***	.25***	.39***	.27***	.25***	.08	.36***	.45***	1			
20. GNXS-celeb	3.22	.72	.30***	.16**	.23***	.22***	.31***	.31***	.35***	.07	.46***	.44***	.47***	1		
21. GNXS-emot	3.58	.77	.32***	.24***	.27***	.29***	.39***	.38***	.42***	.17**	.45***	.38***	.45***	.60***	1	
22. GNXS-overall	3.21	.57	.32***	.28***	.33***	.30***	.42***	.40***	.40***	.15*	.75***	.74***	.71***	.78***	.76***	1

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

Explanation of abbreviations in table 4.3

SEXS	sex, subordinate
ED-PRIMS	primary education, subordinate
ED-MIDS	middle school education, subordinate
ED-COLLS	college education, subordinate
COTENS-months	company tenure, subordinate
SUPTENS-months	subordinate-supervisor tenure
AGES-years	age, subordinate
GIMS	good impression, subordinate
MDMS-affect	LMX-MDM (affect), subordinate
MDMS-loyalty	LMX-MDM (loyalty), subordinate
MDMS-cont	LMX-MDM (contribution), subordinate
MDMS-respect	LMX-MDM (professional respect), subordinate
MDMS-overall	LMX-MDM (overall), subordinate
PSS	subordinate perceived similarity to the supervisor
PLS	subordinate perceived liking of the supervisor
PSPS	subordinate perceived self-performance
GNXS-social	subordinate <i>guanxi</i> (social) with the supervisor
GNXS-fin	subordinate <i>guanxi</i> (finance) with the supervisor
GNXS-prior	subordinate <i>guanxi</i> (priority) with the supervisor
GNXS-celeb	subordinate <i>guanxi</i> (celebration) with the supervisor
GNXS-emot	subordinate <i>guanxi</i> (emotion) with the supervisor
GNXS-overall	subordinate <i>guanxi</i> (overall) with the supervisor

Table 4.3 shows that there were significant correlations between most of the main variables. Considering firstly the associations between the LMX-MDMS dimensions and the *guanxi* dimensions, correlations were low to moderate, according to Cohen's (1988) interpretation for r , with the lowest significant correlation between *guanxi*-social and LMX-MDMS-contribution ($r = .13, p < .05$), and the highest between *guanxi*-priority and LMX-MDMS-contribution ($r = .34, p < .01$). However, the correlation between *guanxi*-overall and LMX-MDMS-overall ($r = .42, p < .01$) was higher than any of the correlations between the *guanxi* dimensions and the LMX-MDMS dimensions. The only correlation that was not significant was that between the *guanxi* dimension of finance and LMX-MDMS-affect.

When considering the associations between the variables of perceived similarity, perceived liking and perceived subordinate performance on the one hand and the LMX-MDMS dimensions on the other hand, correlations were moderate to large, with the smallest being that between perceived subordinate performance and LMX-MDMS-respect ($r = .14, p < .05$), and the largest being that between perceived liking and LMX-MDMS-affect ($r = .64, p < .01$). The only correlations that were not significant were those between perceived subordinate performance and three *guanxi* dimensions of finance, priority and celebration.

The means, standard deviations and correlations between variables, measured from the supervisors' perspective, are reported in Table 4.4 below.

Table 4.4 Means, standard deviations and correlations for study variables (supervisors' perspective)

Variable	Mean	SD	1	2	3	4	5	6	7	8
1. SEXL			1							
2. ED-PRIML			-.29***	1						
3. ED-MIDL			-.45***	-.14*	1					
4. ED-COLL			.34***	-.10	-.37*	1				
5. COTENL-months	55.84	26.32	.14*	-.14*	-.24***	.15*	1			
6. SUPTENL-months	15.56	16.60	-.01	-.10	-.06	.09	.26***	1		
7. AGEL-years	31.18	11.14	-.02	.10	-.15*	.21***	.20**	.20**	1	
8. GIML	5.95	1.69	-.09	-.11	.01	-.04	-.05	.12*	.16**	1
9. MDML-affect	5.26	1.00	-.06	.13*	-.07	-.10	-.10	.10	.06	.14*
10. MDML-loyalty	4.25	1.33	.32***	-.41***	-.24***	.12*	.43***	.24***	.11	.14*
11. MDML-cont	4.79	1.02	.16**	.10	.07	-.11	.11	.09	-.07	-.21***
12. MDML-respect	5.22	1.03	-.24***	-.07	.23***	-.10	-.07	.26***	.04	.03
13. MDML-overall	4.91	.71	.07	-.14*	.00	-.06	.16**	.28***	.06	.05
14. PSL	4.22	.96	-.03	-.23***	-.13*	-.11	.16**	.19**	.20**	.15*
15. PLL	5.32	1.03	-.06	.05	.05	-.02	-.08	.03	.10	-.09
16. PSPL	5.35	.92	-.19**	-.09	.18**	-.06	.07	.23***	.02	.00
17. GNXL-social	3.36	.82	.27***	-.53***	-.14*	.03	.25***	.11	-.21***	.01
18. GNXL-fin	3.27	.67	.09	-.23***	.01	-.02	.10	-.04	-.33***	.01
19. GNXL-prior	3.33	.64	-.36***	-.02	.08	.27***	.17**	.19**	-.03	-.07
20. GNXL-celeb	3.28	.59	-.06	.06	-.22***	.00	.24***	.18**	.14*	.21***
21. GNXL-emot	4.08	.49	-.19**	-.16**	.10	-.11	-.08	.07	-.10	.10
22. GNXL-overall	3.46	.44	-.03	-.29***	-.06	-.10	.22***	.15*	-.18**	.06

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

Table 4.4 (cont.) Means, standard deviations and correlations for study variables (supervisors' perspective)

Variable	Mean	SD	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1. SEXL																
2. ED-PRIML																
3. ED-MIDL																
4. ED-COLL																
5. COTENL-months	55.84	26.32														
6. SUPTENL-months	15.56	16.60														
7. AGEL-years	31.18	11.14														
8. GIML	5.95	1.69														
9. MDML-affect	5.26	1.00	1													
10. MDML-loyalty	4.25	1.33	.22***	1												
11. MDML-cont	4.79	1.02	.18**	.30***	1											
12. MDML-respect	5.22	1.03	.56***	.08	.04	1										
13. MDML-overall	4.91	.71	.73***	.64***	.54***	.68***	1									
14. PSL	4.22	.96	.34***	.46***	.04	.44***	.52***	1								
15. PLL	5.32	1.03	.57***	.16**	.10	.55***	.53***	.47***	1							
16. PSPL	5.35	.92	.53***	.16**	.02	.72***	.58***	.48***	.65***	1						
17. GNXL-social	3.36	.82	.10	.46***	.07	.14*	.32***	.29***	.14*	.17**	1					
18. GNXL-fin	3.27	.67	.26***	.24***	.14*	.21***	.33***	.24***	.25***	.24***	.51***	1				
19. GNXL-prior	3.33	.64	.22***	.23***	.22***	.29***	.38***	.46***	.18**	.23***	.23***	.34***	1			
20. GNXL-celeb	3.28	.59	.34***	.41***	.21**	.30***	.50***	.36***	.35***	.25***	.33***	.33***	.26***	1		
21. GNXL-emot	4.08	.49	.19**	.17**	.11	.31***	.31***	.42***	.31***	.36***	.31***	.32***	.36***	.18**	1	
22. GNXL-overall	3.46	.44	.31***	.46***	.22***	.35***	.54***	.51***	.35***	.35***	.76***	.76***	.64***	.61***	.59***	1

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

Explanation of abbreviations in table 4.4

SEXL	sex, supervisor
ED-PRIML	primary education, supervisor
ED-MIDL	middle school education, supervisor
ED-COLLL	college education, supervisor
COTENL-months	company tenure, supervisor
SUPTENL-months	supervisor-subordinate tenure
AGEL-years	age, supervisor
GIML	good impression, supervisor
MDML-affect	LMX-MDM (affect), supervisor
MDML-loyalty	LMX-MDM (loyalty), supervisor
MDML-cont	LMX-MDM (contribution), supervisor
MDML-respect	LMX-MDM (professional respect), supervisor
MDML-overall	LMX-MDM (overall), supervisor
PSL	supervisor perceived similarity to the subordinate
PLL	supervisor perceived liking of the subordinate
PSPL	supervisor perceived subordinate performance
GNXL-social	supervisor <i>guanxi</i> (social) with the subordinate
GNXL-fin	supervisor <i>guanxi</i> (finance) with the subordinate
GNXL-prior	supervisor <i>guanxi</i> (priority) with the subordinate
GNXL-celeb	supervisor <i>guanxi</i> (celebration) with the subordinate
GNXL-emot	supervisor <i>guanxi</i> (emotion) with the subordinate
GNXL-overall	supervisor <i>guanxi</i> (overall) with the subordinate

Table 4.4 shows that there were significant correlations between most of the thesis' main variables. According to Cohen's (1988) interpretation for r , the associations between the LMX-MDML dimensions and the *guanxi* dimensions showed low to moderate correlations, with the highest correlation between LMX-MDML-loyalty and *guanxi*-social ($r = .46, p < .01$), and the lowest correlation between LMX-MDML-contribution and *guanxi*-emotion ($r = .11, p < .01$). However, the correlation between *guanxi*-overall and LMX-MDML-overall ($r = .54, p < .001$) was higher than any of the correlations between the *guanxi* dimensions and the LMX-MDML dimensions. The only correlations that were not significant were those between LMX-MDML-affect and *guanxi*-social, LMX-MDML-contribution and *guanxi*-social, and LMX-MDML-contribution and *guanxi*-emotion.

When considering the associations between the variables of perceived similarity, perceived liking and perceived subordinate performance on the one hand and the LMX-MDML dimensions on the other, the two smallest significant correlations occurred between perceived liking and LMX-MDML-loyalty ($r = .16, p < .01$) and between perceived subordinate performance and LMX-MDML-loyalty ($r = .16, p < .01$). The largest correlations in general occurred with the LMX-MDML dimension of respect, with the largest of these being that between perceived subordinate performance and LMX-MDML-respect ($r = .72, p < .01$). None of the variables of perceived similarity, perceived liking and perceived subordinate performance had significant correlations with LMX-MDML-contribution.

Since LMX is a theory revolving around interaction between supervisor and subordinate, this thesis measured the correlations between supervisor and subordinate ratings of the same variables, shown in Table 4.5 below.

Table 4.5 Correlations between supervisors' and subordinates' ratings of the same variables

Variables	Pearsons Correlations
LMX-MDML-affect – LMX-MDMS-affect	.18**
LMX-MDML-loyalty – LMX-MDMS-loyalty	-.04
LMX-MDML-cont – LMX-MDMS-cont	.08
LMX-MDML-respect – LMX-MDMS-respect	.20**
LMX-MDML-overall – LMX-MDMS-overall	.18**
PSL – PSS	.08
PLL – PLS	.18**
PSPL – PSPS	.25***
GNXL-social – GNXS-social	.21***
GNXL-finance – GNXS-finance	.19**
GNXL-priority – GNXS-priority	.04
GNXL-celebration – GNXS-celebration	.18**
GNXL-emotion – GNXS-emotion	.25***
GNXL-overall – GNXS-overall	.22***

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

Explanation of abbreviations in table 4.5

LMX-MDML-affect	LMX-MDM (affect), supervisor
LMX-MDML-loyalty	LMX-MDM (loyalty), supervisor
LMX-MDML-cont	LMX-MDM (contribution), supervisor
LMX-MDML-respect	LMX-MDM (professional respect), supervisor
LMX-MDML-overall	LMX-MDM (overall), supervisor
PSL	supervisor perceived similarity to the subordinate
PLL	supervisor perceived liking of the subordinate
PSPL	supervisor perceived subordinate performance
GNXL-social	supervisor <i>guanxi</i> (social) with the subordinate
GNXL-finance	supervisor <i>guanxi</i> (finance) with the subordinate
GNXL-priority	supervisor <i>guanxi</i> (priority) with the subordinate
GNXL-celebration	supervisor <i>guanxi</i> (celebration) with the subordinate
GNXL-emotion	supervisor <i>guanxi</i> (emotion) with the subordinate
GNXL-overall	supervisor <i>guanxi</i> (overall) with the subordinate
LMX-MDMS-affect	LMX-MDM (affect), subordinate
LMX-MDMS-loyalty	LMX-MDM (loyalty), subordinate
LMX-MDMS-cont	LMX-MDM (contribution), subordinate
LMX-MDMS-respect	LMX-MDM (professional respect), subordinate
LMX-MDMS-overall	LMX-MDM (overall), subordinate
PSS	subordinate perceived similarity to the supervisor
PLS	subordinate perceived liking of the supervisor
PSPS	subordinate perceived self-performance
GNXS-social	subordinate <i>guanxi</i> (social) with the supervisor
GNXS-finance	subordinate <i>guanxi</i> (finance) with the supervisor

An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

GNXS-priority	subordinate <i>guanxi</i> (priority) with the supervisor
GNXS-celebration	subordinate <i>guanxi</i> (celebration) with the supervisor
GNXS-emotion	subordinate <i>guanxi</i> (emotion) with the supervisor
GNXS-overall	subordinate <i>guanxi</i> (overall) with the supervisor

Table 4.5 shows that, although many correlations were significant, none of them was high. This is consistent with prior research. Harris and Schaubroeck (1988), in their meta-analytic study, found a low agreement between supervisors and subordinates on subordinates' performance ratings ($r = .35$) from 36 independent samples. Gerstner and Day (1997), in a meta-analysis of 24 independent samples that measured LMX from both supervisor and subordinate perspectives, found a low sample-weighted correlation ($r = .29$) between supervisors and subordinates. In another meta-analytic study of 64 independent samples, Sin, Nahrgang and Morgeson (2009) found a true score correlation of .37 between supervisor and subordinate ratings of LMX. This thesis' results are consistent with previous research, and show that, there was significant, but low, agreement between supervisors and subordinates on perceived liking, perceived subordinate performance, overall LMX-MDM, two dimensions of LMX-MDM, overall *guanxi*, and four dimensions of *guanxi*.

4.6 Hypothesis testing

In order to assess the importance of each independent variable, a series of hierarchical regression models, from both subordinate and supervisor perspectives, was tested. The initial stages of testing were conducted in order to investigate whether perceived similarity, perceived liking and perceived subordinate performance made a significant contribution to the variance in LMX after controlling for age, gender, education, company tenure, supervisor tenure and social desirability. Further stages of testing using hierarchical regression were conducted in order to determine whether *guanxi* and the interaction of *guanxi* with perceived similarity, perceived liking and perceived subordinate performance made additional significant contributions to the variance in LMX.

4.6.1 Perceived similarity, perceived liking, perceived subordinate performance, *guanxi* and overall LMX-MDM

Table 4.6 shows the hypotheses that were tested, along with the summary results showing support or non-support for the hypotheses.

Table 4.6 Hypotheses tested, with summary of support (S)/non-support (NS) for hypotheses from subordinates' perspective (Sub) and from supervisors' perspective (Sup), when overall LMX-MDM was the dependent variable

Hypotheses	Sub	Sup
H_{1a} Perceived similarity between a supervisor and subordinate is positively related to overall LMX-MDM in private manufacturing enterprises in China.	S	S
H_{2a} Perceived liking between a supervisor and subordinate is positively related to overall LMX-MDM in private manufacturing enterprises in China.	S	S
H_{3a} Perceived performance of a subordinate is positively related to overall LMX-MDM in private manufacturing enterprises in China.	NS	S
H_{4a} <i>Guanxi</i> between a subordinate and supervisor positively moderates the relationship between subordinate-supervisor perceived similarity and overall LMX-MDM in private manufacturing enterprises in China.	NS	NS
H_{5a} <i>Guanxi</i> between a subordinate and supervisor positively moderates the relationship between subordinate-supervisor perceived liking and overall LMX-MDM in private manufacturing enterprises in China.	NS	S
H_{6a} <i>Guanxi</i> between a subordinate and supervisor positively moderates the relationship between the perceived performance of a subordinate and overall LMX-MDM in private manufacturing enterprises in China.	NS	NS

Table 4.7 shows the hierarchical regression results, from the subordinates' perspective, using the dependent variable of LMX-MDM-overall, the predictor variables of perceived similarity, perceived liking and perceived subordinate performance, and the moderator variable of *guanxi*.

Table 4.7 Hierarchical regression analysis of LMX-MDMS-overall on perceived similarity, perceived liking, perceived subordinate performance and the moderator of *guanxi* (subordinates' perspective)

Variable	Model 1		Model 2		Model 3		Model 4	
	B	Beta	B	Beta	B	Beta	B	Beta
Constant	3.88		4.59		4.51		4.52	
GIMS	.09	.22***	.01	.03	.02	.04	.02	.04
COTENS	-.01	-.17	-.00	-.11	-.01	-.11	-.01	-.11
SUPTENS	.01	.15	.01	.13	.01	.14	.01	.14*
AGES	.02	.21**	.01	.10*	.01	.12*	.01	.13*
SEXS	-.10	-.06	-.12	-.07	-.13	-.08	-.14	-.09
PRIMS	-.34	-.11	-.20	-.06	-.14	-.05	-.15	-.05
MIDS	.13	.08	.06	.06	.06	.04	.06	.04
COLLS	.12	.03	.10	.03	.06	.02	.07	.02
PSS			.33	.38***	.29	.33***	.29	.33***
PLS			.24	.35***	.21	.30***	.22	.32***
PSPS			.04	.04	.03	.04	.03	.03
GNXS					.24	.17***	.23	.16**
PSS x GNXS							-.06	-.04
PLS x GNXS							.04	.04
PSPS x GNXS							-.02	-.02
R^2	.14		.52		.54		.54	
ΔR^2			.38		.02		.00	
F change			70.37**		12.61**		.27	

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

Explanation of abbreviations in table 4.7

GIMS	good impression, subordinate
COTENS	company tenure, subordinate
SUPTENS	subordinate-supervisor tenure
AGES	age, subordinate
SEXS	sex, subordinate
PRIMS	primary education, subordinate
MIDS	middle school education, subordinate
COLLS	college education, subordinate
PSS	subordinate perceived similarity to the supervisor
PLS	subordinate perceived liking of the supervisor
PSPS	subordinate perceived self-performance
GNXS	subordinate <i>guanxi</i> with the supervisor

Model 2 in table 4.7 shows that, after controlling for age, gender, education, company tenure, supervisor tenure and social desirability, 38% of the variation in overall LMX from the subordinates' perspective could be explained with the

An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

predictor variables of perceived similarity, perceived liking, and perceived subordinate performance. The model was statistically significant, $F(11, 272) = 26.17$, $p < .001$. The best unique predictor of overall LMX was perceived similarity ($\beta = .38$, $p < .001$), followed by perceived liking ($\beta = .35$, $p < .001$). Perceived subordinate performance however, did not make a significant contribution to LMX-MDMS-overall. From the subordinates' perspective therefore, hypotheses 1a and 2a were supported, while hypothesis 3a was not supported.

There was a small but significant increase of .02 in R^2 when the variable of *guanxi* was added in model 3, $F(12, 271) = 26.07$, $p < .001$. In this model, perceived similarity was again the best unique predictor ($\beta = .33$, $p < .001$), and *guanxi* was also an important predictor ($\beta = .17$, $p < .001$) of overall LMX-MDM. When the interactions of *guanxi* with perceived similarity, perceived liking and perceived subordinate performance were added in model 4, they made no significant change to R^2 . So from the subordinates' perspective, hypotheses 4a, 5a and 6a were not supported.

Table 4.8 shows the results of the hierarchical regression of overall LMX from the supervisors' perspective on perceived similarity, perceived liking, perceived subordinate performance, and the moderator variable of *guanxi*.

Table 4.8 Hierarchical regression analysis of LMX-MDML-overall on perceived similarity, perceived liking, perceived subordinate performance and the moderator of *guanxi* (supervisors' perspective)

Variable	Model 1		Model 2		Model 3		Model 4	
	B	Beta	B	Beta	B	Beta	B	Beta
Constant	4.46		4.43		4.26		4.28	
GIML	.01	.01	.02	.05	.01	.03	.02	.04
COTENL	.00	.09	.00	.10*	.00	.04	.00	.04
SUPTENL	.01	.25***	.01	.16**	.01	.14**	.01	.15**
AGEL	.00	.03	-.00	-.05	.00	.05	.00	.05
SEXL	.14	.09	.29	.19**	.38	.24***	.36	.23***
PRIML	-.33	-.09	.10	.03	.39	.10	.53	.14**
MIDL	.03	.02	.08	.06	.16	.11	.15	.10
COLLL	-.23	-.13*	-.12	-.07	-.10	-.06	-.11	-.06
PSL			.18	.24***	.10	.13*	.09	.12*
PLL			.18	.26***	.12	.17**	.16	.24***
PSPL			.21	.28***	.22	.29***	.16	.21**
GNXL					.53	.33***	.54	.33***
PSL x GNXL							-.09	-.06
PLL x GNXL							.24	.16**
PSPL x GNXL							-.30	-.17**
R^2	.11		.49		.55		.58	
ΔR^2			.38		.06		.03	
F change			68.02***		35.76***		5.13**	

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

Explanation of abbreviations in table 4.8

GIML	good impression, supervisor
COTENL	company tenure, supervisor
SUPTENL	supervisor-subordinate tenure
AGEL	age, supervisor
SEXL	sex, supervisor
PRIML	primary education, supervisor
MIDL	middle school education, supervisor
COLLL	college education, supervisor
PSL	supervisor perceived similarity to the subordinate
PLL	supervisor perceived liking of the subordinate
PSPL	supervisor perceived subordinate performance
GNXL	supervisor <i>guanxi</i> with the subordinate

Model 2 in table 4.8 shows that, after controlling for age, gender, education, company tenure, supervisor tenure and social desirability, 38% of the variation in LMX-MDM from the supervisors' perspective could be explained with the predictor

An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

variables of perceived similarity, perceived liking and perceived subordinate performance, and that the model was statistically significant, $F(11, 272) = 24.14, p < .001$. All predictor variables made significant unique contributions to LMX-MDML-overall, with perceived subordinate performance being the best predictor ($\beta = .28, p < .001$). Hypotheses 1a, 2a and 3a were therefore supported from the supervisors' perspective.

There was a significant increase of .06 in R^2 when *guanxi* was added in model 3, $F(12, 271) = 27.93, p < .001$, and then a further significant increase of .03 in R^2 when the interactions of *guanxi* with perceived similarity, perceived liking and perceived subordinate performance were added in model 4, $F(15, 268) = 24.4, p < .001$. In model 4, the interaction of perceived liking with *guanxi* made a positive unique contribution to LMX-MDML-overall ($\beta = .16, p < .01$), the interaction of perceived subordinate performance with *guanxi* made a negative unique contribution ($\beta = -.17, p < .01$), while the interaction of perceived similarity with *guanxi* did not make a significant contribution. From the supervisors' perspective therefore, hypothesis 5a was supported, while hypotheses 4a and 6a were not supported.

4.6.2 Perceived similarity, perceived liking, perceived subordinate performance, *guanxi* and the LMX-MDM dimension of affect

Table 4.9 shows the hypotheses that were tested, along with the summary results showing support or non-support for the hypotheses.

Table 4.9 Hypotheses tested, with summary of support (S)/non-support (NS) for hypotheses from subordinates' perspective (Sub) and from supervisors' perspective (Sup), when LMX-MDM-affect was the dependent variable

Hypotheses	Sub	Sup
H_{1b} Perceived similarity between a supervisor and subordinate is positively related to LMX-MDM-affect in private manufacturing enterprises in China.	S	NS
H_{2b} Perceived liking between a supervisor and subordinate is positively related to LMX-MDM-affect in private manufacturing enterprises in China.	S	S
H_{3b} Perceived performance of a subordinate is positively related to LMX-MDM-affect in private manufacturing enterprises in China.	NS	S
H_{4b} <i>Guanxi</i> between a subordinate and supervisor positively moderates the relationship between subordinate-supervisor perceived similarity and LMX-MDM-affect in private manufacturing enterprises in China.	NS	NS
H_{5b} <i>Guanxi</i> between a subordinate and supervisor positively moderates the relationship between subordinate-supervisor perceived liking and LMX-MDM-affect in private manufacturing enterprises in China.	NS	NS
H_{6b} <i>Guanxi</i> between a subordinate and supervisor positively moderates the relationship between the perceived performance of a subordinate and LMX-MDM-affect in private manufacturing enterprises in China.	NS	NS

From both the subordinates' and supervisors' perspectives, there was a similar percentage of explained variance when the dependent variable was LMX-MDM-overall. However, there was greater variation in the models with individual dimensions of LMX-MDM as the dependent variables. Table 4.10 shows the results of hierarchical regression of LMX-MDM-affect on perceived similarity, perceived liking, perceived subordinate performance and the moderator of *guanxi* from the subordinates' perspective.

Table 4.10 Hierarchical regression analysis of LMX-MDMS-affect on perceived similarity, perceived liking, perceived subordinate performance and the moderator of *guanxi* (subordinates' perspective)

	Model 1		Model 2		Model 3		Model 4	
Variable	B	Beta	B	Beta	B	Beta	B	Beta
Constant	3.64		4.54		4.52		4.50	
GIMS	.17	.32***	.07	.13**	.07	.13**	.07	.14**
COTENS	-.00	-.06	.00	.01	.00	.01	.00	.01
SUPTENS	.00	.03	.00	.08	.00	.01	.00	.00
AGES	.02	.12	.00	.03	.01	.04	.01	.03
SEXS	.06	.03	-.04	-.02	-.04	-.02	-.01	-.01
PRIMS	-.06	-.02	-.03	-.01	-.02	-.00	.01	.00
MIDS	.38	.17**	.24	.11*	.24	.11*	.24	.11*
COLLS	.43	.09	.41	.08	.40	.08	.40	.08
PSS			.29	.24***	.28	.23***	.29	.24***
PLS			.42	.46***	.41	.45***	.40	.43***
PSPS			-.03	-.03	-.03	-.03	-.02	-.02
GNXS					.07	.04	.10	.05
PSS x GNXS							.15	-.08
PLS x GNXS							-.08	-.06
PSPS x GNXS							.06	.03
R^2	.15		.49		.49		.49	
ΔR^2			.34		.00		.00	
F change			59.96***		.55		.79	

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

Explanation of abbreviations in table 4.10

GIMS	good impression, subordinate
COTENS	company tenure, subordinate
SUPTENS	subordinate-supervisor tenure
AGES	age, subordinate
SEXS	sex, subordinate
PRIMS	primary education, subordinate
MIDS	middle school education, subordinate
COLLS	college education, subordinate
PSS	subordinate perceived similarity to the supervisor
PLS	subordinate perceived liking of the supervisor
PSPS	subordinate perceived self-performance
GNXS	subordinate <i>guanxi</i> with the supervisor

Model 2 in table 4.10 shows that, after controlling for age, gender, education, company tenure, supervisor tenure and social desirability, 34% of the variation in LMX-MDMS-affect from the subordinates' perspective was explained by the

An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

predictor variables of perceived similarity, perceived liking and perceived subordinate performance. The model was significant, $F(11, 272) = 23.54, p < .001$. Two predictors made unique contributions to LMX-MDMS-affect, perceived similarity ($\beta = .24, p < .001$) and perceived liking ($\beta = .46, p < .001$), while perceived subordinate performance did not make a significant contribution. Consequently, from the subordinates' perspective, hypotheses 1b and 2b were supported, while hypothesis 3b was not supported.

When *guanxi* was added in model 3, there was no change in R^2 , and neither was there any change in R^2 when the interactions of *guanxi* with perceived similarity, perceived liking and perceived subordinate performance were added in model 4. From the subordinates' perspective then, hypotheses 4b, 5b and 6b were not supported.

Table 4.11 shows the results of hierarchical regression of LMX-MDM-affect on perceived similarity, perceived liking, perceived subordinate performance and the moderator of *guanxi* from the supervisors' perspective.

Table 4.11 Hierarchical regression analysis of LMX-MDML-affect on perceived similarity, perceived liking, perceived subordinate performance and the moderator of *guanxi* (supervisors' perspective)

Variable	Model 1		Model 2		Model 3		Model 4	
	B	Beta	B	Beta	B	Beta	B	Beta
Constant	5.04		4.91		4.79		4.84	
GIML	.07	.12*	.11	.18***	.10	.17***	.10	.17***
COTENL	-.01	-.13	-.00	-.10*	-.01	-.13**	-.01	-.13**
SUPTENL	.01	.12	.00	.03	.00	.02	.00	.02
AGEL	.00	.04	.00	-.00	.01	.05	.00	.05
SEXL	-.03	-.02	.12	.06	.19	.09	.18	.08
PRIML	.52	.10	.67	.13*	.89	.17**	1.00	.19**
MIDL	-.27	-.13	-.38	-.18**	-.32	-.15*	-.36	-.17**
COLLL	-.31	-.13	-.30	-.12*	-.28	-.12*	-.29	-.12*
PSL			-.02	-.02	-.08	-.07	-.07	-.07
PLL			.35	.36***	.31	.32***	.34	.35***
PSPL			.37	.34***	.38	.35***	.35	.33***
GNXL					.40	.17**	.33	.15*
PSL x GNXL							-.15	-.06
PLL x GNXL							.23	.11
PSPL x GNXL							-.09	-.04
R^2	.08		.46		.48		.48	
ΔR^2			.38		.02		.00	
F change			63.64***		8.61**		1.08	

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

Explanation of abbreviations in table 4.11

GIML	good impression, supervisor
COTENL	company tenure, supervisor
SUPTENL	supervisor-subordinate tenure
AGEL	age, supervisor
SEXL	sex, supervisor
PRIML	primary education, supervisor
MIDL	middle school education, supervisor
COLLL	college education, supervisor
PSL	supervisor perceived similarity to the subordinate
PLL	supervisor perceived liking of the subordinate
PSPL	supervisor perceived subordinate performance
GNXL	supervisor <i>guanxi</i> with the subordinate

Table 4.11 shows that, after controlling for age, gender, education, company tenure, supervisor tenure and social desirability, the addition of the predictor

An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

variables of perceived similarity, perceived liking and perceived subordinate performance in model 2 explained an additional 38% of the variance in LMX-MDML-affect from the supervisors' perspective. Model 2 was significant, $F(11, 272) = 20.88, p < .001$. Perceived similarity did not make a significant unique contribution to LMX-MDML-affect, but perceived liking did make a significant unique contribution ($\beta = .36, p < .001$), as did perceived subordinate performance ($\beta = .34, p < .001$). From the supervisors' perspective then, hypothesis 1b was not supported, while hypotheses 2b and 3b were supported.

When *guanxi* was added in model 3, R^2 increased by .02, which was a significant change, $F(12, 27) = 20.39, p < .001$. *Guanxi* made a significant unique contribution ($\beta = .17, p < .01$) to LMX-MDML-affect from the supervisors' perspective, as did perceived liking ($\beta = .32, p < .001$) and perceived subordinate performance ($\beta = .35, p < .001$). When the interactions of *guanxi* with perceived similarity, perceived liking and perceived subordinate performance were added in model 4, there was no change in R^2 . From the supervisors' perspective then, hypotheses 4b, 5b and 6b were not supported.

4.6.3 Perceived similarity, perceived liking, perceived subordinate performance, *guanxi* and the LMX-MDM dimension of loyalty

Table 4.12 shows the hypotheses that were tested, along with the summary results showing support or non-support for the hypotheses.

Table 4.12 Hypotheses tested, with summary of support (S)/non-support (NS) for hypotheses from subordinates' perspective (Sub) and from supervisors' perspective (Sup), when LMX-MDM-loyalty was the dependent variable

Hypotheses	Sub	Sup
H_{1c} Perceived similarity between a supervisor and subordinate is positively related to LMX-MDM-loyalty in private manufacturing enterprises in China.	S	S
H_{2c} Perceived liking between a supervisor and subordinate is positively related to LMX-MDM-loyalty in private manufacturing enterprises in China.	NS	S
H_{3c} Perceived performance of a subordinate is positively related to LMX-MDM-loyalty in private manufacturing enterprises in China.	NS	NS
H_{4c} <i>Guanxi</i> between a subordinate and supervisor positively moderates the relationship between subordinate-supervisor perceived similarity and LMX-MDM-loyalty in private manufacturing enterprises in China.	NS	NS
H_{5c} <i>Guanxi</i> between a subordinate and supervisor positively moderates the relationship between subordinate-supervisor perceived liking and LMX-MDM-loyalty in private manufacturing enterprises in China.	NS	S
H_{6c} <i>Guanxi</i> between a subordinate and supervisor positively moderates the relationship between the perceived performance of a subordinate and LMX-MDM-loyalty in private manufacturing enterprises in China.	NS	NS

Table 4.13 shows the results of hierarchical regression of LMX-MDM-loyalty on perceived similarity, perceived liking, perceived subordinate performance and the moderator of *guanxi* from the subordinates' perspective.

Table 4.13 Hierarchical regression analysis of LMX-MDMS-loyalty on perceived similarity, perceived liking, perceived subordinate performance and the moderator of *guanxi* (subordinates' perspective)

Variable	Model 1		Model 2		Model 3		Model 4	
	B	Beta	B	Beta	B	Beta	B	Beta
Constant	3.26		3.91		3.82		3.80	
GIMS	.03	.05	-.03	-.06	-.03	-.05	-.02	-.04
COTENS	-.01	-.19*	-.01	-.16	-.01	-.16	-.01	-.16
SUPTENS	.01	.15	.01	.15	.01	.16	.01	.15
AGES	.04	.26***	.03	.16**	.03	.18**	.03	.19**
SEXS	-.26	-.10	-.19	-.08	-.21	-.08	-.24	-.09
PRIMS	-1.20	-.25***	-.89	-.18**	-.83	-.17**	-.90	-.18**
MIDS	-.15	-.06	-.14	-.06	-.14	-.06	-.15	-.06
COLLS	.09	.02	.06	.01	.02	.00	.01	.00
PSS			.50	.37***	.45	.33***	.44	.32***
PLS			.07	.07	.03	.03	.05	.04
PSPS			.10	.08	.10	.08	.07	.06
GNXS					.28	.13*	.22	.10
PSS x GNXS							-.11	-.05
PLS x GNXS							.10	.07
PSPS x GNXS							-.25	-.13*
R^2	.10		.27		.28		.30	
ΔR^2			.17		.01		.02	
F change			21.19***		4.57*		2.04	

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

Explanation of abbreviations in table 4.13

GIMS	good impression, subordinate
COTENS	company tenure, subordinate
SUPTENS	subordinate-supervisor tenure
AGES	age, subordinate
SEXS	sex, subordinate
PRIMS	primary education, subordinate
MIDS	middle school education, subordinate
COLLS	college education, subordinate
PSS	subordinate perceived similarity to the supervisor
PLS	subordinate perceived liking of the supervisor
PSPS	subordinate perceived self-performance
GNXS	subordinate <i>guanxi</i> with the supervisor

Table 4.13 shows that, after controlling for age, gender education, company tenure, supervisor tenure and social desirability, the addition of the predictor variables of perceived similarity, perceived liking and perceived subordinate performance in model 2 explained 17% of the variation in LMX-MDMS-loyalty. This model was significant, $F(11, 272) = 9.26, p < .001$. Of the three predictor variables, only perceived similarity made a significant unique contribution ($\beta = .37, p < .001$). From the subordinates' perspective therefore, hypothesis 1c was supported, while hypotheses 2c and 3c were not supported.

When *guanxi* was added in model 3, there was an increase of .01 in R^2 , and this increase in the variance explained in LMX-MDMS-loyalty was significant, $F(1, 271) = 4.57, p < .05$. *Guanxi* made a significant unique contribution ($\beta = .13, p < .05$) to LMX-MDMS-loyalty, and perceived similarity made a significant unique contribution ($\beta = .33, p < .001$), while neither perceived liking nor perceived subordinate performance did so. Model 4 shows that, when the interactions of *guanxi* with perceived similarity, perceived liking and perceived subordinate performance were added to the regression model, R^2 increased by .02. However, this increase in the variance explained was not significant, $F(3, 268) = 2.04, p = .11$. In model 4 perceived similarity made a significant unique contribution ($\beta = .32, p < .001$), while the interaction of *guanxi* with perceived subordinate performance made a negative unique contribution ($\beta = -.13, p < .05$) to LMX-MDMS-loyalty from the subordinates' perspective. From the subordinates' perspective then, hypotheses 4c, 5c, and 6c were not supported.

Table 4.14 shows the results of hierarchical regression of LMX-MDM-loyalty on perceived similarity, perceived liking, perceived subordinate performance and the moderator of *guanxi* from the supervisors' perspective.

Table 4.14 Hierarchical regression analysis of LMX-MDML-loyalty on perceived similarity, perceived liking, perceived subordinate performance and the moderator of *guanxi* (supervisors' perspective)

Variable	Model 1		Model 2		Model 3		Model 4	
	B	Beta	B	Beta	B	Beta	B	Beta
Constant	2.62		2.67		2.45		2.55	
GIML	.09	.11*	.09	.11*	.08	.10*	.08	.10*
COTENL	.02	.31***	.02	.32***	.01	.27***	.01	.27***
SUPTENL	.01	.10*	.01	.09	.01	.07	.01	.09
AGEL	.01	.04	-.01	-.04	.00	.03	.00	.03
SEXL	.40	.14*	.53	.18**	.64	.22***	.58	.20***
PRIML	-2.45	-.34***	-1.74	-.24***	-1.36	-.19**	-1.08	-.15**
MIDL	-.48	-.17**	-.20	-.07	-.11	-.04	-.15	-.05
COLLL	-.28	-.09	-.02	-.01	.02	.01	-.01	-.00
PSL			.42	.30***	.32	.23***	.29	.21**
PLL			.17	.13*	.09	.07	.17	.13*
PSPL			-.08	.21	-.11	-.08	-.21	-.15*
GNXL					.70	.23***	.72	.24***
PSL x GNXL							-.31	-.10
PLL x GNXL							.41	.14*
PSPL x GNXL							-.54	-.17**
R^2	.39		.49		.52		.55	
ΔR^2			.10		.03		.03	
F change			17.26***		16.25***		5.07**	

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

Explanation of abbreviations in table 4.14

GIML	good impression, supervisor
COTENL	company tenure, supervisor
SUPTENL	supervisor-subordinate tenure
AGEL	age, supervisor
SEXL	sex, supervisor
PRIML	primary education, supervisor
MIDL	middle school education, supervisor
COLLL	college education, supervisor
PSL	supervisor perceived similarity to the subordinate
PLL	supervisor perceived liking of the subordinate
PSPL	supervisor perceived subordinate performance
GNXL	supervisor <i>guanxi</i> with the subordinate

Table 4.14 shows that, after controlling for age, gender, education, company tenure, supervisor tenure and social desirability, the predictor variables of perceived

An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

similarity, perceived liking and perceived subordinate performance that were added in model 2 explained an additional 10% of variance in LMX-MDML-loyalty from the supervisors' perspective. This model was significant, $F(11, 272) = 23.66, p < .001$. Perceived similarity made a significant unique contribution ($\beta = .30, p < .001$) and perceived liking made a significant unique contribution ($\beta = .13, p < .05$) to LMX-MDML-loyalty, while perceived subordinate performance did not make a significant contribution. From the supervisors' perspective therefore, hypotheses 1c and 2c were supported, while hypothesis 3c was not supported.

When *guanxi* was added to the regression in model 3, there was an increase of .03 in R^2 , and this increase in the variance explained was significant, $F(1, 271) = 16.25, p < .001$. In this model, *guanxi* made a significant unique contribution ($\beta = .23, p < .001$) and perceived similarity made a significant unique contribution ($\beta = .23, p < .001$) to the variance in LMX-MDML-loyalty from the supervisors' perspective. In model 4, the interactions of *guanxi* with perceived similarity, perceived liking and perceived subordinate performance were added, resulting in an increase of .03 in R^2 . This increase in the variance explained was significant, $F(3, 268) = 5.07, p < .001$. The interaction of *guanxi* with perceived similarity did not make a significant contribution to LMX-MDML-loyalty, while the interaction of *guanxi* with perceived liking did make a significant unique contribution to LMX-MDML-loyalty ($\beta = .14, p < .05$), and the interaction of *guanxi* with perceived subordinate performance made a negative unique contribution to LMX-MDML-loyalty ($\beta = -.17, p < .01$). From the supervisor's perspective then, hypothesis 4c was not supported, hypothesis 5c was supported, and hypothesis 6c was not supported.

4.6.4 Perceived similarity, perceived liking, perceived subordinate performance, *guanxi* and the LMX-MDM dimension of contribution

Table 4.15 shows the hypotheses that were tested, along with the summary results showing support or non-support for the hypotheses.

Table 4.15 Hypotheses tested, with summary of support (S)/non-support (NS) for hypotheses from subordinates' perspective (Sub) and from supervisors' perspective (Sup), when LMX-MDM-contribution was the dependent variable

Hypotheses	Sub	Sup
H_{1d} Perceived similarity between a supervisor and subordinate is positively related to LMX-MDM-contribution in private manufacturing enterprises in China.	S	NS
H_{2d} Perceived liking between a supervisor and subordinate is positively related to LMX-MDM-contribution in private manufacturing enterprises in China.	NS	NS
H_{3d} Perceived performance of a subordinate is positively related to LMX-MDM-contribution in private manufacturing enterprises in China.	S	NS
H_{4d} <i>Guanxi</i> between a subordinate and supervisor positively moderates the relationship between subordinate-supervisor perceived similarity and LMX-MDM-contribution in private manufacturing enterprises in China.	NS	NS
H_{5d} <i>Guanxi</i> between a subordinate and supervisor positively moderates the relationship between subordinate-supervisor perceived liking and LMX-MDM-contribution in private manufacturing enterprises in China.	NS	S
H_{6d} <i>Guanxi</i> between a subordinate and supervisor positively moderates the relationship between the perceived performance of a subordinate and LMX-MDM-contribution in private manufacturing enterprises in China.	NS	NS

Table 4.16 shows the results of hierarchical regression of LMX-MDM-contribution on perceived similarity, perceived liking, perceived subordinate performance and the moderator of *guanxi* from the subordinates' perspective.

Table 4.16 Hierarchical regression analysis of LMX-MDMS-contribution on perceived similarity, perceived liking, perceived subordinate performance and the moderator of *guanxi* (subordinates' perspective)

Variable	Model 1		Model 2		Model 3		Model 4	
	B	Beta	B	Beta	B	Beta	B	Beta
Constant	3.71		4.33		4.17		4.26	
GIMS	.06	.10	-.01	-.01	.00	.01	-.00	-.01
COTENS	-.01	-.14	-.01	-.11	-.01	-.12	-.01	-.13
SUPTENS	.01	.11	.01	.09	.01	.09	.01	.10
AGES	.03	.19**	.02	.10	.02	.14*	.02	.14*
SEXS	-.21	-.09	-.15	-.07	-.18	-.07	-.19	-.08
PRIMS	-.46	-.10	-.18	-.04	-.08	-.02	-.06	-.01
MIDS	.05	.02	.04	.02	.04	.02	.03	.01
COLLS	-.16	-.03	-.19	-.04	-.27	-.05	-.30	-.06
PSS			.30	.24**	.22	.17*	.22	.17*
PLS			.09	.00	.02	.02	.02	.02
PSPS			.20	.17**	.19	.16**	.19	.16**
GNXS					.50	.25**	.53	.26***
PSS x GNXS							-.18	-.09
PLS x GNXS							-.02	-.01
PSPS x GNXS							.20	.11
R^2	.07		.20		.24		.25	
ΔR^2			.13		.04		.01	
F change			14.00***		15.98***		1.59	

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

Explanation of abbreviations in table 4.16

GIMS	good impression, subordinate
COTENS	company tenure, subordinate
SUPTENS	subordinate-supervisor tenure
AGES	age, subordinate
SEXS	sex, subordinate
PRIMS	primary education, subordinate
MIDS	middle school education, subordinate
COLLS	college education, subordinate
PSS	subordinate perceived similarity to the supervisor
PLS	subordinate perceived liking of the supervisor
PSPS	subordinate perceived self-performance
GNXS	subordinate <i>guanxi</i> with the supervisor

Model 2 in table 4.16 shows that, after controlling for age, gender, education, company tenure, supervisor tenure and social desirability, the addition of the

predictor variables of perceived similarity, perceived liking and perceived subordinate performance explained an additional 13% of the variation in LMX-MDMS-contribution from the subordinates' perspective, and that the increase in the variance explained was significant, $F(3, 272) = 14.00, p < .001$. In this model, perceived similarity made a significant unique contribution ($\beta = .24, p < .01$) and perceived subordinate performance made a significant unique contribution ($\beta = .17, p < .01$) to LMX-MDMS-contribution from the subordinates' perspective, while perceived liking did not make a significant contribution. From the subordinates' perspective therefore, hypothesis 1d was supported, hypothesis 2d was not supported, and hypothesis 3d was supported.

When *guanxi* was added to the regression in model 3, there was an increase of .04 in R^2 , and this increase in the variance explained was significant, $F(1, 272) = 15.98, p < .001$. *Guanxi* made a significant unique contribution to LMX-MDMS-contribution, ($\beta = .25, p < .01$), as did perceived similarity ($\beta = .17, p < .05$) and perceived subordinate performance ($\beta = .16, p < .01$). When the interactions of *guanxi* with perceived similarity, perceived liking and perceived subordinate performance were added in model 4, there was an increase of .01 in R^2 , but the increase in the variance explained was not significant, $F(3, 268) = 1.59, p = .19$. None of the interaction terms made a significant contribution to LMX-MDMS-contribution. So from the subordinates' perspective, hypotheses 4d, 5d and 6d were not supported.

Table 4.17 shows the results of hierarchical regression of LMX-MDM-contribution on perceived similarity, perceived liking, perceived subordinate performance and the moderator of *guanxi* from the supervisors' perspective.

Table 4.17 Hierarchical regression analysis of LMX-MDML-contribution on perceived similarity, perceived liking, perceived subordinate performance and the moderator of *guanxi* (supervisors' perspective)

Variable	Model 1		Model 2		Model 3		Model 4	
	B	Beta	B	Beta	B	Beta	B	Beta
Constant	4.33		4.35		4.09		3.94	
GIML	-.01	-.16**	-.09	-.16**	-.11	-.18**	-.10	-.16**
COTENL	.01	.14*	.01	.15*	.00	.08	.01	.12*
SUPTENL	.01	.14*	.01	.14	.01	.12*	.01	.11*
AGEL	-.01	-.05	-.01	-.10	.00	.02	.00	-.01
SEXL	.81	.37***	.83	.37***	.96	.43***	.99	.45***
PRIML	1.37	.25***	1.60	.29***	2.06	.37***	2.24	.41***
MIDL	.55	.26***	.67	.31***	.79	.37***	.85	.39***
COLLL	-.35	-.14*	-.25	-.10	-.21	-.09	-.19	-.08
PSL			.16	.15*	.04	.03	.05	.04
PLL			.09	.09	-.01	-.01	.08	.08
PSPL			-.12	-.11	-.11	-.10	-.20	-.19*
GNXL					.83	.36***	.85	.36***
PSL x GNXL							.21	.09
PLL x GNXL							.43	.19**
PSPL x GNXL							-.53	-.21**
R^2	.18		.20		.27		.32	
ΔR^2			.02		.07		.05	
F change			2.52		26.03***		6.18***	

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

Explanation of abbreviations in table 4.17

GIML	good impression, supervisor
COTENL	company tenure, supervisor
SUPTENL	supervisor-subordinate tenure
AGEL	age, supervisor
SEXL	sex, supervisor
PRIML	primary education, supervisor
MIDL	middle school education, supervisor
COLLL	college education, supervisor
PSL	supervisor perceived similarity to the subordinate
PLL	supervisor perceived liking of the subordinate
PSPL	supervisor perceived subordinate performance
GNXL	supervisor <i>guanxi</i> with the subordinate

Table 4.17 shows that, after controlling for age, gender, education, company tenure, supervisor tenure and social desirability, when the predictor variables of perceived similarity, perceived liking and perceived subordinate performance were added in model 2, there was an increase of .02 in R^2 , but the increase in the variance explained was not significant, $F(3, 272) = 2.52, p = .06$. Perceived similarity made a significant contribution, but the model was not significant. From the supervisors' perspective then, none of hypotheses 1d, 2d and 3d was supported.

When *guanxi* was added to the regression in model 3, there was an increase of .07 in R^2 , and this increase in the variance explained was significant, $F(1, 271) = 26.03, p < .001$. *Guanxi* made a significant unique contribution to LMX-MDML-contribution ($\beta = .36, p < .001$). When the interactions of *guanxi* with perceived similarity, perceived liking and perceived subordinate performance were added in model 4, there was an increase of .05 in R^2 , and the increase in the variance explained was significant, $F(3, 268) = 6.18, p < .001$. The interaction of *guanxi* with perceived liking made a significant unique contribution to LMX-MDML-contribution, ($\beta = .19, p < .01$), while the interaction of *guanxi* with perceived subordinate performance made a negative significant contribution to LMX-MDML-contribution ($\beta = -.21, p < .01$). From the supervisors' perspective therefore, hypothesis 4d was not supported, hypothesis 5d was supported, and hypothesis 6d was not supported.

4.6.5 Perceived similarity, perceived liking, perceived subordinate performance, *guanxi* and the LMX-MDM dimension of professional respect

Table 4.18 shows the hypotheses that were tested, along with the summary results showing support or non-support for the hypotheses.

Table 4.18 Hypotheses tested, with summary of support (S)/non-support (NS) for hypotheses from subordinates' perspective (Sub) and from supervisors' perspective (Sup), when LMX-MDM-professional respect was the dependent variable

Hypotheses	Sub	Sup
H_{1e} Perceived similarity between a supervisor and subordinate is positively related to LMX-MDM-professional respect in private manufacturing enterprises in China.	S	S
H_{2e} Perceived liking between a supervisor and subordinate is positively related to LMX-MDM-professional respect in private manufacturing enterprises in China.	S	S
H_{3e} Perceived performance of a subordinate is positively related to LMX-MDM-professional respect in private manufacturing enterprises in China.	NS	S
H_{4e} <i>Guanxi</i> between a subordinate and supervisor positively moderates the relationship between subordinate-supervisor perceived similarity and LMX-MDM-professional respect in private manufacturing enterprises in China.	NS	NS
H_{5e} <i>Guanxi</i> between a subordinate and supervisor positively moderates the relationship between subordinate-supervisor perceived liking and LMX-MDM-professional respect in private manufacturing enterprises in China.	NS	NS
H_{6e} <i>Guanxi</i> between a subordinate and supervisor positively moderates the relationship between the perceived performance of a subordinate and LMX-MDM-professional respect in private manufacturing enterprises in China.	NS	NS

Table 4.19 shows the results of hierarchical regression of LMX-MDM-professional respect on perceived similarity, perceived liking, perceived subordinate performance and the moderator of *guanxi* from the subordinates' perspective.

Table 4.19 Hierarchical regression analysis of LMX-MDMS-professional respect on perceived similarity, perceived liking, perceived subordinate performance and the moderator of *guanxi* (subordinates' perspective)

Variable	Model 1		Model 2		Model 3		Model 4	
	B	Beta	B	Beta	B	Beta	B	Beta
Constant	4.65		5.33		5.29		5.26	
GIMS	.09	.18**	.02	.04	.02	.04	.02	.04
COTENS	-.01	-.09	-.00	-.04	-.00	-.04	-.00	-.05
SUPTENS	.01	.13	.01	.13	.01	.13	.01	.14
AGES	.01	.06	-.00	-.01	.00	.00	.00	.01
SEXS	-.02	-.01	-.11	-.05	-.12	-.06	-.13	-.06
PRIMS	.19	.05	.19	.05	.23	.06	.21	.05
MIDS	.21	.10	.09	.05	.09	.05	.11	.05
COLLS	.13	.03	.11	.02	.09	.02	.13	.03
PSS			.27	.24***	.25	.22**	.23	.20**
PLS			.34	.40***	.32	.37***	.36	.41***
PSPS			-.09	-.08	-.09	-.09	-.09	-.09
GNXS					.15	.08	.11	.06
PSS x GNXS							-.09	-.05
PLS x GNXS							.14	.11
PSPS x GNXS							-.08	-.05
R^2	.07		.33		.34		.34	
ΔR^2			.27		.01		.00	
F change			35.90***		2.06		.97	

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

Explanation of abbreviations in table 4.19

GIMS	good impression, subordinate
COTENS	company tenure, subordinate
SUPTENS	subordinate-supervisor tenure
AGES	age, subordinate
SEXS	sex, subordinate
PRIMS	primary education, subordinate
MIDS	middle school education, subordinate
COLLS	college education, subordinate
PSS	subordinate perceived similarity to the supervisor
PLS	subordinate perceived liking of the supervisor
PSPS	subordinate perceived self-performance
GNXS	subordinate <i>guanxi</i> with the supervisor

Table 4.19 shows that, after controlling for age, gender, education, company tenure, supervisor tenure and social desirability, the addition of the predictor

An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

variables of perceived similarity, perceived liking and perceived subordinate performance in model 2 explained an increase of 27% of the variance in LMX-MDMS-respect from the subordinates' perspective. This increase in the variance explained was significant, $F(11, 272) = 35.90, p < .001$. Perceived similarity made a significant unique contribution ($\beta = .24, p < .001$) and perceived liking made a significant unique contribution ($\beta = .40, p < .001$) to LMX-MDMS-respect, while perceived subordinate performance did not make a significant contribution. From the subordinates' perspective therefore, hypotheses 1e and 2e were supported, while hypothesis 3e was not supported.

When *guanxi* was added in model 3, there was increase of .01 in R^2 , but the increase in the variance explained was not significant, $F(1, 271) = 2.06, p = .15$, and *guanxi* did not make a significant contribution to the variance explained in LMX-MDMS-respect from the subordinates' perspective. When the interactions of *guanxi* with perceived similarity, perceived liking and perceived subordinate performance were added in model 4, there was no change in R^2 . So from the subordinates' perspective, hypotheses 4e, 5e and 6e were not supported.

Table 4.20 shows the results of hierarchical regression of LMX-MDM-professional respect on perceived similarity, perceived liking, perceived subordinate performance and the moderator of *guanxi* from the supervisors' perspective.

Table 4.20 Hierarchical regression analysis of LMX-MDML-professional respect on perceived similarity, perceived liking, perceived subordinate performance and the moderator of *guanxi* (supervisors' perspective)

Variable	Model 1		Model 2		Model 3		Model 4	
	B	Beta	B	Beta	B	Beta	B	Beta
Constant	5.5		5.45		5.37		5.42	
GIML	-.03	-.05	-.01	-.01	-.01	-.02	-.01	-.02
COTENL	-.00	-.11	-.01	-.13**	-.01	-.15**	-.01	-.16**
SUPTENL	.02	.28***	.01	.15**	.01	.14**	.01	.14**
AGEL	.00	.04	.00	-.00	.00	.04	.00	.04
SEXL	-.44	-.20**	-.16	-.07	-.12	-.05	-.15	-.07
PRIML	-.65	-.12	-.08	-.01	.07	.01	.11	.02
MIDL	.24	.11	.21	.09	.24	.11*	.23	.11
COLLL	-.05	-.02	.03	.01	.04	.02	.03	.01
PSL			.14	.13*	.10	.10	.08	.08
PLL			.12	.12*	.09	.09	.10	.10
PSPL			.59	.53***	.59	.53***	.58	.52***
GNXL					.28	.12*	.32	.14*
PSL x GNXL							-.12	-.05
PLL x GNXL							-.01	-.00
PSPL x GNXL							-.11	-.04
R^2	.16		.59		.60		.60	
ΔR^2			.43		.01		.00	
F change			94.42***		5.06*		1.11	

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

Explanation of abbreviations in table 4.20

GIML	good impression, supervisor
COTENL	company tenure, supervisor
SUPTENL	supervisor-subordinate tenure
AGEL	age, supervisor
SEXL	sex, supervisor
PRIML	primary education, supervisor
MIDL	middle school education, supervisor
COLLL	college education, supervisor
PSL	supervisor perceived similarity to the subordinate
PLL	supervisor perceived liking of the subordinate
PSPL	supervisor perceived subordinate performance
GNXL	supervisor <i>guanxi</i> with the subordinate

Table 4.20 shows that, after controlling for age, gender, education, company tenure, supervisor tenure and social desirability, when the predictor variables of

An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

perceived similarity, perceived liking and perceived subordinate performance were added in model 2, there was a 43% increase in the amount of variance in LMX-MDML-respect explained by those predictor variables. This increase in the variance explained was significant, $F(3, 272) = 94.42, p < .001$. Each of the predictor variables made a significant unique contribution to LMX-MDML-respect from the supervisors' perspective, with perceived subordinate performance being the most important predictor ($\beta = .53, p < .001$). From the supervisors' perspective then, hypotheses 1e, 2e, and 3e were supported.

When *guanxi* was added to the regression in model 3, there was an increase of .01 in R^2 , and this increase in variance explained was significant, $F(1, 271) = 5.06, p < .05$. *Guanxi* made a significant unique contribution ($\beta = .12, p < .05$) to LMX-MDML-respect from the supervisors' perspective. When the interactions of *guanxi* with perceived similarity, perceived liking and perceived subordinate performance were added in model 4, there was no change in R^2 , and none of the interaction terms made a significant contribution to LMX-MDML-respect. So from the supervisor's perspective, hypotheses 4e, 5e and 6e were not supported.

4.7 Conclusion

This chapter has provided details of the tests associated with data screening, such as the treatment of missing data, identification of outliers, and tests for multicollinearity, normality, linearity and homoscedasticity. Descriptive statistics and correlations were presented. This was followed by hypotheses testing from both subordinates' and supervisors' perspectives. The following chapter will discuss the findings of the thesis in relation to the literature.

CHAPTER 5

DISCUSSION

5.1 Introduction

Chapter 4 presented the findings obtained from the methodology that was outlined in chapter 3. This chapter provides an explanation for the findings, and relates those findings to the literature. It draws a conclusion for the following research problem: '*To what extent is guanxi related to aspects of the supervisor-subordinate relationship in private manufacturing enterprises in China?*' It answers the following research sub-questions:

1. *To what extent is supervisor-subordinate perceived similarity related to the quality of the supervisor-subordinate relationship in private manufacturing enterprises in China?*
2. *To what extent is supervisor-subordinate perceived liking related to the quality of the supervisor-subordinate relationship in private manufacturing enterprises in China?*
3. *To what extent is perceived subordinate work performance related to the quality of the supervisor-subordinate relationship in private manufacturing enterprises in China?*
4. *To what extent does guanxi moderate the relationship between supervisor-subordinate perceived similarity and the quality of the supervisor-subordinate relationship in private manufacturing enterprises in China?*
5. *To what extent does guanxi moderate the relationship between supervisor-subordinate perceived liking and the quality of the supervisor-subordinate relationship in private manufacturing enterprises in China?*
6. *To what extent does guanxi moderate the relationship between perceived subordinate work performance and the quality of the supervisor-subordinate relationship in private manufacturing enterprises in China?*

The chapter also presents some implications for LMX theory and for practice. Limitations of the thesis are discussed, as well as suggestions for future research.

The conclusions of this chapter are organized according to the following scheme. First, overall LMX-MDM with each of the antecedents and *guanxi* are discussed, from both supervisors' and subordinates' perspectives. Following this, each of the dimensions of LMX-MDM with each of the antecedents and *guanxi* are discussed, from both supervisors' and subordinates' perspectives.

This organization differs from the order of the hypotheses presented in chapter two. The hypotheses were presented so as to deal with each antecedent individually, and then the moderating effect of *guanxi* on the relationship of that antecedent with LMX. For the presentation of results in chapter 4, each regression necessarily involved all the antecedents and the moderator of *guanxi* in the one regression, firstly with overall LMX-MDM as the dependent variable, and then with each of the dimensions of LMX-MDM as dependent variables. Hence the conclusions presented here follow the same order as those of the results chapter. This allows the implications of the independent and moderating variables' influence on each of the dimensions of LMX-MDM to be highlighted and discussed.

Table 5.1 shows the hypotheses connected with each of the sections of this chapter.

Table 5.1 Section names and associated hypotheses

Section number and name	Associated hypotheses
5.3 Perceived similarity, perceived liking, perceived subordinate performance, <i>guanxi</i> and overall LMX	H1a, H2a, H3a, H4a, H5a, H6a
5.4 Perceived similarity, perceived liking, perceived subordinate performance, <i>guanxi</i> and the LMX-MDM dimension of affect	H1b, H2b, H3b, H4b, H5b, H6b
5.5 Perceived similarity, perceived liking, perceived subordinate performance, <i>guanxi</i> and the LMX-MDM dimension of loyalty	H1c, H2c, H3c, H4c, H5c, H6c
5.6 Perceived similarity, perceived liking, perceived subordinate performance, <i>guanxi</i> and the LMX-MDM dimension of contribution	H1d, H2d, H3d, H4d, H5d, H6d
5.7 Perceived similarity, perceived liking, perceived subordinate performance, <i>guanxi</i> and the LMX-MDM dimension of professional respect	H1e, H2e, H3e, H4e, H5e, H6e

An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

5.2 The research question re-visited

The research question asked to what extent *guanxi* was related to the supervisor-subordinate relationship in private manufacturing enterprises in China. This thesis was the first study known to the author to do this. Consequently, as the first study to investigate the LMX dimensions and *guanxi*, it has identified the different dimensions of LMX through which perceived similarity, perceived liking and perceived subordinate performance influence overall supervisor-subordinate relationships in China. The thesis has contributed an explication of *guanxi*'s differing influences on leadership relations in China according to different dimensions of LMX.

Since *guanxi* is a relationship based phenomenon, it was important to know whether, to what extent, and how it influenced the type of relationships that develop between supervisors and subordinates.

Guanxi is an important influence on overall LMX, for both supervisors and subordinates. It has a greater impact on the supervisors' perspective than on the subordinates' perspective. This is consistent with the literature, in that in Chinese societies, greater responsibility for maintaining relationships is placed on those in higher positions. *Guanxi* is important for subordinates' relationships with their supervisors, but it is not as important as the affect-based aspects of relationships. Subordinates are not as interested in the instrumentality associated with *guanxi* as they are with having pleasant relationships with people they like and with whom there are connections of similarity. Perhaps for subordinates in a modernizing China, *guanxi* in the workplace is coming to be seen as less relevant for LMX.

Guanxi influences the relationships between the variables of perceived similarity, perceived liking and perceived subordinate performance on the one hand and overall LMX on the other. However, that influence is not uniform. For subordinates, the affect-based variables of perceived similarity and perceived liking are important for LMX, but there is no impact of *guanxi* on these relationships. For supervisors, *guanxi* remains an important influence on their relationships with subordinates, and impacts those relationships in different ways.

The implications are that traditional relationships in China are going through a period of change. With supervisors and subordinates in today's China placing a different emphasis on the importance of *guanxi*, there may be disruption to the social fabric. While supervisors are expecting deference to authority and the fulfillment of obligations to be instrumental in their relationships, subordinates may be moving away from these traditional practices. If efficient management practices are to operate in China, there needs to be a consideration of how changing attitudes towards *guanxi* influences specific aspects of relationships between leaders and subordinates.

5.3 Perceived similarity, perceived liking, perceived subordinate performance, *guanxi* and overall LMX (Hypotheses H1a, H2a, H3a, H4a, H5a, H6a)

The overall exchange relationship between supervisors and subordinates is of a higher quality when the levels of perceived similarity, perceived liking and perceived subordinate performance are high. However, supervisors and subordinates diverge as to what they consider most important in the exchange relationship. *Guanxi* has an impact on the relationships, but only for supervisors.

That supervisors consider they have better quality relationships with subordinates who they perceive to be similar to themselves than with those who are perceived to be dissimilar confirms results from prior work (Engle & Lord 1997; Liden, Wayne & Stilwell 1993; Phillips & Bedeian 1994). The finding of supervisors regarding subordinates who they like as contributing to positive work relationships also supports previous studies (Day & Crain 1992; Dockery & Steiner 1990; Kacmar et al 2009; Liden, Wayne & Stilwell 1993; Wayne & Ferris 1990; Wayne, Shore & Liden 1997). For the supervisor, likability and perceived similarity of subordinates would mean that such subordinates would be regarded as easy and pleasant to work with and would not require 'settling in' time, thus contributing to effective working relationships.

From the subordinates' perspective, perceived similarity was found to predict overall LMX, which is consistent with previous findings (Liden, Wayne and Stilwell 1993; Suazo et al. 2008). Perceived liking was also found to be an important predictor of overall LMX, and this confirms earlier work (Day & Crain 1992; Dockery & Steiner 1990; Engle & Lord 1997; Liden, Wayne and Stilwell 1993). Subordinates are likely to be concerned with a pleasant working environment and positive interpersonal relationships, so those subordinates who like their supervisors and who perceive their supervisors to be similar to themselves are more likely to establish cooperative and cordial relationships with those supervisors.

Subordinates and supervisors differ in their perceptions of the importance of subordinate performance to overall exchange relationships. For supervisors, the performance of subordinates is an important predictor of overall LMX, which is consistent with results from prior research (Bauer & Green 1996; Day & Crain 1992; Deluga & Perry 1994; Dockery & Steiner 1990; Kim & Organ 1992; Nahrgang, Morgeson & Ilies 2009). The finding that perceived subordinate performance predicts overall LMX from the supervisors' perspective is understandable since supervisors would be interested in and responsible for the working efficiency of their work group. If some subordinates are more competent than others, the productivity of the groups that include competent subordinates would be enhanced, and supervisors would have confidence that work would proceed without excessive problems. In addition, good performance of supervisors' work groups would indicate to those higher in the hierarchy that supervisors are competent and that they promote organizational effectiveness, possibly resulting in good performance

appraisals of supervisors. Supervisors would then be more likely to establish good working relationships with such competent subordinates.

From the subordinates' perspective however, perceived subordinate performance does not predict overall LMX. Most of the research involving perceived subordinate performance as an antecedent of LMX has used supervisor reports of perceived subordinate performance (Bauer & Green 1996; Wayne & Ferris 1990; Wayne, Shore & Liden 1997), rather than subordinate ratings of their own performance. Among those few studies that have used subordinate ratings of their own performance, results are consistent with those of this thesis (Day & Crain 1992; Dockery & Steiner 1990). But the research of Snyder and Bruning (1985) found opposite results, that is, that perceived subordinate performance did predict LMX. This differing result may be the consequence of the measures used in that study. The measure of subordinate self-reported ability that Snyder and Bruning (1985) used was an index of a subordinate's psychological feelings of confidence. This concept does not necessarily have a parallel meaning with that of a subordinate's perceived performance at work, so even though Snyder and Bruning's (1985) measure was called 'perceived competence', it appears to be measuring a related but different concept from that used in this thesis. In addition, the measure of LMX in Snyder and Bruning's (1985) study was a four-item scale of vertical dyad linkage (VDL). This VDL concept was the forerunner to LMX (Dansereau, Graen & Haga 1975; Graen 1976; Graen & Cashman 1975), and was initially concerned with negotiating latitude, which is the extent to which the supervisor allows the subordinate to negotiate job-related matters (Dansereau, Graen & Haga 1975). The VDL model evolved into the LMX model, which itself has been developed and refined, with more current versions taking aspects other than negotiating latitude into consideration.

The findings that subordinate self-ratings of performance do not predict overall LMX are not surprising. When subordinates are evaluating their relationships with their supervisors, they would be more likely to place importance on the interpersonal aspects of those relationships with the supervisor, and consider that their work performance is a separate issue.

When considering the association between *guanxi* and overall LMX from the supervisor's perspective, *guanxi* was an important factor. This confirms the findings of other researchers (Li & Madsen 2010; Luo 1997; Tsang 1998) who have found *guanxi* to be central to relationships in China. Since *guanxi* plays an important role in all aspects of Chinese society, we would expect supervisors to place emphasis on their relationships with all work colleagues, including subordinates. For the subordinates, *guanxi* too was an important factor in their relationships with supervisors. We would expect *guanxi* to be regarded in a similarly important light as for supervisors, since the norms of Chinese society ensure that persons at all social levels understand the importance of relationships and act in ways that maintain culturally determined hierarchical relationships. While both supervisors and subordinates regard *guanxi* as important, the emphasis for supervisors is greater than that for subordinates. This is likely the result of the expectation that, in Chinese society, those in higher hierarchical positions hold the greater responsibility for the maintenance of harmony and social order between people (Cheng et al. 2004;

Redding 1990). The supervisors would regard their work group as similar to a big family (Liu, S 2003), and they would expect to take the foremost responsibility for the group's well-being.

The moderating role of *guanxi* in the relationship between perceived similarity, perceived liking and perceived subordinate on the one hand, and overall LMX on the other hand contributed in both a positive and negative way from the supervisors' perspective, but was of no significance from the subordinates' perspective.

From the supervisors' perspective, the interaction of *guanxi* with the predictor variables of perceived similarity, perceived liking and perceived subordinate performance taken together contributed to enhanced relationships between supervisors and subordinates. However, taken individually, the outcomes were very different. There was no significant interaction effect of perceived similarity with *guanxi* on overall LMX. Although both perceived similarity and *guanxi* were important individual contributors to LMX in this study, supervisors may treat these as independent aspects, in the sense that perceived similarity is more of a static aspect and *guanxi* is more of a dynamic element of the supervisor-subordinate relationship. Supervisors would develop relationships through behaviours appropriate for those with *guanxi*, but those behaviours would not influence the association between perceived similarity and LMX. This is because perceived similarity is an assessment of how much convergence there is between the values, outlook and attitudes of oneself and another. After the early stages of a relationship, a supervisor's perception of similarity to a subordinate would not be expected to vary much over the course of time, as the perceived similarity would be regarded as a more or less fixed aspect of personality. On the other hand, *guanxi* can be developed or diluted over time, according to the type of behaviours that the *guanxi* partners demonstrate. *Guanxi* would then influence the quality of the exchange relationship of the supervisor with the subordinate without necessarily changing the impact of perceived similarity on that relationship.

From the supervisors' perspective, there was a significant positive interaction effect of perceived liking with *guanxi* on overall LMX. This is consistent with social exchange theory which holds that friendship arising from liking is a resource which may be exchanged for other kinds of resources, and which imposes obligations on the receiving partner to reciprocate in some way (Blau 1964). Since perceived liking is a predictor of LMX, this would create harmonious and satisfying relationships in the workplace. *Guanxi* has an emotion component, so if there is close *guanxi* between supervisors and subordinates, the emotion component may be mostly responsible for enhancing the positive relationship between perceived liking and LMX. The interpersonal attraction involved would become intensified because *guanxi* between supervisors and subordinates means that the dyadic partners would have a heightened sense of obligation towards each other, help each other outside of working hours, show concern for each other's wellbeing, and so on.

When considering the moderating effect of *guanxi* on the relationship between perceived subordinate performance and overall LMX from the supervisors' perspective, there was a significant negative effect. Although on the one hand

supervisors perceive that the performance of subordinates contributes to their exchange relationship, on the other hand they regard the effect of *guanxi* on this relationship as detracting from that relationship. In this situation there may be a negative suppression effect in operation. Negative suppression occurs when a variable receives a negative beta weight in a multiple regression equation, even though all variables have positive inter-correlations (Tzelgov & Henik 1991). The main responsibility of the supervisors is to organize work groups in such a way that production is carried out effectively and efficiently. If there is *guanxi* between supervisors and subordinates, subordinates may try to use the relationship to gain favours, such as reduced work load, assignment to easier tasks, or favourable performance evaluations. Supervisors would then find themselves placed in a difficult and compromised position. They have responsibilities to the company to maximize efficient production, and also have obligations to subordinates with whom they have *guanxi*. Due to this conflict of interest, *guanxi* may have a detrimental effect on supervisors' exchange relationships with subordinates. This is borne out by the work of other researchers who have found that people may try to avoid developing *guanxi* if they perceive it as placing too many obligations on them (Chen 2004; Kiong & Kee 1998). So it may be that *guanxi*, despite research showing its positive effects on organizational outcomes (Chen, Tsui & Farh 2002; Cheung et al. 2009; Wong, Ngo & Wong 2003), is a more complex moderating factor associated with LMX. *Guanxi*'s moderating impact may vary in both positive and negative ways according to the different predictor variables that are associated with LMX.

From the subordinates' perspective, there was no significant interaction effect of *guanxi* with the predictor variables of perceived similarity, perceived liking and perceived subordinate performance on overall LMX. Subordinates are mainly concerned with the interpersonal nature of their relationships with supervisors, and may not see *guanxi* as influencing this. This may be the result of the subordinate being the lower ranked party to the relationship, and therefore the one who has less influence than the higher ranked party, the supervisor. Subordinates may therefore regard *guanxi* as less significant to their relationships at work than supervisors do.

In summary, this thesis' contribution has been to confirm that the previously established relationships between perceived similarity, perceived liking and perceived subordinate performance on the one hand and LMX on the other hand apply in China. It has also shown that *guanxi*'s moderating influence varies according to which predictors of LMX are being considered, and according to the perspective being taken, that is, supervisor or subordinate.

5.4 Perceived similarity, perceived liking, perceived subordinate performance, *guanxi* and the LMX-MDM dimension of affect (Hypotheses H1b, H2b, H3b, H4b, H5b, H6b)

The above discussion relates to overall LMX. While the LMX-MDM scale can be used as an overall measure of exchange relationships, its multi-dimensional approach is more appropriate when we want to discover the differing reasons for a

high-quality relationship. The use of the multi-dimensional LMX-MDM, for which role theory (Graen 1976; Katz & Kahn 1978) and social exchange theory (Gouldner 1960) provide the foundations, can more appropriately explain the complexities of those relationships. So it is to the various dimensions of LMX-MDM in this thesis that the discussion turns.

From the supervisors' perspective, perceived liking and perceived subordinate performance predicted the affect dimension of LMX-MDM. Perceived similarity however, did not predict the affect dimension of LMX-MDM. That perceived liking for subordinates would contribute to the affect dimension of supervisor-subordinate relationships was only to be expected. Supervisors who like subordinates would regard that interpersonal attraction as contributing to their working relationships since it would be more pleasant and harmonious to work with those they liked. It is unexpected though that perceived similarity did not predict the affect dimension of LMX-MDM, since prior research has firmly established a strong effect of perceived attitude similarity on attraction (Byrne 1971, Byrne & Griffitt 1973; Pandey 1978), and in different cultural settings (Byrne et al. 1971). Yet in this thesis, supervisors' perceived similarity between themselves and their subordinates did not influence their interpersonal attraction. Supervisors may regard similarity to subordinates as more of a fixed attribute that does not influence their affective relationships. They may regard such relationships as being more affected by the actions of dyad partners, and how those actions have an impact in the workplace.

The action of subordinate performance is an important predictor of the affect dimension of LMX-MDM from the supervisors' perspective. Supervisors who see subordinates performing well would be pleased with this situation since it contributes to productive operations and places the supervisors in a good light. They would then view those productive subordinates with greater affection than less productive subordinates, thus enhancing the relationships through the affect dimension. It is reasonable to think that perceived subordinate performance would contribute to LMX through the contribution dimension of LMX-MDM. However, from the supervisors' perspective, this was not the case (see section 5.6 for full discussion). The fact that, in this thesis, perceived subordinate performance was an important predictor of the affect dimension of LMX-MDM from the supervisors' perspective highlights the critical role that affect plays in leadership relations. In addition, it points to the importance of using a multi-dimensional measure of LMX so that differentiated relationships can be revealed.

When *guanxi* and its moderating effect on the affect dimension of LMX-MDM from the supervisors' perspective was taken into account, *guanxi* itself was a significant predictor. Although it is not necessary to like a person in order to have *guanxi* with that person, people would be happier and more willing to engage in *guanxi* behaviours, such as sharing celebrations, if there was an element of interpersonal attraction between those people. But there was no significant moderation effect of *guanxi* with the variables of perceived similarity, perceived liking and perceived subordinate performance on the affect dimension of LMX-MDM. This is consistent with social exchange theory which explains that there are many kinds of resources that can be exchanged (Blau 1964). Since *guanxi* does have

a moderating influence on relationships between predictor variables and overall LMX-MDM, the lack of such an influence on the affect dimension of LMX-MDM demonstrates that *guanxi*'s influence will be felt through other dimensions. It is likely that *guanxi* will influence relationships through the loyalty dimension of LMX-MDM due to the importance of meeting obligations for maintaining *guanxi*. The importance of using a multi-dimensional scale when measuring LMX is thus highlighted.

When we look at overall LMX compared to the affect dimension of LMX-MDM, both from the supervisors' perspective, it becomes apparent that the overall measure does not provide details of the variability of exchange types. Perceived similarity, perceived liking and perceived subordinate performance predicted overall LMX, yet for the affect dimension of LMX-MDM, perceived similarity was not important. But the influence of perceived liking and perceived subordinate performance was more strongly felt through the affect dimension than through overall LMX. Also, the contribution of *guanxi* to the affect dimension was less than its contribution to overall LMX, while the moderating effect of *guanxi* on overall LMX was significant, yet of no importance to the affect dimension. So for supervisors, perceived liking and perceived subordinate performance are strong indicators of an affect-based relationship, while *guanxi* does not influence those relationships. In addition, in the model with overall LMX as the dependent variable, R^2 was a little higher than for the model when the affect dimension of LMX-MDM was the dependent variable. The affect dimension then, is responsible for a significant amount of the variation in overall LMX, but does not provide a complete explanation for the source of variations in overall LMX.

From the subordinates' perspective, perceived similarity and perceived liking predicted the affect dimension of LMX-MDM. Perceived subordinate performance did not predict the affect dimension. Perceived liking of supervisors by subordinates was the most important reason for a good LMX relationship based on affect, as we would expect, since interpersonal attraction is involved. That perceived similarity also predicted the affect dimension was expected since this supports prior research showing a strong relationship between perceived similarity and interpersonal attraction (Byrne 1971; Byrne & Griffitt 1973; Singh et al. 2007). It is not surprising that perceived subordinate performance is unrelated to the affect dimension, since, unlike supervisors, subordinates would be mainly concerned with the interpersonal aspects of their relationships with supervisors, and would not associate their work performance with interpersonal attraction.

From the subordinates' perspective, neither *guanxi* nor its moderating effect played a role in the affect dimension of LMX-MDM. In this case, subordinates are operating at a purely personal level, and the instrumentality associated with *guanxi* would not influence how they personally like or dislike a supervisor. Although *guanxi* may incorporate an affect component which may then strengthen *guanxi* between two people, affect is not a necessary condition for close *guanxi*.

From the subordinates' perspective, a comparison of overall LMX-MDM with the affect dimension of LMX-MDM reveals that subordinates' perceived liking of

supervisors and their perceived similarity to supervisors are the only important influences on their affect-based relationships. However, for overall LMX-MDM *guanxi* is an additional contributor. We therefore have to look to other dimensions of LMX-MDM to explain the impact of *guanxi* on exchange relationships from the subordinates' perspective. The loyalty dimension of LMX-MDM would appear to be the one through which *guanxi*'s impact is felt due to the importance placed on meeting obligations to *guanxi* partners.

In summary, this thesis has contributed to the literature by demonstrating that affect is an important dimension of LMX in China, and that different predictors have varying associations with the dimension of affect. It has shown that *guanxi*'s moderating influence is not felt through the affect dimension of LMX.

5.5 Perceived similarity, perceived liking, perceived subordinate performance, *guanxi* and the LMX-MDM dimension of loyalty (Hypotheses H1c, H2c, H3c, H4c, H5c, H6c)

For supervisors, perceived similarity and perceived liking are important contributors to the loyalty dimension of LMX-MDM. Perceived subordinate performance has a worsening effect on the loyalty based relationship between supervisors and subordinates; this may be due to a negative suppression effect (Tzelgov & Henik 1991). Supervisors would regard the relationships with subordinates who they liked and who they perceived to be similar to themselves as those comprising friendship. However, friendship does not necessarily go hand in hand with performance, as is seemingly apparent here. The supervisors may feel that those subordinates who are rated as good workers are confident of being viewed favourably for performance evaluations and therefore do not have to pay a lot of attention to demonstrating loyalty to supervisors. In the reverse situation, supervisors would view lower rated subordinates as striving to demonstrate loyalty to supervisors in order to encourage supervisors to give them good performance ratings.

Supervisors regard *guanxi* as making a positive contribution to loyalty based relationships with subordinates. This is in line with firmly established associations of obligation and loyalty with *guanxi* (Farh & Cheng 2000; Fu, Tsui & Dess 2006). However, *guanxi* did not moderate the relationship between perceived similarity and the loyalty dimension of LMX-MDM from the supervisors' perspective. Supervisors would regard perceived similarity as a fixed characteristic that would not necessarily be influenced by other factors such as *guanxi*, which is a dynamic concept.

In contrast, there was a positive moderating effect of *guanxi* on the relationship between perceived liking and the loyalty dimension of LMX-MDM from the supervisors' perspective. This is consistent with role theory which holds that expectations about required behaviours and norms influence a person's behaviour (Katz & Kahn 1978). In China, the expectations of *guanxi* relationships are that subordinates demonstrate loyalty to their superiors, while superiors offer benevolence and kindness towards subordinates (Tsui et al. 2004). Perceived liking

is a somewhat malleable factor, since it can be enhanced or diminished by the actions and behaviours of a dyad partner. Actions are also important for the development and maintenance of *guanxi*, as it is the expected helping behaviours and social interaction that determine how close *guanxi* becomes. Subordinates' helping behaviours of *guanxi* would therefore increase supervisors' perception of loyalty from subordinates, creating an even higher quality of exchange. It is reasonable to think that supervisors would expect more loyalty from those subordinates who they liked, and who are therefore presumed to be in closer relationships with their supervisors than those who are less liked.

The moderating effect of *guanxi* on the relationship between perceived subordinate performance and the loyalty dimension of LMX from the supervisors' perspective was negative, indicating a possible negative suppression effect (Tzelgov & Henik 1991). Supervisors would believe that lower rated subordinates may try to cultivate closer relationships with supervisors in order to gain favourable performance ratings. However, supervisors would resist such attempts in order to avoid obligations to those subordinates with whom a close relationship was not warranted.

Comparing overall LMX-MDM to the loyalty dimension of LMX-MDM from the supervisors' perspective, it can be seen that the overall measure does not reveal how the variation in LMX is manifested. All variables of perceived similarity, perceived liking and perceived subordinate performance were significant predictors of LMX in both models, but the magnitude of their influence varied. Perceived similarity was more important in the prediction of the loyalty dimension of LMX-MDM than for overall LMX-MDM, while the reverse case applied to perceived liking. And the direction of influence of perceived subordinate performance was positive in one model and negative in the other. This indicates that the loyalty dimension contributes to the overall exchange relationship in different way, and that a consideration of the overall model only would not reveal the different ways that exchange relationships develop.

Regarding the model with the loyalty dimension of LMX-MDM from the subordinates' perspective as the dependent variable, the coefficient alpha for this dimension was .66, which may be considered to be questionable. However, it may not be unacceptable either, since Schmitt (1996) has explained that even with a reliability of less than .7, if the measure has meaningful content coverage of some domain, this may not be a serious obstacle to its use. In an earlier study by Wang et al. (2005), which used the LMX-MDM scale in a pilot study of 262 bank employees in China, the authors found coefficient alpha of .63 for the loyalty dimension, and then in a main study of 162 supervisor subordinates dyads in China found coefficient alpha of .68 for the loyalty dimension. The fact that this thesis and Wang et al.'s (2005) study found similar coefficient alphas for the loyalty dimension of LMX-MDM, and that both studies were conducted in China might suggest that the loyalty questions have a different meaning in this cultural context. Nevertheless, with an alpha of less than .7, there is potential for underestimating relationships, so this caveat should be kept in mind when considering the following interpretation.

From the subordinates' perspective, perceived similarity predicted the loyalty dimension of LMX-MDM. Neither perceived liking nor perceived subordinate performance predicted the loyalty dimension of LMX-MDM. That perceived similarity was a positive contributor to the loyalty dimension of LMX-MDM could be explained by subordinates' expectations that those in authority would act in a paternalistic way towards those in a subordinate position. Subordinates may think that similarity to a supervisor gives them a type of family member status, which then confers certain obligations on the part of dyad partners. This attitude would also explain the positive contribution of *guanxi* to the loyalty dimension of LMX-MDM, since *guanxi* imposes obligations of care, support and loyalty among those with close relationships. Subordinates may feel that perceived similarity brings them 'closer' to supervisors and thereby imposes similar obligations on those supervisors.

From the subordinates' perspective, there was no significant moderating effect of *guanxi* on the relationships between the predictor variables of perceived similarity, perceived liking and perceived subordinate performance on the one hand and the loyalty dimension of LMX-MDM on the other hand. Subordinates do not think that *guanxi* makes their supervisors any more loyal towards them even though perceived similarity itself is associated with loyalty.

From the subordinates' perspective, a comparison of the model when overall LMX-MDM was the dependent variable with the model when the loyalty dimension of LMX-MDM was the dependent variable reveals that perceived similarity, perceived liking and *guanxi* were all important influences on overall LMX, whereas only perceived similarity was regarded as an important influence on loyalty. For the overall model, R^2 was almost double that for the loyalty model, indicating that subordinates regard loyalty as being substantially less important than other dimensions to their overall relationships with supervisors.

In summary, this thesis has contributed to the literature by showing that loyalty is an important dimension of LMX in China, from both supervisors' and subordinates' perspectives. It has shown that supervisors and subordinates differ as to the importance of loyalty in the overall LMX relationships. It has also shown that *guanxi* influences loyalty-based exchange relationships, but only for supervisors.

5.6 Perceived similarity, perceived liking, perceived subordinate performance, *guanxi* and the LMX-MDM dimension of contribution (Hypotheses H1d, H2d, H3d, H4d, H5d, H6d)

Before proceeding with the discussion of the contribution dimension of the LMX-MDM, it should be noted that the coefficient alpha for this dimension from the supervisors' perspective was .60, while that from the subordinates' perspective was .66. These figures are lower than the generally accepted level of .7 indicating reliability of a measure. However, these results are consistent with results from other studies that have used the individual dimensions of LMX-MDM. Liden and Maslyn (1998), who developed the scale, found in their empirical testing that the contribution

dimension had reliabilities of .60 and .56 in two different samples, and that the test-retest correlation was .56. Maslyn and Uhl-Bien (2001) reported a reliability of .66, and Schyns and Wolfram (2008) reported a reliability of .62 for the contribution dimension. In all of these studies, the reliabilities of the other three LMX-MDM dimensions were above .7.

The LMX-MDM scale has been validated and accepted in the West. However, it is a relatively new LMX scale, and has not been used extensively in empirical studies to date. Since validation is an ongoing process, further testing in a wide variety of contexts may reveal that some questions of the LMX-MDM scale, in particular those included in the contribution dimension, need to be revised.

Aspects of the Chinese culture may provide an explanation for the low reliability of the contribution dimension from the supervisors' perspective. In Chinese society, hierarchy is very important. People are expected to know their positions in the hierarchy and to act in accordance with society norms (Bond & Hwang 1986). Those in inferior positions are expected to show obedience, loyalty and commitment to those in superior positions. Those in superior positions are expected to act with support, kindness and benevolence toward those in inferior positions (Cheng et al. 2004; Tsui et al. 2004). If supervisors display behaviour that is seen to be more like the expected behaviours of subordinates, this would introduce confusion into the social system which relies on conformity to norms for social stability (Gabrenya & Hwang 1996). Superiors may lose face if they act in a manner that is regarded as behaviour befitting a person of status that is lower than their hierarchical position warrants. Since face is very important to Chinese people, it is likely that superiors would avoid such behaviours (Redding & Ng 1982). The LMX-MDM was developed in the West, where hierarchy is often a more fluid concept and where conformity to norms is not as strongly felt and acted upon as it is in Chinese societies (Hofstede 1991). Supervisors, when responding to the questions associated with the contribution dimension, may have had the sense that those questions were not appropriate for persons in their positions.

Although the reliability of the contribution dimension from the supervisors' perspective is less than .7, Schmitt (1996) has explained that even relatively low levels (e.g., .50) of criterion reliability can be useful. Nevertheless, even though the items of the dimension contain meaningful content coverage, the reader should keep this caveat in mind when considering the following interpretation concerning the contribution dimension of LMX-MDM.

From the supervisors' perspective, when only the three main predictor variables of perceived similarity, perceived liking and perceived subordinate performance were included in the model, none of the variables predicted the contribution dimension of LMX-MDM. Supervisors are responsible for maintaining smooth and efficient operations of the organization, so in the pursuit of this goal, their own contributions to their exchange relationships with subordinates would not ordinarily be influenced by the interpersonal aspects of those relationships. What is surprising is that supervisors do not contribute more to the exchange relationship when subordinates demonstrate good work performance. It is logical to think that in an

exchange relationship in a working environment, supervisors would ‘exchange’ their own greater contribution for high performances from subordinates. The influence of *guanxi* may provide a reason for this unexpected finding.

When *guanxi* was added to the model with the contribution dimension of LMX-MDM as the dependent variable, several relationships were influenced. Not only was *guanxi* an important predictor of contribution from the supervisor’s perspective, there were significant interaction effects on contribution. As a moderator, *guanxi* played no role in the relationship between perceived similarity and contribution. But it did have a positive moderating impact on the relationship between perceived liking and contribution. This is consistent with social exchange theory, which explains that various material and non-material resources are exchanged due to the norm of reciprocity (Gouldner 1960; Krackhardt 1992). When *guanxi* partners already have a high quality exchange relationship based on liking, this positive view of a partner would only be enhanced if *guanxi* resulted in that partner exchanging information, resources and support, thus contributing even more to the relationship. A further explanation for *guanxi*’s moderating influence on the relationship between perceived liking and contribution is provided by the concept of *ganqing*, which is translated as emotional feelings of attachment (Bian & Ang 1997), and which is incorporated into the full meaning of *guanxi*. The reciprocity associated with those who have *guanxi* is intensified by added expressive dimensions (Cheng & Rosett 1991), so in this way *guanxi* between supervisors and subordinates encourages greater contributions by supervisors to their working relationships with subordinates.

Guanxi also had a moderating impact on the relationship between perceived subordinate performance and contribution, but it was a negative impact. This was contrary to expectations, and indicates that a negative suppressor effect may have been in operation. Supervisors may rely more on *guanxi* to make subordinates feel obliged to improve their performance, rather than make extra efforts themselves to help the subordinates meet work goals.

From the supervisors’ perspective, a comparison of the model when the contribution dimension of LMX-MDM was the dependent variable with the model when overall LMX-MDM was the dependent variable shows that supervisors’ contribution to the exchange relationships are minimally influenced by the variables of perceived similarity, perceived liking and perceived subordinate performance. Yet all these variables do predict the quality of the overall exchange relationships. *Guanxi* and its moderating effect was an important influence in both models. The large differences in the R^2 in each model show that the variables predict different LMX currencies of exchange, and that the contribution currency plays a less important role in overall LMX than other currencies.

From the subordinates’ perspective, perceived similarity and perceived subordinate performance predicted the contribution dimension of LMX-MDM. Perceived liking did not predict contribution. If subordinates rate themselves well in terms of work performance, they would want recognition of their efforts, and would expect supervisors to reciprocate by extending their own contributions to the exchange relationship. Subordinates may have various reasons for wanting to

perform well, with their relationship with supervisors being of importance. It is supervisors who conduct performance evaluations, so subordinates would want to maximize their chances for good appraisals, and demonstrating extra effort would be one way to do this. Second, since relationships are important in China, subordinates would want to maintain and enhance their relationships with supervisors, and demonstrating competence at work would be regarded by subordinates as a means to achieve this.

From the subordinates' perspective, *guanxi* was a significant influence on contribution, but there was no interaction effect of *guanxi* with perceived similarity, perceived liking and perceived subordinate performance. *Guanxi* then is important, but it is mostly manifested in norms of behaviour such as social interaction and helping behaviours (Hwang 1987; Wong, CS et al. 2003). These norms would not necessarily change the way perceived similarity, perceived liking and perceived subordinate performance are related to contributions at work, since the contribution dimension is less concerned with social exchange and more concerned with work activities.

Even though the variation in contribution from the subordinates' perspective can be partly explained by the above predictor variables taken as a whole, R^2 is only .24, compared to R^2 of .54 when overall LMX-MDM was the dependent variable. This R^2 of .24 is the lowest of all the models, so it is apparent that, from the subordinates' perspective, the contribution dimension is the least important currency of exchange in the supervisor-subordinate relationship.

In summary, this thesis has contributed to the literature by showing that contribution is a dimension of LMX in China, and that it is associated with different predictor variables according to the different perspectives of supervisors and subordinates. It has also added to the literature by showing that *guanxi*'s influence on the contribution dimension of LMX differs between supervisors and subordinates.

5.7 Perceived similarity, perceived liking, perceived subordinate performance, *guanxi* and the LMX-MDM dimension of professional respect (Hypotheses H1e, H2e, H3e, H4e, H5e, H6e)

From the supervisors' perspective, perceived similarity, perceived liking and perceived subordinate performance predicted the professional respect dimension of LMX-MDM. The major feature here is that perceived subordinate performance was responsible for most of the variation in professional respect. This is only to be expected since supervisors would regard those subordinates whose work was of a high-quality as those deserving of the supervisors' greatest professional respect.

Guanxi made a small contribution to supervisors' professional respect for subordinates, but it did not have any moderating effect on the relationships between perceived similarity, perceived liking and perceived subordinate performance on the one hand and professional respect on the other. In this situation, supervisors have

one overarching reason for respecting their subordinates' professional skills, and that is their work performance. Other influences have little or no bearing on this. Supervisors, although acknowledging the influence of other factors on some dimensions of their relationships with subordinates, are not influenced by these other factors when developing relationships based on professional respect with subordinates.

From the supervisors' perspective, a comparison between the model with professional respect as the dependent variable and the model with overall LMX as the dependent variable reveals that all predictors are important for overall LMX, whereas perceived subordinate performance is the disproportionately dominant influence on the professional respect dimension. The R^2 for the professional respect dimension is the highest among all models, so from the supervisors' perspective, their high opinions of the professional abilities of subordinates comprise the greatest contributor to high-quality relationships between supervisors and subordinates.

From the subordinates' perspective, perceived similarity and perceived liking predicted the professional respect dimension of LMX-MDM. Perceived subordinate performance did not predict professional respect. Subordinates attach importance to interpersonal aspects of their relationships, so if they like supervisors and think them similar to themselves, this interpersonal attraction would extend to feeling comfortable with the way supervisors carry out their professional activities. And a halo effect may be in operation. Perceived similarity and perceived liking may not seem to be directly related to contribution, yet those variables may still predict contribution as result of subordinates extending their positive feelings about other aspects of their exchange relationships to the contribution dimension. The importance that subordinates place on interpersonal aspects of their exchange relationships with supervisors is reflected in the fact that subordinates do not regard their own work achievements as being related to the professional respect they afford their supervisors.

Guanxi did not have an important impact on the professional respect dimension of LMX-MDM from the subordinates' perspective, nor was there any significant interaction effect of *guanxi* on the relationships between perceived similarity, perceived liking and perceived subordinate performance on the one hand, and professional respect on the other hand. *Guanxi* requires social interaction and exchanges, either affective or instrumental, between people. But professional respect is an attitude of subordinates towards their supervisors, and only relates to a work setting. Subordinates regard *guanxi* as a set of behaviours for practical ends, and these behaviours would not have an impact on their attitude towards professional standards of supervisors.

This thesis has contributed to the literature by showing that professional respect is an important dimension of LMX in China, and that this is stronger for supervisors than for subordinates. It has shown that different variables predict the professional respect dimension of LMX to varying degrees. It has also shown that *guanxi* does not play a role in exchange relationships based on professional respect.

5.8 Overall conclusions

In this thesis, several broad findings were revealed. *Guanxi* had a moderating effect on the relationships between perceived similarity, perceived liking and perceived subordinate performance on the one hand and LMX on the other hand, but this influence was not evenly felt across all the dimensions of LMX-MDM. Perceived similarity, perceived liking and perceived subordinate performance predicted overall LMX, but the association of these variables with LMX was manifested in different ways through the different dimensions of LMX-MDM. Supervisors and subordinates differed as to which variables had the greatest predictive ability for LMX, and as to how much influence *guanxi* had on those relationships.

For subordinates, perceived similarity predicted overall LMX and each of the dimensions of LMX-MDM. Perceived liking predicted overall LMX, but only through the dimensions of affect and professional respect, whereas perceived subordinate performance predicted LMX only through the contribution dimension. *Guanxi* had an influence on LMX through the dimensions of loyalty and contribution, but no moderating effect on the relationship between the predictor variables of perceived similarity, perceived liking and perceived subordinate performance and the criterion of LMX-MDM.

For supervisors, perceived similarity predicted overall LMX through the loyalty and professional respect dimensions, whereas perceived liking predicted overall LMX through the dimensions of affect, loyalty and professional respect. Perceived subordinate performance predicted overall LMX through the affect and professional respect dimensions. *Guanxi* was a significant influence on LMX, and had a positive moderating effect on the relationship between perceived liking and two dimensions of loyalty and contribution, and a negative moderating effect on the relationship between perceived subordinate performance and two dimensions of loyalty and contribution.

The use of the multi-dimensional LMX-MDM allowed the researcher to discover the different ways in which relationships between supervisors and subordinates are developed. The findings confirmed that different currencies of exchange are used by supervisors and subordinates in China. The thesis confirmed the importance of *guanxi* in China, and found that the differing obligations associated with *guanxi* influenced the LMX relationships in different ways.

5.9 Implications for theory

This thesis has made several theoretical contributions to the development of LMX theory and *guanxi* in China.

The thesis is the first study that provides a model of *guanxi*'s moderating influences on multi-dimensional LMX. This has added to our understanding of the development of LMX in China and of how *guanxi* extends into and influences dyadic relations in Chinese work contexts.

The thesis has added to the literature by showing that *guanxi*'s moderating influence varies between different dimensions of LMX. It has also highlighted that *guanxi* interacts with predictor variables in differing ways.

The thesis confirms the multi-dimensionality of LMX in China, and shows the differential effects that perceived similarity, perceived liking and perceived subordinate performance have on individual dimensions of LMX. It highlights the usefulness of using a multi-dimensional, rather than a uni-dimensional, approach to LMX.

The replication of previously established relationships between perceived similarity, perceived liking and perceived subordinate performance on the one hand and LMX on the other hand confirms that those relationships hold in China. Since most LMX research has been conducted in western countries, this confirmation suggests that LMX theory has a broader application than most LMX research to date has revealed.

The different findings between supervisors' and subordinates' perspectives highlight the need for LMX research to take both perspectives into account. The different findings also confirm the *guanxi*-influenced view that, in China, those in higher hierarchical positions have a moral obligation to take the greater responsibility for the welfare of those in lower positions.

5.10 Implications for practice

In addition to making theoretical contributions, this thesis has some practical significance.

Taking steps to develop *guanxi* may prove advantageous to companies. This thesis has shown that *guanxi* can have a positive influence on the relationships between supervisors and subordinates, and previous research has shown that high-quality LMX contributes to positive organizational outcomes (Dulebohn et al. in press; Gerstner & Day 1997; Ilies, Nahrgang & Morgeson 2007). Companies may therefore wish to tap this source of potential competitive advantage by taking active measures to enhance *guanxi*. Specific measures might include organizing social activities that encourage interaction between supervisors and subordinates, holding celebratory activities to mark events or achievements that both supervisors and subordinates have been involved in, providing training courses in mentoring and counselling skills for supervisors. If such measures are taken, higher quality relationships between supervisors and subordinates may ensue. Since research has shown that high-quality LMX is positively associated with desirable organizational

outcomes such as reduced turnover, increased job satisfaction, increased organizational commitment, trust in supervisor and organizational citizenship behaviour (Dulebohn et al. in press; Gerstner & Day 1997; Wang, Chu & Ni 2010; Wat & Shaffer 2005), companies may reap these benefits through the fostering of close *guanxi* between supervisors and subordinates.

Guanxi is an indigenous concept and practice, hence international companies wishing to set up operations in China may find it difficult to understand the importance of *guanxi* to commercial operations. Even more difficult for those not thoroughly familiar with Chinese culture is how to establish *guanxi*. Foreign companies planning to establish branches or joint ventures in China would thus be well advised to run training courses for their employees that specifically cover the practical applications of *guanxi*. Foreign companies may wish to send some of their personnel to China in advance of their deployment there in order for such personnel to become familiar with Chinese norms and customs, in particular *guanxi*.

Although the positive effects of *guanxi* have been reported in this thesis and in other work, there are negative effects. One criticism of *guanxi* is that decisions can be based on a form of cronyism, rather than on objective standards (Khatri & Tsang 2003). And when the interpersonal relationships that are at the core of *guanxi* become the basis for performance appraisals, assignment to desirable tasks, promotions, special deals, and so on, it may be that personal gain rather than organizational efficiency is the determining factor. This in turn may lead to bribery and corruption (Chen & Chen 2009). In order to avoid the situation of *guanxi* bringing these negative consequences to organizations, companies may need to conduct training sessions that help employees distinguish between acceptable and unacceptable uses of *guanxi*. Although it is difficult to regulate culture, clear guidelines can help employees avoid inadvertently falling into improper behaviour while at the same time allowing the benefits of appropriate use of *guanxi* to be retained.

5.11 Limitations

There are several limitations to this study. The data were cross-sectional, so causal effects cannot be established. A longitudinal study may yield information as to how *guanxi* develops over time, and whether this development contributes to higher quality or lower quality exchange relationships. Common method variance may be an issue since supervisors' and subordinates' responses for both predictor and outcome variables were used for analysis, and the predictor and criterion variables were measured at the same point in time. The study's sample was a convenience sample from private manufacturing firms in a southern province of China, so the findings may not be generalizable to China as a whole.

5.12 Further research

It would therefore be desirable for the study to be replicated in different regions of China and in different industries. In the last 30 years, the reforms in China have led to a rise in the number and importance of privately owned enterprises and joint ventures, and a reduced role for state owned enterprises, so it would be enlightening if further research could compare the significance of *guanxi* for leadership relations among these different types of organizations. With China's rapid industrialization, new industries with modern methods and modern management practices are on the rise. If research could be conducted within these types of enterprises, researchers may discover whether rapid modernization is changing *guanxi*'s influence on LMX.

Additional research could be conducted in Chinese societies outside China itself, for example Hong Kong and Singapore. Both Hong Kong and Singapore have a long tradition of considerable interaction with western business people and western business methods. Hong Kong and Singapore would therefore be suitable contexts for examining whether *guanxi* operates in a similar manner to that in China, or whether and to what extent western influence has changed *guanxi* dynamics.

The issue of whether *guanxi* acts as a form of social capital, and whether it operates in a similar or different manner in Western companies are areas for further research. Is *guanxi* an important phenomenon in Western contexts? Does it have a positive or negative influence on LMX in Western organizations? On what dimensions of LMX does *guanxi* have an impact? Are such impacts similar or different to those that occur in China? Does *guanxi* influence exchange relationships to a greater or lesser extent according to the perspective adopted in Western-based studies? These answers to these questions would expand our knowledge of how *guanxi* operates and how it affects exchange relationships in different cultural contexts.

Based on theoretical and empirical justification, the thesis adopted an individual level of analysis. Further research may be undertaken so as to extend our understanding of how *guanxi* influences LMX at the group and network levels of analysis.

Longitudinal studies would be desirable in order to establish causal effects of *guanxi* on LMX. Such studies would be able to establish if the relationships found in this thesis develop over a short or long period of time. Longitudinal studies could also explore whether one or all dimensions of LMX-MDM develop at similar or different rates.

For *guanxi* to be maintained and enhanced, social interaction and helping behaviours are necessary. But which particular dimensions of *guanxi* are of greatest importance? Studies that consider the separate dimensions of *guanxi* and their individual effects on overall LMX as well as the individual dimensions of LMX would enrich our understanding of how supervisor-subordinate relationships develop.

Most studies of LMX have taken the subordinates' perspective only. This thesis has shown that supervisors and subordinates view the quality of their exchange relationships in a different light. Additional dual-perspective studies could therefore investigate which LMX dimensions are responsible for the differences, and the reasons for those differences.

5.13 Conclusion

This thesis has provided insights into how the indigenous concept of *guanxi* influences the relationships that supervisors and subordinates establish in China. It has replicated some previous findings that have shown predictive value of perceived similarity, perceived liking and perceived subordinate performance for LMX. It has shown that a multi-dimensional approach to LMX is relevant in China, and that high-quality exchange relationships are manifested through different LMX dimensions in China. To the writer's knowledge it is the only study that has tested the impact of *guanxi* on different dimensions of LMX, rather than on an overall scale. It has used a dual perspective approach towards LMX, thus enabling a more comprehensive picture of LMX to be revealed than would be the case if only a single perspective was utilized.

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An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

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An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

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APPENDIX A – SUBORDINATES’ QUESTIONNAIRE

MDM(S)

These questions ask about your working relationship with your supervisor. Please answer by drawing a circle around the number of your answer, for example ②

1 Strongly disagree	2 Disagree	3 Slightly disagree	4 Neutral	5 Slightly agree	6 Agree	7 Strongly agree
1. I like my supervisor very much as a person.					1	2 3 4 5 6 7
2. My supervisor is the kind of person one would like to have as a friend.					1	2 3 4 5 6 7
3. My supervisor is a lot of fun to work with.					1	2 3 4 5 6 7
4. My supervisor defends my work actions to a superior, even without complete knowledge of the issue in question.					1	2 3 4 5 6 7
5. My supervisor would come to my defense if I were ‘attacked’ by others.					1	2 3 4 5 6 7
6. My supervisor would defend me to others in the organization if I made an honest mistake.					1	2 3 4 5 6 7
7. I do work for my supervisor that goes beyond what is specified in my job description.					1	2 3 4 5 6 7
8. I am willing to apply extra efforts, beyond those normally required, to meet my supervisor’s work goals.					1	2 3 4 5 6 7
9. I do not mind working my hardest for my supervisor.					1	2 3 4 5 6 7
10. I am impressed with my supervisor’s knowledge of his/her job.					1	2 3 4 5 6 7
11. I respect my supervisor’s knowledge of the job.					1	2 3 4 5 6 7
12. I respect my supervisor’s competence on the job.					1	2 3 4 5 6 7
13. I admire my supervisor’s professional skills.					1	2 3 4 5 6 7

PS(S)

These questions ask about your emotional feeling towards your supervisor. Please answer by drawing a circle around the number of your answer, for example ⑤

1 Strongly disagree	2 Disagree	3 Slightly disagree	4 Neutral	5 Slightly agree	6 Agree	7 Strongly agree
1. My supervisor and I are similar in terms of our values.					1	2 3 4 5 6 7
2. My supervisor and I see things in much the same way.					1	2 3 4 5 6 7
3. My supervisor and I are alike in a number of areas.					1	2 3 4 5 6 7
4. My supervisor and I handle problems in a similar way.					1	2 3 4 5 6 7
5. My supervisor and I think alike in terms of coming up with a similar solution to a problem.					1	2 3 4 5 6 7
6. My supervisor and I analyse problems in a similar way.					1	2 3 4 5 6 7
7. My supervisor and I are similar in terms of our outlook.					1	2 3 4 5 6 7
8. My supervisor and I are similar in terms of our perspective.					1	2 3 4 5 6 7

PL(S)

These questions ask about your emotional feeling towards your supervisor. Please answer by drawing a circle around the number of your answer, for example ⑤

1 Strongly disagree	2 Disagree	3 Slightly disagree	4 Neutral	5 Slightly agree	6 Agree	7 Strongly agree
1. I like my supervisor very much as a person.					1	2 3 4 5 6 7
2. I think my supervisor would make a good friend.					1	2 3 4 5 6 7
3. I get along well with my supervisor.					1	2 3 4 5 6 7

PSP(S)

These questions ask about your own work performance. Please answer by drawing a circle around the number of your answer, for example ⑤

1 Strongly disagree	2 Disagree	3 Slightly disagree	4 Neutral	5 Slightly agree	6 Agree	7 Strongly agree
1. I make an important contribution to the overall performance of our working unit.					1 2 3 4 5 6 7	
2. I can always fulfill the jobs assigned by my supervisor on time.					1 2 3 4 5 6 7	
3. I am one of the excellent employees in our work unit.					1 2 3 4 5 6 7	
4. My performance can always meet the requirements of my supervisor.					1 2 3 4 5 6 7	

GNX(S)

These questions ask about the likelihood of you doing the following activities with or for your supervisor. Please answer by drawing a circle around the number of your answer, for example ②

1 Very unlikely	2 Unlikely	3 Neutral	4 Likely	5 Very likely
1. Play tennis (or some other two person sport) with him/her.			1 2 3 4 5	
2. Exercise with him/her.			1 2 3 4 5	
3. Go over to his/her home.			1 2 3 4 5	
4. Lend him/her money.			1 2 3 4 5	
5. Lend him/her money, even though he/she may not to be able to pay it back.			1 2 3 4 5	
6. Lend money to his/her family.			1 2 3 4 5	
7. Skip a social event to run an errand with him/her.			1 2 3 4 5	
8. Miss a work meeting in order to visit him/her in the hospital.			1 2 3 4 5	
9. Give up your vacation to help him/her with a family illness.			1 2 3 4 5	
10. Exchange birthday or holiday gifts.			1 2 3 4 5	
11. Bring back gifts for him/her when you go away on holiday.			1 2 3 4 5	
12. Celebrate special events (birthday, holidays) with him/her.			1 2 3 4 5	
13. Listen to his/her fears and worries.			1 2 3 4 5	
14. Discuss your personal thoughts and feelings with him/her.			1 2 3 4 5	
15. Comfort him/her if he/she has quarreled with a family member.			1 2 3 4 5	

GIM(S)

These questions ask for information about your personality. Please answer True or False by placing a tick (✓) in the appropriate box.

	True	False
1. At social occasions I seldom take the initiative to introduce myself to strangers.	<input type="checkbox"/>	<input type="checkbox"/>
2. I have a natural ability to influence others.	<input type="checkbox"/>	<input type="checkbox"/>
3. I make friends easily.	<input type="checkbox"/>	<input type="checkbox"/>
4. I get irritated if I do the same thing for a long time.	<input type="checkbox"/>	<input type="checkbox"/>
5. I can be calm and composed all the time.	<input type="checkbox"/>	<input type="checkbox"/>
6. I feel I have no control over my future.	<input type="checkbox"/>	<input type="checkbox"/>
7. Due to my carelessness, I often cause damage that could have been avoided.	<input type="checkbox"/>	<input type="checkbox"/>
8. I have many plans but actually accomplished only a few.	<input type="checkbox"/>	<input type="checkbox"/>
9. Other people say that I am understanding.	<input type="checkbox"/>	<input type="checkbox"/>

DEM(S)

These questions ask you for some background information about yourself. Please answer by placing a tick (✓) in the appropriate box or filling in the spaces.

1. How long have you been working for this company?	_____ months
2. How long have you been a subordinate of this supervisor?	_____ months
3. What is your age?	_____ years
4. What is your gender?	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <input type="checkbox"/> Male </div> <div style="text-align: center;"> <input type="checkbox"/> Female </div> </div>
5. What is your educational level?	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <input type="checkbox"/> Primary school </div> <div style="text-align: center;"> <input type="checkbox"/> Middle school </div> <div style="text-align: center;"> <input type="checkbox"/> High school </div> <div style="text-align: center;"> <input type="checkbox"/> College (3 years) </div> <div style="text-align: center;"> <input type="checkbox"/> University bachelor </div> <div style="text-align: center;"> <input type="checkbox"/> Masters or PhD </div> </div>

APPENDIX B - ADJUSTED PERCEIVED SIMILARITY SCALE (SUBORDINATE)

Source: Liden, R, Wayne, SJ & Stilwell, D 1993, 'A longitudinal study on the early development of leader-member exchange', *Journal of Applied Psychology*, vol. 78, no. 4, pp. 662-674.

PS(S)

These questions ask about your emotional feeling towards your supervisor. Please answer by drawing a circle around the number of your answer, for example ⑤

1 Strongly disagree	2 Disagree	3 Slightly disagree	4 Neutral	5 Slightly agree	6 Agree	7 Strongly agree
1. My supervisor and I are similar in terms of our values.*					1	2 3 4 5 6 7
2. My supervisor and I see things in much the same way.					1	2 3 4 5 6 7
3. My supervisor and I are alike in a number of areas.					1	2 3 4 5 6 7
4. My supervisor and I handle problems in a similar way.					1	2 3 4 5 6 7
5. My supervisor and I think alike in terms of coming up with a similar solution to a problem.					1	2 3 4 5 6 7
6. My supervisor and I analyse problems in a similar way.					1	2 3 4 5 6 7
7. My supervisor and I are similar in terms of our outlook.*					1	2 3 4 5 6 7
8. My supervisor and I are similar in terms of our perspective.*					1	2 3 4 5 6 7

* New items drawn from the triple-barrelled item of:

'My supervisor and I are similar in terms of our outlook, perspective and values.'

APPENDIX C - ADJUSTED LMX-MDM SCALE (SUBORDINATE)

Source: Liden, RC & Maslyn, JM 1998, 'Multidimensionality of leader-member exchange: An empirical assessment through scale development', *Journal of Management*, vol. 24, no. 1, pp. 43-72.

MDM(S)

These questions ask about your working relationship with your supervisor. Please answer by drawing a circle around the number of your answer, for example ②

1 Strongly disagree	2 Disagree	3 Slightly disagree	4 Neutral	5 Slightly agree	6 Agree	7 Strongly agree
1. I like my supervisor very much as a person.					1 2 3 4 5 6 7	
2. My supervisor is the kind of person one would like to have as a friend.					1 2 3 4 5 6 7	
3. My supervisor is a lot of fun to work with.					1 2 3 4 5 6 7	
4. My supervisor defends my work actions to a superior, even without complete knowledge of the issue in question.					1 2 3 4 5 6 7	
5. My supervisor would come to my defense if I were 'attacked' by others.					1 2 3 4 5 6 7	
6. My supervisor would defend me to others in the organization if I made an honest mistake.					1 2 3 4 5 6 7	
7. I do work for my supervisor that goes beyond what is specified in my job description.					1 2 3 4 5 6 7	
8. I am willing to apply extra efforts, beyond those normally required, to meet my supervisor's work goals.					1 2 3 4 5 6 7	
9. I do not mind working my hardest for my supervisor.					1 2 3 4 5 6 7	
10. I am impressed with my supervisor's knowledge of his/her job.					1 2 3 4 5 6 7	
11. I respect my supervisor's knowledge of the job.*					1 2 3 4 5 6 7	
12. I respect my supervisor's competence on the job.*					1 2 3 4 5 6 7	
13. I admire my supervisor's professional skills.					1 2 3 4 5 6 7	

* New items drawn from the double-barrelled item of:

'I respect my supervisor's knowledge of and competence on the job.'

An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

APPENDIX D – SUPERVISORS’ QUESTIONNAIRE

MDM(L)

These questions ask about your working relationship with this subordinate. Please answer by drawing a circle around the number of your answer, for example ②

1 Strongly disagree	2 Disagree	3 Slightly disagree	4 Neutral	5 Slightly agree	6 Agree	7 Strongly agree
1. I like this subordinate very much as a person.					1	2 3 4 5 6 7
2. This subordinate is the kind of person one would like to have as a friend.					1	2 3 4 5 6 7
3. This subordinate is a lot of fun to work with.					1	2 3 4 5 6 7
4. This subordinate defends my decisions, even without complete knowledge of the issue in question.					1	2 3 4 5 6 7
5. This subordinate would come to my defense if I were ‘attacked’ by others.					1	2 3 4 5 6 7
6. This subordinate would defend me to others in the organization if I made an honest mistake.					1	2 3 4 5 6 7
7. I do work for this subordinate that goes beyond what is specified in my job description.					1	2 3 4 5 6 7
8. I am willing to apply extra efforts, beyond those normally required, to help this subordinate meet his or her work goals.					1	2 3 4 5 6 7
9. I do not mind working my hardest for this subordinate.					1	2 3 4 5 6 7
10. I am impressed with this subordinate’s knowledge of his/her job.					1	2 3 4 5 6 7
11. I respect this subordinate’s knowledge of the job.					1	2 3 4 5 6 7
12. I respect this subordinate’s competence on the job.					1	2 3 4 5 6 7
13. I admire this subordinate’s professional skills.					1	2 3 4 5 6 7

PS(L)

These questions ask about your emotional feeling towards this subordinate. Please answer by drawing a circle around the number of your answer, for example ⑤

1 Strongly disagree	2 Disagree	3 Slightly disagree	4 Neutral	5 Slightly agree	6 Agree	7 Strongly agree
1. This subordinate and I are similar in terms of our values.					1 2 3 4 5 6 7	
2. This subordinate and I see things in much the same way.					1 2 3 4 5 6 7	
3. This subordinate and I are alike in a number of areas.					1 2 3 4 5 6 7	
4. This subordinate and I handle problems in a similar way.					1 2 3 4 5 6 7	
5. This subordinate and I think alike in terms of coming up with a similar solution to a problem.					1 2 3 4 5 6 7	
6. This subordinate and I analyse problems in a similar way.					1 2 3 4 5 6 7	
7. This subordinate and I are similar in terms of our outlook.					1 2 3 4 5 6 7	
8. This subordinate and I are similar in terms of our perspective.					1 2 3 4 5 6 7	

PL(L)

These questions ask about your emotional feeling towards this subordinate. Please answer by drawing a circle around the number of your answer, for example ⑤

1 Strongly disagree	2 Disagree	3 Slightly disagree	4 Neutral	5 Slightly agree	6 Agree	7 Strongly agree
1. I like this subordinate very much as a person.					1 2 3 4 5 6 7	
2. I think this subordinate would make a good friend.					1 2 3 4 5 6 7	
3. I get along well with this subordinate.					1 2 3 4 5 6 7	

PSP(L)

These questions ask about this subordinate's work performance. Please answer by drawing a circle around the number of your answer, for example ⑤

1 Strongly disagree	2 Disagree	3 Slightly disagree	4 Neutral	5 Slightly agree	6 Agree	7 Strongly agree
1. This subordinate makes an important contribution to the overall performance of our working unit.					1 2 3 4 5 6 7	
2. This subordinate can always fulfill the jobs assigned by the supervisor on time.					1 2 3 4 5 6 7	
3. This subordinate is one of the excellent employees in our work unit.					1 2 3 4 5 6 7	
4. The performance of this subordinate can always meet the requirements of the supervisor.					1 2 3 4 5 6 7	

GNX(L)

These questions ask about the likelihood of you doing the following activities with or for this subordinate. Please answer by drawing a circle around the number of your answer, for example ②

1 Very unlikely	2 Unlikely	3 Neutral	4 Likely	5 Very likely	
1. Play tennis (or some other two person sport) with him/her.	1	2	3	4	5
2. Exercise with him/her.	1	2	3	4	5
3. Go over to his/her home.	1	2	3	4	5
4. Lend him/her money.	1	2	3	4	5
5. Lend him/her money, even though he/she may not to be able to pay it back.	1	2	3	4	5
6. Lend money to his/her family.	1	2	3	4	5
7. Skip a social event to run an errand with him/her.	1	2	3	4	5
8. Miss a work meeting in order to visit him/her in the hospital.	1	2	3	4	5
9. Give up your vacation to help him/her with a family illness.	1	2	3	4	5
10. Exchange birthday or holiday gifts.	1	2	3	4	5
11. Bring back gifts for him/her when you go away on holiday.	1	2	3	4	5
12. Celebrate special events (birthday, holidays) with him/her.	1	2	3	4	5
13. Listen to his/her fears and worries.	1	2	3	4	5
14. Discuss your personal thoughts and feelings with him/her.	1	2	3	4	5
15. Comfort him/her if he/she has quarreled with a family member.	1	2	3	4	5

GIM(L)

These questions ask for information about your personality. Please answer True or False by placing a tick (✓) in the appropriate box.

	True	False
1. At social occasions I seldom take the initiative to introduce myself to strangers.	<input type="checkbox"/>	<input type="checkbox"/>
2. I have a natural ability to influence others.	<input type="checkbox"/>	<input type="checkbox"/>
3. I make friends easily.	<input type="checkbox"/>	<input type="checkbox"/>
4. I get irritated if I do the same thing for a long time.	<input type="checkbox"/>	<input type="checkbox"/>
5. I can be calm and composed all the time.	<input type="checkbox"/>	<input type="checkbox"/>
6. I feel I have no control over my future.	<input type="checkbox"/>	<input type="checkbox"/>
7. Due to my carelessness, I often cause damage that could have been avoided.	<input type="checkbox"/>	<input type="checkbox"/>
8. I have many plans but actually accomplished only a few.	<input type="checkbox"/>	<input type="checkbox"/>
9. Other people say that I am understanding.	<input type="checkbox"/>	<input type="checkbox"/>

DEM(L)

These questions ask you for some background information about yourself. Please answer by placing a tick (✓) in the appropriate box or filling in the spaces.

1. How long have you been working for this company?	_____ months
2. How long have you been a supervisor of this subordinate?	_____ months
3. What is your age?	_____ years
4. What is your gender?	<input type="checkbox"/> Male <input type="checkbox"/> Female
5. What is your educational level?	<input type="checkbox"/> Primary school <input type="checkbox"/> Middle school <input type="checkbox"/> High school <input type="checkbox"/> College (3 years) <input type="checkbox"/> University bachelor <input type="checkbox"/> Masters or PhD

APPENDIX E - ADJUSTED PERCEIVED SIMILARITY SCALE (SUPERVISOR)

Source: Liden, R, Wayne, SJ & Stilwell, D 1993, 'A longitudinal study on the early development of leader-member exchange', *Journal of Applied Psychology*, vol. 78, no. 4, pp. 662-674.

PS(L)

These questions ask about your emotional feeling towards this subordinate. Please answer by drawing a circle around the number of your answer, for example ⑤

1 Strongly disagree	2 Disagree	3 Slightly disagree	4 Neutral	5 Slightly agree	6 Agree	7 Strongly agree
1. This subordinate and I are similar in terms of our values.*					1	2 3 4 5 6 7
2. This subordinate and I see things in much the same way.					1	2 3 4 5 6 7
3. This subordinate and I are alike in a number of areas.					1	2 3 4 5 6 7
4. This subordinate and I handle problems in a similar way.					1	2 3 4 5 6 7
5. This subordinate and I think alike in terms of coming up with a similar solution to a problem.					1	2 3 4 5 6 7
6. This subordinate and I analyse problems in a similar way.					1	2 3 4 5 6 7
7. This subordinate and I are similar in terms of our outlook.*					1	2 3 4 5 6 7
8. This subordinate and I are similar in terms of our perspective.*					1	2 3 4 5 6 7

* New items drawn from the triple-barrelled item of:

'My subordinate and I are similar in terms of our outlook, perspective and values.'

APPENDIX F - ADJUSTED LMX-MDM SCALE (SUPERVISOR)

Source: Liden, RC & Maslyn, JM 1998, 'Multidimensionality of leader-member exchange: An empirical assessment through scale development', *Journal of Management*, vol. 24, no. 1, pp. 43-72.

MDM(L)

These questions ask about your working relationship with this subordinate. Please answer by drawing a circle around the number of your answer, for example ②

1 Strongly disagree	2 Disagree	3 Slightly disagree	4 Neutral	5 Slightly agree	6 Agree	7 Strongly agree
1. I like this subordinate very much as a person.					1 2 3 4 5 6 7	
2. This subordinate is the kind of person one would like to have as a friend.					1 2 3 4 5 6 7	
3. This subordinate is a lot of fun to work with.					1 2 3 4 5 6 7	
4. This subordinate defends my decisions, even without complete knowledge of the issue in question.					1 2 3 4 5 6 7	
5. This subordinate would come to my defense if I were 'attacked' by others.					1 2 3 4 5 6 7	
6. This subordinate would defend me to others in the organization if I made an honest mistake.					1 2 3 4 5 6 7	
7. I do work for this subordinate that goes beyond what is specified in my job description.					1 2 3 4 5 6 7	
8. I am willing to apply extra efforts, beyond those normally required, to help this subordinate meet his or her work goals.					1 2 3 4 5 6 7	
9. I do not mind working my hardest for this subordinate.					1 2 3 4 5 6 7	
10. I am impressed with this subordinate's knowledge of his/her job.					1 2 3 4 5 6 7	
11. I respect this subordinate's knowledge of the job.*					1 2 3 4 5 6 7	
12. I respect this subordinate's competence on the job.*					1 2 3 4 5 6 7	
13. I admire this subordinate's professional skills.					1 2 3 4 5 6 7	

* New items drawn from the double-barrelled item of:

'I respect this subordinate's knowledge of and competence on the job.'

An exploratory study of leader-member exchange in China, and the role of *guanxi* in the LMX process

APPENDIX G - CONSENT TO PARTICIPATE IN SURVEY

CONSENT TO PARTICIPATE IN A RESEARCH STUDY UNIVERSITY OF SOUTHERN QUEENSLAND

Project title: A research survey to discover what determines high and low quality working relationships in a Chinese enterprise

Researcher: Gwenda Latham

Introduction:

- You are being asked to participate in a study of working relationships in your organization.
- Your participation will involve completing a questionnaire, where you check one response to each question.
- Workers will be asked questions about their working relationships with their supervisors, and their opinions of their supervisors' attitudes and work practices.
- Supervisors will be asked questions about their working relationships with workers, and their opinions of workers' attitudes and work practices.
- The amount of time required for your participation will be approximately 30 minutes.

Purpose:

- The purpose of this study is to learn what makes a good working relationship between supervisors and subordinates.

Risks/Benefits:

- There are no foreseeable risks involved in participating in this research beyond those experienced in everyday life.
- The potential benefit is that the results may show us how your working relationships may be improved, thus contributing to your organization's goals and to the harmony and productivity among workers.

Confidentiality:

- The information that you provided will be treated with total confidentiality. No names are required. No individual's responses will be identified in results or recommendations. Your completed questionnaires will be handed directly to the researcher. No-one in your organization will see your responses. The only person who will see your responses is the researcher. The completed questionnaires will be taken to Macau, and kept in Macau, for use by the researcher only.

Voluntary participation:

- Your participation in this study is voluntary. If you decide that you do not wish to participate, you may withdraw at any time without penalty.

- If you have questions about this research study, please feel free to ask Gwenda Latham at (853) 3974706 or glatham@umac.mo, or Khong Yueng Wah, Eva, at (853) 3974569.

Statement of Consent:

- I have read this consent form and have been given the opportunity to ask questions. I give my consent to participate in this study.

Participant's signature: _____ **Date:** _____

- A copy of this consent form will be given to you.