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Caroline Cooper Wilhelm

Louisiana State University and Agricultural & Mechanical College

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Developmental processes in leader-member exchanges

Wilhelm, Caroline Cooper, Ph.D.
The Louisiana State University and Agricultural and Mechanical Col., 1989
DEVELOPMENTAL PROCESSES IN LEADER-MEMBER EXCHANGES

A Dissertation
Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy
in
The Department of Psychology

by
Caroline Cooper Wilhelm
B.A., Agnes Scott College, 1984
M.A., Louisiana State University, 1986
May, 1989
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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>ii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>v</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>vi</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>vii</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Leader-Member Exchange Theory</td>
<td>3</td>
</tr>
<tr>
<td>Unit Differentiation</td>
<td>6</td>
</tr>
<tr>
<td>The Role-Making Process</td>
<td>7</td>
</tr>
<tr>
<td>Effects of Role Ambiguity and Role Conflict on Role-Making</td>
<td>9</td>
</tr>
<tr>
<td>The Leader-Member Relationship: A Multidimensional Exchange</td>
<td>11</td>
</tr>
<tr>
<td>Leader Perceptions of Subordinate Behavior</td>
<td>13</td>
</tr>
<tr>
<td>Leader-Member Attributional Conflict</td>
<td>14</td>
</tr>
<tr>
<td>Leader Attributions</td>
<td>14</td>
</tr>
<tr>
<td>Member Attributions</td>
<td>18</td>
</tr>
<tr>
<td>Attributional Conflict</td>
<td>19</td>
</tr>
<tr>
<td>Leader Behavior</td>
<td>20</td>
</tr>
<tr>
<td>Member Perceptions of Unfairness</td>
<td>24</td>
</tr>
<tr>
<td>Propensity to Leave</td>
<td>27</td>
</tr>
<tr>
<td>METHOD</td>
<td>29</td>
</tr>
<tr>
<td>Subjects and Procedure</td>
<td>29</td>
</tr>
<tr>
<td>Supervisory Questionnaire</td>
<td>32</td>
</tr>
<tr>
<td>Member Loyalty, Contributions, and Affect</td>
<td>32</td>
</tr>
<tr>
<td>Supplemental Measures</td>
<td>33</td>
</tr>
<tr>
<td>Attributions for Member Behavior</td>
<td>35</td>
</tr>
<tr>
<td>Subordinate Questionnaire</td>
<td>36</td>
</tr>
<tr>
<td>Attributions for Member Behavior</td>
<td>36</td>
</tr>
<tr>
<td>Goal Facilitation</td>
<td>36</td>
</tr>
<tr>
<td>Role Perceptions</td>
<td>37</td>
</tr>
<tr>
<td>Challenge</td>
<td>38</td>
</tr>
<tr>
<td>Autonomy</td>
<td>38</td>
</tr>
<tr>
<td>Boundary-Spanning Activity</td>
<td>39</td>
</tr>
<tr>
<td>Perceptions of Fairness</td>
<td>40</td>
</tr>
</tbody>
</table>
## TABLE OF CONTENTS (continued)

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of Leader-Member Exchange</td>
<td>42</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>43</td>
</tr>
<tr>
<td>Propensity to Leave</td>
<td>43</td>
</tr>
<tr>
<td>Analyses</td>
<td>44</td>
</tr>
<tr>
<td>RESULTS</td>
<td>45</td>
</tr>
<tr>
<td>Hypothesis 1</td>
<td>58</td>
</tr>
<tr>
<td>Hypothesis 2</td>
<td>60</td>
</tr>
<tr>
<td>Hypothesis 3</td>
<td>60</td>
</tr>
<tr>
<td>Hypothesis 4</td>
<td>61</td>
</tr>
<tr>
<td>Hypothesis 5</td>
<td>63</td>
</tr>
<tr>
<td>Hypothesis 6</td>
<td>63</td>
</tr>
<tr>
<td>Hypothesis 7</td>
<td>67</td>
</tr>
<tr>
<td>Hypothesis 8</td>
<td>69</td>
</tr>
<tr>
<td>Hypothesis 9</td>
<td>69</td>
</tr>
<tr>
<td>Additional Analyses</td>
<td>71</td>
</tr>
<tr>
<td>Incomplete Dyads</td>
<td>71</td>
</tr>
<tr>
<td>Tenure in the Dyad</td>
<td>72</td>
</tr>
<tr>
<td>Salary Grade</td>
<td>73</td>
</tr>
<tr>
<td>Mean Differences by Division and Sex</td>
<td>73</td>
</tr>
<tr>
<td>DISCUSSION</td>
<td>75</td>
</tr>
<tr>
<td>Conclusion</td>
<td>89</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>98</td>
</tr>
<tr>
<td>APPENDIX A. BEHAVIORAL INCIDENTS SCALE</td>
<td>109</td>
</tr>
<tr>
<td>APPENDIX B. MEMBER LOYALTY</td>
<td>111</td>
</tr>
<tr>
<td>APPENDIX C. MEMBER LIKING</td>
<td>113</td>
</tr>
<tr>
<td>APPENDIX D. MEMBER PERFORMANCE</td>
<td>115</td>
</tr>
<tr>
<td>APPENDIX E. ATTRIBUTIONS FOR MEMBER BEHAVIOR</td>
<td>117</td>
</tr>
<tr>
<td>APPENDIX F. GOAL FACILITATION</td>
<td>122</td>
</tr>
<tr>
<td>APPENDIX G. ROLE AMBIGUITY AND CONFLICT</td>
<td>124</td>
</tr>
<tr>
<td>TABLE OF CONTENTS (continued)</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>APPENDIX H. CHALLENGE</td>
<td>126</td>
</tr>
<tr>
<td>APPENDIX I. AUTONOMY</td>
<td>128</td>
</tr>
<tr>
<td>APPENDIX J. BOUNDARY-SPANNING ACTIVITIES</td>
<td>130</td>
</tr>
<tr>
<td>APPENDIX K. EQUITY</td>
<td>133</td>
</tr>
<tr>
<td>APPENDIX L. FAIRNESS</td>
<td>136</td>
</tr>
<tr>
<td>APPENDIX M. LEADER-MEMBER EXCHANGE</td>
<td>138</td>
</tr>
<tr>
<td>APPENDIX N. MINNESOTA SATISFACTION QUESTIONNAIRE</td>
<td>141</td>
</tr>
<tr>
<td>APPENDIX O. MEMBER PROPENSITY TO LEAVE</td>
<td>143</td>
</tr>
<tr>
<td>VITA</td>
<td>145</td>
</tr>
<tr>
<td>Table</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Mean Demographic Characteristics Among Supervisors and Subordinates</td>
</tr>
<tr>
<td>2</td>
<td>Intercorrelations and Reliabilities for Member Behavior Subscales</td>
</tr>
<tr>
<td>3</td>
<td>Variable Intercorrelations and Reliabilities for Member Loyalty, Affect, and Contributions</td>
</tr>
<tr>
<td>4</td>
<td>Intercorrelations and Reliabilities for Attribution Subscales</td>
</tr>
<tr>
<td>5</td>
<td>Intercorrelations and Reliabilities for Goal Facilitation Subscales</td>
</tr>
<tr>
<td>6</td>
<td>Intercorrelations and Reliabilities for Fairness Subscales</td>
</tr>
<tr>
<td>7</td>
<td>Intercorrelations for Equity Subscales</td>
</tr>
<tr>
<td>8</td>
<td>Variable Means, Standard Deviations, and Reliabilities</td>
</tr>
<tr>
<td>9</td>
<td>Correlations between Supervisor and Subordinate Measures</td>
</tr>
<tr>
<td>10</td>
<td>Correlations between Goal Facilitation Subscales and Member Attributions for Loyalty, Affect, and Contributions</td>
</tr>
<tr>
<td>11</td>
<td>Moderated Regression of Work Challenge on Leader Attributions and Member Contributions</td>
</tr>
<tr>
<td>12</td>
<td>Moderated Regression of Work Challenge on Leader Attributions and Member Behavior</td>
</tr>
<tr>
<td>13</td>
<td>Correlations between Fairness and Equity Subscales and LMX Quality</td>
</tr>
</tbody>
</table>
LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Model of the Leader-Member Exchange Developmental Process</td>
<td>4</td>
</tr>
<tr>
<td>2.</td>
<td>Correlations between Variables in the LMX Developmental Model</td>
<td>59</td>
</tr>
<tr>
<td>3.</td>
<td>Correlations between Member Behavior, Work Outcomes, and Leader Behavior</td>
<td>64</td>
</tr>
</tbody>
</table>
Abstract

The purpose of the present study was to specify more fully the sequence of events by which leader-member relationships are formed. A model of leader-member exchange (LMX) development originally proposed by Dienesch and Liden (1986) was expanded with findings from role theory, attribution theory, and equity theory, and a set of hypotheses was derived for testing. One hundred forty-two subordinates and their respective supervisors (n = 53) from four divisions of a large manufacturing organization provided data for the study. Questionnaires and cover letters assuring anonymity were distributed to subjects, and completed questionnaires were returned directly to the researcher by mail. While support was found for isolated portions of the model, in general there was little evidence to suggest that LMX relationships develop as hypothesized in the present study. One promising outcome, however, was the finding that member perceptions of fairness are positively related to LMX quality. This finding provides some validation for the proposition that equity beliefs have important implications for leader-member relationships and suggests that equity concepts should be included in future considerations of LMX development. A second
outcome of the present study was that a considerable degree of overlap was found to exist between the LMX dimensions, suggesting that LMX may be better conceptualized as a unidimensional construct instead of the multidimensional construct hypothesized by Diener and Liden. Alternative explanations for the findings were discussed, as were directions for future research.
Leader-Member Exchange (LMX) theory has been proposed by Dansereau, Graen, & Haga (1975) to describe the patterns of behavior which characterize supervisory-subordinate relationships. While the model has received empirical support, a number of weaknesses still remain. A major question concerns the processes by which leader-member exchange relationships develop (Dienesch & Liden, 1986). Specifically, the sequence of events which determines the overall quality of the LMX has not been fully explicated. For example, the theory hypothesizes that leaders relate to subordinates as members of either in- or out-groups, but "it is not clear what behaviors on the part of subordinates and on the part of leaders result in the subordinates becoming members of each of these groups" (House & Baetz, 1979, p. p. 410). Thus, there is a clear need to describe what actually happens between leaders and members which shapes the nature of their exchange. Furthermore, an understanding of LMX developmental processes may suggest ways in which the dysfunctional consequences of out-group exchanges, such as poor job attitudes and turnover, can be corrected.

The question of how dyadic relations are formed was recently addressed by Dienesch & Liden (1986), who proposed a model of LMX development based on findings from
the areas of role theory, attribution theory, and social exchange theory. In the present study, their model is expanded and a set of hypotheses are derived for testing. Briefly, leaders and members are viewed as defining the nature of their relationship through a series of social interactions referred to as role-making. Member role conflict and ambiguity are crucial variables in the role-making process and are hypothesized to result in lower levels of key member behaviors on which leaders depend for the accomplishment of their goals. To the extent that subordinate behavior fails to facilitate leader goals, leaders and members are hypothesized to make conflicting attributions for member behavior. Specifically, leaders blame members' dispositional characteristics under such circumstances, while members deny personal responsibility for their failure, attributing it to situational causes. Because leader attributions are thought to moderate subsequent reward behavior, leader-member attributional conflict is hypothesized to result in member perceptions of unfairness when leaders distribute outcomes to work group members. Subordinates who perceive an inequitable exchange with the leader are thought to withdraw their inputs to the dyad and are therefore more likely to assume out-group roles than members who perceive an equitable exchange. Thus, perceptions of
unfairness are hypothesized to correlate negatively with the overall quality of the LMX. LMX quality is, in turn, expected to predict subordinate propensity to leave.

Hence, the purpose of the present study is to more fully specify the processes by which leader-member exchange relationships develop. In the following section, LMX theory is briefly summarized and its theoretical ties to role theory are described. Next, a recent reconceptualization of the LMX construct (Dienesch & Liden, 1986) is presented for use in the present study. Finally, a model is proposed (see Figure 1) which outlines a series of events occurring between leaders and members, and hypotheses derived from this model are presented.

Leader-Member Exchange Theory

For years, leadership research was dominated by the implicit assumption that leaders exhibit a homogeneous set of behaviors toward all subordinates. This view, referred to as the Average Leadership Style approach (Graen, Dansereau, & Minami, 1972), assumed that the leader's behavior was relatively independent of his or her relationship with subordinates. An alternative view, represented by Leader-Member Exchange (LMX) theory (Dansereau, Graen, & Haga, 1975), rejects the assumption that leaders respond in essentially the same way toward
Figure 1. Model of the leader-member exchange developmental process.
all subordinates. Rather, proponents of LMX theory hypothesize that leader behavior toward subordinates varies according to the nature of their particular relationship. That is, the leader differentiates members of his or her work group into an in-group and an out-group on the basis of the leader's interpersonal relationship with each subordinate. The leader's behavior toward the in-group is characterized by high trust, greater support, frequent interaction, and more rewards, while the leader's behavior toward the out-group is characterized by low trust, less support, infrequent interaction, and fewer rewards.

Promising results for the LMX model have been obtained by Graen and his colleagues (Cashman, Dansereau, Graen, & Haga, 1976; Dansereau et al., 1975; Graen & Cashman, 1975; Graen & Schiemann, 1978; Liden & Graen, 1980). However, critics have noted the lack of clear support for hypothesized outcomes of high quality exchanges. While LMX theory appears to predict attitudinal criteria better than Average Leadership Style approaches, neither approach has demonstrated superiority in predicting objective performance criteria (Vecchio, 1982). A general finding is that in-group members have higher performance ratings, but these results have failed to generalize to measures of actual productivity (Vecchio & Gobdel, 1984). This situation
has lead Vecchio (1982) to suggest that common method variance probably accounts for some of LMX theory's success in predicting attitudinal outcomes and subjective performance measures. Thus, support for the model must be tempered by the fact that predictors and criteria have not always been entirely independent.

**Unit Differentiation**

The rationale by which leaders differentiate members into subgroups was originally proposed by Graen (1986). Differentiation of organizational members into in-groups and out-groups occurs because leaders lack the time and energy required to perform all the functions for which they are responsible. Thus, leaders are unable to expend the necessary effort to develop each of their subordinates into maximally performing group members. Consequently, leaders' energies are invested in a select subset of members, called the in-group, who can perform a majority of the group's tasks. In exchange for the in-group's willingness to take on an added share of responsibility for the group's success, leaders provide them with greater latitude for negotiating their duties, more attention, and increased control over group functions. In effect, leaders share their positional resources with a few key members in return for their commitment (Graen, Dansereau, Minami, & Cashman, 1973). In doing so, a
leadership exchange is established whereby leaders influence in-group members without the use of formal authority. In contrast, a supervisory exchange develops with members of the out-group, whom leaders must seek to influence by relying on the formal authority of their position. Since both types of exchanges are present within the same work group, the unit is said to be differentiated.

The Role-Making Process

The process by which work group members are differentiated into in-groups and out-groups is referred to as role-making (Graen, 1976). During the role-making process, the supervisor and subordinate (1) work through how each will behave in certain situations, and (2) agree upon the general nature of their relationship (Graen & Cashman, 1975, p. 143). Thus, as a consequence of the rôle-making process, supervisors define their role as one of leadership or supervision, and subordinates emerge in their corresponding role as members of the in-group or the out-group.

Graen's (1976) view of the role-making process assumes that roles are only partially defined and must be completely developed by the organizational members who occupy them. Job incumbents must define their roles by modifying and accommodating the expectations which others
hold for them. The role-making process is accomplished through a sequence of events known as the role episode (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964). The role episode is an attempt by organizational members who have some vested interest in the way a focal person performs to exert pressure on the focal person to conform with their expectations. In the context of leader-member relationships (Graen, 1976), leaders hold a set of expectations regarding the appropriate role behavior of members. Leaders communicate their expectations to members, who receive and interpret them. Members' subsequent behavior signals compliance or noncompliance and thus provides feedback to leaders regarding the impact of their communications. If leaders interpret members' role behavior as sufficiently discrepant from their expectations, another role episode may be initiated, thereby repeating the cycle. Thus, the nature of leaders' relationships with their members is determined, to a great extent, by a series of social interactions. "One of the crucial mechanisms that is assumed to modify the role during the process of assimilating a new member into the organization...is the interpersonal exchange relationships between the new role incumbent (member) and his immediate supervisor (leader)" (Graen, 1976, p. 1206). The role-making process, then, is the mechanism by which
role definitions evolve and differentiated leader-member relationships are established.

Effects of Role Ambiguity and Conflict on Role-Making

According to Graen's (1976) role-making model, role ambiguity and role conflict are crucial variables which may impede the process by which roles are defined. Role conflict exists when the leader and the member are unable to arrive at a common definition of the member's role due to divergent sets of expectations on the part of one or both parties. Role ambiguity exists when the member lacks knowledge regarding the role expectations held by the leader. The member may not perceive the role expectations accurately or may be completely unaware that these expectations exist. While role ambiguity makes the definition of a role more difficult, role conflict blocks the achievement of a shared definition altogether.

The link between role-making and role conflict and ambiguity has been documented by several early articles in the LMX literature. Johnson and Graen (1973) found that role rejectors (defined as members who subsequently terminated their employment with the organization) differed significantly in terms of role conflict and ambiguity from role acceptors (defined as members who remained with the organization). Specifically, role rejectors were characterized by higher levels of
ambiguity concerning their supervisor's expectations throughout the four months in which they were observed. After four months, role rejectors also exhibited significantly higher levels of role conflict, as indicated by the greater divergence between their expectations and those of their supervisors. Differences were also observed on satisfaction and performance variables, in that role rejectors expressed lower satisfaction with supervisory relations throughout the period and received lower expectations for performance from their supervisors. Similar findings were reported by Graen, Orris, and Johnson (1973). A third study is relevant to this group because it revealed significant differences in the manner in which supervisors perceived the role behavior of in-group and out-group members (Dansereau et al., 1975). That is, out-group members were perceived by their supervisors as conforming less to their expectations than in-group members. Furthermore, the difference in role discrepancy between in-group and out-group members increased in magnitude over time. Specifically, the correspondence between supervisory expectations and perceptions of member role behavior remained consistently high for in-group members during the observation period. In contrast, the correspondence between expectations and perceptions was initially high for outgroup members but
decreased over the period during which observations were made. This finding suggests that in-group members were perceived by their supervisors as continuing to behave as they were expected, while out-group members were seen as progressively deviating from their supervisors' expectations. Thus, these studies demonstrate the importance to the member of accurately perceiving supervisory role preferences and of resolving inconsistent expectations for the development of high quality leader-member relationships.

The Leader-Member Relationship: A Multidimensional Exchange

The focus of LMX theory is on the kind of leader-member relationship which develops from the role-making process. However, as noted by Dienesch and Liden (1986), the leader-member relationship has never been explicitly defined in the LMX literature. In other words, previous researchers of the LMX construct have failed to specify exactly what is exchanged by the two parties in the relationship. This is not meant to imply that many dimensions of exchange have not been conceptualized. On the contrary, researchers have described the leader-member relationship as involving an exchange of trust (Liden & Graen, 1980), loyalty (Dansereau et al., 1975), influence (Yukl, 1981), and interpersonal attraction (Dansereau et al., 1975; Graen & Cashman, 1975; Tjosvold, 1984), to
name several examples. Thus, leader-member exchanges are seen as being differentiated on the basis of social interactions on one of these dimensions.

Rather than categorizing the leader-member exchange on the basis of its status on a single dimension, Dienesch and Liden (1986) proposed that the leader-member exchange occurs on several dimensions. Specifically, Dienesch and Liden abstracted three dimensions from the LMX literature that appear to summarize the different "currencies of exchange" (Dienesch & Liden, p. 625) which have characterized the leader-member relationship in the past. These dimensions and their definitions are as follows (Dienesch & Liden, p. 624-625):

Perceived contribution to the exchange—perception of the amount, direction, and quality of work-oriented activity each member puts forth toward the mutual goals (explicit or implicit) of the dyad;

Loyalty—the expression of public support for the goals and the personal character of the other member of the LMX dyad; (emphasis is on public support/symbolic actions for the benefit of third parties—not suppression of dissent or debate within the leader-member relationship);

Affect—the mutual affection members of the dyad have for each other based primarily on interpersonal attraction rather than work or professional values.

These three dimensions are thus continuous variables along which the leader-member exchange can be classified. Dienesch & Liden (1986) note that, while these dimensions
are not the only ones which could be hypothesized, they involve well-researched constructs such as loyalty and affect and provide a point of departure for empirical research.

**Leader Perceptions of Subordinate Behavior**

Dienesch and Liden (1986) have proposed that leaders and members exchange work-related contributions, loyalty, and affect and that the LMX can therefore be differentiated along these dimensions. Placed in the role-making framework of Graen (1976), leaders and members hold expectations concerning the appropriate behaviors along these dimensions and must define the nature of their exchange by modifying and accommodating each others' expectations. Furthermore, a lack of clarity or agreement on the part of the member regarding supervisory expectations should complicate the role-making process, making a definition of the member's role in the LMX more difficult to achieve (Dansereau et al., 1975; Graen, Orris & Johnson, 1973; Johnson & Graen, 1973). Thus, a leader may expect to exchange a certain amount of loyalty, affect, and contributions with his or her subordinate. A subordinate who is unable to "read" supervisory expectations accurately, or who perceives conflicting expectations, may exhibit behavior which differs from the leader's expectations regarding the
amount of contributions, loyalty, and affect which should be exchanged. Thus, a subordinate with role conflict and ambiguity may make fewer contributions to the dyad and demonstrate loyalty and affect on a less frequent basis than considered appropriate by the leader. Consequently, leaders could be expected to report less frequent displays of member loyalty, affect, and contributions when member role conflict and ambiguity are high. The following hypothesis is therefore suggested:

**Hypothesis 1:** There will be a negative relation between subordinate role conflict and ambiguity and leader perceptions of the frequency of member contributions, loyalty, and affect.

**Leader-Member Attributional Conflict**

**Leader attributions.** The attributions which leaders make to explain the causes of subordinate behavior have been extensively studied as determinants of leader behavior (Green & Mitchell, 1979; Mitchell & Wood, 1980; Mitchell, Green & Wood, 1981). Recently, it has been hypothesized that leader attributions play an important role in the development of leader-member exchanges (Dienesch & Liden, 1986). Indeed, Green & Mitchell noted that leader attributions for subordinate behavior "will have clear implications for the type of exchange which would develop between a leader and member" (p. 435). Thus, an investigation of the attributional processes
of leaders may lend some insight into how leader-member exchanges are formed.

Green and Mitchell's (1979) two stage model of the attributional process describes the manner in which leaders interpret and respond to member behavior. In the first stage of the process, leaders diagnose the cause of member behavior. Using covariation analysis (Kelley, 1972), leaders examine member behavior with regard to its consistency over time, distinctiveness across settings, and consensus across subordinates. Following this analysis, leaders attribute the behavior to factors that are internal or external to the member. In the second stage of the process, leaders use their attributions to formulate a response which may entail either punishing or rewarding member behavior. Basic propositions of the model have been supported by Dobbins (1985), Green and Liden (1980), and Mitchell and Wood (1980).

One interesting aspect of Green and Mitchell's (1979) model is that leader attributions may be moderated by a number of systematic biases. In general, these biases predispose the leader toward making internal attributions for member behavior. One bias that appears to exert a particularly influential effect on leader attributions is the actor-observer bias (Jones & Nisbett, 1972). This bias refers to the tendency of observers (leaders) to
attribute actors' (members') behavior to internal causes, and the corresponding tendency of actors (members) to attribute their behavior to external or situational causes. While a number of possible reasons exist for this phenomenon, it is commonly believed that actors and observers form divergent attributions because they are exposed to information from different vantage points (Monson & Snyder, 1977). The attention of the observer is primarily directed toward the actor's behavior, whereas the actor's attention is focused mainly on the surrounding environment. Consequently, leaders are likely to conclude that member behavior is caused by dispositional characteristics such as personality or ability, while members are likely to explain their behavior using characteristics of the situation as causal factors. Research indicates that the actor-observer bias occurs across a number of different situations and subjects (Martinko & Gardner, 1987).

A second attributional bias which is thought to amplify the effects of the actor-observer bias is the phenomenon of hedonic relevance (Jones & Davis, 1965). This refers to the observer's tendency to bias his or her attributions when the potential value of actor behavior for the observer is high. Internal attributions are more likely to result when behavior benefits the observer as
well as when behavior results in adverse consequences for the observer. Since LMX theory proposes that leaders are dependent on their members for accomplishing group objectives, the concept of hedonic relevance is particularly applicable to leader-member relationships (Martinko & Gardner, 1987). Thus, leaders should make internal attributions for member behavior because such behavior is relevant to the accomplishment of their goals.

In the multidimensional framework of Dienesch and Liden (1986), leaders can be viewed as relying on member loyalty, affect, and contributions for the attainment of work goals. Indeed, the hedonic relevance of member behavior along these dimensions is sufficiently high that leaders are willing to share their positional resources with members in exchange for such behavior. Thus, members who exhibit less frequent behavior along the dimensions of contributions, loyalty, and affect may be facilitating to a lesser extent the accomplishment of work goals. In contrast, members who exhibit more frequent behavior along the dimensions of loyalty, affect, and contributions should be facilitating to a greater extent the accomplishment of work goals. Furthermore, it is suggested by both the actor-observer bias and the bias of hedonic relevance that leaders will favor internal attributions for member behavior. Based
on this discussion, the following hypotheses can be stated:

Hypothesis 2: The frequency of member contributions, loyalty, and affect will be positively associated with goal facilitation.

Hypothesis 3: Leaders will tend to make internal, rather than external, attributions for member behavior.

Member attributions. While Mitchell and his colleagues place almost exclusive emphasis on the attributional processes of leaders, relatively little attention has been devoted to member attributions (Martinko & Gardner, 1987). Predictions about member attributions can be made, however, on the basis of research conducted in the area of social psychology (Kelley, 1972; Shaver, 1975). In a process similar to that proposed by Green and Mitchell (1979), members are hypothesized to examine their behavior with regard to its distinctiveness, consistency, and consensus and attribute its causes to factors that are either internal or external. Furthermore, member attributions are subject to many of the biases which affect leader attributions. One moderator of the attributional process which appears to be relevant to member attributions is the self-serving bias.

The self-serving bias refers to the tendency of actors to take credit for positive behavioral outcomes while denying responsibility for negative consequences
(Bradley, 1978). The self-serving bias protects self-esteem by allowing actors to attribute causation to themselves for favorable events and to external factors for unfavorable events. The self-serving bias was investigated in a leadership context by Soulier (1978), who found that subjects who assumed subordinate roles made attributions consistent with the self-serving bias under success and failure conditions.

As suggested earlier, member contributions, loyalty, and affect can be viewed as critical behaviors in the leader-member exchange since such behaviors are relevant to the accomplishment of work goals. The self-serving bias suggests that behaviors which fail to promote goal accomplishment should elicit external attributions from members, since they are presumably interested in preserving a favorable self-image. In contrast, behaviors which serve to facilitate goal accomplishment should be attributed to internal causes, since members are motivated to enhance their self-image by assuming responsibility for positive outcomes. Thus, the self-serving bias suggests the following hypotheses:

Hypothesis 4: Members will make more internal attributions for their contributions, loyalty, and affect as these behaviors become more facilitative of goal accomplishment.

Attributional conflict. The above discussion of
attributional biases indicates that leaders and members may experience attributional conflict when member behavior does not facilitate leader goals. Under these circumstances, members will be biased toward making external attributions for their behavior (due to self-serving tendencies), while leaders will be biased in the direction of making internal attributions for member behavior (due to actor-observer differences and the phenomenon of hedonic relevance). In contrast, the attributions of leaders and members will be congruent when member behavior facilitates goal attainment, since both parties will tend to make internal attributions under these circumstances. Such predictions can be stated in the following manner:

Hypothesis 5: Leader and member attributions for member contributions, loyalty, and affect will conflict to the extent that member behavior along these dimensions does not facilitate the accomplishment of leader goals.

Leader Behavior

As noted earlier, Green and Mitchell (1979) hypothesize that leader attributional processes have implications for subsequent behavior toward subordinates. In particular, leader reward and punishment behaviors appear to be related to the attributions which they make for subordinate behavior. Mitchell and his colleagues (see Mitchell, Green, & Wood, 1981, for a review) have demon-
strated that leaders are most likely to view subordinates as deserving of rewards when their success is attributed to internal, rather than external, causes. Internal attributions for subordinate failure, however, most often result in punishment and corrective actions. Extending these findings to the present study, high levels of member contributions, loyalty, and affect should be most rewarded when such behavior is attributed to internal causes. Low levels of member behavior, however, should be least rewarded when such behavior is attributed to internal causes.

LMX theory proposes that leaders exchange some of their positional resources with in-group members as a way of both rewarding their high commitment to the group's success and influencing their future willingness to take on added responsibilities (Graen et al., 1973). Dienesch and Liden (1986) have further clarified the nature of this exchange by hypothesizing several distinct outcomes which should accrue to members in return for their contributions, loyalty, and affect. Leader perceptions of subordinate behavior on each dimension are thought to differentially influence the outcomes which subordinates receive. Specifically, the level of perceived subordinate contributions should have a greater influence than either loyalty or affect on the number of difficult,
challenging work assignments which the subordinate receives. For example, a leader who perceives that a subordinate has successfully handled critical assignments in the past should be more confident that the subordinate will be willing to take on important tasks in the future. Thus, Dienesch and Liden propose that the perceived level of subordinate contributions should affect the challenge of subordinate work assignments. Loyalty, however, refers to "the degree to which the dyad members protect each other relative to outside forces in their immediate environment" (p. 625). Therefore, high subordinate loyalty, more than contributions or affect, should result in activities that require the use of discretion when dealing with individuals outside the work group. Dienesch and Liden thus propose that the perceived level of subordinate behavior on the loyalty dimension should influence the number of boundary-spanning assignments which the subordinate receives. Finally, affect in the LMX dyad should result in supportive relationships that foster both personal and professional growth. The affect dimension is therefore hypothesized to exert a greater influence than either contributions or loyalty on the degree of autonomy experienced by subordinates in their work.

Several predictions about leader behavior can be
made when the propositions of Dienesch and Liden (1986) are combined within the framework of leader attribution processes (Mitchell, Green, and Wood, 1981). First, the level of subordinate contributions, loyalty, and affect can be expected to influence the respective amount of challenge, boundary-spanning activity, and autonomy experienced by members (Dienesch & Liden, 1986). Furthermore, the relation between member behavior and resulting work outcomes should be qualified by the attributions which leaders make for member loyalty, affect, and contributions (Mitchell, Green, and Wood, 1981). As leaders' attributions become more internal, members should experience greater outcomes when the frequency of their behavior is high and fewer outcomes when the frequency of their behavior is low. Thus, the following hypotheses are suggested:

Hypothesis 6: Leader behavior toward subordinates will be influenced by their attributions and by member behavior such that:

a. When member contributions are high, there will be a positive relation between internal leader attributions and the amount of challenge experienced by subordinates. When member contributions are low, there will be a negative relation between internal leader attributions and the amount of challenge experienced by members.

b. When member loyalty is high, there will be a positive relation between internal leader attributions and the amount of boundary-spanning activities experienced by subordinates. When member loyalty is low, there will be a negative relation between internal leader attributions and the amount
of boundary-spanning activities experienced by members.

c. When member affect is high, there will be a positive relation between internal leader attributions and the amount of autonomy experienced by subordinates. When member affect is low, there will be a negative relation between internal leader attributions and the amount of autonomy experienced by members.

Member Perceptions of Unfairness

In the above section, leaders are described as differentially rewarding members on the basis of their perceptions of member loyalty, affect, and contributions to the dyad. It was noted that leaders view members as more deserving of rewards when their behavior is attributed to internal causes than when their behavior is seen as the result of external factors. Thus, from the leader's perspective, rewards are allocated in a manner that is commensurate with member inputs to the dyad. Member contributions, loyalty, and affect when viewed as internally caused are reciprocated by the leader with challenging work, boundary-spanning activities, and autonomy.

Leader reward behavior may appear arbitrary and unfair, however, from the perspective of members who display less loyalty and affect and exhibit fewer contributions. Because low levels of key member behaviors are presumed to hinder goal accomplishment, members are hypothesized to make self-serving, external attributions for
their behavior and thus may not experience personal responsibility for their outcomes. Such members may believe that their behavior was the result of situational factors and that these factors should be taken into account by the leader when distributing outcomes. These members, then, may perceive that they are deserving of more outcomes than they actually receive. This scenario, created in part by the divergent attributions made by leaders and members, may result in member perceptions of unfairness as well as other dysfunctional consequences.

The propositions of equity theory (Adams, 1963, 1965) appear to be particularly relevant to LMX theory, since LMX theory conceptualizes leader-member relationships in terms of the inputs and outcomes which they exchange. Equity theory predicts that members will perceive an inequitable exchange when they receive fewer outcomes than other members relative to their respective inputs. In the present study, inputs and outcomes can be viewed as being exchanged along the three dimensions hypothesized by Dienesch and Liden (1986). Thus, member inputs of loyalty, affect, and contributions are exchanged for leader outcomes along the same dimensions, experienced by members as increased boundary-spanning activities, autonomy, and challenge. Members should
perceive an inequitable exchange when the proportion of their inputs and outcomes does not equal that of their coworkers (Adams, 1965). While few, if any, empirical studies have directly measured fairness perceptions in leader-member relationships, Hollander (1980) and Dansereau, Cashman, and Graen (1973) have suggested that such perceptions have considerable implications for the type of relationship which develops between leaders and members. As stated by Hollander, "A fair exchange involves a climate in which the leader tries to provide equitable rewards. Basic to the exchange process is the belief that rewards, such as recognition, will be received for benefits given" (p. 118). He subsequently concludes with the following comment:

...the transaction between a leader and followers includes the two factors of system progress and equity. The first deals with attaining group goals, and the second with the followers' sense of being treated fairly along the way. Simply put, where they have a choice, followers require a sufficient feeling of being fairly rewarded to remain inside the group and participate. This sense of equity often depends upon a comparison with what others, of comparable characteristics and responsibility, are receiving relative to their inputs (p. 118).

Thus, member perceptions of fairness may play an important role in the exchange which develops between a leader and a member. When leader-member attributional conflict exists, leader reward behavior may appear in-
appropriate and unfair to members who are biased toward external attributions for their behavior (Martinko & Gardner, 1987). Consistent with this claim, research on punishment indicates that subordinates who perceive their leaders as administering rewards and punishment noncontingently are more likely to experience feelings of inequity (Arvey & Ivancevich, 1980; Podsakoff, 1982). Subordinate perceptions of fairness may, in turn, influence the overall quality of the exchange which develops between the leader and member (Dansereau et al., 1973; Hollander, 1980). Thus, members who perceive an unfair exchange may be more likely to reduce their inputs and thus assume out-group roles than members who perceive a fair exchange. This discussion suggests the following hypotheses:

Hypothesis 7: Leader-member attributional conflict will be negatively related to member perceptions of fairness.

Hypothesis 8: Member perceptions of fairness will be positively related to the overall quality of the LMX.

Propensity to Leave

One purpose of the proposed model is to add to the growing body of literature on LMX developmental processes (Dienesch & Liden, 1986). However, an understanding of how leader-member exchanges develop is also important because their overall quality can have significant
organizational consequences. One recently hypothesized outcome of the leader-member exchange is turnover (Ferris, 1985; Graen, Liden, & Hoel, 1982; Vecchio & Gobidel, 1984). Indeed, the overall quality of the LMX has been found to predict turnover better than job satisfaction variables (Ferris, 1985; Graen et al., 1982).

This finding is noteworthy, since most turnover research has neglected the potential relation between perceptions of leader behavior and withdrawal (Graen et al., 1982). Instead, attitudinal and demographic variables have received attention in explaining turnover (Mobley, Griffeth, Hand, & Meglino, 1979). While the relation of these variables to turnover is well-established, Mobley et al. state that such correlations contribute little to our understanding of the withdrawal process. Instead, the study of withdrawal as a process implies a focus on perceived job behaviors, particularly leader behaviors, which link member attitudes to turnover (Graen et al., 1982). As explained by Graen et al.:

Specifically, perceptions of the behavioral exchange between a leader and member have been shown to be an important part of the withdrawal process. Members tend to remain in the organization when they see themselves actively exchanging support, resources, extra effort, and the like with their leaders. Members who report that they are only exchanging enough with their leaders to satisfy contractual obligations tend to leave the organization (p. 871).

Because behavioral intentions to leave the organiza-
tion have been found to be the single best predictor of turnover (Mobley, 1982; Steel & Ovalle, 1984), the findings of Graen et al. (1982) and Ferris (1985) might be expected to generalize to a measure of propensity to quit. Indeed, propensity to quit has been investigated in the context of leader-member exchanges by Vecchio and Gobbel (1984), who found that it was negatively correlated with in-group status. Based on these findings and the above discussion, the following prediction can be stated:

Hypothesis 9: LMX quality will be a stronger predictor of propensity to leave than overall job satisfaction.

Method

Subjects and Procedure. Two hundred twenty-four subordinates and their respective supervisors (n = 65) were recruited from four divisions of a large manufacturing organization to participate in the present study. Due to the nature of the variables assessed (boundary-spanning and autonomy, for example), all participants held managerial positions requiring some degree of responsibility over work activities. Questionnaires and cover letters assuring anonymity were distributed to supervisors and subordinates, and completed questionnaires were returned directly to the researcher by mail. One hundred sixty-six subordinates and 53
supervisors completed the questionnaires, resulting in a response rate of 76%. This return yielded a sample of 142 supervisor-subordinate pairs and 65 incomplete dyads. Respondents from incomplete dyads were deleted from further analysis.

Several demographic variables were assessed and their results are summarized in Table 1. Among supervisors (n = 53), the average age was 43.7 years, and 96.2% of the sample was male. They had an average tenure of 13.2 years in the organization and had worked an average of 3.7 years in their present positions. With respect to education, 3.7% had a high school diploma, 7.5% had attended some college, 52.8% had received a college degree, 16.9% had completed some graduate work, 13.2% had received a master's degree, and 5.6% had earned a Ph.D. degree.

Among subordinates (n = 142) the average age was 41.1 years, and 78.1% of the sample was male. They had an average tenure of 11.9 years in the organization and had worked an average of 4.1 years in their present positions. Subordinates reported an average tenure of 2.3 years under their present supervisor. With respect to education, 16.9% of the sample had a high school diploma, 14.7% had attended some college, 42.9% had received a college degree, 11.2% had completed some graduate work, and 11.9% had earned a
Table 1
Mean Demographic Characteristics Among Supervisors and Subordinates

<table>
<thead>
<tr>
<th></th>
<th>Supervisors&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Subordinates&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>Age</td>
<td>43.7</td>
<td>9.30</td>
</tr>
<tr>
<td>Tenure in</td>
<td>13.2</td>
<td>10.16</td>
</tr>
<tr>
<td>Organization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tenure in</td>
<td>3.7</td>
<td>4.21</td>
</tr>
<tr>
<td>Position</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salary Grade</td>
<td>50.4</td>
<td>2.08</td>
</tr>
<tr>
<td>Male</td>
<td>96.2%</td>
<td></td>
</tr>
<tr>
<td>High School</td>
<td>3.7%</td>
<td></td>
</tr>
<tr>
<td>Diploma</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some College</td>
<td>7.5%</td>
<td></td>
</tr>
<tr>
<td>College Degree</td>
<td>52.8%</td>
<td></td>
</tr>
<tr>
<td>Some Graduate</td>
<td>16.9%</td>
<td></td>
</tr>
<tr>
<td>Work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Masters Degree</td>
<td>13.2%</td>
<td></td>
</tr>
<tr>
<td>Ph.D. Degree</td>
<td>5.6%</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> n = 53.  <sup>b</sup> n = 142.
Separate questionnaires were constructed for supervisors and subordinates. The supervisory questionnaire consisted of 34 items measuring the following four variables: Member contributions (2 measures), loyalty (2 measures), and affect (2 measures), and attributions for member behavior. Supervisors completed a separate questionnaire for each subordinate under their supervision. Subordinate questionnaires consisted of 106 items measuring the following 11 variables: Role conflict and ambiguity, attributions, goal facilitation, autonomy, challenge, boundary-spanning, fairness (2 measures), LMX quality, job satisfaction, and propensity to leave. Measures appearing in the supervisory and subordinate questionnaires are described in the sections below.

**Supervisory questionnaire**

**Member loyalty, contributions, and affect.** Leader perceptions of member loyalty, contributions, and affect were measured using the Behavioral Incidents Scale developed by Diener (1986). This measure operationalizes the LMX dimensions as cognitive categories into which specific behaviors in the leader-member dyad are sorted. For example, the contributions dimension is represented by behaviors which involve member acceptance of tasks requiring extra time and effort in order to complete.
Items generally describe various subordinate behaviors that may be exhibited within the LMX relationship.

Dienesch (1986) reported coefficient alpha values of .82, .78, and .74 for the respective loyalty (5 items), affect (4 items), and contributions (5 items) subscales. For each item, supervisors indicated on five-point scales the extent to which the event or behavior was "almost never" to "very often" a part of their interaction with subordinates. Mean response values were then determined for each subscale. The Behavioral Incidents Scale can be found in Appendix A.

Supplemental measures. Additional measures of member loyalty, affect, and contributions were also obtained. The decision to assess these member behaviors using additional measures was based upon several considerations. First, some items on the Behavioral Incidents Scale appeared to tap the hypothesized outcomes of member behavior rather than the behavior itself. For example, items comprising the loyalty subscale seem to describe boundary-spanning activities rather than the supportive behaviors implied in Dienesch and Liden's (1986) definition of loyalty. Thus, an alternate measure of loyalty which appeared to be more consistent with the loyalty construct was obtained. Second, it is questionable whether items on the Behavioral Incidents Scale are
truly representative of the constructs they purport to measure. For example, the contributions subscale describes high member contributions in terms of working past quitting times and meeting deadlines. Whether such behaviors are diagnostic of contributions is debatable, since contributions may also be defined by factors not included on Dienesch's (1986) subscale, such as high work quality and productivity. Given these concerns, additional measures of loyalty, affect, and contributions were obtained and are described below.

Jenning's (1967) four-item measure of loyalty was included in the supervisory questionnaire as a supplement to Dienesch's (1986) loyalty subscale. For each item, supervisors indicated on seven-point scales the extent to which the behavior described was "almost never" to "very often" exhibited by their subordinates. Average response values were then calculated. Jenning's measure has received some validation by Graen and Cashman (1975), who found that significantly more loyalty was exhibited by in-group exchanges than by out-group exchanges. Appendix B presents Jenning's measure.

In addition to Dienesch's (1986) affect subscale, the supervisory questionnaire contained a two-item liking measure similar to those constructed by Berscheid, Boye, and Darley (1968), Berscheid, Graziano, Monson, and Dermer
(1976), and Byrne and Nelson (1965). Supervisors rated on seven-point scales the extent to which their subordinates liked them personally, as well as the probability that their subordinates would choose them as friends outside of work. A liking score was then formed by calculating the average response across the two items. The liking items appear in Appendix C.

As a supplement to Dienesch's (1986) contributions subscale, a five-item measure of subordinate performance was obtained. Supervisors rated their agreement with statements describing the productivity, quality, and timeliness of their subordinates' work. Responses were averaged across items to form an overall measure of performance. Coefficient alphas for this measure ranging from .89 to .94 have been reported (Podsakoff, Todor, Grover, & Huber, 1984; Podsakoff, Dorfman, Howell, & Todor, 1986). Appendix D presents the subordinate performance measure.

**Attributions for member behavior.** Leader attributions were separately assessed for each dimension of member behavior. Respondents indicated on seven-point scales the extent to which member loyalty (three items), affect (three items), and contributions (three items) were due to members' personal characteristics or to situational factors. Following the procedures of past research
(Dobbins & Russell, 1986), response values were averaged for each dimension to determine the extent to which member behavior could be attributed to internal factors. Attribution items and accompanying instructions are shown Appendix E.

Subordinate Questionnaire

Attributions for member behavior. The attribution measure described above was reworded for inclusion on the subordinate questionnaire but otherwise remained identical in content. In addition to assessing attributions from leaders and members, a measure of leader-member attributional conflict was obtained by calculating the absolute value of the difference between leader and member attributions for each item and summing the deviation scores across items. The absolute value was chosen for calculation since negative deviation scores would cancel out positive ones, thus making the overall difference between leader and member attributions appear smaller than in reality. Thus, the magnitude of the difference was obtained by calculating absolute values. Consequently, higher deviation scores indicated greater attributional conflict.

Goal facilitation. The extent to which member loyalty, affect, and contributions are instrumental in the attainment of work goals was separately assessed for each
dimension of member behavior. Members were asked to indicate the extent of their agreement with nine statements (three items per dimension) using seven-point scales ranging from "strongly disagree" to "strongly agree." Response values were summed for each dimension to form goal facilitation scores for member loyalty, affect, and contributions. The goal facilitation items appear in Appendix F.

**Role perceptions.** Members' perceived role conflict and ambiguity were measured using scales developed by Rizzo, House, and Lirtzman (1970). Six items comprise the Role Ambiguity scale, while the Role Conflict scale consists of eight items. For each item, respondents indicated the degree to which the condition existed for their job using a seven-point scale ranging from "very false" to "very true." A mean response was calculated for each scale, with high scores representing high Ambiguity or high Conflict.

Numerous studies have found acceptable levels of internal reliability for the two scales. Alpha coefficients were calculated for six independent samples by Schuler, Aldag, and Brief (1977) and were found to range between .63 and .87 (median .79) for Role Ambiguity and between .56 and .82 (median .74) for Role Conflict. Test-retest reliabilities have also been examined, with
correlations of .66 and .67 over a six-month interval for Role Ambiguity and Conflict, respectively (Szilagyi, 1977). Finally, intercorrelations between the two scales have been reported by Schuler et al. to range from .18 to .50 (median .35). The Role Conflict and Ambiguity scales are presented in Appendix G.

**Challenge.** The degree to which members perceived their work as challenging was assessed using the Challenge subscale of the Michigan Organizational Assessment Questionnaire (Cammann, Fichman, Jenkins, & Klesh, 1979; Seashore, Lawler, Mirvis, & Cammann, 1982). Three items required respondents to indicate their agreement with descriptive statements on seven-point scales. A fourth item is accompanied by separate response categories. Challenge scores were determined by calculating the mean response for each subject across the four items. Seashore et al. reported an alpha coefficient of .81 for the Challenge subscale. This measure appears in Appendix H.

**Autonomy.** The Autonomy subscale of the Job Characteristics Inventory (Sims, Szilagyi, & Keller, 1976) was used to measure members' perceptions of their independence from others in performing their job. Six items comprise the Autonomy subscale, and respondents indicated the degree to which each statement applied to their job
on five-point scales ranging from "very little" or "a minimum amount" to "very much." Responses were averaged for each subject to form an Autonomy score. The Autonomy subscale has been shown to have respectable convergent and discriminant validity, and alphas ranging from .80 to .85 have been reported (Brief & Aldag, 1978; Pierce & Dunham, 1978; Sims et al., 1976). The Autonomy measure is presented in Appendix I.

**Boundary-spanning activity.** The extent to which members were involved in boundary-spanning activities was measured using an instrument developed by Jemison (1980, 1987). In a study conducted across fifteen organizations, Jemison identified five common boundary-spanning roles, which were subsequently confirmed through factor analysis. The five roles and the activities that comprise them are: (1) Resource Acquisition: Deciding what kinds of resources to acquire from outside the organization and when to acquire them (e.g. raw materials, funds, personnel, supplies, etc.); (2) Customer Contact: Interacting with users of the organization's products and/or services; (3) Information Acquisition: Obtaining needed information from outside sources; (4) Information Control: Deciding when and what information from outside sources should be communicated to organization members, and (5) Representative: Providing information to out-
side groups that will create a positive impression of the organization.

The boundary-spanning measure consisted of sixteen items divided into subscales for each of the five boundary-spanning activities. Jemison (1987) reported the following coefficient alpha values for each subscale: Resource Acquisition--four items with an alpha of .88; Customer Contact--three items with an alpha of .82; Information Acquisition--three items with an alpha of .65; Information Control--three items with an alpha of .90, and Representative--three items with an alpha of .73. Respondents indicated on five-point scales the extent to which each activity was "never" or "almost always" a part of their work. A summary score was then formed by calculating the average response value. The boundary-spanning measure appears in Appendix J.

Perceptions of fairness. Two measures were used to assess the degree to which members perceived a fair exchange of loyalty, affect, and contributions with their supervisors. An equity measure developed by Brockner and Adsit (1986) and modified for use in the present study required members to rate their perceived inputs and outcomes derived from the exchange relationship with their supervisor. Separate input and outcome questions were presented for each of the three hypothesized LMX dimen-
sions. Responses to each question were made on 11-point scales ranging from "very little" or "not at all" to "very much" or "a great deal." Members were also asked to rate their perceptions of coworkers' inputs and outcomes derived from the exchange with their supervisor. In order to determine whether members' exchanges of loyalty, affect, and contributions with their supervisors were perceived as fair, a difference score was computed for each of the three hypothesized LMX dimensions. For each member, the difference between the other members' perceived outcomes (O) and inputs (I) (i.e., O-I for other) was subtracted from the difference between one's own perceived outcomes and inputs (i.e., O-I for self). Scores near zero suggested that a fair exchange existed with the leader, while high positive and negative scores suggested positively and negatively inequitable exchanges, respectively. Due to the scoring procedures, a reliability index for the equity measure was not calculated. Appendix K presents the equity items used in the present study.

An additional measure which operationalized fairness as a more global construct required members to rate the extent of their agreement with six statements using seven-point scales ranging from "strongly disagree" to "strongly agree." Items assessed the degree to which
members perceived a fair exchange of loyalty (2 items), affect (2 items), and contributions (2 items) with their supervisors; and response values were summed to form fairness scores for each hypothesized LMX dimension. The fairness measure is presented in Appendix L.

**Quality of leader-member exchange.** A seven-item questionnaire based on the original LMX measure developed by Dansereau et al. (1975) and extended and validated by Graen and Cashman (1975) was used to assess members' perceptions of their exchange with the leader. As described by Wakabayashi and Graen (1984, p. 605), the LMX measure assesses the leader's approachability and flexibility toward the member, the leader's willingness to use his or her authority to assist the member, the amount of feedback given the member by the leader, and the member's degree of influence over the leader. Members responded to each item on five-point scales, and responses were summed across items to form an overall measure of LMX quality. Previous researchers, using different forms of the LMX questionnaire, have found the scales to have generally high reliability (coefficient alphas typically range between .83 and .89). The scales also appear to maintain acceptable levels of test-retest reliability, with correlations ranging from .37 (lowest) to .80 (highest) and an average correlation of .60
(Wakabayashi & Graen, 1984). The LMX measure can be found in Appendix M.

**Job satisfaction.** Members' overall job satisfaction was assessed using the short form of the Minnesota Satisfaction Questionnaire (MSQ) (Weiss, Dawis, England, & Lofquist, 1967). Twenty items measuring both intrinsic and extrinsic job features comprise the scale. Respondents indicated their satisfaction with each aspect of the job on five-point scales ranging from "very dissatisfied" to "very satisfied." An index of General Satisfaction was calculated for each subject by summing across item responses. Jermier and Berkes (1979) reported a Kuder-Richardson coefficient of internal consistency of .92 for the General Satisfaction index. Test-retest reliabilities of .89 (across one week) and .70 (across one year) were reported by Weiss et al. (1967). The MSQ appears in Appendix N.

**Propensity to leave.** A three-item measure from the Michigan Organizational Assessment Questionnaire (Cammann, et al., 1979; Seashore et al., 1982) was used to tap members' intentions to leave their job. Respondents rated the extent of their agreement with two items on seven-point scales. A third item was accompanied by a seven-point scale ranging from "not at all likely" to "extremely likely." Response values were averaged across
items to form a score. A coefficient alpha of .83 was calculated by Seashore et al. for the propensity to leave measure. A copy of the items appears in Appendix 0.

Analyses

With the exception of Hypothesis 3, in which a t-test was used to determine the direction of leader attributions, correlational analyses were performed on the data. Hypothesis 6 was tested through the use of moderated regression analyses, in which member work outcomes were regressed on leader attributions, member behavior, and the cross-product interaction term of leader attributions and member behavior. For the test of Hypothesis 9, hierarchical regression analyses were performed to assess the relative importance of LMX quality and job satisfaction in predicting member propensity to leave.

Although the hypothesized model of Figure 1 is depicted as a causal model, causal modeling techniques such as LISREL (Joreskog & Sorbom, 1978) and two-stage least squares (2SLS) (James & Singh, 1978) are inappropriate since both techniques require that measures of all exogenous variables relevant to the model be obtained. The consequences of not satisfying this requirement are biased estimates of the structural parameters relating the exogenous and endogenous variables in the model. This
problem occurs because unmeasured variables may make unique contributions to the prediction of endogenous variables yet may be correlated with exogenous variables. In Figure 1, endogenous variables such as member loyalty, affect, and contributions may have unmeasured causes that correlate with role ambiguity and conflict, which are depicted as exogenous variables in the model. Job involvement, for example, is a potential causal variable which has been found to correlate significantly with role perceptions (Jackson & Schuler, 1985). To the extent that unmeasured variables exist, the use of LISREL or 2SLS would result in distorted estimates of the path coefficients linking exogenous and endogenous variables.

Results

Since two scales were used to measure the member behaviors of loyalty, affect, and contributions, correlations were computed between the alternate measures. The correlations between loyalty measured by Jennings's (1967) scale and by Dienesch's (1986) loyalty subscale, affect using the two-item liking measure and Dienesch's affect subscale, and contributions measured by the performance scale and Dienesch's contributions subscale, are presented in Table 2. Separate reliabilities for each of the alternate measures of member behavior are also presented. As can be seen, Dienesch's (1986) loyalty sub-
Table 2

Intercorrelations and Reliabilities for Member Behavior Subscales

<table>
<thead>
<tr>
<th></th>
<th>Affect</th>
<th>Liking</th>
<th>Loyalty (Dienesch)</th>
<th>Loyalty (Jennings)</th>
<th>Contributions</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affect</td>
<td>.74</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liking</td>
<td>.52</td>
<td>.84</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loyalty (Dienesch)</td>
<td>.53</td>
<td>.38</td>
<td>.72</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loyalty (Jennings)</td>
<td>.57</td>
<td>.51</td>
<td>.47</td>
<td>.59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contributions</td>
<td>.52</td>
<td>.55</td>
<td>.64</td>
<td>.62</td>
<td>.85</td>
<td></td>
</tr>
<tr>
<td>Performance</td>
<td>.31</td>
<td>.56</td>
<td>.49</td>
<td>.58</td>
<td>.72</td>
<td>.94</td>
</tr>
</tbody>
</table>

Notes. All correlations are significant at p < .01. Sample size ranges from 140-142. Reliabilities appear on the diagonal.
scale correlated significantly with Jenning's (1967) loyalty measure, $r = .47, p < .01$. Likewise, Dienesch's affect subscale was significantly correlated with the two-item liking measure, $r = .52, p < .01$. Finally, member contributions as measured by Dienesch's subscale was significantly correlated with member performance, $r = .72, p < .01$. Given the significant correlations between the alternate measures of member loyalty, affect, and contributions, the two scales for each construct were combined to form single measures for each member behavior. Reliabilities and intercorrelations for the composite scales appear in Table 3. An examination of the alpha coefficients suggests that the composite scales measure member behavior reliably.

While significant correlations between the alternate measures of member behavior provides a rationale for forming three composite measures, the construct validity of the composite scales is questionable given the matrix of correlations presented in Table 2. Instead of showing high correlations between measures of the same construct and low correlations between measures of different constructs, the pattern of correlations in Table 2 indicates that the hypothesized LMX dimensions are not orthogonal but do indeed overlap. For example, one of the weakest correlations with Jenning's (1967) loyalty measure
Table 3
Variable Intercorrelations and Reliabilities<sup>a</sup> for Member Loyalty, Affect, and Contributions<sup>b</sup>

<table>
<thead>
<tr>
<th></th>
<th>Loyalty</th>
<th>Affect</th>
<th>Contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loyalty</td>
<td>.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affect</td>
<td>.65</td>
<td>.80</td>
<td></td>
</tr>
<tr>
<td>Contributions</td>
<td>.70</td>
<td>.59</td>
<td>.93</td>
</tr>
</tbody>
</table>

Note. All correlations are significant at <sup>p</sup> < .01.

<sup>a</sup> Reliabilities appear on the diagonal.

<sup>b</sup> n = 140.
was obtained using Dienesch's (1986) loyalty subscale. Greater evidence of construct validity would have been indicated by high correlations between the loyalty measures, with weaker correlations between the loyalty and affect and contributions measures. Thus, the correlations presented in Table 2 suggest that the alternate measures of loyalty, affect, and contributions should be combined to form a single, overall measure of member behavior. However, in keeping with Dienesch and Liden's (1986) multidimensional conceptualization of the LMX construct, analyses were also performed on the composite measures of loyalty, affect, and contributions.

Since attributions for member behavior were measured separately for loyalty, affect, and contributions, reliabilities and intercorrelations were computed for the three attribution subscales. The results of these analyses are presented in Table 4. Significant correlations between the attribution subscales suggested that the scales could be combined to form a single attribution measure in both supervisor and subordinate samples. Furthermore, attributions could be measured more reliably when the separate subscales were combined. Coefficient alpha values increased to .75 for member attributions and to .87 for leader attributions when the attribution subscales were combined.
Table 4
Intercorrelations and Reliabilities\textsuperscript{a} for Attribution

Subscales

<table>
<thead>
<tr>
<th></th>
<th>Affect</th>
<th>Loyalty</th>
<th>Contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Member Attributions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affect</td>
<td>.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loyalty</td>
<td>.54\textsuperscript{**}</td>
<td>.61</td>
<td></td>
</tr>
<tr>
<td>Contributions</td>
<td>.17\textsuperscript{*}</td>
<td>.26\textsuperscript{**}</td>
<td>.71</td>
</tr>
<tr>
<td>(n=138)</td>
<td></td>
<td>(n=138)</td>
<td></td>
</tr>
<tr>
<td><strong>Leader Attributions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affect</td>
<td>.69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loyalty</td>
<td>.57\textsuperscript{**}</td>
<td>.81</td>
<td></td>
</tr>
<tr>
<td>Contributions</td>
<td>.42\textsuperscript{**}</td>
<td>.65\textsuperscript{**}</td>
<td>.78</td>
</tr>
<tr>
<td>(n=141)</td>
<td></td>
<td>(n=141)</td>
<td></td>
</tr>
</tbody>
</table>

\textsuperscript{a}Reliabilities appear on the diagonal.

\*\(p < .05\). \**\(p < .01\).
Finally, reliabilities and subscale intercorrelations were computed for the subordinate measures of goal facilitation, fairness, and equity, since each scale consisted of three subscales corresponding to the three dimensions of member behavior. These analyses are summarized in Tables 5, 6, and 7. Significant correlations among the subscales comprising each of the three constructs suggested that the subscales could be combined to form single measures of goal facilitation, fairness, and equity. Reliabilities increased to .67 for goal facilitation and to .95 for fairness when subscales for each construct were combined.

Descriptive statistics, scale reliabilities, and variable intercorrelations are presented in Tables 8 and 9. Statistics in these tables are reported for composite variables, although hypotheses were also tested using the individual subscales comprising attributions, goal facilitation, equity, and fairness. The rationale for performing separate analyses using the individual subscales is based on Dienesch and Liden's (1986) proposition that the LMX occurs on three distinct dimensions rather than one. However, the relatively high subscale intercorrelations reported above suggested that the subscales be combined to form composite measures. Thus, analyses involving the separate subscales are
<table>
<thead>
<tr>
<th></th>
<th>Affect</th>
<th>Loyalty</th>
<th>Contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affect</td>
<td>.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loyalty</td>
<td>.45</td>
<td>.40</td>
<td>.29</td>
</tr>
<tr>
<td>Contributions</td>
<td>.24</td>
<td>.33</td>
<td>.29 n=139</td>
</tr>
</tbody>
</table>

Note. All correlations are significant at $p < .01$.

Repeabilities appear on the diagonal.
<table>
<thead>
<tr>
<th>Subscales</th>
<th>Affect</th>
<th>Loyalty</th>
<th>Contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affect</td>
<td>.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loyalty</td>
<td>.88</td>
<td>.82</td>
<td></td>
</tr>
<tr>
<td>Contributions</td>
<td>.84</td>
<td>.88</td>
<td>.85</td>
</tr>
</tbody>
</table>

Note. All correlations are significant at $p < .01$.

*Reliabilities appear on the diagonal.*
Table 7

Intercorrelations for Equity Subscales\(^a\)

<table>
<thead>
<tr>
<th></th>
<th>Affect</th>
<th>Loyalty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loyalty</td>
<td>.47</td>
<td></td>
</tr>
<tr>
<td>Contributions</td>
<td>.27</td>
<td>.52</td>
</tr>
</tbody>
</table>

\(^a\)\(n = 140\).

Note. All correlations are significant at \(p < .01\).
Table 8
Variable Means, Standard Deviations, and Reliabilities

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Mean</th>
<th>Maximum</th>
<th>S.D.</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subordinate Measures</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role Ambiguity</td>
<td>142</td>
<td>2.92</td>
<td>7.00</td>
<td>1.15</td>
<td>.84</td>
</tr>
<tr>
<td>Role Conflict</td>
<td>142</td>
<td>3.87</td>
<td>7.00</td>
<td>1.33</td>
<td>.85</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>141</td>
<td>73.64</td>
<td>100.00</td>
<td>10.96</td>
<td>.89</td>
</tr>
<tr>
<td>LMX</td>
<td>142</td>
<td>25.25</td>
<td>35.00</td>
<td>5.52</td>
<td>.92</td>
</tr>
<tr>
<td>Autonomy</td>
<td>141</td>
<td>3.72</td>
<td>5.00</td>
<td>.63</td>
<td>.76</td>
</tr>
<tr>
<td>Boundary-Spanning</td>
<td>142</td>
<td>2.50</td>
<td>5.00</td>
<td>.74</td>
<td>.90</td>
</tr>
<tr>
<td>Challenge</td>
<td>142</td>
<td>5.39</td>
<td>7.00</td>
<td>1.12</td>
<td>.67</td>
</tr>
<tr>
<td>Propensity to Leave</td>
<td>142</td>
<td>2.66</td>
<td>7.00</td>
<td>1.80</td>
<td>.88</td>
</tr>
<tr>
<td>Goal Facilitation</td>
<td>139</td>
<td>44.23</td>
<td>63.00</td>
<td>6.89</td>
<td>.67</td>
</tr>
<tr>
<td>Fairness</td>
<td>139</td>
<td>30.21</td>
<td>42.00</td>
<td>7.98</td>
<td>.95</td>
</tr>
<tr>
<td>Equity</td>
<td>140</td>
<td>-2.49</td>
<td>--</td>
<td>3.56</td>
<td>--</td>
</tr>
<tr>
<td>Attributions</td>
<td>137</td>
<td>5.02</td>
<td>7.00</td>
<td>.92</td>
<td>.75</td>
</tr>
</tbody>
</table>
Table 8, continued

<table>
<thead>
<tr>
<th>Supervisor Measures</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Loyalty</td>
<td>142</td>
<td>9.10</td>
<td>14.00</td>
<td>1.53</td>
</tr>
<tr>
<td>Affect</td>
<td>140</td>
<td>8.48</td>
<td>14.00</td>
<td>2.07</td>
</tr>
<tr>
<td>Contributions</td>
<td>140</td>
<td>10.28</td>
<td>14.00</td>
<td>2.23</td>
</tr>
<tr>
<td>Member Behavior</td>
<td>140</td>
<td>27.82</td>
<td>42.00</td>
<td>5.09</td>
</tr>
<tr>
<td>Attributions</td>
<td>141</td>
<td>4.67</td>
<td>7.00</td>
<td>.90</td>
</tr>
<tr>
<td>Leader-Member Attributional Conflict</td>
<td>136</td>
<td>15.04</td>
<td>54.00</td>
<td>5.98</td>
</tr>
<tr>
<td>Role Ambiguity (1)</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Role Conflict (2)</td>
<td>0.40</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power (3)</td>
<td>-0.26</td>
<td>-0.11</td>
<td>0.40</td>
<td></td>
</tr>
<tr>
<td>Attribution (4)</td>
<td>0.81</td>
<td>n.s.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>-0.47</td>
<td>-0.30</td>
<td>0.52</td>
<td>1.00</td>
</tr>
<tr>
<td>Autonomy (5)</td>
<td>-0.42</td>
<td>-0.21</td>
<td>0.38</td>
<td>0.67</td>
</tr>
<tr>
<td>Link (6)</td>
<td>-0.55</td>
<td>-0.26</td>
<td>0.39</td>
<td>0.72</td>
</tr>
<tr>
<td>Boundary (7)</td>
<td>-0.17</td>
<td>0.11</td>
<td>0.28</td>
<td>0.19</td>
</tr>
<tr>
<td>Spanning</td>
<td>-0.05</td>
<td>n.s.</td>
<td>0.88</td>
<td>0.33</td>
</tr>
<tr>
<td>Challenge (8)</td>
<td>-0.17</td>
<td>-0.22</td>
<td>0.19</td>
<td>0.40</td>
</tr>
<tr>
<td>Property (9)</td>
<td>0.81</td>
<td>n.s.</td>
<td>0.95</td>
<td>0.53</td>
</tr>
<tr>
<td>Goal (10)</td>
<td>-0.39</td>
<td>-0.28</td>
<td>0.39</td>
<td>0.21</td>
</tr>
<tr>
<td>Facilitation (11)</td>
<td>0.81</td>
<td>n.s.</td>
<td>0.91</td>
<td>0.81</td>
</tr>
<tr>
<td>Fairness (12)</td>
<td>0.56</td>
<td>n.s.</td>
<td>0.85</td>
<td>n.s.</td>
</tr>
<tr>
<td>Equity (13)</td>
<td>n.s.</td>
<td>n.s.</td>
<td>n.s.</td>
<td>0.85</td>
</tr>
<tr>
<td>Loyalty (14)</td>
<td>-0.05</td>
<td>-0.16</td>
<td>0.53</td>
<td>0.21</td>
</tr>
<tr>
<td>Affect (15)</td>
<td>0.83</td>
<td>n.s.</td>
<td>0.92</td>
<td>n.s.</td>
</tr>
<tr>
<td>Contributions (16)</td>
<td>-0.04</td>
<td>-0.04</td>
<td>-0.16</td>
<td>-0.29</td>
</tr>
<tr>
<td>Power (17)</td>
<td>-0.04</td>
<td>-0.04</td>
<td>-0.16</td>
<td>-0.29</td>
</tr>
<tr>
<td>Behavior (18)</td>
<td>n.s.</td>
<td>n.s.</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Leader (19)</td>
<td>-0.07</td>
<td>-0.07</td>
<td>-0.11</td>
<td>-0.08</td>
</tr>
<tr>
<td>Attribution (20)</td>
<td>-0.81</td>
<td>-0.00</td>
<td>-0.02</td>
<td>-0.18</td>
</tr>
</tbody>
</table>

**Note:** Probability levels appear beneath significant correlations. Sample size ranges between 154 and 162.
reported only when their findings differ from or elaborate on those obtained using composite measures. Figure 2 summarizes the correlations obtained between composite variables in the proposed model.

Hypothesis 1. The first hypothesis predicted that role conflict and ambiguity would be negatively related to member contributions, loyalty, and affect. Pearson product-moment correlations were calculated between member role perceptions and member behavior in order to test this hypothesis. No significant correlations emerged between the overall measure of member behavior and role conflict ($r = .04$) and role ambiguity ($r = -.04$). Similarly, when the member behaviors were separately examined, no significant correlations were obtained between role ambiguity and member loyalty ($r = -.05$), affect ($r = .03$), or contributions ($r = -.08$). Likewise, role conflict failed to correlate with member loyalty, ($r = .16$), affect ($r = .02$), and contributions ($r = -.03$). When the two measures comprising each member behavior were separately analyzed, however, a significant positive relation between role conflict and Dienesch's (1986) loyalty measure was revealed ($r = .20, p < .01$). The finding that higher degrees of role conflict are associated with greater loyalty is an unexpected one and is contrary to the first hypothesis.
Figure 2. Correlations between variables in the LMX developmental model.
**Hypothesis 2.** The second hypothesis stated that contributions, loyalty, and affect would be positively associated with member goal facilitation. In order to test this hypothesis, the correlation between member behavior and goal facilitation was calculated. No significant correlation was found to exist between the two variables ($r = .11$). Likewise, when the member behaviors were separately examined, no significant correlations emerged between goal facilitation and member loyalty ($r = .09$), affect ($r = .06$), or contributions ($r = .12$). However, when the two measures comprising each member behavior were separately correlated with the goal facilitation subscales, a significant positive relation emerged between goal facilitation for affect and the two-item affect measure ($r = .18$, $p < .05$). Thus, only slight support was found for the second hypothesis in that more frequent displays of member affect were positively associated with facilitation of leader goals through member affect.

**Hypothesis 3.** The third hypothesis predicted that leaders would tend to make internal, rather than external, attributions for member loyalty, affect, and contributions. This hypothesis was examined using a one-tailed t-test, in which the difference between the mean leader attribution score and the attribution scale
midpoint (3.5) was calculated and tested for significance. A tendency toward making internal attributions would be suggested if leader attributions were consistently distributed at the higher end (i.e., internal) of the attribution scale. As predicted, the mean leader attribution (M = 4.67) was significantly higher than the scale midpoint, \( t(1, 140) = 14.62, p < .01 \), thus providing support for the third hypothesis.

**Hypothesis 4.** The fourth hypothesis predicted that member attributions for their behavior would be positively related to member goal facilitation. Specifically, members were expected to make internal attributions to the extent that their behavior facilitated leader goals and external attributions to the extent that their behavior did not facilitate leader goals. In order to test this hypothesis, the correlation between member attributions and goal facilitation was computed and found to be significant \( r = .30, p < .01 \). Furthermore, consistent findings emerged when goal facilitation and member attributions were separately analyzed for loyalty, affect, and contributions. Findings from these additional analyses are presented in Table 10. Thus, the fourth hypothesis was supported in that member attributions for their behavior became increasingly internal the more member behavior facilitated leader goals.
Table 10
Correlations between Goal Facilitation Subscales and Member Attributions for Loyalty, Affect, and Contributions

<table>
<thead>
<tr>
<th>Goal Facilitation Subscale</th>
<th>Member Attributions</th>
<th>r</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loyalty</td>
<td>Loyalty</td>
<td>.19*</td>
<td>136</td>
</tr>
<tr>
<td>Affect</td>
<td>Affect</td>
<td>.33**</td>
<td>140</td>
</tr>
<tr>
<td>Contributions</td>
<td>Contributions</td>
<td>.25**</td>
<td>139</td>
</tr>
</tbody>
</table>

* $p < .05$.  ** $p < .01$. 
Hypothesis 5. The fifth hypothesis predicted that leader and member attributions would become more divergent as member goal facilitation decreased. Thus, a negative relation between attributional conflict and goal facilitation was expected. The correlation between attributional conflict and goal facilitation was computed in order to test this hypothesis, and no significant relation between the two variables was revealed ($r = -.09$). No support, then, was found for the sixth hypothesis.

Hypothesis 6. The sixth hypothesis predicted that member behavior would moderate the relation between leader attributions and subordinate work outcomes. Specifically, as the frequency of member loyalty, affect, and contributions increased, internal leader attributions were expected to result in greater member opportunities for boundary-spanning, autonomy, and challenge. Alternatively, as the frequency of member loyalty, affect, and contributions decreased, internal leader attributions were expected to result in fewer member opportunities for boundary-spanning, autonomy, and challenge. The correlations between member behavior, leader attributions, and subordinate work outcomes are presented in Figure 3.

Moderated regression analyses were used to test the hypothesized moderating effects of member behavior on the relation between leader attributions and subordinate
Figure 3. Correlations between member behavior, work outcomes, and leader behavior.
work outcomes. In this procedure, the dependent variable of interest (e.g., autonomy, challenge, or boundary-spanning) is hierarchically regressed on leader attributions, the hypothesized moderating variable (e.g., loyalty, affect, or contributions), and the cross-product between leader attributions and the hypothesized moderating variable. If the interaction term results in a significant change in R-square, then member behavior can be identified as moderating the relation between leader attributions and member work outcomes. The results of the moderated regression analyses indicated no significant moderating effects for member behavior. However, the overall model was significant when leader attributions, member contributions, and the interaction term were used to predict work challenge, $F(3, 135) = 3.48$, $p < .05$. As can be seen in Table 11, analyses indicated a significant main effect for member contributions, $F(1, 135) = 8.36$, $p < .01$. That is, when the effects of leader attributions were controlled, member contributions added unique variance to the prediction of work challenge ($\beta = .31$, $p < .01$). Thus, as contributions to the dyad increased, there was a corresponding increase in the amount of work challenge experienced by members. Similar results were found when analyses were performed using the overall measure of member behavior. While no significant
Table 11
Moderated Regression of Work Challenge on Leader Attributions and Member Contributions

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>Type 1 Sums of Squares</th>
<th>F</th>
<th>standardized beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attributions</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>-.13</td>
</tr>
<tr>
<td>Contributions</td>
<td>1</td>
<td>10.06</td>
<td>8.36*</td>
<td>.31*</td>
</tr>
<tr>
<td>Attributions x Contributions</td>
<td>1</td>
<td>2.51</td>
<td>2.09</td>
<td>.11</td>
</tr>
</tbody>
</table>

*p < .01.
moderating effects were found for member behavior, the model was significant when leader attributions, member behavior, and the interaction term were used to predict work challenge, \( F(3, 135) = 3.50, p < .05 \). Table 12 presents the results of this analysis, in which a significant main effect was found for member behavior, \( F(1, 135) = 10.06, p < .01 \). Thus, when the effects of leader attributions were controlled, increases in member behavior were associated with greater work challenge (\( \beta = .35, p < .01 \)). However, no significant effects were observed when the attribution subscales and alternate measures of member behavior were separately analyzed. Thus, no support was found for the hypothesized moderating effect of member behavior on the relation between leader attributions and member work outcomes.

**Hypothesis 7.** The seventh hypothesis predicted that leader-member attributional conflict would be negatively related to member perceptions of fairness. In order to test this hypothesis, correlations were computed between attributional conflict and measures of fairness and equity. Neither fairness (\( r = -.15 \)) nor equity (\( r = -.02 \)) correlated significantly with attributional conflict. However, when attributional conflict and fairness were separately analyzed for loyalty, affect, and contributions, a significant negative correlation emerged
Table 12
Moderated Regression of Work Challenge on Leader Attributions and Member Behavior

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>Type 1 Sums of Squares</th>
<th>F</th>
<th>standardized beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attributions</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>-.19</td>
</tr>
<tr>
<td>Member Behavior</td>
<td>1</td>
<td>12.11</td>
<td>10.06*</td>
<td>.35*</td>
</tr>
<tr>
<td>Attributions x Contributions</td>
<td>1</td>
<td>.52</td>
<td>.43</td>
<td>.05</td>
</tr>
</tbody>
</table>

*p < .01.
between attributional conflict and fairness with respect to affect ($r = -.21, p < .01$). Thus, weak support was found for the seventh hypothesis in that greater attributional conflict between leaders and members was associated with lower perceived fairness regarding the amount of affect exchanged.

**Hypothesis 8.** The eighth hypothesis stated that member perceptions of fairness would be positively related to the overall quality of the LMX. This hypothesis was tested by separately correlating LMX with measures of fairness and equity.Analyses revealed significant positive correlations between LMX and fairness ($r = .76, p < .01$) and between LMX and equity ($r = .22, p < .01$). Furthermore, when fairness and equity for loyalty, affect, and contributions were separately correlated with LMX, results were generally consistent with those obtained using the composite measures of equity and fairness. Results from these additional analyses are presented in Table 13. Thus, Hypothesis 8 was supported in that LMX quality increased as member perceptions of fairness increased.

**Hypothesis 9.** The ninth hypothesis predicted that LMX quality would be a better predictor of member propensity to leave than job satisfaction. An inspection of correlation coefficients indicated that propensity to
<table>
<thead>
<tr>
<th>Subscale</th>
<th></th>
<th>r</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairness (affect)</td>
<td>LMX</td>
<td>.69</td>
<td>141</td>
</tr>
<tr>
<td>Equity (affect)</td>
<td>LMX</td>
<td>.29</td>
<td>140</td>
</tr>
<tr>
<td>Fairness (loyalty)</td>
<td>LMX</td>
<td>.75</td>
<td>140</td>
</tr>
<tr>
<td>Equity (loyalty)</td>
<td>LMX</td>
<td>.17</td>
<td>140</td>
</tr>
<tr>
<td>Fairness (contributions)</td>
<td>LMX</td>
<td>.75</td>
<td>139</td>
</tr>
<tr>
<td>Equity (contributions)</td>
<td>LMX</td>
<td>.07</td>
<td>140</td>
</tr>
</tbody>
</table>

*p < .05.  **p < .01.
leave was significantly related to LMX quality ($r = -.33$, $p < .01$) as well as job satisfaction ($r = -.55$, $p < .01$). While this suggested that job satisfaction would be the better predictor, further analyses were conducted to determine whether LMX quality accounted for any variance in propensity to leave beyond that accounted for by job satisfaction. Hierarchical regression analysis was, therefore, conducted. In the first step, member propensity to leave was regressed on job satisfaction. In the second step, LMX quality was added to the regression equation. While job satisfaction accounted for significant variance in propensity to leave, $F(1, 138) = 59.76$, $p < .01$, the change in $R$-square resulting from the addition of LMX into the model was not significant. Thus, LMX did not contribute useful explanatory variance to propensity to leave beyond that provided by job satisfaction. No support, then, was found for Hypothesis 9.

Additional Analyses

Incomplete dyads. Data were also examined to see if mean differences existed between respondents from incomplete and complete dyads. With respect to demographic variables, supervisors ($n = 44$) and subordinates ($n = 21$) from incomplete dyads did not differ significantly from those in complete dyads. Nor were there any mean differences between subordinates from complete and incomplete
dyads on variables measured in the subordinate questionnaire. When means were examined for supervisor variables, however, a significant difference emerged for loyalty, $t(184) = 2.45, p < .05$. Supervisors from incomplete dyads reported significantly less loyalty from their subordinates ($M = 8.42$) than did supervisors from complete dyads ($M = 9.10$). No other mean differences were found between supervisors from the two groups.

Tenure in the dyad. To check for the possibility that results differed according to length of time spent in the dyad, hypotheses were reexamined controlling for this variable. Results were consistent with those reported earlier. Significant correlations, however, were obtained between tenure in the dyad and several subordinate variables. Not surprisingly, subordinate age ($r = .18, p < .05$), organizational tenure ($r = .21, p < .05$), and length of time in the present position ($r = .21, p < .05$) were positively related to tenure in the dyad. As tenure in the dyad increased, subordinates also reported less role ambiguity ($r = -.23, p < .01$), more work challenge ($r = .21, p < .05$), and tended to make internal attributions for their behavior ($r = .21, p < .05$). Among supervisors, tenure in the dyad was positively correlated with age ($r = .30, p < .01$) and length of time in the present position ($r = .52, p < .01$).
Salary grade. Additional analyses were conducted to control for the effects of salary grade on the obtained results. Findings were consistent with those reported earlier. Significant correlations, however, were found to exist between subordinate salary grade and several variables. As would be expected, subordinate age ($r = .23$, $p < .01$) and tenure ($r = .27$, $p < .01$) were positively related to salary grade. As salary grade increased, subordinates also experienced greater role conflict ($r = .22$, $p < .01$), increased boundary-spanning activities ($r = .21$, $p < .01$), and more work challenge ($r = .19$, $p < .05$). Moreover, supervisors reported more loyalty ($r = .36$, $p < .01$) and greater contributions ($r = .20$, $p < .05$) as their subordinates' salary grade increased. When salary grades were examined for supervisors, a significant relation emerged between supervisor salary grade and subordinate boundary-spanning activity ($r = .34$, $p < .01$). Thus, as supervisor salary grades increased, so did the boundary-spanning activities of their subordinates. No other significant correlations were found to exist for supervisors.

Mean differences by division and sex. Variable means were examined to see if significant differences existed across the four divisions from which data were collected. Among the subordinate sample, differences
among the divisions were found for salary grade, equity, and boundary-spanning. Tukey's mean comparisons revealed that salary grades in Division 3 (M = 41.33) were significantly lower than salary grades in either Division 1 (M = 47.54) or in Division 2 (M = 46.69). With regard to equity, subordinates in Division 1 reported significantly less equitable exchanges with their supervisors (M = -4.27) than subordinates in either Division 2 (M = -1.97) or in Division 3 (M = -1.12). Differences in boundary-spanning activities were also found to exist, with subordinates in Divisions 1 (M = 2.67) and 2 (M = 2.69) reporting significantly more boundary-spanning activities than subordinates in Division 4 (M = 2.21). Division differences were also examined for supervisors. Member contributions was the only variable to show reliable differences among divisions, with supervisors in Division 1 reporting significantly fewer contributions from their subordinates (M = 9.03) than supervisors in Division 2 (M = 11.03).

Sex differences were also examined for subordinate variables. Significant mean differences were found to exist for salary grade, age, and tenure. T-tests indicated that females (n = 31) were younger (M = 34.68) than males (n = 111, M = 42.84), t (140) = 3.96, p < .01. Females also had less tenure in the organization (M =
5.42) than males ($M = 13.74$), $t (139) = 4.00$, $p < .01$.

Finally, salary grades were significantly lower for females ($M = 38.23$) than for males ($M = 47.06$), $t (140) = 8.64$, $p < .01$.

**Discussion**

The purpose of the present study was to provide some initial data concerning the processes by which dyadic relationships are formed. In general, results were not consistent with the hypothesized model of LMX development. While some evidence was found to support the attributional aspects of the model, no support emerged for the hypothesized link between role conflict and ambiguity and key member behaviors thought to elicit the attribution process. Furthermore, events hypothesized to follow the attribution process did not occur as predicted, in that there was no relation between leader attributions and member work outcomes, and leader-member attributional conflict was generally unrelated to member perceptions of fairness. Support, however, was found for the hypothesized relation between member perceptions of fairness and LMX quality, providing some validation for the propositions of Dansereau, Cashman, and Graen (1973) and Hollander (1980) that equity beliefs may have important implications for the quality of the leader-member relationship that develops. While LMX quality was, in turn,
hypothesized to be a better predictor of member propensity to leave than job satisfaction, no evidence for such predictive superiority could be found. Several alternative explanations for these findings should be considered before basing conclusions on the present study.

No support was found for the first hypothesis, which predicted a negative relation between role conflict and ambiguity and member loyalty, affect, and contributions. An examination of the role conflict and ambiguity measures used in the present study may suggest a possible explanation for the nonsignificant results. In their early writings on role theory, Katz et al. (1964) distinguished between two kinds of role stress. The first kind was role ambiguity or conflict resulting from the job itself, its goals, and the acceptable means for implementing goals. This type of role stress was task-oriented, as opposed to a second type of role stress which was relationship-oriented. Role conflict and ambiguity of the latter type "manifests itself in a person's concern about his standing in the eyes of others" (1964, p. 94) and was found to undermine the individual's relationship with role senders. It is possible that the member behaviors investigated in the present study, particularly loyalty and affect, would be
influenced to a greater extent by role conflict and ambiguity of an interpersonal nature, such as the kind described by Katz et al. However, the measures of role ambiguity and conflict developed by Rizzo et al. (1970) and used in the present study are operationalizations of task-oriented role perceptions, which may explain their failure to correlate significantly with relationship-oriented measures such as loyalty. Indeed, one would expect such task-oriented role perceptions to influence work behaviors such as productivity. Perhaps a more appropriate measure of role conflict and ambiguity for the present study would have assessed the clarity of members' expectations regarding the socio-emotional (Katz et al., 1964) aspects of role performance. Such a measure was used by Graen and his colleagues (Graen, Orris, & Johnson, 1973; Johnson & Graen, 1973) in early LMX studies, in which significant positive relations were found between role conflict and ambiguity and out-group status.

A second possible explanation for the nonsignificant results concerns the particular member behaviors investigated in the present study. Perhaps leaders differentiated members into in- and out-groups on the basis of behaviors other than loyalty, affect, and contributions. Dienesch and Liden (1986) note that
contextual influences, such as the culture of an organization (i.e., its norms and traditions), can influence what kinds of behaviors are valued within the leader-member dyad. Consequently, the dimensions along which the LMX develops may actually vary across work settings. In the present study, leader-member exchanges were investigated within a manufacturing organization predominantly composed of employees with backgrounds in chemistry and engineering. Instead of loyalty or affect, for example, dimensions such as technological expertise might have been more relevant to LMX development in this particular organizational context. Supposing that the three dimensions investigated in the present study were not emphasized in the process of role-making, the lack of relation between these dimensions and role conflict and ambiguity should not be surprising.

Finally, the first hypothesis relied on data from supervisors, who provided member behavior ratings, as well as subordinates, who provided ratings of role conflict and ambiguity. The failure to find significant relations between supervisor and subordinate reports may reflect underlying perceptual differences which have been found to characterize dyadic relationships (Graen & Schiemann, 1978). Consequently, supervisors and subordinates may arrive at quite different interpretations
of mutually experienced events, thereby lowering the correlation obtained between their reports. The tendency to disagree about job occurrences may stem from a variety of causes, including organizational level differences, infrequent communication, and the relatively small sample of subordinate behavior observed by supervisors (Martinko & Gardner, 1987). Moreover, differences in supervisor and subordinate response sets when completing questionnaires may have further contributed to the low correlation between their reports. Thus, lack of support for the first hypothesis may have been at least partially due to the different sources of data.

The second hypothesis, which predicted a positive relation between member behavior and goal facilitation, received only weak support. Goal facilitation through member affect was found to increase as member liking for the leader increased. However, this relation existed only for the two-item liking measure and did not generalize to Dienesch's (1986) affect subscale. Furthermore, member loyalty and contributions did not correlate with goal facilitation. Thus, the significant relation between member liking and goal facilitation through affect must be viewed with some skepticism, given the possibility that a spurious correlation may have resulted from similarly worded questionnaire items.
Several reasons may explain the general lack of support for the second hypothesis. First, it is possible that a positive relation between the member behaviors investigated and goal facilitation may not reflect organizational reality. That is, member loyalty, affect, and contributions may not always facilitate leader goals. Goal facilitation may depend, in part, upon other factors such as member ability, politics, and organizational constraints beyond the member's control. The presence of moderator variables would explain the nonsignificant correlations between member behavior and goal facilitation.

Second, as noted above, the dimensions which leaders use to differentiate members into in- and out-groups may vary according to the organization studied. If leaders differentiate members on the basis of technical expertise, for example, rather than loyalty, affect, and contributions, then according to LMX theory (Graen, 1976), technical expertise, rather than the behaviors presently investigated, should correlate with goal facilitation since the theory predicts that leaders differentiate members into subgroups based on member ability to promote task accomplishment. Thus, if loyalty, affect, and contributions were less important dimensions in the organizational context studied, then they would not necessarily
exert a strong influence on goal facilitation.

Third, the present study's failure to find support for the second hypothesis may be due, in part, to the relatively low reliability of the goal facilitation measure (alpha = .67). Unreliability would make it difficult to detect correlations between member behavior and goal facilitation, if significant correlations did in fact exist.

Finally, the fact that the second hypothesis relied on supervisor as well as subordinate data may have restricted the correlation between member behavior and goal facilitation. As mentioned earlier, data from independent sources may show weak correlations due to supervisor-subordinate perceptual differences as well as idiosyncratic differences between supervisors and subordinates in the way that they respond to questionnaire items. Consequently, the nonsignificant correlation between member behavior and goal facilitation may be partially explained by these factors.

Support was found for the third and fourth hypotheses, which made predictions about the attributional processes of leaders and members. The finding that leaders tended to make internal attributions for member behavior (Hypothesis Three) is consistent with earlier studies (Mitchell & Wood, 1980; Mitchell, Green, & Wood,
1981) and suggests that attributional biases were operating due to such factors as actor-observer differences (Jones & Nisbett, 1972). With respect to member attributions, the pattern appeared to vary with the consequences of member behavior, thus confirming the fourth hypothesis and corroborating earlier findings (Martinko & Gardner, 1987; Soulier, 1978). Specifically, when goal facilitation was low, attributions were external but became increasingly internal as goal facilitation increased. Such a pattern is suggestive of a self-serving attributional bias (Bradley, 1978), in which individuals tend to take credit for positive behavioral outcomes while denying responsibility for negative consequences. Support for the attributional hypotheses is consistent with previous research (Martinko & Gardner, 1987; Mitchell & Wood, 1980; Mitchell, Green, & Wood, 1981; Soulier, 1978).

It is disappointing that no support was found for the fifth hypothesis, which predicted a negative relation between goal facilitation and leader-member attributional conflict. At least two reasons for the lack of support can be suggested. First, as noted earlier, the relatively low reliability of the goal facilitation measure would have limited the size of correlations obtained between goal facilitation and other variables. Thus, attri-
tional conflict may, in fact, be negatively correlated with goal facilitation, but the power to detect such a relation may be insufficient. Second, certain factors may moderate the relation between goal facilitation and attributional conflict, thus limiting the generalizability of the fifth hypothesis to situations in which such moderator variables are present. For example, member participation in goal setting may influence the relation between goal facilitation and attributional conflict. When participation is high, members are likely to feel greater commitment to the goal (Locke, Shaw, Saari, & Latham, 1981) and may therefore be more motivated to "save face" by blaming external factors under circumstances of low goal facilitation. Given the tendency of leaders to make internal attributions for member behavior, attributional conflict may be higher when members have difficulty reaching the goals they have helped to shape. Thus, the hypothesized negative relation between goal facilitation and attributional conflict might be supported under circumstances of high participation. In the case of low participation, however, members may not have such a vested interest in goal facilitation. Consequently, they may be more willing to attribute low goal facilitation to personal factors such as low motivation, thereby lowering the level of leader-member attributional conflict that
results. While this explanation is speculative at best, the validity of the fifth hypothesis for all situations should be questioned.

Several reasons may explain why no support was found for the sixth hypothesis, which predicted that rewarding work outcomes accrue to members when their behavior is attributed by leaders to internal causes. While there is much evidence to support the relation between leader attributions and leader reward behavior (Dobbins, 1985; Green & Liden, 1980; Mitchell & Wood, 1980; Mitchell, Green, & Wood, 1981), Green and Mitchell (1979) acknowledge the presence of situational factors which may weaken the correlation between leader attributions and subsequent behavior. Organizational policies and other constraints, for example, may prevent leaders from differentially rewarding subordinate behavior. Thus, even though a leader may make internal attributions for a member's high level of loyalty and therefore believe that the member is deserving of more boundary-spanning activities, the leader's freedom to provide greater boundary-spanning opportunities may be restricted by the member's job description, for example. In other situations leaders may lack sufficient autonomy or resources to reward subordinates, or social norms may prevent leaders from responding to member behavior on the
basis of their attributions.

Another possible reason why the sixth hypothesis was not supported may be due to the particular work outcomes that were investigated. It may be that the amount of boundary-spanning, autonomy, and challenge experienced by members is more a function of the job itself than of leader attributions for member behavior. An additional explanation for the lack of results concerns the relation of the LMX dimensions to the hypothesized work outcomes. According to Dienesch and Liden (1986), the outcomes experienced by members are linked to the LMX dimensions. That is, boundary-spanning activities are a consequence of member loyalty, autonomy is the result of member affect, and challenge is the outgrowth of member contributions. As discussed earlier, loyalty, affect, and contributions may be less important dimensions of exchange in the particular organizational context studied. If this were the case, then there would be little reason for member loyalty, affect, and contributions to differentially influence boundary-spanning activities, autonomy, and challenge. Such an explanation would account for the general absence of significant correlations between member behavior and work outcomes in the present study. Finally, the sixth hypothesis was tested using data from different sources. Failure to support
the hypothesis may be at least partially due to the
tendency of leaders and members, discussed earlier, to
develop divergent perspectives (Graen & Schiemann, 1978).

The seventh and eighth hypotheses extended the propo-
sitions of equity theory to the LMX developmental pro-
cess, since it has been suggested that equity perceptions
may have considerable implications for the type of rela-
tionship which emerges between leaders and members
(Dansereau et al., 1973; Hollander, 1980). Indeed,
equity theory appears to be particularly compatible with
LMX theory, since the latter theory conceptualizes leader-
member relationships in terms of the inputs and outcomes
which both parties exchange. Thus, the seventh hypothesis
predicted that members would perceive inequitable
exchanges with their leaders as attributional conflict
increased, since leader reward behavior (based on
internal attributions) would appear arbitrary to members
who are biased toward external attributions for their
behavior. The eighth hypothesis predicted that member
perceptions of fairness would, in turn, influence LMX
quality. While the latter hypothesis was supported,
evidence for attributional conflict as a determinant of
fairness perceptions was weak at best. While attributional
conflict predicted fairness perceptions regarding the
amount of affect exchanged, this relation existed only
for the fairness scale and did not extend to the equity measure. The reason for this may be due, in part, to differences between the measures of fairness and equity. While the equity scale operationalized equity as the member's ratio of perceived inputs to outcomes derived from the LMX and is thus consistent with Adam's (1965) definition of equity, the fairness measure tapped a more global perception and did not require members to separately evaluate inputs and outcomes. Such generalized measures of fairness have been advocated by Carrell and Dittrich (1978), who criticized more complex equity measures which require respondents to engage in cognitive operations which they might not otherwise use in formulating equity perceptions. Thus, weaknesses associated with the present equity measure adapted from Brockner and Adsit (1986) may at least partially explain its failure to correlate with attributional conflict.

At the present time, then, it can only be concluded that member perceptions of fairness and equity are related to LMX quality. Nevertheless, this finding provides some empirical support for the propositions of Hollander (1980) and Dansereau, Cashman and Graen (1973) and suggests that the inclusion of equity concepts in future considerations of LMX development may be a fruitful avenue of research.
Finally, the ninth hypothesis predicted that LMX quality would have organizational consequences in its ability to predict member propensity to leave. Specifically, LMX was hypothesized to be a better predictor than job satisfaction of propensity to leave. Results, however, showed that, while LMX was found to be significantly correlated with propensity to leave, it did not add to the prediction of propensity to leave once the effects of job satisfaction were accounted for. The finding that job satisfaction contributed significantly more variance than LMX to the prediction of propensity to leave is somewhat inconsistent with the results of Ferris (1985) and Graen, Liden, and Hoel (1982), who found that LMX was superior to job satisfaction in predicting turnover. However, the criterion in the present study, propensity to leave, may be more strongly influenced by attitudinal variables such as job satisfaction than is turnover, which has been found to depend not only on job attitudes but also on practical factors such as the availability of alternative job opportunities (Hulin, Roznowski, & Hachiya, 1985). Thus, the relative influence of LMX on propensity to leave may be small, given that it is not a global job attitude but, rather, a set of behaviors which characterize a relationship (Graen, Liden, & Hoel, 1982). Moreover, when compared to
overall job satisfaction, LMX quality may be a relatively small component of an individual's job experience and may therefore exert a weaker effect on intentions to turnover. The validity of the ninth hypothesis, then, must be questioned.

Conclusion. The present study attempted to describe more fully the sequence of events by which leaders and members shape the nature of their relationship. A model of LMX development originally proposed by Dienesch and Liden (1986) was expanded with findings from role theory, attribution theory, and equity theory, and a set of hypotheses was derived for testing. While support was found for isolated portions of the model, in general there was little evidence to suggest that LMX relationships develop as hypothesized in the present study. One promising outcome, however, was the finding that fairness perceptions are positively related to LMX quality. While the potential consequences of equity beliefs on the development of leader-member relationships have been noted before (Dansereau et al., 1973; Hollander, 1980), few, if any, empirical studies have directly tested the relationship between member perceptions of fairness and LMX quality. Given that the present study is correlational in nature, it cannot be concluded that fairness perceptions determine the quality of the LMX;
Indeed, LMX quality may play an important role in shaping fairness perceptions. Therefore, it is difficult to state the implications of this finding for practice until it is replicated in an experimental setting. At the present time, the finding is tentative and suggests only that leaders can expect high-quality exchanges to be associated with fair treatment of their members.

Given the limited support obtained for the hypothesized model of LMX development, the present study suggests that a revision of Dienesch and Liden's (1986) propositions is in order. Specifically, at least two aspects of Dienesch and Liden's developmental model warrant further attention. First, the notion of LMX as a multidimensional construct should be questioned. While Dienesch and Liden argued that the LMX develops along three separate dimensions, the present study found a considerable degree of overlap between the hypothesized dimensions of loyalty, affect, and contributions. Indeed, this finding suggests that Dienesch and Liden's conceptualization may be too broad. Future empirical investigations, however, are needed to strengthen the view of LMX as a unidimensional construct.

The dimensions along which leaders are hypothesized to differentiate members into subgroups are a second component of Dienesch and Liden's (1986) model which may
need revision. Results of this study consistently questioned the importance of member loyalty, affect, and contributions in organizational settings such as the present one where jobs require technological expertise. That is, situational variables, such as the nature of the job requirements, may influence the particular dimensions by which members are differentiated into subgroups. Such variables, however, are not included in Dienesch and Liden's model as it presently exists. It is possible that the developmental processes may occur as described in the model, but that the dimensions of the model vary across organizational settings. Had different dimensions been substituted for loyalty, affect, and contributions, perhaps more support would have been obtained for the hypothesized model.

The status of the LMX construct can thus be reassessed in light of the present study's findings. As noted above, the LMX appears to be a unidimensional construct which develops its character according to the particular dimension emphasized in the work setting. Additionally, results of the present study suggest that the distinction between LMX and member perceptions of fairness is clouded. As indicated in Table 9, both variables are significantly correlated with each other ($r = .76, p < .01$) and are correlated in the same direction.
with other variables. Given the apparent degree of overlap between LMX and fairness, one may question whether they are, in fact, different constructs. The two constructs, however, can be distinguished on the basis of their predictive ability. Table 9 indicates that, while LMX and fairness perceptions are generally correlated in the same direction with other variables, LMX exhibits correlations of greater magnitude than does fairness. Moreover, the two variables can be distinguished on a conceptual basis. Member perceptions of fairness are more attitudinal in nature than LMX, which refers to specific behaviors such as the level of communication, resources and support exhibited by a leader toward a member. According to Fishbein and Ajzen (1975), attitudes are one component of behavior but do not predict behavior as reliably as more proximal determinants of behavior such as intentions and situational factors. Since a stronger attitudinal orientation characterizes member perceptions of fairness, one might expect it to show weaker correlations with job behaviors than LMX. LMX, then, could be viewed as a more proximal cause of behavior than member perceptions of fairness because its emphasis is on specific leader-member interactions rather than global attitudes. However, both constructs share the same theoretical underpinnings in social exchange theory.
(Hollander, 1978). Consequently, perceptions of fairness may be viewed as a component of LMX.

Finally, in evaluating the status of the LMX construct, the possibility should be acknowledged that LMX may not exist in jobs characterized by a high degree of autonomy and/or professionalism. Such jobs may provide their own substitutes for leadership (Kerr & Jermier, 1973), thus making LMX an irrelevant construct. The fact that many subordinates in the present study were trained as professional engineers and chemists and experienced high levels of autonomy in their jobs may have reduced the applicability of the LMX construct to their situation. The possibility that LMX does not exist for all jobs may explain why some hypotheses in the present study were not supported.

One aspect of the present study's methodology which should be considered when interpreting the findings is the fact that data were collected from different sources. Since several hypotheses (H1, H2, H6, and H7) predicted relations between supervisor and subordinate variables, the resulting correlation coefficients obtained from these two sources of data may have been restricted due to the tendency of supervisors and subordinates to hold differing perceptions of the same events (Graen & Schiemann, 1978). Consistent with this explanation,
hypotheses that relied on a single source of data were, in
general, more highly supported than hypotheses that
required data from both parties in the dyad. Thus, the
present study probably provides a conservative test of the
proposed model.

Problems, however, associated with self-report data
make it necessary to interpret the study's significant
findings with caution. Specifically, subjects' tendencies
to provide consistent responses may have produced spurious
correlations when hypotheses depended on a single source
of data. This tendency may have been compounded by the
fact that questionnaire items measuring different con­
structs were similarly worded. However, common method
variance did not appear to be a problem, as suggested by
the number and magnitude of significant correlations.

With regard to future research, several directions
might be pursued. First, results of the present study
suggest that LMX may be a unidimensional construct,
rather than the multidimensional construct proposed by
Dienesch and Liden (1986). However, further
investigations are clearly needed to sufficiently address
the dimensionality issue. It is possible that, while
each dimension may involve independent behaviors, leaders
may respond to these behaviors in such a way that they
become increasingly correlated with each other. For exam-
ple, a leader may reward a loyal member with boundary-spanning opportunities which, in turn, make it possible for the member to increase his or her contributions to the dyad. Likewise, low loyalty may restrict a member's opportunities to contribute to the dyad. Behaviors on one dimension, then, may reinforce behaviors on another dimension (Dienesch & Liden, 1986; Schneider, 1983). Moreover, the halo effect (Cooper, 1981) may cause leaders to perceive correlations between dimensions. Thus, one topic for future research might be to examine the interaction between the LMX dimensions.

Second, it was noted earlier that contextual factors may influence which dimensions are valued within the leader-member dyad (Dienesch & Liden, 1986). Specifically, an organization's norms and traditions (i.e., culture) may determine, in part, the behaviors which leaders use to differentiate subordinates. Future researchers might test the validity of this speculation by identifying possible LMX dimensions across organizational settings and then correlating them with LMX quality. Since LMX theory hypothesizes that the leader's reliance on members for task accomplishment is the primary reason for subgroup differentiation (Graen, 1976), researchers might begin to identify LMX dimensions by defining performance-related behaviors valued by the organization.
In this manner the influence of specific organizational factors on LMX development might be better understood.

Third, LMX theory has been criticized for its failure to predict organizational outcome measures, such as productivity (Vecchio, 1982; Vecchio & Gobbel, 1984). Too often, research studies have validated the model against attitudinal variables, leaving open the possibility that common method variance may account for much of the theory's predictive power. Unfortunately, the present study was unable to demonstrate a significant relation between LMX quality and propensity to leave, raising further questions about the organizational relevance of the LMX construct. More attention should be devoted to the investigating the link between LMX quality and organizational outcomes in future research, since a revision of the theory may be needed.

Finally, future studies should further examine the relation between member fairness perceptions and LMX quality. Considering the leader's control over organizational rewards and their allocation, it is surprising that so few studies have measured fairness perceptions within the context of leader-member relationships. While the present study offered partial support for the proposition that divergent leader-member attributions are related to fairness perceptions, more
research is clearly needed to identify factors within the leader-member dyad that influence fairness perceptions. Indeed, such knowledge may have important implications for the quality of supervisor-subordinate relationships, as suggested by the significant correlation between fairness perceptions and LMX quality, and should thus be incorporated in future considerations of LMX development.
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APPENDIX A

Behavioral Incidents Scale
Behavioral Incidents Scale

Contributions

1. This subordinate has accepted extra work.
2. This subordinate has taken on jobs to do that had very tight deadlines.
3. This subordinate has worked on weekends or other times when he or she is not scheduled to work.
4. This subordinate has worked past his or her regular quitting time.
5. This subordinate has handled some of the most difficult work assignments in the department.

Affect

1. This subordinate talks to me about personal problems he or she is having.
2. I have invited this subordinate to my home for a dinner, party or informal evening.
3. This subordinate sits down and "shoots the breeze" with me about company and department news.
4. This subordinate has talked over his or her personal problems with me.

Loyalty

1. This subordinate has done work for me that involves dealing with people outside our department.
2. This subordinate has talked with someone in another department about a problem we were having with them.
3. I have asked this subordinate to represent my department to other departments or levels of management in the company.
4. I have asked this subordinate to give a speech or presentation to higher management for me.
5. This subordinate has served on company or plant-wide committees.
APPENDIX B

Member Loyalty
Loyalty

1. This subordinate has defended my decisions to others.
2. This subordinate gives public support to my ideas.
3. This subordinate is open to my suggestions and ideas.
4. This subordinate has exposed my mistakes to others.
APPENDIX C

Member Liking
Liking

1. How much do you feel this subordinate likes you as a person?

2. How probable is it that this subordinate would like to have you as a friend outside of work?
APPENDIX D

Member Performance
Performance

1. This subordinate is one of the best employees we have working for us.

2. This subordinate always completes his or her work on time.

3. The quality of this subordinate's work is excellent.

4. When this subordinate finishes assigned work, this subordinate helps others with their work, or looks for other work to do.

5. This subordinate is one of our most productive employees.
APPENDIX E

Attributions for Member Behavior
Attributions for Member Behavior

Instructions for supervisors:

The following questions ask you to explain the way this subordinate behaves toward you. For example, sometimes this subordinate's behavior may be due to situational factors. At other times, however, this subordinate's personal characteristics may be more important determinants of his or her behavior. At still other times, the reasons for this subordinate's behavior may be due to a combination of personal characteristics and situational factors.

Listed below are examples of personal characteristics and situational factors which can be used to explain this subordinate's behavior:

<table>
<thead>
<tr>
<th>Personal Characteristics</th>
<th>Situational Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>attitudes and beliefs</td>
<td>good or bad luck</td>
</tr>
<tr>
<td>personal goals</td>
<td>difficulty/ease of work</td>
</tr>
<tr>
<td>level of ability</td>
<td>assignments</td>
</tr>
<tr>
<td>level of motivation</td>
<td>social norms which dictate</td>
</tr>
<tr>
<td>personality characteristics</td>
<td>behavior</td>
</tr>
<tr>
<td></td>
<td>circumstances beyond his/her</td>
</tr>
<tr>
<td></td>
<td>control</td>
</tr>
</tbody>
</table>

The lists above provide examples and are not meant to be exhaustive. Many other personal characteristics or situational factors not listed may explain this subordinate's behavior.

As an example, this subordinate may often behave in a friendly manner toward you because social norms (a situational factor) call for such behavior, or because this subordinate's personality characteristics (a personal characteristic) are compatible with yours. Indifference toward you may be due to a busy work environment (a situational factor) which does not allow for friendly behavior or to attitudes your subordinate may hold (a personal characteristic) which differ from your own.

As another example, this subordinate may be highly productive because of his or her high level of motivation (a personal characteristic) or because of easy work assignments (a situational factor). Low productivity could be due to this subordinate's low level of ability (a personal characteristic) or to bad luck (a situational factor).
factor).

For each of the following statements, consider your subordinate's overall or usual behavior toward you. Then, using the scale below, indicate in the blank following each statement the number which best completes the sentence.

Contributions

1. Whether this subordinate takes on extra work to help me during busy periods is due to _____ (1 = situational factors; 7 = My subordinate's personal characteristics)

2. How often this subordinate is willing to accept difficult tasks from me is due to _____.

3. Whether this subordinate "goes the extra mile" to meet tight deadlines for me is due to _____.

Affect

1. Whether this subordinate gets along well with me is because of _____.

2. How often this subordinate spends time talking to me about matters that are not work-related is because of _____.

3. How often this subordinate exhibits personal liking toward me is because of _____.

Loyalty

1. Whether this subordinate shows support for my views in meetings or in conversations with others is because of _____.

2. How often this subordinate displays loyalty toward me is because of _____.

3. Whether this subordinate defends my ideas to others is because of _____.
Attributions for Member Behavior

Instructions for subordinates:

The following questions ask you to explain the way you behave toward your immediate supervisor. For example, sometimes your behavior may be due to situational factors. At other times, however, your personal characteristics may be more important determinants of your behavior. At still other times, your behavior may be due to a combination of personal characteristics and situational factors.

Listed below are examples of personal characteristics and situational factors which can be used to explain your behavior:

<table>
<thead>
<tr>
<th>Personal Characteristics</th>
<th>Situational Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>attitudes and beliefs</td>
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<td>personal goals</td>
<td>difficulty/ease of work assignments</td>
</tr>
<tr>
<td>level of ability</td>
<td>social norms which dictate behavior</td>
</tr>
<tr>
<td>level of motivation</td>
<td>circumstances beyond your control</td>
</tr>
<tr>
<td>personality characteristics</td>
<td></td>
</tr>
</tbody>
</table>

The lists above provide examples and are not meant to be exhaustive. Many other personal characteristics or situational factors not listed may explain your behavior.

As an example, you may often behave in a friendly manner toward your supervisor because social norms (a situational factor) call for such behavior, or because your personality characteristics (a personal characteristic) are compatible with your supervisor's. Indifference toward your supervisor may be due to a busy work environment (a situational factor) which does not allow for friendly behavior or to attitudes you may hold (a personal characteristic) which differ from your supervisor's.

As another example, you may be highly productive because of your high level of motivation (a personal characteristic) or because of easy work assignments (a situational factor). Low productivity could be due to low levels of ability (a personal characteristic) or to bad luck (a situational factor).
For each of the following statements, consider your overall or usual behavior toward your immediate supervisor. Then, using the scale below, indicate in the blank following each statement the number which best completes the sentence.

**Contributions**

1. Whether I take on extra work to help my supervisor during busy periods is due to ____ (1 = situational factors; 7 = my personal characteristics)
2. How often I am willing to accept difficult tasks from my supervisor is due to ____.
3. Whether I "go the extra mile" to meet tight deadlines for my supervisor is due to ____.

**Affect**

1. Whether I get along well with my supervisor is because of ____.
2. How often I spend time talking to my supervisor about matters that are not work-related is because of ____.
3. How often I exhibit personal liking toward my supervisor is because of ____.

**Loyalty**

1. Whether I show support for my supervisor's views in meetings or in conversations with others is because of ____.
2. How often I display loyalty toward my supervisor is because of ____.
3. Whether I defend my supervisor's ideas to others is because of ____.
APPENDIX F

Goal Facilitation
Goal Facilitation

Loyalty

1. The amount of public support which I show for my supervisor's ideas helps to get work accomplished around here.

2. The lack of loyalty which I display toward my supervisor's ideas is detrimental to the progress of work around here.

3. I'm able to accomplish things around here by speaking up for my supervisor's decisions and defending him/her against criticisms.

Affect

1. By getting along well with my supervisor I can accomplish a lot of work around here.

2. The way I feel about my supervisor personally interferes with getting work done.

3. My personal liking for my supervisor makes it easier to accomplish work around here.

Contributions

1. By accepting extra work from my supervisor I'm able to further the progress of work around here.

2. I get a lot of work accomplished for my supervisor by working late around here.

3. The amount of work I'm willing to take on for my supervisor hinders the progress of work around here.
APPENDIX G

Role Ambiguity and Conflict
Role Ambiguity

1. I feel certain about how much authority I have
2. Clear, planned goals and objectives exist for my job
3. I know that I have divided my time properly
4. I know what my responsibilities are
5. I know exactly what is expected of me
6. Explanation is clear of what has to be done

Role Conflict

1. I have to do things that should be done differently
2. I receive an assignment without the manpower to complete it
3. I have to buck a rule or policy in order to carry out an assignment
4. I work with two or more groups who operate quite differently
5. I receive incompatible requests from two or more people
6. I do things that are apt to be accepted by one person and not accepted by others
7. I receive an assignment without adequate resources and materials to execute it
8. I work on unnecessary things
APPENDIX H

Challenge
Challenge

1. How much challenge is there on your job?

1 = There is very little challenge on my job; I don't get a chance to use any special skills and abilities and I never have jobs which require all my abilities to complete them successfully.

4 = Moderate challenge

7 = There is a great deal of challenge on my job; I get a chance to use my special skills and abilities and often have jobs which require all my abilities to complete successfully.

2. To be successful on my job requires all my skill and ability.

3. On my job, I seldom get a chance to use my special skills and abilities.

4. My job is very challenging.
APPENDIX I

Autonomy
Autonomy

1. How much are you left on your own to do your own work?
2. To what extent are you able to act independently of your supervisor in performing your job?
3. To what extent are you able to do your job independently of others?
4. The freedom to do pretty much what I want on my job.
5. The opportunity for independent thought and action.
6. The control I have over the pace of my work.
APPENDIX J

Boundary-Spanning Activities
Boundary-Spanning Activities

**Resource Acquisition**

1. Decide on the kinds of resource inputs to acquire from outside the organization (e.g., raw materials, personnel, funds, supplies).

2. Decide on the quality requirements for resource inputs (e.g., raw materials, personnel, funds, supplies).

3. Decide when to acquire certain physical inputs (e.g., raw materials, personnel, funds, supplies).

4. Acquire the physical resources needed for the organization's functioning (e.g., procure raw materials and supplies, negotiate a bank credit line, hire personnel).

**Customer Contact**

1. Decide on the kinds of customers that your organization will pursue.

2. Decide the method by which your product will be provided to your customers.

3. Meet with customers and convince them to use your organization's products.

**Representative**

1. Provide information to groups outside your organization that is intended to create a favorable image of your organization.

2. Make speeches to outside groups on other than specifically company business.

3. Provide information about your organization to outsiders that will induce them to act favorably in behalf of your organization.

**Information Acquisition**
1. Acquire information from specific individuals or groups outside your organization that is needed by a department in your organization other than your own.

2. Acquire information from specific individuals or groups outside your organization that is needed by your department or office.

3. Prepare reports for others in your organization about information that you've acquired about external factors that could influence your organization.

**Information Control**

1. Decide what portions of information acquired from sources outside your organization to transmit to others in your organization that will make use of it.

2. Decide when to transmit to others in your organization information acquired from outside the organization.

3. Decide to whom information received from outside your organization should be sent.
APPENDIX K

Equity
Equity

Instructions: The following questions concern the relationship you have with your immediate supervisor. Please respond to the following questions by circling the appropriate number.

**Loyalty**

Consider the amount of loyalty you feel toward your supervisor. In doing so, think about the amount of support you show to others for your supervisor's ideas and personal character. This does not mean that you necessarily agree with your supervisor on every point; it only means that you do not express your disagreement to coworkers other than your supervisor.

1. How much loyalty (i.e., support in words or actions) do you feel you give your supervisor? [Inputs-self]
2. To what extent do you feel that your supervisor is loyal to you? [Outcomes-self]
3. How much loyalty do you feel your coworkers give your supervisor? [Inputs-other]
4. To what extent do you feel that your supervisor is loyal to your coworkers? [Outcomes-other]

**Affect**

Now, consider how much you like your supervisor. This refers to the amount of liking you feel toward him or her personally and does not have to correspond to the way you feel about your supervisor's work goals and values.

1. How much do you like your supervisor?
2. To what extent do you feel your supervisor likes you?
3. How much do you feel your coworkers like your supervisor?
4. To what extent do you feel your supervisor likes your coworkers?
Contributions

Finally, consider the contributions which you make toward your working relationship with your supervisor. Contributions describe the amount of effort you exert helping your supervisor meet work goals. It may mean "going beyond the call of duty" to help your supervisor get something done, or taking on some extra work to assist your supervisor through a busy time.

1. How much do you feel you contribute to your working relationship with your supervisor?

2. To what extent do you feel your supervisor contributes to his or her working relationship with you?

3. How much do you feel your coworkers contribute to their working relationships with your supervisor?

4. To what extent do you feel your supervisor contributes to his or her working relationships with your coworkers?
APPENDIX L

Fairness
Fairness

Loyalty

1. The support my supervisor displays for my ideas and objectives is a fair amount, given the support I give to his/her ideas.

2. My supervisor shows an amount of loyalty to me that is fair, considering my loyalty to him/her.

Affect

3. The amount of friendship my supervisor feels for me is a fair amount, given my friendship toward him/her.

4. The concern my supervisor has for me as an individual is a fair amount, considering the concern I have for him/her.

Contributions

5. The amount of effort my supervisor puts forth to help me with work-related projects is a fair amount, given the effort I put forth to help him/her.

6. What my supervisor contributes to my working relationship with him/her is a fair amount, considering what I contribute to the relationship.
APPENDIX M

Leader-Member Exchange
Leader-Member Exchange

Before answering the following questions, please think about your working relationship with your immediate supervisor (named above). All of the following questions ask about this particular working relationship.

1. Do you know where you stand...do you usually know how satisfied he/she is with what you do?

   1 = Rarely
   2 = Seldom
   3 = Sometimes
   4 = Usually
   5 = Almost Always

2. How well does your superior understand your job problems and needs?

   1 = Not at All
   2 = A Little
   3 = A Fair Amount
   4 = Quite a Bit
   5 = A Great Deal

3. How well does your supervisor recognize your potential?

   1 = Not at All
   2 = A Little
   3 = Moderately
   4 = Mostly
   5 = Fully

4. Regardless of how much formal authority your superior has built into his/her position, what are the chances that he/she would use that power to help you solve problems in your work?

   1 = None
   2 = Small
   3 = Moderate
   4 = High
   5 = Very High
5. Again, regardless of the amount of formal authority, what are the chances that your superior would "bail you out" at his/her expense?

1 = None  
2 = Small  
3 = Moderate  
4 = High  
5 = Very High

6. How would you characterize your working relationship with your supervisor?

1 = Extremely Ineffective  
2 = Worse than Average  
3 = Average  
4 = Better than Average  
5 = Extremely Effective

7. I would defend and justify my superior if he/she were not present to do so.

1 = Strongly Disagree  
2 = Disagree  
3 = Neutral  
4 = Agree  
5 = Strongly Agree
APPENDIX N

Minnesota Satisfaction Questionnaire
Job Satisfaction

On my present job, this is how I feel about:

1. Being able to keep busy all the time
2. The chance to work alone on the job
3. The chance to do different things from time to time
4. The chance to be "somebody" in the community
5. The way my boss handles his subordinates
6. The competence of my supervisor in making decisions
7. Being able to do things that don't go against my conscience
8. The way my job provides for steady employment
9. The chance to do things for other people
10. The chance to tell people what to do
11. The chance to do something that makes use of my abilities
12. The way company policies are put into practice
13. My pay and the amount of work I do
14. The chances for advancement on this job
15. The freedom to use my own judgment
16. The chance to try my own methods of doing the job
17. The working conditions
18. The way my coworkers get along with each other
19. The praise I get for doing a good job
20. The feeling of accomplishment I get from the job
APPENDIX O

Member Propensity to Leave
Propensity to Leave

1. How likely is it that you will actively look for a new job in the next year?

2. I often think about quitting.

3. I will probably look for a new job in the next year.
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Master's Thesis: A Comparison of the Effects of Rater Training and Motivation on Prototype Accuracy and Rating Characteristics
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Professional Experience

Duties: Assisted in developing job descriptions for all hotel personnel and in assessing work attitudes among housekeepers and front desk clerks through employee interviews and surveys. 
Supervisor: Gregory H. Dobbins, Ph.D.

Duties: Conducted employee interviews and assisted in developing, administrating, and analyzing an employee survey investigating the sources of organizational stress. 
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Professional Associations

1987-present American Psychological Association 
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1987 Member, Phi Kappa Phi 
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Candidate: Caroline Cooper Wilhelm

Major Field: Psychology

Title of Dissertation: Developmental Processes in Leader-Member Exchanges

Approved:

[Signature]
Major Professor and Chairman

[Signature]
Dean of the Graduate School

EXAMINING COMMITTEE:

[Signature]

[Signature]

[Signature]

Date of Examination:

October 7, 1988