The Joint Effects of Personality and Workplace Social Exchange Relationships in Predicting Task Performance and Citizenship Performance

Dishan Kamdar
Indian School of Business

Linn Van Dyne
Michigan State University

This field study examines the joint effects of social exchange relationships at work (leader–member exchange and team–member exchange) and employee personality (conscientiousness and agreeableness) in predicting task performance and citizenship performance. Consistent with trait activation theory, matched data on 230 employees, their coworkers, and their supervisors demonstrated interactions in which high quality social exchange relationships weakened the positive relationships between personality and performance. Results demonstrate the benefits of consonant predictions in which predictors and outcomes are matched on the basis of specific targets. We discuss theoretical and practical implications.

Keywords: organizational citizenship behavior (OCB), personality, exchange relationships, performance

Existing research has demonstrated the importance of personality characteristics and social exchange relationships as predictors of task and citizenship performance (Barrick & Mount, 1991; Eisenberger, Fasolo, & Davis-LaMastro, 1990; Judge & Ilies, 2002; LePine & Van Dyne, 2001; Settoon, Bennett, & Liden, 1996). To date, however, consideration of personality characteristics and social exchange relationships as predictors of employee performance has been addressed in two predominantly separate literatures. Additionally, although teams are increasingly important in organizations (Ilgen, 1999) and the construct of team–member exchange (TMX) was introduced over 15 years ago (Seers, 1989), we are aware of no research that simultaneously examines leader–member exchange (LMX) and TMX relationships as predictors of employee task and citizenship performance.

Emphasizing the benefits of integrative research that simultaneously considers personality and social exchange predictors of performance, this field study has two primary purposes. First, we have developed and tested theoretical arguments that two personality characteristics (conscientiousness and agreeableness) and two social exchange relationships (LMX and TMX) interact to predict task performance and helping behavior of professionals working in teams. More specifically, on the basis of trait activation theory (Tett & Burnett, 2003), we propose and demonstrate interactions in which high quality social exchange relationships weaken the positive effects of personality on performance. Second, drawing on Ajzen's (1988) principle of compatibility, we argue that LMX has special relevance to behaviors targeted at the supervisor and TMX has special relevance to behaviors targeted at coworkers. Thus, we extend past research that has demonstrated differential effects of

LMX and perceived organizational support (Masterson, Lewis, Goldman, & Taylor, 2000; Settoon et al., 1996) by considering interactive effects of personality and LMX in predicting outcomes targeted at the supervisor as well as interactive effects of personality and TMX in predicting outcomes targeted at peers.

We first define task and citizenship performance. We then consider personality and quality of exchange relationships as predictors of task and citizenship performance. Finally, we integrate work on personality and exchange relationships, arguing that quality of exchange relationships moderates the effects of personality on task and citizenship performance.

Task Performance and Citizenship Performance

Performance is a complex, multidimensional construct (Campbell, 1999). As such, fine-grained conceptualizations can provide a better understanding of relationships between specific predictors and specific aspects of performance (J. Hogan & Holland, 2003; J. W. Johnson, 2001; Podsakoff, MacKenzie, Paine, & Bachrach, 2000; Rotundo & Sackett, 2002). Because our research focused on engineering professionals working in teams, we focused on two types of performance critical to working in groups (Borman & Motowidlo, 1993, 1997; Coleman & Borman, 2000; Organ, 1997; Van Scotter & Motowidlo, 1996): task performance and citizenship performance.

Task performance is typically defined as behavior that (a) transforms raw materials into goods and services produced by the organization or (b) serves and maintains the technical core by replenishing supplies, distributing products, planning, coordinating, and supervising directed at efficient functioning of the organization (Motowidlo, Borman, & Schmit, 1997). Although it is clearly important, task performance is only part of the picture when people work in teams. Equally important is *citizenship performance*, defined as behavior that maintains or improves the social and psychological context within which core tasks are performed (Borman & Motowidlo, 1993).

Scholars have identified various forms of citizenship but most commonly have focused on a form of citizenship known as helping

behavior (LePine, Erez, & Johnson, 2002; Organ, 1988; Van Dyne, Cummings, & McLean Parks, 1995; Williams & Anderson, 1991). Although initial research on citizenship emphasized helping in general (Smith, Organ, & Near, 1983), more recent research has focused on particular targets of citizenship. This has included specific citizenship behaviors targeted toward individuals versus the organization (McNeely & Meglino, 1994; Williams & Anderson, 1991), the union versus other union members (Aryee & Chay, 2001), and the person versus the task (F. Lee, 2002; Settoon & Mossholder, 2002). More specifically, Anderson and Williams (1996) and Bowler and Brass (2005) focused on interpersonally oriented helping. Continuing this trend, we examine citizenship performance directed at supervisors and coworkers. In the interests of parsimony, we refer to these two types of citizenship performance simply as helping supervisors and helping coworkers.

We chose our focus on helping directed at supervisors and coworkers for two reasons. First, both supervisors and coworkers are important interaction partners for those who work in groups. Second, Ajzen's (1988) principle of compatibility argues that matching predictors and outcomes in terms of context, action, time, or target leads to stronger relationships (cf. Fisher, 1980; Harrison, Newman, & Roth, 2006). Drawing on this principle, we proposed that LMX has special relevance to behaviors targeted at the supervisor and TMX has special relevance to behaviors targeted at coworkers. Focusing on these two targets of helping allows us to test the hypothesis that the quality of an employee's relationship with the supervisor should be a better predictor of behavior directed at the supervisor, whereas the quality of an employee's relationship with peers should be a better predictor of behaviors directed at coworkers. Before outlining the effects of LMX and TMX, we first consider two major dimensions of personality as predictors of task performance and helping behavior. Thus, we aim to integrate research that has typically examined these relationships in separate studies.

Personality, Task Performance, and Helping

A great deal of research has examined relationships between personality and task performance (Judge & Ilies, 2002), with recent emphasis on the five-factor personality model as a parsimonious organizing framework (Barrick & Mount, 1991; R. Hogan, Hogan, & Roberts, 1996; Mount, Barrick, & Stewart, 1998). Building on this foundation, at least two studies demonstrated especially strong relationships between personality and behavior when specific aspects of personality are linked with theoretically relevant outcomes (Colbert, Mount, Harter, Witt, & Barrick, 2004; Tett, Jackson, & Rothstein, 1991). In the current research, we focus on the role of conscientiousness and agreeableness, two aspects of the five-factor personality model that have been consistently linked to organizational citizenship behavior in past research (Ilies, Scott, & Judge, 2006) and should be especially relevant to the task performance and citizenship behavior of professionals working in teams.

Personality can be conceptualized in different ways. Genotypic traits, such as emotions and cognitions, cannot be observed and must be inferred. In contrast, phenotypic traits can be directly observed. According to J. A. Johnson (1997), "self-assessment of genotypic traits is potentially more valid than other-assessment of these traits because people may directly experience their own inner

traits whereas observers must infer them from verbal reports and non verbal behaviors" (p. 79). In contrast, observer ratings of phenotypic traits, often referred to as reputation, "are almost always more valid than self-ratings" (p. 81). Consistent with this perspective, R. Hogan (2003) categorized self-report of personality as an indicator of identity and categorized observer report of personality as an indicator of reputation. According to R. Hogan et al. (1996), reputation, which is ratings by knowledgeable others, is the best way to conceptualize personality (cf. Barrick, Mount, & Judge, 2001).

Consistent with this, Mount, Barrick, and Strauss (1994) reported strong results by using supervisors, coworkers, and customers as observers of personality in predicting job performance. Building on this, Barrick and colleagues (2001) cautioned researchers about the potential dangers of using self-report of personality and recommended future research using observer ratings of personality. Likewise, Organ, Podsakoff, and MacKenzie (2006) recommended that future research use observer ratings of personality to avoid possible self-presentation bias. In response to these issues, we adopted a phenotypic approach to personality and conceptualized conscientiousness and agreeableness on the basis of the observer perspective.

Conscientiousness and Task Performance

Those who are high in conscientiousness are dependable, careful, thorough, responsible, organized, achievement oriented, and planful (Mount & Barrick, 1995). Thus, it is not surprising that conscientiousness is the most consistent personality predictor of job performance (Barrick & Mount, 1991). As Barrick et al. (2001) suggested, it is hard to imagine a job for which being careless, irresponsible, lazy, impulsive, and low in achievement striving (low conscientiousness) would have positive implications for performance. Several meta-analyses demonstrated consistent relationships between conscientiousness and task performance (typically, $r = .20–.31$) across various occupational groups (Barrick & Mount, 1991; Hough, Eaton, Dunnette, Kamp, & McCloy, 1990; Hurtz & Donovan, 2000; Salgado, 1997; Tett et al., 1991). Thus, we hypothesized the following:

Hypothesis 1a: Conscientiousness will be positively related to task performance.

Conscientiousness and Helping Behavior

Commenting on prior conscientiousness–performance research, Hurtz and Donovan (2000) noted the need for research on personality and different types of performance. Thus, we also consider conscientiousness as a predictor of two forms of citizenship performance: helping supervisors and helping coworkers.

Existing research has demonstrated a positive relationship between conscientiousness and citizenship performance (Hattrup, O'Connell, & Wingate, 1998; LePine & Van Dyne, 2001; Van Scotter & Motowidlo, 1996). More directly relevant, past research has shown that conscientiousness predicts higher levels of altruism (Konovsky & Organ, 1996) and volunteering for extra work (Motowidlo & Van Scotter, 1994).

Although informative, many citizenship performance studies have not specified the target of citizenship (cf. K. Lee & Allen,

2002; McNeely & Meglino, 1994), and scales meant to assess citizenship often include items that benefit supervisors and/or coworkers (Anderson & Williams, 1996; Settoon et al., 1996; Smith et al., 1983; Williams & Anderson, 1991). Although this research has been insightful, more precise specification of the target of citizenship would enhance our understanding of citizenship behavior because different psychological mechanisms may motivate behavior directed toward different exchange partners. Thus, we explicitly differentiate helping supervisors and helping coworkers. Although we make parallel predictions regarding the relationship between these two types of helping and personality, we subsequently argue that the two forms of helping will show different relationships with the quality of LMX and TMX relationships.

Because supervisors assign, coordinate, and monitor employee work behaviors, they are an obvious target of helping for those with high conscientiousness. Consistent with this, Organ (1988) and Podsakoff et al. (2000) emphasized helping citizenship as behavior that allows managers to devote more time to planning, scheduling, and problem solving. Indeed, most measures of citizenship behavior include items with obvious positive benefits to supervisors, such as volunteering to orient new employees, offering to take on additional assignments, or helping others who have heavy workloads (e.g., Settoon et al., 1996; Smith et al., 1983). Thus,

> *Hypothesis 1b:* Conscientiousness will be positively related to helping supervisors.

We also expect a positive relationship between conscientiousness and helping coworkers because our study focuses on professionals working in teams. When work is interdependent, as in teams, coworkers are an obvious target of helping for those with high conscientiousness. Consistent with this, Organ (1988) and Podsakoff and colleagues (2000) argued that helping enhances coordination and coworker productivity. Several empirical studies provided indirect support for the prediction that conscientiousness should predict helping coworkers (Hough, 1992; J. W. Johnson, 2001). For example, past studies have shown that conscientiousness predicts cooperative behavior directed specifically at other group members in a team setting (LePine & Van Dyne, 2001) as well as helping and cooperation with other coworkers (Motowidlo & Van Scotter, 1994; Van Scotter & Motowidlo, 1996). Accordingly, we predicted the following:

> *Hypothesis 1c:* Conscientiousness will be positively related to helping coworkers.

Agreeableness and Task Performance

Those who are high in agreeableness are good natured, flexible, cooperative, caring, courteous, trusting, and tolerant (Mount & Barrick, 1995). To date, theory and research on agreeableness and task performance have been inconsistent. Although Barrick and Mount (1991) proposed that agreeableness would predict task performance for jobs involving frequent interaction or cooperation with others (such as management or sales), results of several meta-analyses have demonstrated that agreeableness was not "an important predictor of job performance, even in those jobs con-

taining a large social component (e.g., sales or management)" (p. 21). Consistent with this, Borman, White, and Dorsey (1995) reported that likeability had little effect on task performance; LePine and Van Dyne (2001) showed no relationship between agreeableness and task performance on a laboratory task in which performance was operationalized as decision-making accuracy; and at least three meta-analyses have failed to show a consistent relationship between agreeableness and task performance (Hough et al., 1990; Hurtz & Donovan, 2002; Salgado, 1997). Commenting on these findings, J. W. Johnson (2003) noted that agreeableness may predict task performance in some jobs but not in others. In sum, on the basis of these past null relationships and Barrick and Mount's (1991) suggestion that agreeableness has less relevance to performance of engineers compared with performance of those in sales or management, we did not posit a relationship between agreeableness and task performance in our sample of engineers.

Agreeableness and Helping

Although we did not predict a relationship between agreeableness and task performance, we expected that agreeableness would predict helping behavior. According to Barrick, Stewart, Neubert, and Mount (1998), agreeableness may be one of the best personality predictors of helping behavior. Those who are generally cooperative, flexible, caring, and tolerant are dispositionally predisposed to be helpful.

In work settings, supervisors are a natural target and beneficiary of this helping. This is because supervisors are proximal and salient to employees. Supervisors influence hiring, performance review, and promotion outcomes. They also assign and monitor work and provide evaluative and developmental feedback. For these reasons, employees who are dispositionally cooperative should naturally target helping at the supervisor. Consistent with this, J. W. Johnson (2001) demonstrated that employees high in agreeableness were cooperative and followed rules and procedures. These are behaviors with positive benefits for supervisors because it relieves them of more routine aspects of the job (Podsakoff et al., 2000). Thus, we predicted the following:

> *Hypothesis 2a:* Agreeableness will be positively related to helping supervisors.

We also suggest that agreeableness will predict helping coworkers. When employees work in teams, those who are dispositionally cooperative will be aware of opportunities to help others and will target citizenship behaviors at their coworkers. In support of this, Hough (1992) and Borman and Motowidlo (1993) demonstrated significant relationships between agreeableness and teamwork, whereas J. W. Johnson (2001) and LePine and Van Dyne (2001) demonstrated positive relationships between agreeableness and cooperative behavior directed at other group members (see also Hurtz & Donovan, 2000; Van Scotter & Motowidlo, 1996). Thus,

> *Hypothesis 2b:* Agreeableness will be positively related to helping coworkers.

Social Exchange Relationships: LMX Versus TMX

Social exchange theory (Blau, 1964) and the norm of reciprocity (Gouldner, 1960) describe social exchange as an open-ended

stream of transactions, with both exchange partners making contributions and receiving benefits. These exchanges are open ended because the form and timing of contributions is discretionary (Bateman & Organ, 1983; Konovsky & Pugh, 1994; Organ, 1988). Social exchange contrasts with economic exchange, which specifies exchanges on a quid pro quo basis. Two of the most important exchange relationships in organizations are LMX (between employee and supervisor) and TMX (between employee and coworkers).

As noted earlier, we have chosen to focus on the roles of LMX and TMX in the same study to enhance understanding of relationships between specific predictors and specific aspects of performance. Ajzen (1988) introduced the principle of compatibility and theorized that correspondence between the target of an attitude and a related behavior enhances attitude–behavior relationships. Other scholars have made similar points about strength of relationships between constructs that are matched in specificity (Fisher, 1980) or between constructs conceptualized at similar levels of abstraction (Harrison et al., 2006). Drawing on work of these scholars, we propose that attitudes about supervisor relationships (LMX) will be a better predictor than is TMX of behaviors targeted at the supervisor, whereas attitudes about coworker relationships (TMX) will be a better predictor than is LMX of behaviors targeted at coworkers.

LMX and task performance. The quality of the exchange relationship between an employee and supervisor is referred to as LMX (Liden, Sparrowe, & Wayne, 1997). LMX theory proposes that leaders have differential relationships with specific subordinates (Dansereau, Graen, & Haga, 1975), and the quality of LMX relationships influences attitudes and behaviors at work. High quality LMX relationships are personal, intangible, and open ended. Low quality LMX relationships are relatively impersonal economic exchanges.

When employees have high quality LMX relationships, they value this personal relationship, and they reciprocate by responding positively to demanding work expectations. When work is complex and situations are dynamic, the personal commitment characteristic of high quality LMX relationships should enhance task performance. Research has demonstrated that those with high quality LMX relationships feel the need to reciprocate and show they value the relationship they have with the supervisor (Scandura & Schriesheim, 1994; Seers & Graen, 1994; Wayne, Shore, & Liden, 1997). Because task performance is the traditional and primary focus of work exchange relationships, we propose a positive relationship between LMX and task performance. Consistent with this, Gerstner and Day's (1997) meta-analysis and other studies (e.g., Bauer, Erdogan, Liden, & Wayne, 2006; H. J. Klein & Kim, 1998; Liden, Wayne, & Stilwell, 1993) have demonstrated positive relationships between LMX and task performance. Thus,

> *Hypothesis 3a:* LMX will be positively related to task performance.

LMX and helping supervisors. When employees have high quality exchange relationships with their supervisors, they reciprocate the special treatment on the basis of the norm of reciprocity (Liden & Graen, 1980; Settoon et al., 1996; Wayne & Green, 1993). The most natural and salient target is the other partner in the exchange relationship (Gouldner, 1960). Thus, we predicted that

those with high LMX reciprocate by going beyond specific job expectations and engaging in behaviors that help the supervisor (Liden et al., 1997; Wayne et al., 1997).

> *Hypothesis 3b:* LMX will be positively related to helping supervisors.

TMX and helping coworkers. TMX is the quality of exchange relationships among coworkers in the work group (Seers, 1989). High quality TMX, like high quality LMX, represents social exchange characterized by flexibility, discretion, and open-ended relationships. To date, there has been little research on TMX and performance (see Liden, Wayne, & Sparrowe, 2000, for an exception). This is an important gap in the literature because teams are ubiquitous in organizations and these proximal coworker relationships can have powerful implications for employee attitudes and behaviors at work (Ilgen, 1999). Specifically, we predicted that those with high quality TMX will reciprocate toward coworkers to show they value these social exchange relationships. In interdependent work groups, helping coworkers is an obvious and natural form of reciprocity.

Although we are not aware of research that explicitly demonstrated a relationship between TMX and helping coworkers, three studies provided indirect support for this prediction. Settoon and Mossholder's (2002) field data from two organizations showed positive relationships between coworker support and citizenship behavior directed at peers. Bowler and Brass (2005) demonstrated that strength of friendship between coworkers positively predicted interpersonal citizenship behaviors, and Bommer, Miles, and Grover (2003) demonstrated that the overall level of citizenship in a group, an indicator of the quality of peer relationships, predicted individual citizenship. Given that the norm of reciprocity guides behavior toward relationship partners (Gouldner, 1960), we expect that the quality of coworker exchange relationships (TMX) will have special relevance to helping coworkers. Thus, we predicted the following:

> *Hypothesis 4:* TMX will be positively related to helping coworkers.

Joint Effects of Personality and Social Exchange

Having considered the above main effects, we now focus on interactions between personality and social exchange relationships in predicting task performance and helping. According to trait activation theory (Tett & Burnett, 2003), perceptions of the situation moderate the effect of personality on job performance. More specifically, Tett and Burnett (2003) proposed that powerful reward contingencies in specific situations can wash out the effects of personality. Consistent with this, Colbert and colleagues (2004) demonstrated that conscientiousness predicted deviant work behavior only when the situation was perceived negatively. In a similar vein, Hochwater, Witt, Treadway, and Ferris (2005) demonstrated that individual differences in social skills predicted job performance only when employees reported a low degree of perceived organizational support. Applying trait activation theory to the current context, we propose that personality will predict task performance and helping only when social exchange relationships are poor quality. Our reasoning is that high quality social exchange

relationships trigger the reciprocity norm (Gouldner, 1960), which is a powerful reward contingency that constrains the expression of personality.

We first consider conscientiousness. We have argued that conscientiousness should predict task performance, as well as helping coworkers and supervisors. In theory, conscientiousness should lead to better performance because people high in conscientiousness are motivated to work hard and do a good job. By comparison, people low in conscientiousness do not have these inherent motivations. This does not mean that those with low conscientiousness never do a good job. It simply means that these employees may need other incentives to motivate them for high productivity. One likely candidate is a strong or high quality exchange relationship. Thus, employees low in conscientiousness may still be high in job performance and helping because of their desire to reciprocate favorable treatment by superiors or coworkers. This reasoning suggests that employees high in conscientiousness should be relatively unaffected by the quality of their exchange relationships, whereas those low in conscientiousness will show higher task performance and helping when the quality of their relationships is high.

A similar argument can be made for agreeableness and helping. In theory, highly agreeable employees should be motivated to engage in behaviors that help their superiors and coworkers on the basis of concern for the other's well-being. Moreover, because tolerance and empathy are core elements of agreeableness, those high in agreeableness should be better able than are those low in agreeableness to tolerate negative interpersonal treatment. For example, highly agreeable employees may be more inclined to overlook small annoyances and to recognize that others occasionally may have a bad day. As a result, highly agreeable employees should be less influenced by the quality of their social exchange relationships. In comparison, those who are low in agreeableness do not have these natural inclinations and most likely need other incentives to motivate helping, such as the sense that relationship partners are trustworthy. This line of reasoning suggests that the helping of highly agreeable employees will be relatively insensitive to the quality of their exchange relationships, whereas those who are low in agreeableness will respond to positive exchange relationships by helping their exchange partners.

Taken together, this line of reasoning led us to propose the following interaction hypotheses, each of which suggests that personality will have a stronger effect when the quality of the social exchange relationship is low. Throughout the hypotheses, in keeping with our earlier arguments, we assume that LMX will have relevance only for behaviors directed at the supervisor (task performance and supervisor helping), whereas TMX will have relevance only for behaviors directed at coworkers. The interaction hypotheses are listed in order of the earlier main effect predictions.

Hypothesis 5: LMX will moderate the relationship between conscientiousness and task performance such that the relationship will be stronger when LMX is low.

Hypothesis 6: LMX will moderate the relationship between personality (*Hypothesis 6a:* conscientiousness; *Hypothesis 6b:* agreeableness) and helping supervisors such that the relationship will be stronger when LMX is low.

Hypothesis 7: TMX will moderate the relationship between personality (*Hypothesis 7a:* conscientiousness; *Hypothesis 7b:* agreeableness) and helping coworkers such that the relationship will be stronger when TMX is low.

Method

We examined these research questions with matched field data from 230 engineers, their supervisors ($n = 30$), and their peers ($n = 90$) from one division of a multinational conglomerate (85% response rate). The employee sample was 96% men, 4% women, and 100% full time; all participants had a minimum of 6 months tenure in their current work group. On average, employees were age 32 years (range = 23–45 years) with 5.5 years organizational tenure. Ninety-one percent had at least a bachelor's degree, and the remaining 9% were high school graduates. Supervisors were 100% men and 100% full time. On average, supervisors were age 40 years (range = 34–46 years), with 11 years tenure, 17 years of full-time work experience, and 98% holding at least a bachelor's degree.

As part of a larger study on work attitudes and behavior, employees completed surveys in group meetings held at company facilities. Participants were assured individual responses would remain confidential and they could withdraw at any time. Employee questionnaires included LMX, TMX, age, sex, education, and organizational tenure.

While employees were completing their surveys, supervisors completed questionnaires on employee task performance and helping-supervisor citizenship performance in a separate room. In each group, we also randomly selected one coworker with at least 6 months tenure in the group to rate other group members on helping-coworkers citizenship performance. Finally, we randomly selected two other coworkers with at least 6 months tenure in the group to rate agreeableness and conscientiousness of others in the group. These three randomly selected coworkers did not complete the self-report questionnaire and were not included in the 230 engineers who are focal study participants. We used peers to assess personality and coworker citizenship performance because their proximal relationships should allow them to make inferences about dispositional characteristics and typical helping within the work group. Overall, we collected data from 30 groups (8–16 members, average size = 10.6 employees).

Measures

We used previously published and validated measures in this study. Supervisors rated employee task performance with six items (e.g., quantity, quality, relationships, dependability, and initiative; $\alpha = .91$) from Van Dyne and LePine (1998). Response options ranged from 1 (*very much does not meet performance expectations*) to 7 (*very much exceeds performance expectations*). For all the other measures, response options ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). Supervisors also rated employee helping supervisors with Van Dyne and LePine's (1998) seven-item scale (e.g., "This particular employee helps me with my work responsibilities"; $\alpha = .88$). Peers rated helping coworkers with Van Dyne and LePine's (1998) seven-item scale (e.g., "This particular employee helps others in the group with their work"; $\alpha = .89$).

Coworker ratings of employee personality. Following recommendations of Barrick and colleagues (2001; cf. Mount et al., 1994; Organ et al., 2006), we used coworker assessment of personality rather than self-report to reduce potential social desirability, faking, and impression management bias. We measured conscientiousness and agreeableness with 12 items each (Revised NEO Personality Inventory; Costa & McCrae, 1992). Because two coworkers rated employee personality, we assessed interrater reliability (Shrout & Fleiss, 1979) by using intraclass correlation coefficient (ICC = 1, 1) to determine whether it was appropriate to create an average rating for each pair of coworkers. This form of intraclass correlation provides a point estimate of the agreement between ratings made by two or more judges (James, 1982; cf. Morrison & Phelps, 1999). Results were .36 ($p < .001$) for conscientiousness and .36 ($p < .001$) for agreeableness. In addition, correlations between rater scores for agreeableness ($r = .37$, $p < .001$) and conscientiousness ($r = .38$, $p < .001$) were moderately strong. We therefore averaged peer ratings for measures of conscientiousness ($\alpha = .92$) and agreeableness ($\alpha = .93$).

Because supervisors and coworkers rated task performance and citizenship for multiple employees (average number of ratings = 7.6, minimum = 5, maximum = 13), we checked for the possible presence of group-level effects (Bliese, 2000). A one-way analysis of variance showed no differences in mean helping-supervisor or task performance assessments across supervisors. In addition, ICC(1) scores, which index the amount of variance explained by supervisor-level effects, did not exceed .08. Finally, ICC(2) scores, for supervisor-rated outcomes that index the extent to which rating of one employee is substitutable for rating of another, were also low (< .44) and did not reach the .70 benchmark for aggregation (K. J. Klein et al., 2000). These findings provided robust support for the independence of supervisor assessments. We conducted similar analyses for coworker ratings of helping coworkers. A one-way analysis of variance showed no differences in mean helping-coworker assessments across coworkers. Results, ICC(1) = .04, ICC(2) = .27, indicated the independence of coworker assessments. In addition, no mean within-group agreement values exceeded .70 (James, Demaree, & Wolf, 1984). We thus analyzed data at the individual level, as planned.

LMX. We assessed LMX with Liden and Maslyn's (1998) 12-item scale (e.g., "I like my supervisor very much as a person," "My supervisor would defend me to others in the organization if I made an honest mistake," "My supervisor does work for me that goes beyond what is specified in his/her job description," and "I admire my supervisor's work related skills"; $\alpha = .91$).

TMX. We assessed TMX with Seer's (1989) 10-item scale (e.g., "I am flexible about switching jobs with others in my work group," "Other group members recognize my potential," "Other group members understand my problems," "I am willing to finish work assigned to others," "Others are willing to finish work assigned to me"; $\alpha = .89$).

Control variables. We controlled for age, sex, (0 = female, 1 = male), education (0 = high school, 1 = college degree, 2 = graduate degree), and organization tenure (years) to avoid potential confounding effects on our dependent variables (Van Dyne & LePine, 1998).

Analyses

We assessed discriminant validity of our constructs with confirmatory factor analysis. Given the large number of items (67) relative to sample size (230), we followed procedures described by Mathieu and Farr (1991) and created three to four composite indicators for each construct to improve the size-to-estimator ratio (e.g., Landis, Beal, & Tesluk, 2000). Our hypothesized seven-factor model (task performance, helping supervisors, helping coworkers, LMX, TMX, conscientiousness, and agreeableness) had excellent fit to the observed covariance matrix, $\chi^2(224, N = 230) = 248.19$, $p < .001$ ($\chi^2/df = 1.55$; comparative fit index = .96; Tucker Lewis Index = .96; root-mean-square error of approximation = .05), with significant standardized factor loadings (.35–.92, $p < .001$).

We compared the fit of this seven-factor model with a series of conceptually reasonable competing models. Table 1 summarizes these results and shows that Model 1 (seven factors) had the best fit. Model 1 was a significantly better fit than was Model 2 with a one-factor approach ($\Delta\chi^2 = 1517.51$, $\Delta df = 21$, $p < .001$). Model 1 was significantly better than Model 3 with two factors that contrasted employee-rated and supervisor-rated constructs ($\Delta\chi^2 = 1378.59$, $\Delta df = 20$, $p < .001$). Model 1 (seven factors) was also significantly better than other plausible three-, four-, five-, and six-factor models (see Table 1 for details). We retained Model 1 because it reflected our hypothesized approach, fit the data well (root-mean-square error of approximation = .05), and was most parsimonious.

We assessed convergent and discriminant validity with average variance extracted (AVE) for each construct and whether the squared interconstruct correlations for pairs of constructs were greater than the average shared variance of each construct (Fornell & Larcker, 1981; Netemeyer, Johnston, & Burton, 1990). According to Fornell and Larcker (1981), evidence for convergent validity is provided if AVE is greater than .50. Our AVE ranged from .59 to .85, providing strong support for convergent validity. In addition, all average shared variance figures (AVE) were greater than squared interconstruct correlations (.06–.28). This provides rigorous support for discriminant validity of our constructs.

We analyzed hypotheses with hierarchical regression and entered controls in Step 1, centered main effects for personality in Step 2, and centered main effects for LMX and TMX in Step 3. The variance inflation factor statistics (1.04–3.69) were below 10, suggesting no multicollinearity problems (Chatterjee & Price, 1977). We entered interactions in Step 4 (Cohen, Cohen, West, & Aiken, 2003) and illustrated significant interactions with SPSS, using general liner models and marginal means.

Results

Table 2 presents the descriptive statistics, correlations, and reliability estimates. Table 3 summarizes the regression results.

Hypothesis 1 was supported. Conscientiousness positively predicted task performance: Hypothesis 1a ($\beta = .30$), $t(217) = 4.54$, $p < .001$; helping supervisors: Hypothesis 1b ($\beta = .19$), $t(217) = 2.89$, $p < .01$; and helping coworkers: Hypothesis 1c ($\beta = .20$), $t(217) = 3.39$, $p < .01$. Results also support Hypothesis 2, demonstrating a significant relationship between agreeableness and helping supervisors: Hypothesis 2a ($\beta = .28$), $t(216) = 4.35$, $p <$

Table 1
Comparison of Theoretically Plausible Models

Model	Description	χ^2	df	χ^2/df	GFI	CFI	TLI	RMSEA	Change from Model 1 $\Delta\chi^2$	Δdf
Model 1	Hypothesized seven-factor model	248.19	224	1.55	.90	.96	.96	.05		
Model 2	One-factor model	1,765.70	245	7.21	.60	.55	.50	.17	1,517.51***	21
Model 3	Two-factor model[a]	1,626.78	244	6.67	.62	.59	.54	.16	1,378.59***	20
Model 4	Three-factor model[b]	1,420.60	242	5.87	.65	.68	.63	.15	1,172.41***	18
Model 5	Four-factor model[c]	1,044.47	239	4.37	.73	.78	.74	.12	796.28***	15
Model 6	Five-factor model[d]	807.01	235	3.43	.80	.84	.82	.10	558.82***	11
Model 7	Six-factor model[e]	478.38	230	2.08	.86	.93	.92	.07	230.19***	6
Model 8	Six-factor model[f]	676.25	230	2.94	.82	.88	.85	.09	428.06***	6

Note. GFI = general fit index; CFI = comparative fit index; TLI = Tucker Lewis Index; RMSEA = root-mean-square error of approximation; LMX = leader–member exchange; TMX = team–member exchange.
*** $p < .001$.
[a] Two-factors: employee-rated versus supervisor-rated constructs.
[b] Three-factors: LMX and TMX combined; agreeableness and conscientiousness combined; citizenship performance and task performance combined.
[c] Four-factors: LMX and TMX combined; agreeableness and conscientiousness combined; helping supervisors and helping coworkers combined; task performance.
[d] Five-factors: LMX and TMX combined; agreeableness and conscientiousness combined; helping supervisors; helping coworkers; task performance.
[e] Six-factors: LMX and TMX combined; agreeableness; conscientiousness; helping supervisors; helping coworkers; task performance.
[f] Six-factors: LMX; TMX; agreeableness and conscientiousness combined; helping supervisors; helping coworkers; task performance.

.001; and helping coworkers: Hypothesis 2b ($\beta = .47$), $t(217) = 8.05$, $p < .001$.

Hypothesis 3 was supported by the positive relationship between LMX and task performance: Hypothesis 3a ($\beta = .27$), $t(217) = 4.20$, $p < .001$; and between LMX and helping supervisors: Hypothesis 3b ($\beta = .27$), $t(217) = 4.37$, $p < .001$. Consistent with our predictions, results also support Hypothesis 4, demonstrating a positive relationship between TMX and helping coworkers: Hypothesis 4 ($\beta = .20$), $t(217) = 3.13$, $p < .01$.

Hypothesis 5 predicted that LMX would weaken the positive relationship between conscientiousness and task performance such that the relationship would be stronger for low LMX. The task performance regression in Table 3 shows the interaction in Step 4

was significant: Hypothesis 5 ($\beta = -.18$), $t(217) = -2.77$, $p < .01$; with a significant increase in overall explained variance ($\Delta R^2 = .06$), $\Delta F(4, 217) = 4.71$, $p < .01$. We plotted this interaction based on Cohen et al. (2003) and reported regression slopes for low (-1 standard deviation) and high ($+1$ standard deviation) levels of the moderators. As illustrated in Figure 1a, high LMX weakened the positive relationship between conscientiousness and task performance, supporting Hypothesis 5. We also note an unexpected significant interaction between LMX and agreeableness in predicting task performance ($\beta = -.17$), $t(217) = -2.94$, $p < .01$. Figure 1b illustrates this interaction, showing no main effect for agreeableness but showing a positive relationship between agreeableness and task performance when LMX is low.

Table 2
Means, Standard Deviations, Correlations, and Cronbach's Alpha

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Sex[a]	0.97	0.18	—										
2. Age (years)	32.23	5.63	−.05	—									
3. Organizational tenure	5.50	3.83	−.01	.83**	—								
4. Education[b]	1.37	0.64	.03	.12	.11	—							
5. Conscientiousness[c]	4.61	1.01	−.06	.09	.09	.01	(.92)						
6. Agreeableness[c]	4.01	1.15	−.09	.10	.09	−.04	.27**	(.93)					
7. LMX[d]	4.33	1.27	−.09	.07	.04	−.12	.25**	.24**	(.91)				
8. TMX[d]	4.53	1.03	−.01	.15*	.13*	.01	.36**	.35**	.30**	(.89)			
9. Task performance[e]	4.33	1.40	−.03	.10	.05	−.09	.34**	.23**	.39**	.16**	(.91)		
10. Helping supervisors[e]	4.92	1.37	−.07	.14*	.06	−.01	.27**	.35**	.42**	.21**	.33**	(.88)	
11. Helping coworkers[f]	4.99	1.31	−.13	.23**	.17**	.06	.34**	.54**	.32**	.39**	.27**	.43**	(.89)

Note. $N = 230$. Cronbach's alpha is presented in parentheses on the diagonal. LMX = leader–member exchange; TMX = team–member exchange.
[a] Sex: 0 = female, 1 = male.
[b] Education: 0 = high school, 1 = college degree, 2 = graduate degree.
[c] Coworker (A)-rated.
[d] Self-rated.
[e] Supervisor-rated.
[f] Coworker (B)-rated.
* $p < .05$. ** $p < .01$.

Table 3
Regression Results for Task Performance, Helping Supervisors, and Helping Coworkers

Variable	Task Performance (Supervisor-rated)				Helping Supervisors (Supervisor-rated)				Helping Coworkers (Coworker-rated)			
	Step 1	Step 2	Step 3	Step 4	Step 1	Step 2	Step 3	Step 4	Step 1	Step 2	Step 3	Step 4
Sex[a]	−.01	.01	.03	.03	−.06	−.02	−.01	−.01	−.12	−.07	−.06	−.06
Age	.20	.18	.15	.02	.30*	.26*	.23*	.12	.27*	.22*	.19*	.21*
Organizational tenure	−.10	−.12	−.10	−.01	−.19	−.20	−.18	−.12	−.06	−.08	−.07	−.10
Education[b]	−.10	−.09	−.05	−.06	−.02	−.01	.03	.01	.03	.06	.07	.06
Conscientiousness (CO)[c]		.30***	.26***	.30***		.19***	.13**	.19**		.19**	.13*	.20**
Agreeableness (AG)[c]		.14*	.10	.09		.29***	.24***	.28***		.46***	.40***	.47***
LMX[d]			.32***	.27***			.33***	.27***			.14*	.10
TMX[d]			−.08	−.09			−.03	.01			.14*	.20**
LMX × CO				−.18**				−.17**				.01
LMX × AG				−.17**				−.19**				−.09
TMX × CO				.13				.00				−.13*
TMX × AG				−.03				−.09				−.19**
ΔR^2	.02	.13***	.09***	.06**	.04	.14***	.10***	.07***	.07**	.29***	.04**	.06***
R^2	.02	.15	.24	.30	.04	.18	.28	.35	.07	.36	.40	.46
ΔF	1.38	17.16***	12.38***	4.71**	2.09	19.82***	14.37***	5.87***	4.23**	51.39***	6.94**	5.58***
	(4, 225)	(2, 223)	(2, 221)	(4, 217)	(4, 225)	(2, 223)	(2, 221)	(4, 217)	(4, 225)	(2, 223)	(2, 221)	(4, 217)
F value	1.38	6.78***	8.70***	7.76***	2.09	8.23***	10.51***	9.58***	4.23**	21.21***	18.49***	15.21***
	(4, 225)	(6, 223)	(8, 221)	(12, 217)	(4, 225)	(6, 223)	(8, 221)	(12, 217)	(4, 225)	(6, 223)	(8, 221)	(12, 217)

Note. Data are standardized regression weights. LMX = leader–member exchange; TMX = team–member exchange.
[a] Sex: 0 = female, 1 = male.
[b] Education: 0 = high school, 1 = college degree, 2 = graduate degree.
[c] Coworker-rated.
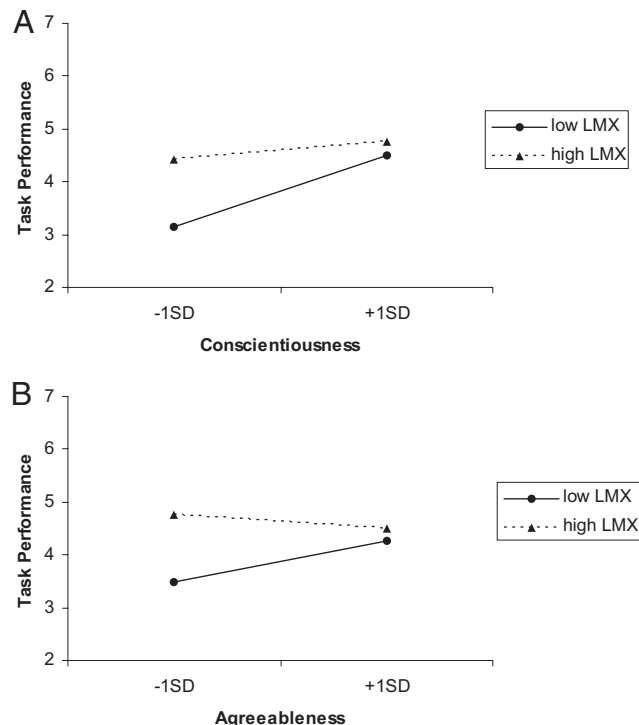[d] Self-rated.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Figure 1. Interactions predicting task performance. A: Interaction between leader–member exchange (LMX) and conscientiousness. B: Unexpected interaction between LMX and agreeableness.

Hypothesis 6 predicted interactions between LMX and personality, as represented by conscientiousness and agreeableness, as predictors of helping supervisors. Results show two significant interactions: Hypothesis 6a, conscientiousness ($\beta = -.17$), $t(217) = -2.81$, $p < .01$; Hypothesis 6b, agreeableness ($\beta = -.19$), $t(217) = -3.26$, $p < .01$; with a significant increase in overall explained variance ($\Delta R^2 = .07$), $\Delta F(4, 217) = 5.87$, $p < .001$. Figure 2 illustrates these interactions, showing that LMX weakened the positive relationships between personality and helping supervisors such that relationships were stronger for low LMX. Thus, results support Hypothesis 6.

Our final hypothesis (Hypothesis 7) predicted TMX would interact with personality, as represented by conscientiousness and agreeableness, to influence helping coworkers. Results demonstrated two significant interactions: Hypothesis 7a, conscientiousness ($\beta = -.13$), $t(217) = -2.08$, $p < .05$; Hypothesis 7b, agreeableness ($\beta = -.19$), $t(217) = -3.44$, $p < .01$; and a significant increase in overall explained variance ($\Delta R^2 = .06$), $\Delta F(4, 217) = 5.58$, $p < .001$. Figure 3 illustrates the interactions, demonstrating that TMX moderated the relationship between personality and helping coworkers, with a more positive slope for low TMX than high TMX, thus supporting Hypothesis 7.

Discussion

This field study had two primary objectives. First, we integrated previously separate literatures and demonstrated interactive effects between two personality characteristics and two social exchange relationships in predicting specific aspects of work performance.

Results support trait activation theory (Tett & Burnett, 2003), demonstrating that high quality social exchange relationships weaken the positive effects of personality on performance. This finding provides insight into when personality is more likely to make a difference in work behaviors. It also responds to calls for research to examine personality and the norm of reciprocity (Colbert et al., 2004; Kamdar, McAllister, & Turban, 2006). Second, we emphasized the importance of matching predictor and outcome constructs (Ajzen, 1988) based on specific target of the behavior. Consistent with our predictions, LMX interacted with personality to predict behaviors targeted at the supervisor, and TMX interacted with personality to predict citizenship behavior targeted at coworkers. As expected, none of the TMX interactions predicted behaviors targeted at the supervisor, and none of the LMX interactions predicted behavior targeted at coworkers.

It is interesting to note that results demonstrated one unexpected interaction. As illustrated in Figure 1b, agreeableness interacted with LMX to predict task performance. Unlike the other interactions, however, in which high quality exchange relationships weakened the positive relationships between personality and performance, regression shows a different pattern of results. As expected, there is no main effect for agreeableness in predicting task performance ($\beta = .09$, $p > .05$). In addition, results show a positive relationship between agreeableness and task performance when LMX is low ($\beta = 0.325$, $t = 3.509$, $p = .001$) and no significant negative relationship between agreeableness and task performance when LMX is high ($\beta = -.014$, $t = -.163$, $p = .871$).
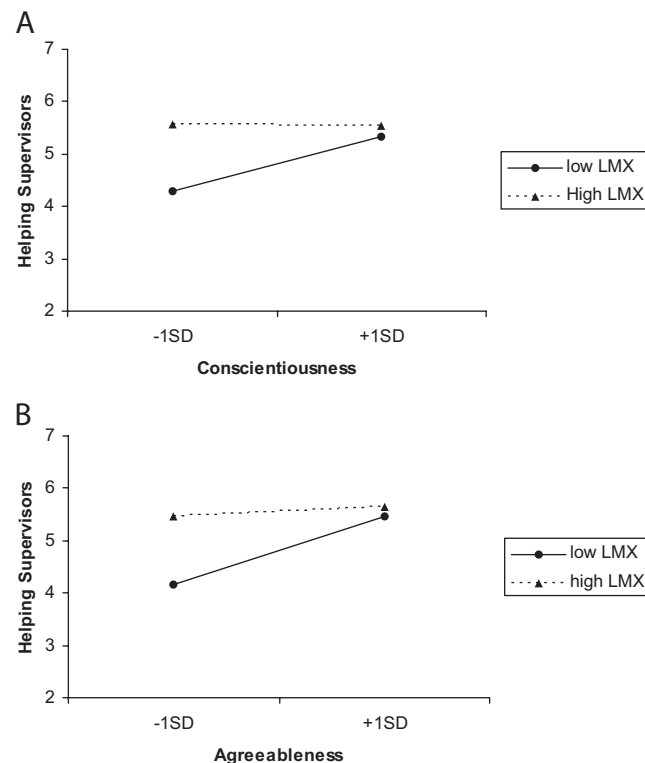

Figure 2. Interactions predicting helping supervisors. 2a: Interaction between leader–member exchange (LMX) and conscientiousness. 2b: Interaction between LMX and agreeableness.
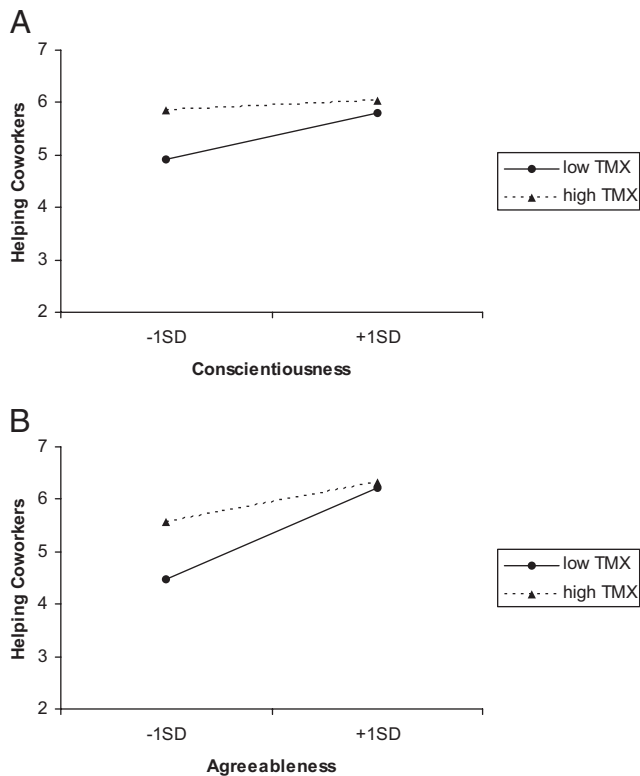
Figure 3. Interactions predicting helping coworkers. 3a: Interaction between team–member exchange (TMX) and conscientiousness. 3b: Interaction between TMX and agreeableness.

Should other researchers replicate this finding, this interaction suggests that the quality of LMX exchange relationships may be critical for predicting performance of those who are low in agreeableness.

Theoretical Implications

Results of our research have several important theoretical implications. First, results demonstrate that perceptions of social exchange relationships (Colbert et al., 2004; Tett & Burnett, 2003) moderate the personality–work performance relationship such that personality is an important predictor for those who have poor quality relationships. When employees have high quality work relationships, this proximal influence neutralizes the role of personality. This suggests that high quality social exchange relationships can compensate for potentially negative consequences of problematic personality traits such as low conscientiousness or low agreeableness. We note that all the interactions conformed to this same pattern. Because measures of work behavior were obtained from both supervisors and coworkers, this consistency in the form of the interactions strengthens our confidence in the results.

Second, this study integrates prior research streams by simultaneously examining personality and quality of exchange relationships as predictors of three different types of work behavior. In addition, and perhaps more important, results show significant relationships for specific predictors of task performance, helping supervisors, and helping coworkers—based on consonant concep-

tualizations in which predictors are matched to targets of behavior. Conscientiousness, but not agreeableness, and LMX, but not TMX, predicted task performance. Personality and LMX predicted helping supervisors, whereas personality and TMX predicted helping coworkers. In addition, these results enhance our understanding of when personality influences work behaviors. Third, results should facilitate the accumulation of research findings (LePine et al., 2002) by providing empirical evidence that task performance, helping supervisors, and helping coworkers are different constructs, with different antecedents.

Practical Implications

Results also have important practical implications. As demonstrated by past research, organizations can enhance task performance by recruiting employees who are high in conscientiousness and by encouraging supervisors to develop close, supportive relationships with subordinates. Moving beyond past research, results also demonstrate that high quality social exchange relationships can compensate for less desirable personality characteristics. This has important practical implications because managers often inherit employees and do not have the opportunity to select on the basis of personality. In a situation in which a manager has an employee who is low in conscientiousness or agreeableness, developing a high quality LMX relationship is an important and realistic option for enhancing work performance. Similarly, working to strengthen relationships among employees in the work group via TMX can reduce potentially negative effects of low conscientiousness or agreeableness.

Future Research, Limitations, and Conclusion

Despite the interesting pattern of findings and the strength of our multisource design, the study has limitations that should be addressed in future research. First, we used a cross-sectional design and collected data at one point in time. Therefore, we cannot make inferences about the causal direction of relationships, and reverse causality cannot be ruled out. Perhaps high performance leads to high quality social exchange relationships. It would be useful to test these relationships in an experimental design to facilitate causal inferences. At the same time, we note that personality is a relatively stable individual difference characteristic. Thus, it is unlikely that work behaviors influenced personality.

Another potential limitation is that our sample was composed primarily of male engineers (96%) in one specific organization. Although engineering is a male-dominated occupation and female engineers represented only 10.9% of the national workforce at the time our data were collected (Kam, 2005), this raises questions about the generalizability of the results. Accordingly, we recommend future research on different occupations and on samples with more women. For example, it would be interesting to ascertain if the pattern of results is similar in accounting, marketing, and general management.

Finally, although we used peer assessments of helping coworkers to avoid mono-method problems, it is important to note that each coworker rated 8 to 16 peers in their own work group. Although we limited our study to employees with a minimum of 6 months tenure in their current work group, it is possible that some employees knew each other better or had better opportunities to

observe coworker helping behavior. Because we did not collect data on how well observer coworkers knew the peers they were rating, future research might examine these relationships, meanwhile controlling for rater–ratee relationships. Alternately, future research might consider the length of time peers have worked together as an additional moderator. Perhaps it takes time for high quality relationships to develop and then subsequently compensate for low conscientiousness or low agreeableness.

To conclude, results of this field study with matched data from multiple sources demonstrate the importance of distinguishing types of work performance: task performance, helping supervisors, and helping coworkers (J. W. Johnson, 2001; Podsakoff et al., 2000; Williams & Anderson, 1991). Furthermore, results show that matching theoretically linked predictors to specific work behaviors improves our understanding of factors that enhance and constrain specific behaviors at work (Masterson et al., 2000; Settoon et al., 1996). Finally, the consistent pattern of interaction results shows that personality makes a difference in work behavior when social exchange relationships are low quality. We recommend that future research continue to examine personality and perceptions of the situation as joint predictors of other work behaviors.

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Call for Nominations

The Publications and Communications (P&C) Board of the American Psychological Association has opened nominations for the editorships of **Psychological Assessment, Journal of Family Psychology, Journal of Experimental Psychology: Animal Behavior Processes,** and **Journal of Personality and Social Psychology: Personality Processes and Individual Differences (PPID),** for the years 2010-2015. Milton E. Strauss, PhD, Anne E. Kazak, PhD, Nicholas Mackintosh, PhD, and Charles S. Carver, PhD, respectively, are the incumbent editors.

Candidates should be members of APA and should be available to start receiving manuscripts in early 2009 to prepare for issues published in 2010. Please note that the P&C Board encourages participation by members of underrepresented groups in the publication process and would particularly welcome such nominees. Self-nominations are also encouraged.

Search chairs have been appointed as follows:
- **Psychological Assessment,** William C. Howell, PhD, and J Gilbert Benedict, PhD
- **Journal of Family Psychology,** Lillian Comas-Diaz, PhD, and Robert G. Frank, PhD
- **Journal of Experimental Psychology: Animal Behavior Processes,** Peter A. Ornstein, PhD, and Linda Porrino, PhD
- **Journal of Personality and Social Psychology: PPID,** David C. Funder, PhD, and Leah L. Light, PhD

Candidates should be nominated by accessing APA's EditorQuest site on the Web. Using your Web browser, go to http://editorquest.apa.org. On the Home menu on the left, find "Guests." Next, click on the link "Submit a Nomination," enter your nominee's information, and click "Submit."

Prepared statements of one page or less in support of a nominee can also be submitted by e-mail to Emnet Tesfaye, P&C Board Search Liaison, at etesfaye@apa.org.

Deadline for accepting nominations is **January 10, 2008,** when reviews will begin.