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Multilevel and Cross-Level Effects of Workplace Attitudes and Group Member Relations on Interpersonal Helping Behavior

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Scholars have consistently identified contextual performance or organizational citizenship behavior as a core component of job performance. The current literature on this issue has been dominated by a single-level approach, typically conducted at the individual level of analysis. This study adopts a multilevel approach to simultaneously examine main effects of and cross-level interactions among individual- and group-level predictors of interpersonal helping behavior. Results from a large-scale longitudinal data set show that at the individual level, helping behavior was predicted by perceived organizational support (POS), fairness, and affective commitment. At the group level, helping behavior was predicted by trust among group members. Trust among members also significantly moderated the individual-level relationships between POS and helping behavior and between fairness and helping. These cross-level moderations indicated that the group- and individual-level predictors were complementary (instead of mutually reinforcing) in predicting interpersonal helping behavior. This finding indicates that various antecedents of interpersonal helping are characterized by distinct dynamics at the individual and group levels of analysis.

In response to increasing demands for teamwork and efficiency, scholars have emphasized the importance of employee behavior that contributes to "the maintenance and enhancement of the social and psychological context that supports task performance" (Organ, 1997, p. 91; see also, Borman & Motowidlo, 1993). Various labels have been used to refer to this type of workplace behavior, including organizational citizenship behavior (OCB), contextual performance, and citizenship per-

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formance (Borman, Penner, Allen, & Motowidlo, 2001; Organ, Podsakoff, & MacKenzie, 2006). Due to conceptual similarities and a substantial overlap in behavioral dimensions related to these constructs, there has been a confluence of ideas and much cross-referencing of empirical findings (Borman et al. 2001; Organ, 1997). In this study, the three terms (*OCB, contextual performance, and citizenship performance*) are used interchangeably. Empirical studies have indicated that contextual performance constitutes a distinct dimension that is independent of task performance (Conway, 1996). Field studies have also shown that OCB is positively related to individual outcomes such as performance evaluation and recommendation for promotion or salary increase as well as objective organizational performance (for a review, see Podsakoff, MacKenzie, Paine, & Bachrach, 2000).

Due to the intuitive appeal of and empirical support for the importance of OCB or contextual performance, a host of studies have been conducted to identify its antecedents, including individual dispositions, employee attitudes, task and organizational characteristics, and leader behavior (Borman et al., 2001; Podsakoff et al., 2000). One significant shortcoming of this stream of research is that the relationship between antecedents and contextual performance has been investigated solely at the individual level (for an exception, see Kidwell, Mossholder, & Bennett, 1997). This single-level approach is appropriate for predictors such as personality characteristics and work-related attitudes. However, if the predictors in consideration are contextual factors (e.g., organizational culture, interactive dynamics among members, cohesion, and leadership), the single-level approach may misspecify the phenomenon in question, because with this type of predictor the issue at hand is a cross-level phenomenon, in which independent and dependent variables reside at different levels of analysis (Rousseau, 1985, p. 14). Given that behavior in organizations is inherently multilevel (Chan, 1998; House, Rousseau, & Thomas-Hunt, 1995), this presents a significant flaw in the OCB and contextual performance literature. This study expands the literature by framing OCB and contextual performance as a multilevel phenomenon and simultaneously investigates individual-level, cross-level, and group-level dynamics involving this particular behavior.

Among various types of OCB or contextual performance (Borman & Motowidlo, 1993; Organ et al., 2006), this study focuses on interpersonal helping, a behavioral dimension which has been endorsed as a critical component of citizenship performance by virtually every scholar (Podsakoff et al., 2000). For example, Van Scotter and Motowidlo (1996) found that of the two contextual performance dimensions (interpersonal facilitation and job dedication), only interpersonal facilitation was statistically distinguishable from task performance and redefined contextual performance as "interpersonal skills and motivation to interact with others in ways that foster good working relations and help them perform their tasks effectively" (p. 530). Conway's (1996) construct validity study also revealed that interpersonal helping is more distinct from task performance than is extra effort or the

following of organizational rules. Helping was also the only behavioral dimension that was consistently related to organizational or work unit performance (Podsakoff et al., 2000).

In summary, this study explores potential multilevel dynamics in predicting interpersonal helping and offers an ecologically valid explanation of OCB and contextual performance that takes into account the inherently nested nature of human behavior in organizational settings (cf. meso paradigm; see House et al., 1995). In so doing, it also differentiates between distal and proximal predictors that lead to mediated relationships in predicting helping behavior at two levels of analysis. These hypotheses are tested using a large-scale, longitudinal data set collected from a Korean electronics company. Overall, this study contributes to the OCB literature by using an expanded set of antecedents to reveal the multilevel, longitudinal dynamics of interpersonal helping.

RESEARCH FRAMEWORK AND HYPOTHESES

Figure 1 depicts the conceptual framework of this study. This outcome is interpersonal helping or altruism, which has been found to be consistently related to both individual and organizational performance (Podsakoff et al., 2000). In line with previous studies showing that work-related attitudes are significantly related to OCB (Organ et al., 2006), this framework includes three such attitudinal variables as individual-level predictors of interpersonal helping: perceived organizational support, perceived fairness, and affective commitment to the organization. It is hypothesized that affective commitment is a direct, proximal predictor of OCB, which mediates the effects of other predictors on interpersonal helping. At the group level, the framework includes a variable that has been identified as a key construct shaping interpersonal dynamics among work unit members: trust among members. In addition to its main effect on helping, trust among members is further expected to moderate the individual-level relationships between attitudinal variables and helping (i.e., cross-level interaction; Hofmann, Morgeson, & Gerras, 2003). For example, the link between commitment and helping is likely to be stronger in groups characterized by trusting relationships among members than in groups characterized by mistrust. This study examines individual- and group-level processes along with cross-level processes using an appropriate specification of the multilevel model (Hofmann & Gavin, 1998).

Individual-Level Predictors

At the individual level, drawing on the OCB literature (Organ & Ryan, 1995; Podsakoff et al., 2000), this study proposes that employees' helping behavior is di-

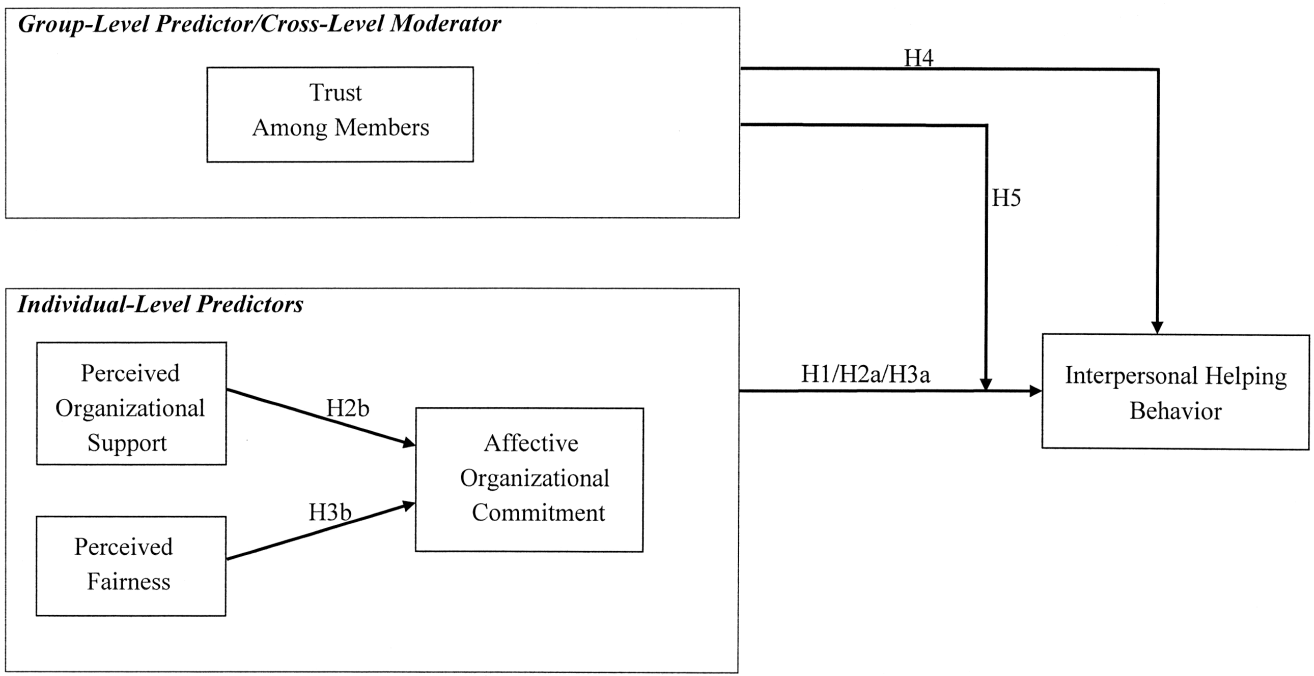


FIGURE 1 Multilevel and cross-level processes of interpersonal helping behavior.

rectly related to organizational commitment, which mediates other relevant workplace perceptions such as perceived organizational support and perceived fairness.

Affective commitment. Organizational commitment is one of the most robust predictors of interpersonal helping (Organ et al., 2006). Among several different types of organizational commitment (e.g., normative, continuance, and affective commitment), affective commitment has consistently shown the greatest effect on OCB (Morrison, 1994). Affective commitment refers to an "employee's emotional attachment to, identification with, and involvement in, the organization" (Allen & Meyer, 1990, p. 1). Organizational commitment is a meaningful predictor of OCB because it tends to maintain employees' desirable behavior even when there is no expectation of rewards or punishment associated with that behavior (Schappe, 1998).

H1: Affective commitment will increase interpersonal helping behavior.

Perceived organizational support. Perceived organizational support (POS) refers to employees' overall perception that the organization recognizes their contributions and cares about them (Eisenberger, Huntington, Hutchison, & Sowa, 1986). Based on the notion of social exchange (Blau, 1964), empirical studies have shown that POS is positively related to organizational commitment (Settoon, Bennett, & Liden, 1996) as well as altruism (Kaufman, Stamper, & Tesluk, 2001). Employees who perceive that their organization cares about and values them seem to develop stronger affective commitment to their organization, which has been demonstrated to be a direct predictor of interpersonal helping (Bishop, Scott, & Burroughs, 2000). Building on these findings, I hypothesize the following relationships:

H2a: POS will increase interpersonal helping behavior.
H2b: The effect of POS on interpersonal helping behavior will be mediated by affective commitment.

Perceived fairness. Meta-analytic reviews of the OCB literature have shown that OCB is related to organizational justice, which is defined as employees' perception of fairness with respect to reward allocations, organizational practices, or interpersonal treatments (Organ & Ryan, 1995; Podsakoff et al., 2000). When employees perceive unfairness in outcome distributions or organizational practices, they are motivated to reduce their input to reestablish equity (Adams, 1963). Under these circumstances, they may decrease discretionary citizenship behavior such as interpersonal helping rather than reducing less-discretionary core task performance behaviors (Conway, 1996; Organ et al., 2006). In addition, perceived fairness, particularly in regard to organizational practices and interpersonal treat-

ments, engenders perceptions that the group or organization values or respects employees, which may in turn increase their willingness to contribute to the group or organization (Niehoff & Moorman, 1993). For this reason, similar to POS, fairness perception may increase an individual's commitment to the organization or the group, which may in turn mediate the effect of fairness perception on interpersonal helping (Schappe, 1998).

H3a: Perceived fairness will increase interpersonal helping behavior.
H3b: The effect of perceived fairness on interpersonal helping behavior will be mediated by affective commitment.

Group-Level Predictor and Cross-Level Moderator

Thus far, only a few studies have investigated the role of peer group members in predicting citizenship performance (e.g., Anderson & Williams, 1996). This lack of attention to coworkers in the OCB literature is rather surprising given that most studies draw on the notion of social exchange or reciprocity to explain the initiation of citizenship performance (e.g., Settoon et al., 1996), and that a number of such behaviors (e.g., interpersonal helping, courtesy, sportsmanship) are directly targeted at coworkers rather than the leader or the organization (cf. interpersonally oriented OCB; Williams & Anderson, 1991). Therefore, interpersonal perceptions and interactive dynamics involving coworkers in the work unit are likely to influence the level of interpersonal helping exhibited by group members. In this study, I examine trust among group members as a group-level predictor of employees' interpersonal helping.

Scholars have isolated trust as a key antecedent of interpersonal cooperation and effective teamwork (Jones & George, 1998; McAllister, 1995). Trust entails individuals' judgment of the target's competence, reliability, integrity, and benevolent motivation toward others (Mayer & Davis, 1999). Trust may increase interpersonal helping because employees may feel less worried about being exploited when they believe that their helping behavior will be appreciated and likely reciprocated by the beneficiary (Organ et al., 2006). In an intact work group, social exchange goes beyond the dyad and extends to the entire group via "indirect chains of exchange," in which group members develop a group-level exchange cycle (Blau, 1964). In such situations, member A's support for member B may be indirectly reciprocated by member C who received help from member B. Thus, individuals are more willing to help others when they are in a social setting that is characterized by mutual trust and common goals, which will make their helping behavior less vulnerable to potential exploitation by others.

H4: Trust among members will increase interpersonal helping behavior at the group level.

In addition, as depicted in Figure 1, I hypothesize that trust among members moderates the relationships between individual-level predictors and helping behavior (cross-level interaction). This type of cross-level moderation was identified in Kidwell et al.'s (1997) study, which showed that satisfied employees exhibited greater courtesy when they belonged to highly cohesive groups than when their groups were not cohesive (see also, Hofmann et al., 2003). Highlighting the importance of situational constraints, Peters and O'Connor (1980) maintained that the link between individual difference variables and work outcomes are constrained or boosted by contextual factors. In this context, I hypothesize that the relationships between interpersonal helping and individual-level perceptions of and attitudes toward the organization will be moderated by trust among members. For example, employees are likely to cooperate with and help others when they have positive attitudes toward the organization and are committed to it. In this scenario, they may be significantly more likely to help others when they work with colleagues who trust each other than when they work in a group characterized by distrust and negative attitudes among members. Thus, the following cross-level moderation is hypothesized:

H5: Trust among members will moderate the relationships between individual-level predictors and interpersonal helping behavior, in such a way that the individual-level relationships will be stronger as trust among members increases.

METHOD

Data Collection Procedure and Sample Characteristics

The research site for this study was a division of a large electronics company in Korea. This division had successfully developed, manufactured, and marketed computer- and multimedia-related electronic products worldwide. Division employees participated in this data collection over a 2-year period. At the time of the first-year (T1) data collection, this division had more than 5,300 employees. To ensure that participants had sufficient organizational experience to allow them to make reliable judgments regarding their organizational context, employees with less than 1 year of company tenure were excluded, resulting in a target sample of 4,803 at T1. Of this target sample, 3,108 employees completed the T1 survey (response rate = 65%), which was administered through the company intranet. Of the 3,108 employees who completed the T1 survey, 2,040 also participated in the second-year (T2) survey (response rate = 66%).

The T1 sample consisted of employees from 177 work units, which included project teams, functional departments, and work teams in factories. Work units

with less than three participants were excluded from this analysis. Also excluded were three teams with no respondents at T2. This screening procedure resulted in a T1 sample of 2,954 employees from 151 work units. The size of the work units ranged between 3 and 96 members with a mean of 19.56 (SD = 17.51). The final T2 sample included 1,953 employees. This analysis included those 1,001 employees who provided data only at T1, because although they did not provide data at T2, they nevertheless comprised a source of group-level variables such as trusting relationships among members.

The demographic characteristics of employees included in both waves of data collection (N = 1,953) and those included only at T1 (N = 1,001) were comparable in terms of age (32.24 vs. 31.09, respectively), gender (93% vs. 89% male), and education (2.39 vs. 2.32 in a five-category scale). These two subsamples were also similar in functional background, including research and development (52% vs. 47%), production (30% vs. 29%), and support (7% vs. 6%). All in all, the employees who participated in both surveys were not substantially different from employees who responded to only the T1 survey.

Measures

All independent variables were measured at T1, and the dependent variable (interpersonal helping) was reported at T2. All scales included multiple items with acceptable internal consistencies. Each item was followed by a 5-point Likert-type scale.

Control variables. The literature suggests that contextual performance or OCB tends to be influenced by demographic variables such as age, gender, and organizational tenure (Kaufman et al., 2001; Podsakoff et al., 2000). To control for potential effects of these demographic factors, individual-level equations included these variables, which were obtained from company personnel records. At the group level, the size of the work unit can influence the level of OCB. For example, members of a small work unit may have more opportunities to interact and thus develop more intimate relationships, which may increase interpersonal helping. For this reason, work unit size was included as a control variable at the group level.

Perceived organizational support (T1). Adapting an existing scale developed by Eisenberger et al. (1986), I used six items (α = .86) to assess POS. Similar to Kaufman et al. (2001), the items addressed support from the organization (e.g., "Our division cares about employees who did their best even when they failed," "Our division helps me perform my job to the best of my ability") as well as from the manager (e.g., "The manager cares about employees' future," "The manager recognizes and praises employees' good performance").

Perceived fairness (T1). A four-item scale (α = .73) was constructed to measure different aspects of justice (Schappe, 1998; Tsui, Pearce, Porter, & Pripoli, 1997), including distributive ("In our division, employees are fairly evaluated based on their performance"), procedural ("Our division shares company information relevant to employees"), and interactional ("The unit manager involves employees in making decisions that affect their tasks").

Affective commitment (T1). Eight items (α = .91) were taken from Tsui and colleagues' (1997) measure to assess participants' affective commitment to their division. This scale included items such as "I am proud to tell others that I am part of this organization" and "For me this is the best of all possible organizations for which to work."

Trust among members (T1). A six-item scale (α = .77) was constructed to assess participants' judgment of coworkers with respect to various aspects of interpersonal trust, such as responsibility, integrity, mutual respect, and benevolent motivation (Mayer & Davis, 1999; McAllister, 1995; Tsui et al., 1997). Example items include the following:"In performing tasks, my coworkers adhere to the basic principles of integrity," "If needed, my coworkers are willing to sacrifice personal commitments in order to complete tasks," "My coworkers respect and care for each other," and "My coworkers try to find ways in which they can contribute to the unit's performance." The trust-among-members scale was aggregated among members of the work unit to create a group-level predictor or moderator. There are several justifications for this procedure. Conceptually, this scale represented interpersonal dynamics among group members, which is a group-level property. Operationally, the referent of the measurement items was other group members, and as shown later there was a sufficient level of within-group consensus (reference-shift consensus composition model, Chan, 1998, p. 238). Finally, from an empirical standpoint, the r_{wg} value and intraclass correlation coefficients (ICCs) associated with this scale were .88 and .68, respectively, indicating sufficient within-group interrater agreement and reliability of the group-level aggregated score (Bryk & Raudenbush, 1992; James, Demaree, & Wolf, 1993). All in all, the aggregation of trust among members to the group level is justifiable on conceptual, operational, and empirical grounds.

Interpersonal helping behavior (T2). The participants reported their interpersonal helping behavior 12 months after the measurement of the predictors. To this end, four items (α = .72) were taken from Moorman and Blakely's (1995) scales for interpersonal helping and individual initiative that included the following: "I go out of my way to help coworkers with work-related problems;" "I voluntarily help new employees settle into the job;" "I show genuine concern and cour-

tesy toward coworkers, even under the most difficult situations;" and "I frequently communicate to coworkers suggestions on how the group can improve."

Analytic Strategy

To test this multilevel hypotheses, I analyzed the data using multivariate hierarchical linear modeling (HLM; Bryk & Raudenbush, 1992). HLM is a statistical procedure developed for hierarchically nested data structures, such as employees nested within work units. Following the procedure described in Hofmann (1997), the main effects of individual- and group-level predictors on helping behavior were tested by estimating multilevel equations as shown as follows:

$$\gamma_{ij} = \beta_{0j} + \beta_{1j}\,\text{Tenure} + \beta_{2j}\,\text{POS} + r_{ij}$$

$$\beta_{0j} = \gamma_{00} + \gamma_{01}\,\text{Work Unit Size} + \gamma_{02}\,\text{Aggregated Trust Among Members} + \mu_{0j}$$

In this example, a significant β_{2j} indicates that when an employee perceives greater organizational support, he or she is more likely to help his or her coworkers over and beyond the potential effect of his or her company tenure. At this level, interpretation of β_{ij} coefficients can be exactly the same as that of unstandardized regression coefficients from ordinary least squares (OLS) regressions conducted with individual-level data. Group-level parameter estimates (γ_{0j}) can be interpreted in a manner similar to the interpretation of regression coefficients from OLS regressions of data collapsed at the group level. At both levels, however, the coefficients obtained from the HLM model are less biased and are thus more reliable than those from OLS regressions. This is because the HLM procedure takes into account the fact that members from the same group share social context and other experiences and thus does not assume that their responses are independent from each other (Bryk & Raudenbush, 1992). As recommended by Hofmann and Gavin (1998) for the analysis of incremental roles of predictors at multiple levels, grand-mean centering was used for individual-level variables to control for individual-level effects in examining the effects of group-level factors on the outcome.

Cross-level moderation was tested by modeling the following three equations:

$$\gamma_{ij} = \beta_{0j} + \beta_{1j}\,\text{POS} + r_{ij}$$

$$\beta_{0j} = \gamma_{00} + \gamma_{01}\,\text{Aggregated POS} + \gamma_{02}\,\text{Aggregated Trust Among Members} + \gamma_{03}\,(\text{Aggregated POS} \times \text{Aggregated Trust Among Members}) + \mu_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}\,\text{Aggregated Trust Among Members} + \mu_{1j}$$

A typical HLM procedure used for testing cross-level moderation is to test the significance of γ_{11} using individual-level slopes as the outcome to be predicted by group-level characteristics (Bryk & Raudenbush, 1992). However, as Hofmann and Gavin (1998) pointed out, unless the group-level interaction between the indi-

vidual-level predictor and the group-level predictor (in the aforementioned example, POS and Trust) is controlled for in the intercept equation (in the aforementioned example, estimating γ_{03}), γ_{11} is confounded by representing both cross-level interaction (moderation of within-group slopes by a group-level predictor) and group-level interaction (moderation between two group-level variables, as represented by γ_{03}). In addition, in the context of testing cross-level moderation, grand-mean centering or raw-metric centering confounds both within-group and between-group relationships between individual-level variables (in the aforementioned example, the relationship between POS and helping). In this study, to avoid spurious cross-level findings, I tested both group-level and cross-level interaction terms using group-mean centering of individual-level predictors (Hofmann & Gavin, 1998; Hofmann et al., 2003).

RESULTS

Although this study adopted a longitudinal research design to temporally separate the criterion from the predictors, all predictors were reported by participants at the same time. To examine the psychometric properties of the five predictors measured at T1, I conducted a confirmatory factor analysis using EQS (Bentler, 1995). A measurement model was created by using the 24 items as indicators of the four latent factors and allowing all covariances among the four factors. This analysis showed that the measurement model fit well to the data (χ^2 [df = 224] = 2631.51, $p < .001$; NFI = .92, CFI = .93, AGFI = .91, RMSEA = .060). All factor loadings of scale items to their corresponding latent factors were highly significant (all $p < .01$), indicating convergent validity of the measures. Moreover, covariances among the five latent factors were moderate, ranging between .22 and .37, and no confidence intervals of interfactor covariances included a value of one (all $p < .001$), suggesting discriminant validity of the measures. Table 1 presents descriptive statistics and correlations among the study variables at the individual level.

To examine the unique contributions of each set of predictors, I conducted HLM analyses in a stepwise manner, in which different groups of predictors were entered sequentially into a multilevel equation predicting interpersonal helping. Table 2 presents the results of this multivariate, stepwise HLM analysis conducted at two levels of analysis. The null model in Table 2 decomposes the total variance of interpersonal helping into two sources: within and between work units. Variance partitioning results of this null model indicates that about 16.1% (.0327/[.1709 + .0327]) of total variance in interpersonal helping could be attributed to between-group differences, which was statistically significant (τ = .0327, χ^2 [150] = 604.82, $p < .001$). This result is comparable to prior multilevel studies. For example, Kidwell and colleagues (1997) reported that be-

TABLE 1
Means, Standard Deviations, and Interscale Correlations: Individual Level

Variables	*M*	*SD*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
Age	31.85	6.13	—							
Male	.91	.28	.39	—						
Tenure	9.45	6.30	.75	.23	—					
Perceived organizational support	3.32	.71	.17	.06	.19	—				
Perceived fairness	3.45	.68	.19	.15	.14	.75	—			
Affective commitment	3.72	.65	.18	.04	.22	.66	.58	—		
Trust among members	3.66	.55	.12	.10	.13	.61	.63	.63	—	
Interpersonal helping behavior	3.78	.53	.32	.16	.29	.39	.35	.46	.43	—

Note. $N = 2{,}954$, except the sample size for the last row involving interpersonal helping behavior was 1,953. Correlation coefficients greater than .06 were significant at $p < .001$.

TABLE 2
Hierarchical Linear Models Predicting Interpersonal Helping Behavior

Variables	*Null Model*	*Model 1*	*Model 2*	*Model 3*
Individual-Level Model				
Age		.01***	.01***	.01***
Male		.05	.07*	.07*
Tenure		.00	.00	.00
Perceived organizational support		.13***	.06**	.06**
Perceived fairness		.04*	.02	.00
Affective commitment			.16***	.15***
Group-Level Model				
Work unit size				.00
Aggregated trust among members				.24**
Individual-Level variance (σ^2)	.1709	.1528	.1476	.1478
Change in variance ($\Delta\sigma^2$)	.0181	.0052		
Proportion of explained variance		10.6%	3.1%	
Group-Level variance (τ)	.0327	.0228	.0213	.0183
Change in variance ($\Delta\tau^2$)				.0020
Proportion of explained variance				9.4%

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

tween-group variation of conscientiousness and courtesy accounted for 16% and 25% of total variance, respectively. The null model also offers the reliability of each work unit's sample means as an estimate of its true population means (Bryk & Raudenbush, 1992, pp. 61–64). In these data, each work unit's sample means were reliable estimates of true work unit means (average reliability of work unit sample means = .70).

Individual-Level Predictors

Models 1 and 2 in Table 2 report the results of individual-level equations. Two of the three demographic controls turned out to be significantly related to the outcome: older employees and men reported more interpersonal helping behavior. As hypothesized in H2a and H3a, POS and perceived fairness significantly increased helping behavior ($\beta = .13$, $p < .001$, and $\beta = .04$, $p < .05$, respectively). Model 2 shows that affective commitment completely mediated the effect of perceived fairness and partially mediated that of POS (H1 and H3b supported; H2b partially supported).

Group-Level Predictor

Model 3 in Table 2 summarizes the results at the work-unit level, after controlling for individual-level dynamics. Work unit size was not significantly related to helping behavior. Supporting H4, aggregated trust among members was a significant group-level predictor of interpersonal helping ($\gamma = .24$, $p < .01$).

Cross-Level Moderation

As described earlier, I tested cross-level moderation by estimating the significance of cross-level interaction (γ_{11}) after controlling for group-level, between-group interaction (γ_{03}). Table 3 reports the significance of both types of interaction between the group-level moderator (trust among members) and the three individual-level predictors. Trust among members significantly moderated the group-level relationships between perceived fairness and helping, and between affective commitment and helping ($\gamma_{03} = .62$, $p < .01$, and $\gamma_{03} = .41$, $p < .05$, respectively). In addition to these significant group-level interactions, trust among members also significantly moderated the individual-level relationships between POS and fairness, and helping behavior ($\gamma_{11} = .13$ and .13, respectively, both $p < .05$).

H5 posits that the positive relationships between unit members' organizational perceptions and their helping behavior will be further strengthened by mutually trusting relationships among them. To check the direction of the significant cross-level interactions, I plotted the individual-level relationships for high- and low-trust conditions (see Figure 2). Specifically, using the procedure recommended by Aiken and West (1991), I conducted separate regression analyses on two subgroups composed of individuals belonging to units with either high (1 *SD* above the mean) or low (1 *SD* below the mean) trust among unit members. The two graphs in Figure 2 reveal that unit members exhibited more helping behavior when they perceived the work environment as more supportive and fair. These positive individual-level relationships were more pronounced in low-trust groups, whereas the level of helping in high-trust groups was only weakly influenced by members' organizational perceptions of supportiveness and fairness, as indicated by the rela-

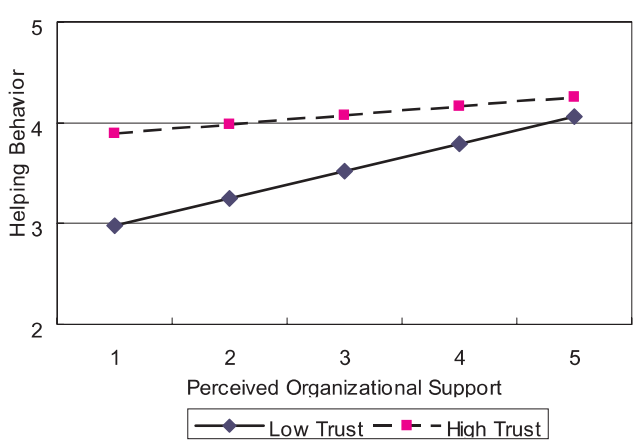
TABLE 3
Between-Group and Cross-Level Interactions in Predicting Interpersonal Helping Behavior

	Parameter Estimates[a]								
	γ00	*γ01*	*γ02*	*γ03*[b]	*γ10*	*γ11*	σ^2	*τ00*	*t11*
Predictor: perceived organizational support									
L1: $Help_{ij} = \beta_{0j} + \beta_{1j}POS + r_{ij}$									
L2: $\beta_{0j} = \gamma_{00} + \gamma_{01}MeanPOS + \gamma_{02}Trust + \gamma_{03}MeanPOS \times Trust + U_0$	3.79***	–.31	–.16	.14	.15***	.13*	.16	.022***	.006**
L2: $\beta_{1j} = \gamma10 + \gamma11Trust + U1$									
Predictor: perceived fairness									
L1: $Help_{ij} = \beta_{0j} + \beta_{1j}Fair + r_{ij}$									
L2: $\beta_{0j} = \gamma_{00} + \gamma_{01}MeanFair + \gamma_{02}Trust + \gamma_{03}MeanFair \times Trust + U_0$	3.76***	–2.24**	–1.69*	.62**	.16***	.13*	.15	.021***	.004*
L2: $\beta_{1j} = \gamma_{10} + \gamma_{11}Trust + U_1$									
Predictor: affective commitment									
L1: $Help_{ij} = \beta_{0j} + \beta_{1j}AC + r_{ij}$									
L2: $\beta_{0j} = \gamma_{00} + \gamma_{01}MeanAC + \gamma_{02}Trust + \gamma_{03}MeanAC \times Trust + U_0$	3.77***	–1.18	–1.34*	.41*	.22***	.08	.15	.019***	.013***
L2: $\beta_{1j} = \gamma_{10} + \gamma_{11}Trust + U_1$									

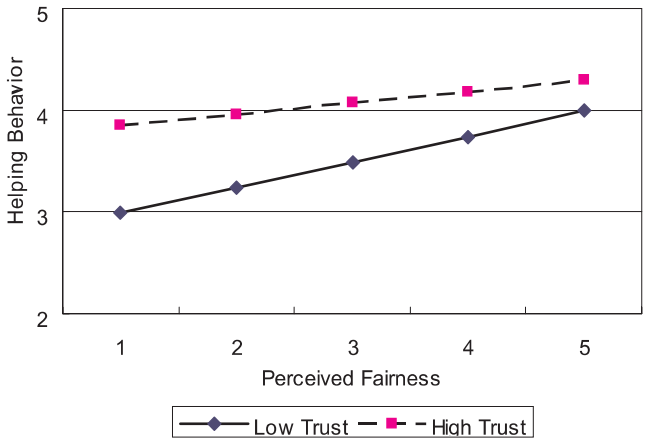
Note. L1 = Level 1; L2 = Level 2; Help = interpersonal helping behavior; POS = perceived organizational support; Fair = perceived fairness; AC = affective commitment; γ_{00} = Intercept of Level 2 regression predicting β_{0j}; γ_{01}–γ_{03} = Slopes of Level 2 regression predicting β_{0j}; γ_{10} = Intercept of Level 2 regression predicting β_{1j}; γ_{11} = Slope of Level 2 regression predicting β_{1j}; σ^2 = Variance in Level 1 residual (i.e., variance in r_{ij}); τ_{00} = Variance in Level 2 residual for models predicting β_{0j} (i.e., variance in U_0); t_{11} = Variance in Level 2 residual for models predicting β_{1j} (i.e., variance in U_1).

[a]In the Level 1 analysis, predictors were group-mean centered. [b]Coefficient representing between-group (group-level) interaction. [c]Coefficient representing cross-level interaction.

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



[Graph A]



[Graph B]

FIGURE 2 Cross-level interaction between trust and perceived organizational support and between trust and perceived fairness.

tively flat slopes under the high-trust condition. The interaction patterns depicted in Figure 1 were different from what I expected. Instead of mutually reinforcing each other (H5), trust and individual-level predictors complemented each other: overall, unit members helped each other when they trusted each other; however, even when the group was characterized by a low level of trust, members showed a high level of helping behavior that was comparable to the level observed in high-trust groups if the members individually held positive organizational perceptions with respect to supportiveness and fairness.

DISCUSSION

Despite repeated calls for studies of OCB or contextual performance as a multilevel phenomenon (George & Brief, 1992; Organ & Ryan, 1995), multilevel dynamics involving OCB have rarely been examined using adequate research design and analytic strategy. Expanding on prior individual-level studies of OCB (e.g., Morrison, 1994; Niehoff & Moorman, 1993), this study demonstrates that organizational characteristics such as POS and perceived fairness significantly predict interpersonal helping behavior, and that their effects are mediated by affective organizational commitment. In addition, members of work units characterized by high trust among unit members exhibited a greater level of interpersonal helping than those in low-trust units. Group-level trust also significantly moderated the individual-level relationships between POS and fairness, and helping behavior. The direction of interaction, however, was different from that predicted in the hypothesis: group-level trust and individual-level organizational perceptions complemented each other to predict individual helping behavior.

These findings clearly demonstrate that although interpersonal helping is a discretionary individual behavior, it is also a social phenomenon that may characterize social units. As shown in Table 2, some of the work units in this study showed a greater level of interpersonal helping than other units when they possessed desirable unit-level characteristics such as trusting relationships, after controlling for three meaningful individual-level predictors. This study highlights the importance of multilevel conceptualization and investigation of contextual performance. Single-level studies of OCB or contextual performance (mostly conducted at the individual level) fail to capture this type of multilevel dynamic, resulting in misspecified models of social phenomena such as cooperation or helping behavior that occur in the inherently multilevel contexts of organizations (Chan, 1998; House et al., 1995).

These multilevel equations isolated affective organizational commitment and trust among members as the proximal predictors of interpersonal helping. This is consistent with previous studies showing that affective commitment mediated the effects of various job-related attitudes such as job satisfaction, fairness perception,

and perceived organizational support (Bishop et al., 2000; Schappe, 1998). Affective commitment might be directly responsible for interpersonal helping and other citizenship behaviors because of its strong motivational implications for behavior (Allen & Meyer, 1990), rather than simply representing an individual's assessment of the situation (e.g., being satisfied with the task or organization). Similarly, interpersonal trust seems to provide specific informational cues regarding proper modes of interpersonal interaction within the group, as well as confidence that fair social exchange relationships will be maintained (Blau, 1964; Jones & George, 1998; Organ et al., 2006).

The cross-level moderation analysis reported in Table 3 clearly reveals that trust among members exerted significant cross-level moderation effects on POS and perceived fairness after controlling for group-level interactions. Of the published empirical studies, only Kidwell et al. (1997) have investigated multilevel dynamics in predicting individual OCB. Specifically, they reported that group cohesiveness operationalized as a group-level predictor was significantly related to members' courteous behavior, and that it moderated the individual-level relationship between job satisfaction and courtesy. However, it is not clear whether this was a true cross-level moderation or a between-group interaction, because in both cases the group-level slope predictor (γ_{11}) could turn out to be significant when the between-group interaction term (γ_{03}) is not controlled for (Hofmann & Gavin, 1998; Hofmann et al., 2003). Hence, the significant cross-level interaction between job satisfaction and group cohesion that was found by Kidwell et al. could be spurious. Obviously, the separation of "true" cross-level moderation from group-level interaction is a challenging task, but a critical one because the validity of myriad theories of organizational behavior relies on this process that links variables from one level to those from another (House et al., 1995; Rousseau, 1985).

Although this study suggests a new direction for research in the area of contextual performance and OCB, the observed patterns need to be interpreted with caution due to certain limitations. First, interpersonal helping in this study was self-reported, which raises concerns related to same method bias. However, a comparison of studies based on self-reports and third-party ratings of citizenship performance or OCB showed that differences in effect sizes were relatively small and typically observed at the second decimal point (Borman et al., 2001; Podsakoff et al., 2000). In addition, this outcome was collected 12 months after the assessment of predictors, which mitigates the concern of same method bias. Nevertheless, it is obvious that self-reports of contextual performance tend to inflate the relationships among variables, and thus further investigation based on multisource data is clearly needed (Borman et al., 2001; Organ et al., 2006). Second, these data were collected from a Korean electronics company, which raises an issue related to the generalizability of the results to other cultures and industries. The individual-level results of organizational variables in this study, however, were consistent with existing empirical findings obtained in Western organizations; therefore, the theoretical

hypotheses supported in this study may be applicable to other cultures. Notwithstanding, these findings need to be replicated in other cultures using OCB ratings from peers or supervisors.

Despite these limitations, this study significantly expands the OCB and contextual performance literature by investigating two different types of antecedents of interpersonal helping, one at the individual level (workplace perceptions and attitudes) and the other at the group level (trust among group members). Building on this study, future investigations could attend to multilevel dynamics involving other workplace characteristics such as task characteristics, leadership, and work unit diversity. In addition, future studies could further explore cross-level processes involving other individual-, group-, and organizational-level variables with regard to contextual performance or OCB using appropriate research design and adequate specifications of multilevel models. This increased sensitivity to issues of level and the conceptualization of contextual performance as multilevel phenomena will substantially advance and enrich our understanding of citizenship behavior and contextual performance.

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