

# Exchange Relationships and Helping Behavior: An Empirical Analysis of Data from CGSS2015

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**Purpose:** Helping others is a classic virtue and a positive behavior advocated by organizations and society at large in accordance with social norms. Based on social information processing theory, this study examines the mechanisms by which social exchange relationships influence individual helping behavior.

**Patients and methods:** Chinese General Social Survey data from 2015 (CGSS 2015) is applied, and regression analysis and bootstrapping methods are adopted.

**Results:** The findings indicate that leader-member exchange and team-member exchange are positively and significantly related to employees' helping behavior. Affective commitment and job satisfaction play mediating roles between both leader-member exchange and team-member exchange and helping behavior.

**Conclusion:** Leader-member exchange and team-member exchange have different effects on helping behavior. Compared with team-member exchange, the effect of leader-member exchange on helping behavior is stronger via affective commitment and job satisfaction. These results serve as a starting point for boosting the proactive behaviors of employees, thereby establishing a harmonious organizational climate.

**Keywords:** helping behavior, leader-member exchange, team-member exchange, affective commitment, job satisfaction

## Introduction

Being ready to help others is a traditional Chinese virtue and a behavior advocated by society as a whole. Helping behavior is a type of interpersonal behavior and extra-role behavior of voluntarily helping others.<sup>1</sup> In an enterprise organization, employees are not required by their roles to help each other. However, doing so can maintain and promote interpersonal relationships and improve organizational efficiency.<sup>2</sup> This type of individual organizational citizenship behavior appears to boost organizational performance more than other kinds of citizenship behaviors.<sup>3,4</sup> Therefore, helping behavior has attracted growing attention among researchers and managers and has become one of the behaviors encouraged by enterprises and managers.<sup>5</sup>

Helping behavior is influenced by several factors. At work, leaders and colleagues have more interaction with employees. Some studies have verified that leader-member exchange (LMX) positively affects employees' helping behavior in the Western context.<sup>6,7</sup> However, China is characterized by being relationship-oriented,<sup>8</sup> and employees can obtain more material resources and emotional support from leaders or colleagues by establishing and maintaining relationships. Thus, scholars have begun to pay attention to the role of LMX in helping behavior in the Chinese context. For example, Zhang et al found that LMX and supervisor-subordinate informal relationship (namely, guanxi) are positively related to helping behavior.<sup>9</sup> However, existing studies have focused more on the impact of leaders on helping behavior, ignoring the impact of coworkers or colleagues (eg, team-member exchange, TMX) on helping behavior. High-quality LMX relationships represent good communication, trust, and support from leaders,<sup>10</sup> while high-quality TMX relationships reflect individuals' willingness to

help colleagues and share feedback.<sup>11</sup> Therefore, while the vertical exchange relationship between leaders and subordinates is worth attention, the same can be said for the horizontal exchange relationship among colleagues in a team.<sup>12</sup>

Social information processing theory emphasizes the fact that employees' psychological experiences, attitudes, and behavioral decisions depend on the information and clues obtained in the workplace and the way they are processed and responded to.<sup>13</sup> LMX and TMX are two different social exchange relationships in organizations. According to the reciprocity principle<sup>14</sup> and social exchange theory,<sup>6</sup> LMX may be more related to behaviors regarding superiors, while TMX is more related to behaviors regarding colleagues. The two kinds of social exchange relationships contain social information. Exchanges of information and resources take place between leaders and employees as well as among different team members, but the impacts of these interactions are different. Thus, the first purpose of this study is to explore and compare the impacts of LMX and TMX on helping behavior.

More precisely, this study examines organizational affective commitment (ie, an individual's emotional connection with their organization) as a mediator of the association between exchange relationships and helping behavior. Prior studies have indicated that affective commitment can mediate the relationship between leadership and organizational citizenship behavior.<sup>15,16</sup> The effect can also be investigated when it mediates the relationship between leader-member interaction (ie, LMX) and a special form of citizenship behavior (ie, helping behavior). Moreover, previous studies have investigated other mediators such as employees' job attitudes (eg, job satisfaction) in the relationship between LMX and organizational citizenship behavior.<sup>17</sup> However, identifying the critical mediators in the relationship between leader-related variables and citizenship behavior has yet not been adequately explored.<sup>15,18</sup> Based on social information processing theory, individuals may adjust their attitudes and behaviors differently when considering the quality of their relationships with their leaders or colleagues as sources of information clues. Hence, the second purpose of this study is to explore the influence mechanism by which the different exchange relationships affect helping behavior through the two distinct mediators (ie, affective commitment and job satisfaction).

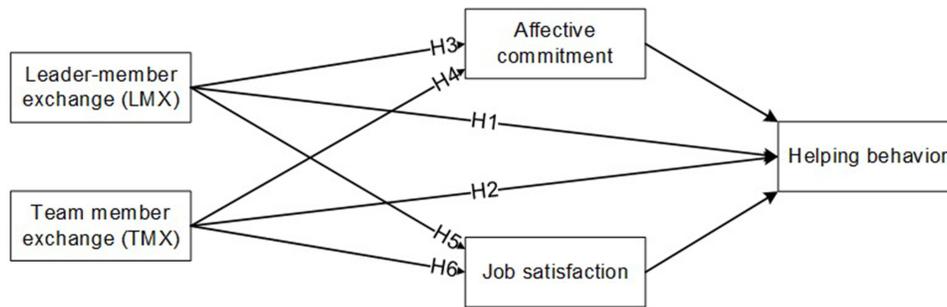
Therefore, this study aims to explore the differences in the effects of LMX and TMX on helping behavior and attempts to explore the mediating roles of job satisfaction and affective commitment based on social information processing theory. This paper makes two contributions to the literature. First, from the perspective of relationships, the effects of the exchange relationship between leaders and employees and that among employees on individuals' positive extra-role behavior are compared. This study extends previous studies that only focused on the perspective of unilateral exchange relationships. Second, with regard to individuals' positive extra-role behavior, prior studies have focused more on organizational citizenship behavior. This paper instead highlights the positive effects of individuals' helping behavior, and empirically explores the antecedent mechanisms of individuals' helping behavior via exchange relationships, affective commitment, and job satisfaction. The findings provide empirical evidence for measures to stimulate individuals' helping behavior, including establishing a harmonious and fair interaction climate and encouraging positive cooperation.

## Theoretical Background and Literature Review

### Social Information Processing Theory and Theoretical Model

The social information processing theory was first proposed by Salancik and Pfeffer,<sup>13</sup> who posited that individual attitudes, behaviors, and cognitive processes are affected by contextual factors and environmental characteristics. Studies based on social information processing theory suggest that leader, team environment, and the interactions and communication within a team influence employees' perceptions, attitudes, and behaviors.<sup>19,20</sup> Specifically, the social interaction between leaders and peers could influence employees' cognitive and behavioral responses.<sup>21,22</sup>

Based on social information processing theory, we argue that the contact between leaders and employees, as well as peer interchange, can affect individuals' behaviors via their perceptions and attitudes. Employees can rely on the cues from leaders and peers to confirm how they recognize the context and then adjust their cognitions and attitudes to fit the organizational environment. In this case, we posit that leader-member exchange and team-member exchange could play the roles of environmental cues that affect individuals' job attitudes and behavior. [Figure 1](#) shows the established theoretical model.



**Figure 1** The conceptual model. H = hypothesis. H1 and H2 represent direct effects. H3-H6 represent mediation effects.

## Social Exchange Relationships and Helping Behavior

### Leader-Member Exchange and Helping Behavior

LMX refers to exchange relationships of varying degrees between leaders and subordinates in the workplace.<sup>10</sup> A high-quality LMX relationship reflects the exchange of a high level of valuable team resources, such as promotion opportunities and support,<sup>23,24</sup> while a low-quality LMX relationship consists mostly of economic exchange or interpersonal interactions based on labor contracts. However, social exchange theory emphasizes that LMX is a reciprocal relationship, which could lead to different actions, relationships, and reciprocating behavior.<sup>25</sup> Leaders can be regarded as key information sources in an organization, and the resource support they provide has a significant influence.<sup>26</sup> Reciprocation is a widely accepted social norm in the human-relationship-oriented Chinese society.<sup>27</sup> In the face of strong association with leaders and preferential treatment, employees may give reciprocation, such as performing extra-role behavior,<sup>12,28</sup> promoting the achievement of organizational goals, or helping leaders or colleagues achieve their goals faster. In the Chinese cultural context, the higher the quality of LMX, the more the subordinates' helping behavior will be displayed. On this basis, the following hypothesis is proposed:

Hypothesis 1: LMX is significantly positively correlated with employees' helping behavior.

### Team-Member Exchange and Helping Behavior

Apart from leaders, colleagues are another important information source that influences individuals' attitudes and behavioral choices.<sup>29</sup> TMX relationship quality reflects the levels of information and resource sharing and mutual trust between an individual and the organization or other members in a team.<sup>29</sup> Ford and Seers pointed out that TMX includes not only the support and dedication given when other team members are busy and in need, but also the support received from other team members when an individual encounters difficulties.<sup>30</sup> Therefore, based on the Chinese cultural background, TMX emphasizes "reciprocation for kindness".<sup>31</sup> When employees perceive high-quality TMX from other team members, they will be willing to make more beneficial reciprocation behaviors to obtain more interpersonal support. Therefore, high-quality TMX will encourage employees to perform extra-role organizational citizenship behaviors that benefit other team members.<sup>32</sup> Thus, the following hypothesis is proposed:

Hypothesis 2: TMX is significantly positively correlated with employees' helping behavior.

## The Mediating Role of Affective Commitment

In addition to the insights provided by social information processing theory, one can also infer that information sources like leadership, work experience, and interpersonal interaction might affect employees' perceptions, attitudes, and behavior.<sup>33,34</sup> In high-quality LMX, the material, psychological, and other forms of support outside the formal employment contract are provided by the leaders, which make the subordinates feel care, support, and trust from their leaders. The interaction between leaders and followers also promotes the subordinates' perception of themselves as insiders, increasing their trust in and loyalty to the organization and improving their affective commitment. In other words, high-quality LMX will increase subordinates' affective commitment to the organization.<sup>35</sup>

Unlike LMX, TMX mainly focuses on the exchange of social-emotional resources among members of an organization or a team,<sup>29</sup> which is manifested as employees with high-quality TMX relationships getting more work and emotional support such as trust, approbation, and mutual help, from other employees at work.<sup>36</sup> According to social information processing theory, the process of interpersonal interaction can help individuals gain or deepen their understanding of their own needs, values, and cognition. This can also indirectly affect their attitudes, behaviors, and beliefs as they evaluate their working environment.<sup>13,37</sup> Therefore, TMX is an exchange relationship of lateral interaction, and when they perceive their high-quality TMX relationship with others, an individual will tend to spend more time and energy in maintaining such social relations and will be more willing to make an effort for the organization or team to gain trust. They thereby increase their sense of identity with and loyalty to the team or organization and enhance their affective commitment to the organization.<sup>36,38</sup>

Affective commitment refers to an individual's emotional attachment to their organization, reflecting the extent to which they continue to serve their organization.<sup>39</sup> It indirectly reflects employees' trust in and recognition of their organization, and such enhanced emotional dependence will stimulate them to show extra-role behaviors such as helping behavior at work.<sup>40</sup> Drawing upon social information processing theory, an individual will show different attitudes and behaviors according to their interpretation of information. When an employee has a higher level of LMX or TMX, that is conducive to establishing communities (or "circles") and maintaining trust. These positive signals and information related to work will enhance the individual's dependence on and recognition of his organization or team, and then make the individual engage in more extra-role behavior. On this basis, the following hypotheses are proposed:

Hypothesis 3: Affective commitment plays a mediating role in the relationship between LMX and helping behavior.

Hypothesis 4: Affective commitment plays a mediating role in the relationship between TMX and helping behavior.

## The Mediating Role of Job Satisfaction

Job satisfaction refers to the degree to which employees' needs are satisfied in the workplace.<sup>41,42</sup> LMX differentiation can be defined as a process by which a leader, through engaging in differing types of exchange patterns with subordinates, forms different quality exchange relationships (ranging from low to high) with them, and this relationship differentiating practice would result in different communities or "circles".<sup>43,44</sup> Compared with "outsiders", the "insiders" in a high-quality LMX relationship may get more rewards, opportunities, resources, and authorization as well as more care, support, trust, and respect from leaders.<sup>45</sup> Thus their work needs will be satisfied, and they will have more opportunities for personal development and positively engage in their work.<sup>46,47</sup> In the Chinese cultural context that attaches importance to relationships, favoritism, and prestige, establishing a good LMX relationship plays a positive role in improving employees' job satisfaction.<sup>42,48</sup>

The quality of TMX relationships also has an effect on job satisfaction. Mutual support and honesty between individuals and other team members can encourage them to establish close psychological associations and working relationships.<sup>11</sup> According to social information processing theory, an employee's understanding and evaluation of their organizational environment will be changed through favorable interpersonal interactions, thus possibly forming a positive working attitude. Specifically, a high-quality TMX relationship is conducive to the formation of positive emotions, which can in turn enhance recognition of the organization,<sup>49</sup> thus improving employees' job satisfaction.<sup>36</sup>

Job satisfaction reflects the match between one's own needs and one's work experiences in an organization.<sup>50</sup> A high level of job satisfaction means that employees get opportunities to realize or satisfy their needs,<sup>51</sup> which can motivate them to work harder at achieving organizational goals, perform well, and even engage in extra-role behaviors such as organizational citizenship.<sup>52</sup> It can be seen that job satisfaction can potentially strengthen employees' motivation and drive them to make efforts to reach goals; this involves both in-role behaviors and extra-role behaviors.<sup>50</sup> Thus, job satisfaction may promote helping behavior. Both LMX and TMX constitute specific social information, and employees form subsequent attitudes and behaviors through processing specific information. A high-quality LMX relationship can make employees experience a positive attitude and satisfaction towards work that encourages them to make more efforts for the development of the organization.<sup>53</sup> Meanwhile, such a positive attitude makes employees more likely to "pay back" the organization by performing helping and other behaviors as reciprocity for the favorable treatment received from their leader or colleagues.<sup>54</sup>

Moreover, high-quality TMX can strengthen employees' recognition of the organization or team, thus improving their job satisfaction.<sup>49</sup> In the relationship-oriented and collectivist context of Chinese culture, employees who experience high job satisfaction are more willing to invest more time and energy in their work, and actively carry out more rewarding behaviors beneficial to the team or organization, such as helping behavior. On this basis, the following hypotheses are proposed:

Hypothesis 5: Job satisfaction plays a mediating role in the relationship between LMX and helping behavior.

Hypothesis 6: Job satisfaction plays a mediating role in the relationship between TMX and helping behavior.

## Methods

### Data Sampling

The research data in this paper were obtained from the 2015 China General Social Survey (CGSS2015), which is available from the China National Survey Data Archive (CNSDA) website (<http://cnsda.ruc.edu.cn/>). The dataset of CGSS2015 as a continuous nationwide survey covers 478 villages in 28 provinces across mainland China. The questionnaires contained six modules: A—Core Module, B—Decade Review, C—EASS Module, D—ISSP Module, E—Energy Module, and F—Law Module. This dataset is well suitable for the current analysis of individual employment.<sup>55</sup> The Core module addresses marital life, education level, interpersonal relationships, career development, income level, physical and mental health, happiness, and other aspects of the lives of urban and rural residents. The ISSP module addresses job satisfaction and helping behavior.

To achieve the purpose of this study, the data from Core module (sample size 10,968) and ISSP module (sample size 1775) were used. After excluding the samples involving those over 55 years old due to the involvement of working attitude, etc., and as well as samples with missing values and invalid data for key variables, a total of 432 valid samples were collected. Table 1 shows the demographic information and description of each variable.

**Table 1** The Studied Variables and Descriptive Statistics

Variables	Sample	Measurements and Coding	Mean	SD
Helping behavior	432	5 = strongly agree, and 1 = strongly disagree.	3.74	0.84
LMX	432	4 = very good and 1 = relatively poor.	2.79	0.69
TMX	432	4 = very good and 1 = relatively poor.	2.94	0.64
Affective commitment	432	5 = strongly agree, and 1 = strongly disagree.	3.39	0.75
Job satisfaction	432	7 = completely satisfied and 1 = completely dissatisfied.	4.80	0.95
Gender	432	1 = male (49.84%), 0 = female (51.16%, reference group)	0.48	0.50
Age	432	1 = 18–25 years old (12.04%, reference group), 2 = 26–35 years old (34.95%), 3 = 36–45 years old (31.71%), 4 = 46–55 years old (21.30%)	2.62	0.95
Education	432	1 = junior high school and below (32.87%, reference group), 2 = junior high school (25.46%), 3 = junior college or bachelor degree (39.12%), 4 = master and above (2.55%)	2.11	0.90
Individual annual income	432	Ln (The total household income)	10.27	1.90
Marriage	432	1 = unmarried (16.4%), 2 = married (81.25%), 0 = others (2.31%, reference group)	1.79	0.46
Physical health	432	5 = very health and 1 = very unhealthy.	4.06	0.81
Mental health	432	5 = never and 1 = always.	4.05	0.79

## Measures

### Dependent Variable

The dependent variable in this paper is “helping behavior”. In CGSS2015, it is measured by the item, “in my (primary) job, I can help others.” This item was originally scored on a five-point Likert-like scale with 1 = strongly agree and 5 = strongly disagree. Generally speaking, the more an individual agrees with this statement, the higher the degree of their helping others. Therefore, reverse assignment was adopted in this paper, indicating that the larger the value was, the more willing the respondent was to show helping behavior.

### Independent Variables

These mainly include LMX and TMX. In the data of CGSS2015, LMX is measured by the item, “On the whole, how do you feel about the interpersonal relationship between management and employees in your workplace?”, while TMX is measured by the item “On the whole, how do you feel about the interpersonal relationship among employees/colleagues in your workplace?” These items were originally scored on a four-point scale from 1 = very good to 4 = relatively poor. In this paper, it is held that the better the relationship, the higher the exchange degree, and the higher the score should be. Therefore, reverse assignment was adopted in this paper: “very good” was denoted by 4, and “relatively poor” by 1. Under this scoring system, the higher the score, the better the LMX and TMX relationships.

### Mediating Variables

These include affective commitment and job satisfaction. In the CGSS2015 questionnaire, the three questions: “Do you agree with the following statements? 1. I am willing to work harder for the work unit; 2. I am proud of working for my work unit; 3. I won’t leave my work unit even if another company offers me a much higher salary”, were used to measure affective commitment, and are in line with the scope of this study. The initial assignment was from 1 = strongly agree to 5 = strongly disagree. In this paper, reverse assignment was adopted, ie, 5 = strongly agree and 1 = strongly disagree. The higher the assignment, the higher the affective commitment of an individual to the organization. Meanwhile, as to the effective samples regarding the three questions, the Cronbach’s coefficient  $0.760 > 0.70$  indicates that they have good internal consistency and reliability. In addition, in the CGSS2015 questionnaire, the question “Are you satisfied with your (primary) job?” was adopted to measure job satisfaction. It was initially scored on a scale from 1 = completely satisfied to 7 = completely dissatisfied. In this paper, this index indicates that the higher the score, the higher the degree of job satisfaction. Therefore, reverse assignment was used, with 7 = completely satisfied and 1 = completely dissatisfied.

### Control Variables

In addition to gender, logarithm of individual annual income, age level, education level, and marital status, the two variables of physical health and mental health were controlled in this paper. The demographic and physical characteristics might affect individual career development in both the Chinese and Western contexts.<sup>55,56</sup> Physical health was measured by the question “Do you think your current physical health status is: Very unhealthy; Relatively unhealthy; Moderate; Relatively healthy; Very healthy”, with the assignment of 1–5. Mental health was measured by “In the past four weeks, how often did you feel depressed or frustrated: Always; Often; Sometimes; Rarely; Never”, also with the assignment of 1–5. The higher the score, the higher the health level.

## Analytic Strategy

In this study, the Stata software (version 13.0) was used to conduct OLS regression on the influencing factors for helping behavior, and this software has been applied in prior studies to conduct statistical examination.<sup>55</sup> In addition, VIF was used to test whether the problem of multicollinearity exists in the model, with VIF required to be less than 10. OVTEST was used to verify whether endogeneity exists in the model. When the p value is greater than 0.05, the possibility of endogeneity is excluded. In addition, the PROCESS macro and AMOS software (version 24.0) were used to test the mediating effect,<sup>57</sup> and judge the significance using a 95% confidence interval through the Bootstrap method (at least 1000 times).<sup>58,59</sup>

## Results

### Measurement Assessment and Descriptive Statistics

Giving the possible issue of common method variance (CMV), a post hoc Harman's single-factor examination was conducted via SPSS software. All the items from the studied variables were loaded into the factor analysis to examine whether there emerges one single factor to account for the total covariance.<sup>60,61</sup> The result of factor analysis using the principal component analysis method indicated that there emerged more than one single factor, and the first factor only accounted for 41.44% of the covariance. Thus, CMV is not a pervasive issue in this study.

Then, the inter-correlation among the studied variables was conducted, and Table 2 provided the results. As expected in the hypotheses, the social relationships (ie, LMX and TMX) were significantly and positively correlated to affective commitment, job satisfaction, and helping behavior.

### Regression Analysis

In this paper, OLS regression was first used to verify whether LMX and TMX significantly improve helping behavior. Table 3 shows the empirical results for the effects of different social exchange relationships on helping behavior after controlling variables such as gender, age, education level, and marital status.

The VIF and OVTEST tests ruled out the possibilities of multicollinearity and endogeneity. As can be seen from Table 3, after controlling the variables of individual characteristics such as gender, age, education level, health status, income level, and marital status, LMX was found to have a positive and significant impact on helping behavior ( $\beta = 0.238, p < 0.001$ ; M1) and TMX was also found to have a positive and significant effect on helping behavior ( $\beta = 0.236, p < 0.001$ ; M2). When the two kinds of social exchange relationship coexist, the role of LMX relationships is more prominent ( $\beta = 0.171, p < 0.05$ ; M3), while that of TMX relationships is not significant ( $\beta = 0.098, p > 0.05$ ; M3). Moreover, the group with a bachelor's degree or above show more helping behavior, while the group with a higher physical health level, unmarried and married status show a lower level of helping behavior. Gender, age level, personal income, and mental health level do not affect helping behavior.

### Robust Testing

This study attempted to verify the robustness of the model by using an Order Logistic regression model. Table 4 shows that the regression coefficients and significance indicate no significant difference from the results obtained from the OLS regression method. This indicates that the Order Logistic model is consistent with the OLS linear regression model in terms of parameter estimation direction and significance.

### Mediating Effect Examination

The PROCESS plug-in for SPSS software was used to test each mediating effect; results are shown in Table 5. Affective commitment (0.064, 95% CI [0.021; 0.110]) and job satisfaction (0.044, 95% CI [0.013; 0.086]) were found to play partial mediating roles between LMX and helping behavior combined with the significant direct effects. Hypotheses 3 and 5 are thus supported. In addition, affective commitment (0.065, 95% CI [0.023; 0.113]) and job satisfaction (0.046, 95% CI [0.016; 0.086]) were also found to play partial mediating roles between TMX and helping behavior. Hypotheses 4 and 6 were thus supported.

The above tests focused on different mediating pathways. Through AMOS (version 24.0) software, the mutual mediating roles of affective commitment and job satisfaction between social exchange relationships and helping behavior were tested. As indicated in Model 11 of Table 6, the results show that LMX can still play a role in helping behavior through affective commitment and job satisfaction when both LMX and TMX relationships are involved (0.071, 95% CI [0.028; 0.129]). However, affective commitment and job satisfaction do not play a mediating role between TMX and helping behavior (0.032, 95% CI [-0.002; 0.079]). As shown in Figure 2, the direct effects of LMX and TMX on helping behaviors are not significant (0.087, 0.059,  $p > 0.05$ ). When two kinds of social exchange relationships co-exist in the organization, affective commitment and job satisfaction play the full mediation role between LMX and helping behavior.

**Table 2** The Correlation Among the Studied Variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Gender	–											
2. Age	0.008	–										
3. Education	–0.056	–0.218***	–									
4. Ln (income)	0.108*	0.129**	0.183***	–								
5. Marriage	–0.006	0.321***	0.013	0.112*	–							
6. Physical health	–0.038	–0.224***	0.048	0.105*	–0.047	–						
7. Mental health	0.016	–0.020	0.080	0.173***	0.056	0.304***	–					
8. LMX	0.013	0.019	0.057	0.055	0.063	0.056	0.102*	–				
9. TMX	–0.002	–0.021	0.069	0.068	0.001	0.065	0.121*	0.751***	–			
10. Affective commitment	0.002	0.041	0.095*	0.019	0.090	0.003	0.089	0.327***	0.287***	–		
11. Helping behavior	–0.016	–0.005	0.205***	0.027	–0.011	–0.086	0.028	0.208***	0.192***	0.233***	–	
12. Job satisfaction	0.042	0.080	0.118*	0.221***	0.186***	0.139**	0.182***	0.268***	0.245***	0.352***	0.192***	–

Notes: \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ .

**Table 3** The OLS Regression Results of the Impacts of LMX and TMX on Helping Behavior

Variables	Dependent Variable: Helping Behavior		
	M1	M2	M3
Constant	3.885*** (0.425)	3.862*** (0.432)	3.807*** (0.432)
Gender: male	0.002 (0.079)	0.009 (0.079)	0.005 (0.079)
Age: 26~35 years old	-0.109 (0.152)	-0.120 (0.153)	-0.113 (0.152)
36~45 years old	-0.178 (0.160)	-0.179 (0.160)	-0.179 (0.160)
46~55 years old	-0.057 (0.173)	-0.059 (0.174)	-0.059 (0.173)
Education: senior high school	0.085 (0.104)	0.091 (0.105)	0.091 (0.105)
Junior college or bachelor degree	0.387*** (0.098)	0.391*** (0.098)	0.385*** (0.098)
Master and above	0.630* (0.258)	0.633* (0.259)	0.641* (0.258)
Marriage: unmarried	-0.639* (0.290)	-0.654* (0.291)	-0.649* (0.290)
Married	-0.519* (0.262)	-0.501+ (0.263)	-0.517* (0.262)
The logarithm of individual annual income	-0.006 (0.022)	-0.008 (0.022)	-0.007 (0.022)
Physical health	-0.113* (0.052)	-0.111* (0.052)	-0.113* (0.052)
Mental health	0.038 (0.053)	0.036 (0.053)	0.035 (0.053)
LMX	0.238*** (0.057)		0.171* (0.085)
TMX		0.236*** (0.062)	0.098 (0.092)
R <sup>2</sup>	0.110	0.104	0.112

Notes: The standard error was listed in parentheses. \*\*\*p < 0.001, \*p < 0.05, +p < 0.1.

**Table 4** The Ologit Regression Results of the Impacts of LMX and TMX on Helping Behavior

Variables	Dependent Variable: Helping Behavior		
	M4	M5	M6
Gender: male	-0.037(0.194)	-0.020(0.193)	-0.031(0.194)
Age: 26~35 years old	-0.220(0.390)	-0.263(0.375)	-0.242(0.383)
36~45 years old	-0.360(0.404)	-0.340(0.385)	-0.353(0.396)
46~55 years old	-0.116(0.432)	-0.103(0.418)	-0.113(0.426)
Education: senior high school	0.193(0.272)	0.198(0.268)	0.207(0.271)
Junior college or bachelor degree	0.889*** (0.228)	0.869*** (0.231)	0.874*** (0.231)
Master and above	1.479* (0.631)	1.505* (0.642)	1.526* (0.633)
Marriage: unmarried	-1.471* (0.666)	-1.468* (0.645)	-1.483* (0.653)
Married	-1.246* (0.594)	-1.161* (0.576)	-1.224* (0.586)
The logarithm of individual annual income	-0.011 (0.048)	-0.013 (0.048)	-0.012 (0.048)
Physical health	-0.327* (0.133)	-0.307* (0.130)	-0.322* (0.133)

(Continued)

**Table 4** (Continued).

Variables	Dependent Variable: Helping Behavior		
	M4	M5	M6
Mental health	0.079(0.137)	0.049(0.139)	0.061(0.140)
LMX	0.636*** (0.144)		0.421+(0.250)
TMX		0.649*** (0.156)	0.308(0.270)
R <sup>2</sup>	0.110	0.104	0.112

Notes: The robust standard error was listed in parentheses. \*\*\* $p < 0.001$ , \* $p < 0.05$ , + $p < 0.1$ .

**Table 5** The Results of Mediation Examination Using Bootstrap Method and PROCESS Macro

Models	Effects	Estimate	S.E.	95% CI
M7	Direct effect: LMX → Helping behavior	0.180	0.059	[0.064; 0.296]
	Indirect effect: LMX → Affective commitment → Helping behavior	0.064	0.023	[0.022; 0.110]
M8	Direct effect: LMX → Helping behavior	0.200	0.058	[0.087; 0.314]
	Indirect effect: LMX → Job satisfaction → Helping behavior	0.044	0.019	[0.013; 0.086]
M9	Direct effect: TMX → Helping behavior	0.175	0.063	[0.051; 0.299]
	Indirect effect: TMX → Affective commitment → Helping behavior	0.065	0.023	[0.023; 0.113]
M10	Direct effect: TMX → Helping behavior	0.193	0.062	[0.071; 0.316]
	Indirect effect: TMX → Job satisfaction → Helping behavior	0.046	0.018	[0.016; 0.086]

Note: Bootstrap = 5000.

Abbreviations: S.E., standard error; CI, confidence interval.

**Table 6** The Results of Mediation Examination Using Bootstrap and AMOS Software

Models	Indirect Effects	Estimate	S.E.	95% CI
M11	LMX → Affective commitment and Job satisfaction → Helping behavior	0.071	0.026	[0.028; 0.129]
	TMX → Affective commitment and Job satisfaction → Helping behavior	0.032	0.020	[-0.002; 0.079]

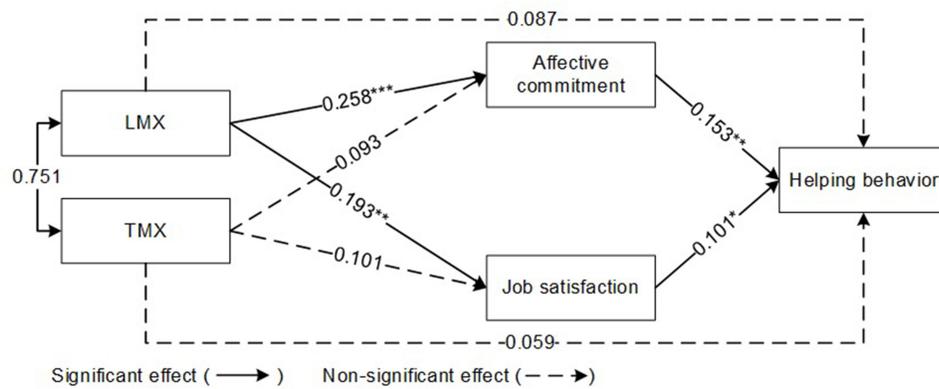
Note: Bootstrap = 2000.

Abbreviations: S.E., standard error; CI, confidence interval.

## Discussion

### Theoretical Implications

In this study, survey data from CGSS 2015 were used to examine the influence mechanism by which LMX and TMX relationship quality affects helping behavior, working from the perspective of social information processing theory. This



**Figure 2** The results of mediation examination. The dash line represents the non-significant results. \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ .

study presents three main theoretical implications. First, this study extends the literature of exchange relationships by examining the effects of LMX and TMX on individual behavior. This study verifies the direct effects of LMX and TMX on helping behavior in the Chinese context. Helping behavior emerges as a form of reciprocation of support from leaders and colleagues. When an individual gets support from his leaders and colleagues, “in-circle” relationships are formed, which encourage employees to take responsibility to reciprocate with their organization, leaders, and peers. This is consistent with the findings of Zou et al<sup>12</sup> and Van Dyne et al,<sup>7</sup> who hold that high-quality LMX and TMX will encourage employees to show more organizational citizenship behavior to repay leaders and colleagues for their support. By using data from CGSS, this study further verifies the effects of LMX and TMX on individuals’ helping behavior in the Chinese context. Moreover, this study verifies the research by Kamdar<sup>6</sup> and Van Dyne et al<sup>7</sup> on social exchange relationships and helping behavior, and supplements the research by extending it to the Chinese context. Our results indicate that employees’ helping behavior is a reciprocation behavior performed under the norms of social exchange, as well as a behavioral choice made from the interpretation and cognition of their relationships with their leaders and colleagues.

Second, this study responds to the demand for testing the social exchange-citizenship behavior relationship by capturing and comparing the effects of different social exchange relationships from the perspective of information cues. This study found that LMX plays a stronger role than TMX, suggesting that LMX appears to be more vital in a collectivistic and high power-distance culture like China.<sup>62</sup> The findings also supplement the value orientation viewpoint with regard to organizational citizenship behavior and extra-role behavior,<sup>63</sup> indicating that employees’ helping behavior may be more of a form of reciprocation or feedback behavior in social exchange relationships than a voluntary altruistic behavior. This implies that employees do not innately help others and, in particular, they respond more strongly to support and recognition from leaders. When leaders or colleagues act as information sources, they have different effects on employees’ attitudes and behaviors. This confirms that leaders or managers serve as more important information sources than colleagues<sup>26</sup> and have more positive effects on individuals’ attitudes and behaviors.

Third, this study contributes to the helping behavior literature by exploring the antecedent mechanisms of helping behavior through the mediation of affective commitment and job satisfaction, thereby enriching the literature on the social exchange-citizenship behavior relationship. High-quality LMX and TMX can inspire employees to have a stronger sense of meaningfulness and satisfaction, as well as a higher sense of belonging and attachment to the organization such that they are willing to perform more helping behavior to reciprocate with the organization. At present, there have been abundant research findings from studies on LMX and organizational citizenship behavior from the perspective of social exchange theory,<sup>6,7,64</sup> but there have been limited studies to examine the action process between social exchange relationships and extra-role behavior from the perspective of social information processing theory. This study explains how LMX and TMX affect individuals’ helping behavior through affective commitment or job satisfaction, thus providing a new perspective on the action mechanism of social exchange relationships in the Chinese context.

## Practical Implications

The research findings in this paper have practical significance for leaders and managers. Specifically, first, LMX and TMX can significantly promote individuals' helping behavior. This means that the interaction between leaders and subordinates and interactions among subordinates are an important impetus to promoting individuals' extra-role behavior. Additionally, the impact of LMX on helping behavior was slightly greater than that of TMX, suggesting that employees might have more expectation of support from leaders than team members in the collectivistic culture like China. Therefore, in the Chinese enterprise organization, leaders need to attach more importance to building and developing high-quality LMX and establishing a fair and harmonious environment for good interaction with subordinates. For example, frequent and positive feedback from leaders can be used as an effective communication tool to increase employees' face (manzi) and recognize followers.<sup>62</sup>

Second, affective commitment and job satisfaction were found to mediate the effects of social exchange relationships on helping behavior. This implies that an individual's emotional connection and attitude toward the organization is an important factor. Therefore, managers should pay attention to employees' identity, loyalty, and satisfaction with the organization, try to treat them equally without discrimination, be fair and reasonable in allocating limited resources so as to improve employees' affective commitment and job satisfaction, strengthen the cooperation among members in an organization or team, and thereby enhance employees' willingness to do more for leaders and the organization.

## Limitations and Future Directions

This study has some limitations, which should be further explored in future studies. First, the sample data in this study were from CGSS 2015, and were thus secondary data. This means that, although they had very wide coverage, the operationalization of variables may be different from that in the western maturity scale, which restricts the promotion of the research findings to a certain extent. Future studies can consider improving the design and data collection by using the maturity scale to conduct the depth analysis. Specifically, the variable focusing on the social relationships among team members (ie, TMX) was conducted at the individual level due to the constraints of the second-hand data. Although the relationship-related variables (ie, TMX) can be evaluated using individuals' perceptions of the quality of their relationships with other members,<sup>65</sup> a multi-level research design is also recommended to collect leader-follower dyad data to capture the relationships among team members and between leader and followers.<sup>66,67</sup>

Second, as the data in this study are cross-sectional secondary data, the effect of time on the relation between social exchange relationships and helping behavior should be taken into account. Even though our understanding of that relationship was here constructed based on theory, and the CMV issue was not significant or pervasive, future studies can consider longitudinal or follow-up studies, or, in combination with first-hand data, conduct cross-validation and strengthen the discussion of the causal relationship between social exchange and helping behavior.<sup>61</sup> Third, this study focused on the mechanisms of mediating effects, without exploring the boundary conditions for the effects of social exchange relationships on helping behavior. Future studies can consider adding variables reflecting the Chinese cultural context, such as power distance and collectivist values, to further supplement studies on Chinese localization.

## Conclusions

This study identifies the value of exchange relationships by testing the differential effects and mechanisms of LMX and TMX on helping behavior using data from the CGSS 2015 database. The results reveal that both the exchange relationship between leader and members, and the relationships among members, significantly improve helping behavior in the Chinese cultural context. Furthermore, the role of LMX is stronger than that of TMX, highlighting the importance of the quality of the relationships between leaders and followers. Results indicate that affective commitment and job satisfaction could play mediating roles between exchange relationships and helping behavior. These findings enable a broader understanding of the association between social exchange and extra-role behavior, and paint a richer picture how helping behavior is activated through the development of exchange relationships and the improvement of job commitment and satisfaction. These findings have important implications for beneficial interventions focusing on the improvement of extra-role behavior through development of the leader-member relationship, establishing a cooperative climate, and promoting employees' identity and satisfaction.

## Ethics Approval

The survey program of 2015 Chinese General Survey (CGSS 2015) was organized by Renmin University of China. The initial survey was in accordance with the ethical standards of the Ethics Committee of Renmin University of China. Informed consent was assigned and obtained from all individual participants. All procedures conducted in this study were approved by the Ethics Commitment of Kunming University of Science and Technology and were in line with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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## Disclosure

The authors report no conflicts of interest in this work.

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