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# The Joint Effects of Leader–Member Exchange and Team-Member Exchange in Predicting Job Crafting

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**Abstract:** In order to better understand the social aspects of job crafting, this study explores the direct and interactive effects of leader–member exchange (LMX) and team-member exchange (TMX) on three types of job crafting (i.e., task, relational, and cognitive crafting). Drawing on both social exchange theory and the job demands–resources model, this study examines the social antecedents of job crafting in a sample of 336 members of three shipbuilding companies. The results indicate that individuals who have high-quality relationships with their leaders engage in more job crafting and that TMX is positively related to job crafting, after controlling for LMX. In addition, the results show that TMX moderates the positive relationship between LMX and job crafting, such that a higher TMX strengthens the LMX–job crafting link. The implications of these findings for job crafting and social antecedents are discussed, and suggestions for future research are presented.

## 1. Introduction

Since Wrzesniewski and Dutton [1] introduced the concept of job crafting, more and more attention has been paid to the study of employee job redesign. Job redesign, as a conventional HRM (Human Resource Management) approach, implies altering the current jobs, tasks, and work environments of employees to enhance their job effectiveness. Indeed, many scholars [2,3] have suggested and shown that job redesign is an important contributor to job motivation and work engagement. However, some scholars and practitioners have argued that the use of job redesign cannot induce intrinsic motivation because of its top-down control [1,4]. This is the reason why the employee side of job redesign, such as job crafting, is considered as a crucial motivation strategy in relation to changing job processes. Job crafting refers to the physical, social, and cognitive changes that employees initiate in the tasks or relational scopes associated with their work [1,5]. Because job crafting is related to voluntary job modification, the processes involved in changing job boundaries derive from employees' perspectives, which are associated with intrinsic motivation and the resulting positive outcomes. Studies indicate that job crafting significantly influences positive employee attitudes and behaviors, including job engagement, job satisfaction, job performance, and contextual performance [6,7]. At the team level, job crafting has a positive relationship with outcomes, such as team work engagement, team efficacy, team interdependence, and team performance [8,9].

Consistent with its practical relevance, there has been a growing interest in the factors that promote or inhibit job crafting. Previous research on the antecedents of job crafting has mainly focused on individual factors (i.e., proactive personality, optimism, self-efficacy, and cognitive ability) or task-related factors (i.e., workload, job autonomy, empowerment and task interdependence) [6,10,11], but only a few researchers have turned their attention to its social aspect. It has been suggested that job crafting is a social process, in that a job is made up of the tasks and social relationships assigned to employees [12]. More specifically, because job crafting involves changes in interpersonal relations,

employees may be reluctant to change their job, considering the social pressures and sanctions due to social norms. Accordingly, employees' social relationships could facilitate or constrain their job crafting. While several researchers [13–16] have investigated the effects of social relationships on job crafting, the main approaches have centered on leader–member exchange (LMX) theory. According to prior studies, LMX is a useful theory in accounting for followers' attitudes, behaviors, and performance in relation to the quality of their relationships with a leader, but it fails to reflect various social relationships [17,18]. Besides their relationship with their immediate leaders, followers can have multiple social relationships, because they are embedded in a larger social context. Relationships with leaders and coworkers are key social relationships within a work group or team. With its increasing reliance on team structure, the quality of relationships between coworkers is becoming one of the most important social environments [19,20]. Extant research underscores the importance of coworker relationships on employee outcomes [21,22]. However, the theoretical and empirical aspects of how job crafting is affected by coworker relationships remain unclear. This is an important gap in the existing literature, given the impact of coworker relationships on employee behaviors.

I address this gap by examining whether, beyond the quality of the vertical dyadic relationship between a leader and a follower, the quality of team-member exchange (TMX), which means the relationships among coworkers, influences job crafting. In doing so, I respond to calls in the relational leadership literature [17,18,23] for the integration of interdependent dyadic relationships. While TMX is conceptually distinct from LMX, they are very likely to exist in a reciprocal relationship to each other. That is, TMX could strengthen or weaken the effect of LMX, in that one relationship influences other relationships through social cues, such as reputation, status, influence, and power [18,24,25]. Thus, I also investigate the interaction effect of LMX and TMX on job crafting.

### 1.1. Social Relationship and Job Crafing

Job crafting is explicitly creative in nature because of the necessity of innovative solutions and creative approaches in the job changing processes [1,4]. According to the creativity literature [26,27], domain-relevant knowledge is one of the crucial factors for creativity. Thus, employees with enough job-related knowledge are likely to engage more in job crafting. However, employees who do not have the required knowledge and information should acquire appropriate resources from others, including their leaders and coworkers. That is, social relationships are conduits through which job-related knowledge flows. As with group social capital [28,29], individuals' social relationships are categorized into intragroup/outside groups and vertical/horizontal boundaries. Employees have vertical relationships with their leaders and horizontal relationships with coworkers within a work group or a team. They also acquire resources from vertical relationships with other group leaders and horizontal relationships with other group employees outside their group. Because an employee is embedded in the broader social structure of an organization, we need to consider different types of social relationships to further understand the process of job crafting.

In the current study, I draw on social exchange theory and the job demands–resources model to explain the effects of employees' social relationships on job crafting. According to social exchange theory [30,31], social actors exchange resources with one another due to the expectation of reciprocity, which, in turn, leads to interpersonal trust. The norm of reciprocity derived from high-quality social relationships shapes an obligation to benefit exchange partners. Individuals who want to maintain mutually reciprocal relationships should meet partners' expectations by providing resources, social support, assistance, and a positive reputation and status. Social exchange theory is therefore a useful lens for understanding how LMX and TMS can influence job crafting. I also draw on the job demands–resources (JDR) model. The JDR model posits that job demands representing the physical, psychological, social, or organizational aspects of a job that require constant physical or mental effort yield strain, and job demands referring to the physical, psychological, social, or organizational aspects of the job that facilitate the achievement of goals yield job motivation [32,33]. Just as Tims and Bakker [4] argued that job crafting is based on employees' efforts to balance job demands and resources, I apply

the JDR model to explain how LMX and TMX affect job crafting. More specifically, I assume that job crafting is needed to reduce the gap between a current job and a desirable job. Because this gap is considered to be a job demand, employees need to mobilize all of the available resources to bridge the gap. I thus argue that LMX and TMX can be perceived as important conduits through which necessary job resources flow.

### 1.2. LMX and Job Crafing

LMX theory assumes that leaders establish different types of relationships with their followers, depending on the followers' ability, competence, and performance [18,34,35]. Because leaders have limited time and resources, they inevitably differentiate among their followers, rather than developing the same quality of relationships. LMX is based on leaders' rational choice to achieve group effectiveness by allocating limited resources efficiently. Thus, whereas some followers who have high-quality relationships with their leaders receive resources for performing their job, others who have low-quality relationship have fewer resources. Prior studies have clearly indicated that a high-quality LMX relationship contributes to the shaping of positive attitudes and behaviors of followers [23,36]. The effects of LMX can be explained by social exchange theory and the reciprocity norm. According to the reciprocity norm, individuals who share strong relationships with one another tend to reciprocate what others do for them through a higher level of helping behavior, attachment and social support [30,31]. Thus, leaders provide important resources and support to followers through establishing high-quality LMX relationships with them. Followers who receive favorable treatment from their leaders also feel an obligation to return the favor. This sense of obligation, in turn, leads followers to exert greater efforts in their jobs and show a higher commitment to their leaders.

Research on LMX has consistently demonstrated a positive relationship between LMX and followers' task performance [18,34,35]. Leaders provide relevant resources, such as job-related information, authority in decision-making, and social support to followers, in high-quality LMX relationships. For example, when high-quality LMX followers are faced with some difficulties and problems in their job, leaders are willing to provide them with necessary advice and information. Followers may experience a burden in the process of job crafting, which, in turn, causes job stress [4,37]. In the case of a high-quality LMX, however, the resources provided by the leader help followers to cope with job-related burdens and maintain their focus in changing their job. In addition, job autonomy is an important enabling factor for problem-solving motivation and learning [1,4]. Given that LMX is positively related to discretion and job autonomy [38], followers in high-quality LMX relationships are less likely to experience challenging and stressful situations. Social support, defined as "an interpersonal transaction that involves emotional concern, instrumental aid, information, or appraisal" [39] (p. 514), contributes to dealing with job stress and psychological burdens. Social support increases feelings of protection, self-efficacy, and belongingness, which, in turn, generate increased work engagement and job satisfaction and decreased psychological problems. Research on job crafting has indicated that these positive outcomes of social support are beneficial for the processes of changing jobs [6,10,11]. Accordingly, I expect that in a high-quality LMX situation, social support helps followers to manage job crafting. Based on the discussion above, I hypothesize that:

**Hypothesis 1 (H1).** *LMX is positively associated with job crafting.*

### 1.3. TMX and Job Crafing

Coworkers are other employees who perform their job and routinely interact with each other at the same level, defining the work environment [40,41]. A high-quality TMX represents a social exchange with coworkers that is characterized by mutual trust and the reciprocity norm. As with the LMX relationship, TMX can be a conduit through which beneficial resources flow. TMX is distinct from LMX in several ways. Firstly, TMX is contrasted with LMX, in that it represents a horizontal

social relationship. This means TMX can provide different types of resources from multiple coworkers. Secondly, because TMX involves the overall quality of the relationship between a focal employee and other fellow employees, it is not limited to a dyadic relationship [21]. Thus, an employee can acquire more diverse resources from coworkers than from their leader. Thirdly, TMX provides employees with vicarious experience, which stems from coworkers [42]. Accordingly, given that self-efficacy is a product of social learning [43], an employee may develop self-efficacy through coworkers' vicarious experience. The fourth distinction is that, although employees in the same position share mutual sympathy, similar attitudes, and perceptions, they might compete for limited job resources [44]. This implies that an employee in a low-quality TMX is likely to be exposed to a negative reputation among coworkers. Based on the above rationale, I suggest that TMX can explain the unique variance in employee job crafting.

Previous research has shown that TMX has significant effects on employees' outcomes [20,21,45]. Employees are willing to provide appropriate resources, such as job-related information, feedback, and social support, to their coworkers in high-quality TMX relationships, as in high-quality LMX relationships. Diverse information obtained from multiple coworkers contributes to improving decision-making and solving job-related problems [22]. For instance, when an employee is faced with difficulties and problems, their coworkers in high-quality coworker relationships are more likely to provide useful information and advice. Moreover, coworkers who share close social relationships tend to support each other by listening to problems, discussing ideas honestly, and providing help [46]. According to prior research [19,41], coworker support is positively related to increased self-efficacy and competence due to a reduction in strain, role conflict, role overload, and emotional exhaustion. Thus, a high-quality TMX relationship will lead employees to be willing to engage in more challenging tasks and proactive behaviors, resulting in a higher job performance. Therefore, employees who have high-quality TMX relationships may receive rich resources and support, which will promote job crafting. This discussion leads to the second hypothesis concerning the relationship between TMX and job crafting:

**Hypothesis 2 (H₂).** *TMX is positively associated with job crafting.*

### 1.4. LMX and TMX Interaction

Possessing both high-quality LMX and high-quality TMX relationships indicates that employees have high-quality vertical relationships with their leader and high-quality horizontal relationships with coworkers within a work group. They have more conduits through which important job-related resources can flow than others who have only high-quality LMX or high-quality TMX relationships. Employees with both high-quality LMX and high-quality TMX relationships are deeply involved in exchanging advice and engaging in collaborative problem solving, which, in turn, foster knowledge accumulation and enable better problem solving [47]. More specifically, they can easily monitor the flow of job-related knowledge and access to diverse information located within their groups. A group leader and coworkers who have close relationships with a focal employee who has both high-quality LMX and high-quality TMX relationships would also be willing to transfer knowledge and information they possess [48]. Accordingly, many close relationships, like those possessing both high-quality LMX and high-quality TMX relationships, are likely to facilitate creative behaviors, such as job crafting [47,49].

According to resource dependence theory, a "resource" is a source of social power, such that the power of one focal actor on the teammate for resources is determined by the dependence of the latter upon the focal actor [50]. Because employees in both high-quality LMX and high-quality TMX relationships have a large amount of diverse resources, they can possess significant power and influence [51,52]. Individuals are likely to help others with power, because such a behavior is an effective strategy to enhance their self-image and develop positive relationships with powerholders [53]. Thus, employees with both high-quality LMX and high-quality TMX relationships would be able to

resolve job-related problems (e.g., interpersonal conflicts, job overload, inadequate coordination) easily, which, in turn, is positively related to job crafting.

Individuals who have many social relationships tend to define their role broadly [54]. Prior studies [53,55] posit that individuals who have a broader role scope tend to consider helping behaviors as in-role. Parker et al. [56,57] also argued that individuals who define their role broadly are more likely to have a flexible role orientation and be motivated to engage in proactive problem-solving behaviors. Given that proactive behavior represents "taking initiative in improving current circumstances and challenging the status quo rather than passively adapting to present conditions" [58] (p. 436), a similar line of reasoning can be applied to job crafting. Individuals with greater social relationships are willing to take challenging jobs and accept changes, because they define their role broadly and thus are likely to engage in job crafting. In sum, employees with both high-quality LMX and high-quality TMX relationships are expected to proactively engage in job crafting due to the greater job-related resources, power, and broader role scope. Therefore, in line with these arguments, I propose the following hypothesis:

**Hypothesis 3 (H$_3$).** *The relationship between LMX and job crafting is moderated by TMX, such that the relationship will be stronger when TMX is higher.*

## 2. Method

### 2.1. Sample

The data for this study are based on a survey questionnaire, completed by the employees of three shipbuilding companies, located in South Korea. These companies were similar in size and structure. I applied a translation and back-translation procedure [59] to ensure the equivalence of the English version and the Korean translated version. In order to avoid a possible common method bias, the data were collected in two time periods. At Time 1, participants completed questionnaires measuring LMX and TMX. About three weeks later, participants completed another questionnaire measuring job crafting. The questionnaires were precoded to enable nonrespondents to be identified and to facilitate the matching of the participant responses from Time 1 to Time 2. I had participants respond to a survey during working hours and assured respondents of the confidentiality of their responses. Some participants were excluded from the analyses, since they failed to provide an answer to all questions relevant for the analyses. In total, 358 members from 61 work groups were invited to participate in the survey, and 336 (94%) usable responses were received. The average age of the participants was 32.84 years (SD = 5.16, range = 24–53), and their average tenure was 45.64 months (SD = 43.91, range = 1–287). Most of them were male (70.2%), and the average education in years was 16.12 (SD = 1.36, range = 12–18), which means most of them had bachelor's degrees.

### 2.2. Measures

All measures were rated on a 5-point Likert-type scale, anchored by 1 (strongly disagree) and 5 (strongly agree).

#### 2.2.1. LMX

LMX was assessed using the seven-item measure of leader–member exchange (LMX-7) suggested by Graen and Uhl-Bien [17]. This measure is the most widely used and supported scale for measuring the quality of leader–member exchange [17,36]. The respondents were asked to indicate their agreement with statements, such as "I have enough confidence in my leader that I would defend and justify her or his decision if she or he were not present to do so." Cronbach's alpha for this scale was 0.85.

### 2.2.2. TMX

I measured TMX using the ten-item TMX scale developed by Seers and colleagues [21,60]. The respondents were asked to rate the quality of their relationships with coworkers. A sample item was "Other group members understand my problems." Cronbach's alpha for this scale was 0.73.

### 2.2.3. Job Crafting

Job crafting was measured using the fifteen-item Job Crafting Questionnaire developed by Slemp and Vella-Brodrick [5]. The respondents completed three dimensions of job crafting. These were the typology dimensions of task, relational, and cognitive crafting proposed by Wrzesniewski and Dutton [1]. Here, "task crafting refers to initiating changes in the number or type of activities one completes on the job, relational crafting involves exercising discretion about whom one interacts with at work, and cognitive crafting is distinct from task and relational crafting, in that it involves altering how one 'sees' one's job, with a view to making it more personally meaningful" [5] (p. 127). This scale has been extensively used in the job crafting literature and has provided strong measurement properties [61]. One item in the cognitive crafting section was poorly loaded. Thus, after excluding this item, the remaining items were used. Sample items include "I have changed the scope or types of tasks that I complete at work (task crafting)," "I have made an effort to get to know people well at work (relational crafting)," and "I have thought about the ways in which my work positively impacts my life (cognitive crafting)." Cronbach's alpha for this scale was 0.87 (task crafting), 0.79 (relational crafting), 0.77 (cognitive crafting), respectively.

### 2.2.4. Control Variables

In order to avoid possible organizational and cultural effects, I controlled for company by creating two dummy variables, representing the three companies. The effects of employee gender, age, education, and tenure were also controlled, because prior research [7,16] suggested that individual characteristics might influence job crafting. Thus, I included gender (1 = female, 0 = male), tenure (in months), age and education (in years) as control variables.

## 3. Results

I conducted confirmatory factor analysis (CFA) to check the dimensional structure of the variables included in this study. The results indicated that the three-factor model of job crafting had an acceptable fit with the data [($x^2$(72) = 160.21, CFI = 0.96, IFI = 0.96, RMSEA = 0.06)]. This model also had a better fit with the data, when compared to a one-factor model [($x^2$(75) = 714.17, CFI = 0.70, IFI = 0.71, RMSEA = 0.15); $x^2$ difference test significant at $p < 0.01$]. The results of CFA also suggested that the five-factor model, which included all variables, had an adequate fit with the data [($x^2$(416) = 858.12, CFI = 0.90, IFI = 0.91, RMSEA = 0.06)]. This model also had a better fit with the data, when compared to both the one-factor model [($x^2$(426) = 2005.32, CFI = 0.66, IFI = 0.66, RMSEA = 0.11); $x^2$ difference test significant at $p < 0.01$] and the three-factor model, which combined task, relational, and cognitive crafting [($x^2$(423) = 1463.44, CFI = 0.77, IFI = 0.78, RMSEA = 0.09); $x^2$ difference test significant at $p < 0.01$].

Table 1 presents the descriptive means, standard deviations, and correlation coefficients for all variables. Consistent with my predictions, both LMX and TMX were positively related to three types of job crafting. Among the control variables, only age was negatively related to three types of job crafting.

I employed hierarchical linear regression analysis to test the association between social relationships and job crafting. To facilitate the interpretation of the moderated regression effects, I mean-centered two independent variables [62].

**Table 1.** Means, standard deviations, and correlations.

| Variable | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Gender | 0.30 | 0.46 | | | | | | | | |
| 2. Age | 34.84 | 5.16 | −0.37 *** | | | | | | | |
| 3. Education | 16.12 | 1.36 | −0.03 | −0.13 * | | | | | | |
| 4. Tenure | 45.64 | 43.91 | −0.07 | 0.51 *** | −0.39 *** | | | | | |
| 5. LMX | 3.31 | 0.59 | −0.06 | 0.03 | −0.03 | 0.04 | | | | |
| 6. TMX | 3.21 | 0.44 | 0.01 | −0.07 | 0.06 | −0.06 | 0.32 *** | | | |
| 7. Task crafting | 3.38 | 0.75 | −0.06 | −0.11 * | 0.05 | −0.07 | 0.54 *** | 0.28 *** | | |
| 8. Relational crafting | 3.18 | 0.74 | −0.00 | −0.10 | 0.08 | −0.07 | 0.58 *** | 0.30 *** | 0.52 *** | |
| 9. Cognitive crafting | 3.31 | 0.65 | 0.02 | −0.04 | 0.11 | −0.01 | 0.45 *** | 0.27 *** | 0.36 *** | 0.49 *** |

$N = 336$. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed).

Table 2 shows the results of the regression analysis used to test the hypotheses for task crafting, Table 3 shows the results of the regression analysis for relational crafting, and Table 4 shows the results of the regression analysis for cognitive crafting. In Model 1, I included only the control variables. Subsequently, I added LMX in Model 2, TMX in Model 3, and the interaction term in Model 4. The results of Model 1, shown in Tables 2–4, indicated that among the control variables, only age was significantly associated with task crafting ($b = −0.02$, $p < 0.05$).

**Table 2.** Results of the regression analyses predicting task crafting.

| Variable | Model 1 | | Model 2 | | Model 3 | | Model 4 | |
|---|---|---|---|---|---|---|---|---|
| 1. Company 1 | 0.05 | (0.11) | 0.02 | (0.09) | 0.06 | (0.10) | 0.08 | (0.09) |
| 2. Company 2 | 0.14 | (0.10) | 0.13 | **(0.08) | 0.13 | (0.09) | 0.15 | (0.09) |
| 3. Gender | −0.18 | (0.10) | −0.13 | (0.08) | −0.12 | (0.08) | −0.15 | (0.08) |
| 4. Age | −0.02 | *(0.01) | −0.02 | *(0.01) | −0.02 | *(0.01) | −0.02 | *(0.01) |
| 5. Education | 0.01 | (0.03) | −0.01 | (0.02) | −0.01 | (0.03) | −0.01 | (0.03) |
| 6. Tenure | 0.00 | (0.00) | 0.00 | (0.01) | 0.00 | (0.00) | 0.00 | (0.00) |
| 7. LMX | | | 0.66 | ***(0.06) | 0.62 | ***(0.06) | 0.60 | ***(0.06) |
| 8. TMX | | | | | 0.19 | *(0.08) | 0.16 | *(0.08) |
| 9. LMX × TMX | | | | | | | 0.22 | *(0.11) |
| 10. $R^2$ | 0.03 | | 0.32 | | 0.33 | | 0.34 | |
| 11. Adjusted $R^2$ | 0.01 | | 0.31 | | 0.32 | | 0.32 | |
| 12. $F$ | 1.64 | | 22.13 | *** | 20.23 | *** | 18.65 | *** |
| 13. $\Delta R^2$ | | | 0.29 | | 0.01 | | 0.01 | |
| 14. $\Delta F$ | | | 140.85 | *** | 5.09 | * | 4.28 | * |

$N = 336$. Values represent unstandardized coefficients; standard errors are in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed).

Hypothesis 1 suggested that LMX would be positively associated with job crafting. As seen in Model 2 of Tables 2–4, LMX was a significant predictor of all three types of job crafting (task, relational, and cognitive crafting) ($b = 0.66$, $p < 0.001$; $b = 0.72$, $p < 0.001$; $b = 0.49$, $p < 0.001$, respectively), showing support for Hypothesis 1.

Hypothesis 2 suggested that TMX would be positively associated with job crafting. As seen in Model 3, shown in Tables 2–4, even when controlling for LMX, TMX was a significant predictor of all three types of job crafting (task, relational, and cognitive crafting) ($b = 0.19$, $p < 0.05$; $b = 0.20$, $p < 0.05$; $b = 0.21$, $p < 0.01$, respectively), showing support for Hypothesis 2.

**Table 3.** Results of the regression analyses predicting relational crafting.

| Variable | Model 1 | | Model 2 | | Model 3 | | Model 4 | |
|---|---|---|---|---|---|---|---|---|
| 1. Company 1 | −0.06 | (0.11) | −0.09 | (0.09) | −0.05 | (0.09) | −0.03 | (0.09) |
| 2. Company 2 | −0.07 | (0.11) | −0.09 | (0.09) | −0.08 | (0.09) | −0.06 | (0.09) |
| 3. Gender | −0.08 | (0.10) | −0.02 | (0.08) | −0.02 | (0.08) | −0.05 | (0.08) |
| 4. Age | −0.02 | (0.01) | −0.02 | (0.01) | −0.02 | (0.01) | −0.02 | (0.01) |
| 5. Education | 0.04 | (0.03) | 0.02 | (0.03) | 0.02 | (0.03) | 0.02 | (0.03) |
| 6. Tenure | 0.00 | (0.00) | 0.00 | (0.00) | 0.00 | (0.00) | 0.00 | (0.00) |
| 7. LMX | | | 0.72 | ***(0.06) | 0.67 | ***(0.06) | 0.65 | ***(0.06) |
| 8. TMX | | | | | 0.20 | *(0.08) | 0.17 | *(0.08) |
| 9. LMX × TMX | | | | | | | 0.28 | **(0.11) |
| 10. $R^2$ | 0.02 | | 0.35 | | 0.37 | | 0.38 | |
| 11. Adjusted $R^2$ | 0.01 | | 0.34 | | 0.35 | | 0.36 | |
| 12. $F$ | 1.02 | | 25.64 | *** | 23.54 | *** | 22.10 | *** |
| 13. $\Delta R^2$ | | | 0.34 | | 0.01 | | 0.01 | |
| 14. $\Delta F$ | | | 170.25 | *** | 6.04 | * | 7.10 | ** |

$N = 336$. Values represent unstandardized coefficients; Standard errors are in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed).

**Table 4.** Results of the regression analyses predicting cognitive crafting.

| Variable | Model 1 | | Model 2 | | Model 3 | | Model 4 | |
|---|---|---|---|---|---|---|---|---|
| 1. Company 1 | 0.02 | (0.10) | −0.01 | (0.09) | 0.04 | (0.09) | 0.05 | (0.09) |
| 2. Company 2 | −0.08 | (0.09) | −0.09 | (0.08) | −0.08 | (0.08) | −0.06 | (0.08) |
| 3. Gender | 0.01 | (0.09) | 0.05 | (0.08) | 0.05 | (0.08) | 0.03 | (0.08) |
| 4. Age | −0.01 | (0.01) | −0.01 | (0.01) | −0.01 | (0.01) | −0.01 | (0.01) |
| 5. Education | 0.06 | *(0.03) | 0.05 | *(0.03) | 0.05 | *(0.03) | 0.05 | *(0.03) |
| 6. Tenure | 0.00 | (0.00) | 0.00 | (0.00) | 0.00 | (0.00) | 0.00 | (0.00) |
| 7. LMX | | | 0.49 | ***(0.05) | 0.44 | ***(0.06) | 0.43 | ***(0.06) |
| 8. TMX | | | | | 0.21 | **(0.08) | 0.18 | *(0.08) |
| 9. LMX × TMX | | | | | | | 0.20 | *(0.10) |
| 10. $R^2$ | 0.02 | | 0.22 | | 0.24 | | 0.25 | |
| 11. Adjusted $R^2$ | 0.01 | | 0.21 | | 0.22 | | 0.23 | |
| 12. $F$ | 1.06 | | 13.53 | *** | 12.93 | *** | 12.05 | *** |
| 13. $\Delta R^2$ | | | 0.21 | | 0.02 | | 0.01 | |
| 14. $\Delta F$ | | | 86.65 | *** | 7.05 | ** | 4.02 | * |

$N = 336$. Values represent unstandardized coefficients; standard errors are in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed).

Hypothesis 3 suggested that the positive relationship between LMX and job crafting would be stronger when employees also had high-quality TMX relationships. As seen in Model 4, shown in Tables 2–4, the regression analyses indicated a significant interaction effect between LMX and TMX on of all three types of job crafting (task, relational, and cognitive crafting) ($b = 0.22$, $p < 0.05$; $b = 0.28$, $p < 0.05$; $b = 0.20$, $p < 0.05$, respectively), supporting Hypothesis 3.

To interpret the interaction effects between LMX and TMX, I plotted regression lines using one standard deviation above and below the mean of TMX [62]. As shown in Figures 1–3, the pattern was consistent with the Hypothesis 3: when LMX was high, the relationship between LMX and three types of job crafting was stronger.
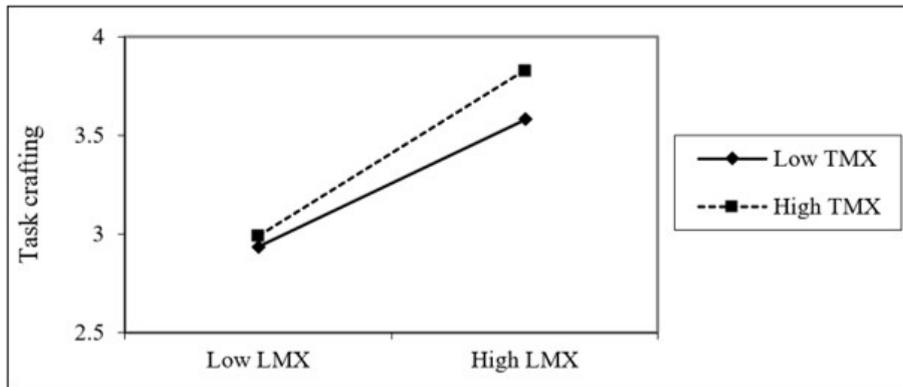
**Figure 1.** Interaction effect of TMX on the relationship between LMX and task crafting.
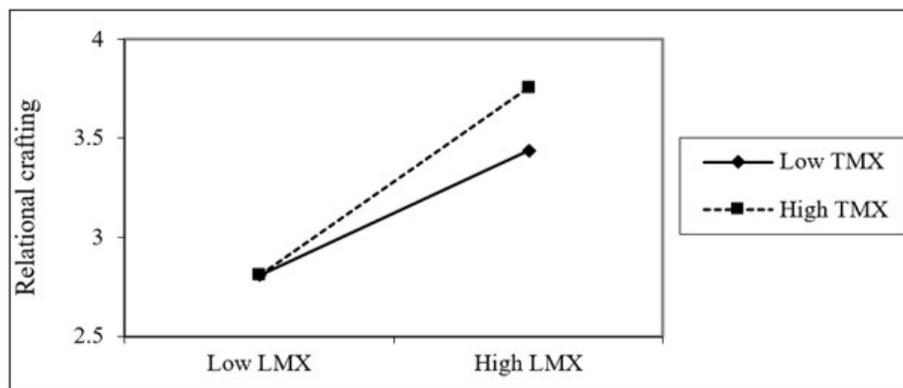


**Figure 2.** Interaction effect of team–member exchange (TMX) on the relationship between leader–member exchange (LMX) and relational crafting.
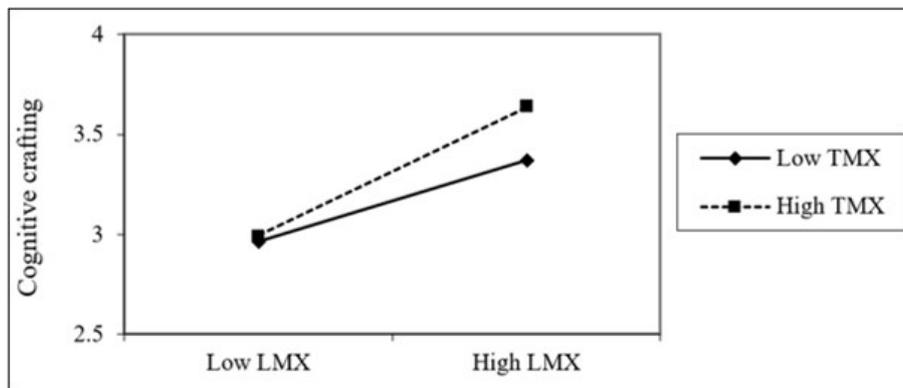


**Figure 3.** Interaction effect of TMX on the relationship between LMX and cognitive crafting.

## 4. Discussions

Considering that job crafting is social in nature [12], this study examined the effect of employees' vertical (LMX) and horizontal (TMX) social relationships within a group on three types of job crafting (task, relational, and cognitive job crafting). Specifically, drawing on social exchange theory and the job demands–resources model, I explored how LMX and TMX are associated with job crafting. The results support the hypothesized relationships. The key findings are threefold. First, I found that LMX was positively associated with job crafting, after controlling for TMX. Second, I found that even when controlling for LMX, TMX was also a significant predictor of job crafting. Third, TMX moderated the relationship between LMX and job crafting, such that the relationship was stronger when TMX was

higher. These results are consistent with prior research [20–22], which suggests that TMX explains the additional variance in employee attitudes and behaviors.

### 4.1. Implications for Theory and Practice

While there has been a burgeoning interest in the antecedents of job crafting, prior research has primarily focused on individual factors or task-related factors [6,10,11], neglecting its social aspects. What we should recognize is that job crafting is a social process, in that a job is made up of the tasks and social relationships assigned to employees [12]. Recently, several researchers have put the spotlight on the social aspect of job crafting, but they are limited to a vertical dyadic relationship within a group. Considering that employees can develop diverse social relationships beyond LMX, I suggested that the quality of a TMX relationship could be an important determinant of job crafting. Specifically, adopting social exchange theory and the job demands–resources model, I theorized and examined the processes through which employees' social relationships affect job crafting. As I discussed in the hypothesis development, TMX provides a focal employee with unique resources that are distinct from those provided by LMX. Thus, employees with high-quality TMX relationships are more likely to acquire diverse resources, which, in turn, leads them to engage in job crafting. I also found significant effects of TMX on job crafting, even controlling for LMX. Given that the theoretical and empirical aspects of how job crafting is affected by coworker relationships remain unclear, the most important theoretical contribution of this research is shedding new light on the job crafting literature by clarifying the relationship between TMX and job crafting.

I extended extant research on the relational leadership by examining the interaction effect of LMX and TMX on job crafting. Previous researchers have recommended integrating interdependent dyadic relationships into a social context, within which all social actors are embedded [17,18,23]. As I mentioned above, TMX is conceptually distinct from LMX, but they are very likely to exist in a reciprocal relationship to each other. In other words, TMX could strengthen or weaken the effect of LMX, in that one relationship influences other relationships through social cues, such as reputation, status, influence, and power [18,24,25]. In this regard, studying the interaction effects of LMX and TMX is important for extending our understanding of social dynamics within organizations. This is another theoretical implication of this study.

The results of this study have practical implications. First, LMX is very important, but it is only one type of social relationship. The findings of this study highlight the effects of coworker relationships on job crafting. While employees in the same formal position share mutual sympathy, similar attitudes, and perceptions, they might compete for limited job resources. That is, coworkers can make or break a workplace [63]. Thus, organizations and group leaders need to devise practices to establish a positive social environment through strong coworker relationships. The practices include formal means intended to increase interpersonal interactions among coworkers, such as mentoring programs, quality circle programs, and workshops for team building. These activities can improve interpersonal trust and reduce negative attitudes among coworkers.

Another practical implication is related to the detrimental effect of LMX differentiation, which refers to the degree of within-group variability in relationships between a leader and followers [64]. According to Sherony and Green [65], it is difficult for coworkers to share high-quality social relationships if they do not have a similar quality of social relationships with their leader. That is, the more leaders treat their followers differently, the less likely the followers are to share high-quality TMX relationships. Accordingly, when group leaders build differential relationships with their followers, a deeper consideration of TMX formation among followers is needed.

### 4.2. Limitations and Future Directions

This study has several limitations. First, I collected data from three companies in South Korea, and this may cast doubt on the generalizability of the results. Korean culture embraces collectivism [66], and thus Korean people tend to emphasize interpersonal relationships. In this regard, the main and

interaction effects of this study may be inflated due to the collectivist culture of South Korea. Future researchers may address this by using data from different cultures and countries, where collectivism is weak.

Second, the measure of TMX captures the overall assessments of coworker relationships. It is therefore difficult to know with whom focal employees have strong relationships and to what extent they have differential relationships. In addition, as Sherony and Green [65] pointed out, an average coworker relationship score does not reflect the detrimental effect of a single low-quality dyadic relationship on a high-quality TMX. Given the limitation of the TMX measure, future research needs to adopt the LMX measure of the network measure, based on multiple dyadic relationships.

Third, as I proposed in the theoretical part, individuals' social relationships can be categorized into intragroup/outside groups and vertical/horizontal boundaries. This study focused on vertical-intragroup (LMX) and horizontal-intragroup (TMX) relationships and suggested significant implications. Employees can, however, build vertical relationships with leaders and horizontal relationships with employees outside their group. These relationships could be important conduits through which resources for job crafting flow. Future research should examine these relationships outside their group, thus extending this study.

## 5. Conclusions

Despite the social aspects of job crafting, prior studies have mainly focused on individual factors or task-related factors. Drawing on both social exchange theory and the job demands–resources model, this study examined the social antecedents of job crafting. The results of this study suggest that employees who have multiple social relationships (i.e., both a high-quality LMX and a high-quality TMX) are likely to engage in proactive job-related behaviors by using diverse resources from those relationships. Thus, in order to manage job-related issues, employees need to establish strong social relationships.

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