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A Social Information Processing Perspective of Coworker Influence on a Focal Employee

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A critical omission in the coworker influence literature is how a coworker influences a closely related (focal) employee's job performance behaviors and whether this influence is contingent on that coworker's own behaviors. By integrating social information processing and social cognitive theories with social exchange and role theories, we hypothesize that there are, at least, three distinct types of coworker dyadic influence. Accordingly, we developed and tested a moderated mediation model to explicate such influence. Two multisource, field-design studies conducted in Hong Kong support the modeled relationships in that employee role ambiguity partially mediated the relationships between coworker–employee exchange and two types of employee job performance behaviors—task performance and organizational citizenship behavior (OCB). Furthermore, coworker OCB fostered employee job performance behavior both directly and interactively, acting as a moderator to weaken the relationships between employee role ambiguity and the two types of job performance behaviors.

Key words: social information processing; coworker–employee exchange; role ambiguity; job performance behaviors; moderated mediation

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Introduction

Extensive prior research has demonstrated the importance of coworkers in facilitating employee job performance behaviors (Bommer et al. 2003, Harter et al. 2002, Kamdar and Van Dyne 2007, Liao et al. 2010, Takeuchi et al. 2011), including both in-role behaviors (e.g., task performance) and extra-role behaviors (e.g., organizational citizenship behavior (OCB))¹ (Organ et al. 2006, Williams and Anderson 1991). In fact, Chiaburu and Harrison's (2008) meta-analysis has shown that such influences are at least comparable to, if not greater than, those of the direct supervisor of a focal employee. There is, however, a most important question in the coworker influence literature that has not been fully addressed: What are the roles of a coworker in fostering an employee's job performance behaviors, and what might the underlying mechanisms be?

Two lines of research have shed some light on these important questions. Drawing on the social exchange perspective (Cropanzano and Mitchell 2005), one stream theorizes that employees adjust their attitudes and behaviors based on the quality of their exchange relationships with their coworkers. A high-quality exchange relationship involves mutual obligation, trust, and assistance between two fellow employees (Liden et al. 2000, Sherony and Green 2002). Such a relationship is characterized by feelings of satisfaction, indebtedness, and

commitment from both parties (Kamdar and Van Dyne 2007, Settoon and Mossholder 2002). Maintaining a high-quality exchange relationship thus motivates employees to reciprocate each other's goodwill by tolerating short-term inequity and expressing positive regard as well as taking a different perspective from their own (Bowler and Brass 2006, Kamdar and Van Dyne 2007, Settoon and Mossholder 2002). Moreover, a high-quality interpersonal relationship fosters open communication and divergent thinking (Vinarski-Peretz et al. 2011). It calls forth exchange partners' attention toward each other's experience. Such a tendency improves mutual understanding and learning (Liao et al. 2010). It also helps build up a knowledge structure shared by both parties (Settoon and Mossholder 2002). As a result, establishing better exchange relationships with coworkers contributes to employees' role perception (Liao et al. 2010) and fosters their OCB (Kamdar and Van Dyne 2007), task performance (Liden et al. 2000), and creativity (Liao et al. 2010, Vinarski-Peretz et al. 2011).

The other line of investigation adopts the social information processing and social cognitive perspectives and argues that "individuals, as adaptive organisms, adapt attitudes, behavior, and beliefs to their social context" (Salancik and Pfeffer 1978, p. 226). These studies suggest that, when facing ambiguous or new problems, people are often limited in their information gathering

and processing capacity (Groth et al. 2002). They rely on simplified cues to form impressions of their problems, verify their understanding about the reality, and regulate their behaviors. As a key component of the workplace (Schneider 1987), coworkers often provide such cues through their overt statements and behaviors (Burkhardt 1994). During daily encounters with coworkers, employees will “test and confirm their perceptions of reality” by comparing and aligning their attitudes and actions with these cues (Brass and Burkhardt 1993, p. 447). Consequently, their values, beliefs, and behaviors will display a zone of plasticity, which is conditioned by setting-specific cues—i.e., coworker influence. This stream of research has found that coworkers can influence a focal employee’s engagement in aggressive behavior (Glomb and Liao 2003), retaliation (Jones and Skarlicki 2005), undermining behavior (Duffy et al. 2006), and OCB (Bommer et al. 2003). Additionally, coworkers can shape employees’ perceptions of work–family conflict (Bhave et al. 2010) as well as their supervisors’ interactional justice (Jones and Skarlicki 2005). In line with the social information processing view, prior research also found that, if two employees knew each other well or were closely related, there is a high level of homogeneity in their technology-related attitudes and behaviors (Burkhardt 1994).

Though both research streams contend that employees adjust themselves to coworkers (or to coworker influence) and have examined similar outcomes of such influence similar to employee OCB (e.g., Bommer et al. 2003, Kamdar and Van Dyne 2007), they have typically disentangled coworker influence in isolation as they anchor themselves in different theories and conceive coworker influence in different manners. For instance, the social information processing theory (Salancik and Pfeffer 1978) posits that there are three likely ways in which a coworker affects an employee’s job attitudes and work behaviors: by guiding the employee’s job and role perceptions (role-sending mechanism), by shifting the employee’s attention (attention-shifting mechanism), or by fostering the employee’s vicarious learning (role-modeling mechanism) (Grant et al. 2010). In contrast, the social exchange view emphasizes the idea of coworkers as exchange partners. In other words, it is the quality of the exchange relationship that underlies a coworker’s influence. Without conceptual or empirical integration, the question of how social information processing theory explains the influence of a high-quality exchange relationship with a closely related coworker on the employee (in terms of job performance behaviors in this study) remains elusive. Additionally, no research thus far has captured the sequence of events that represents all three mechanisms proposed by the social information processing perspective. In other words, none of the prior studies has accounted for all these mechanisms simultaneously.

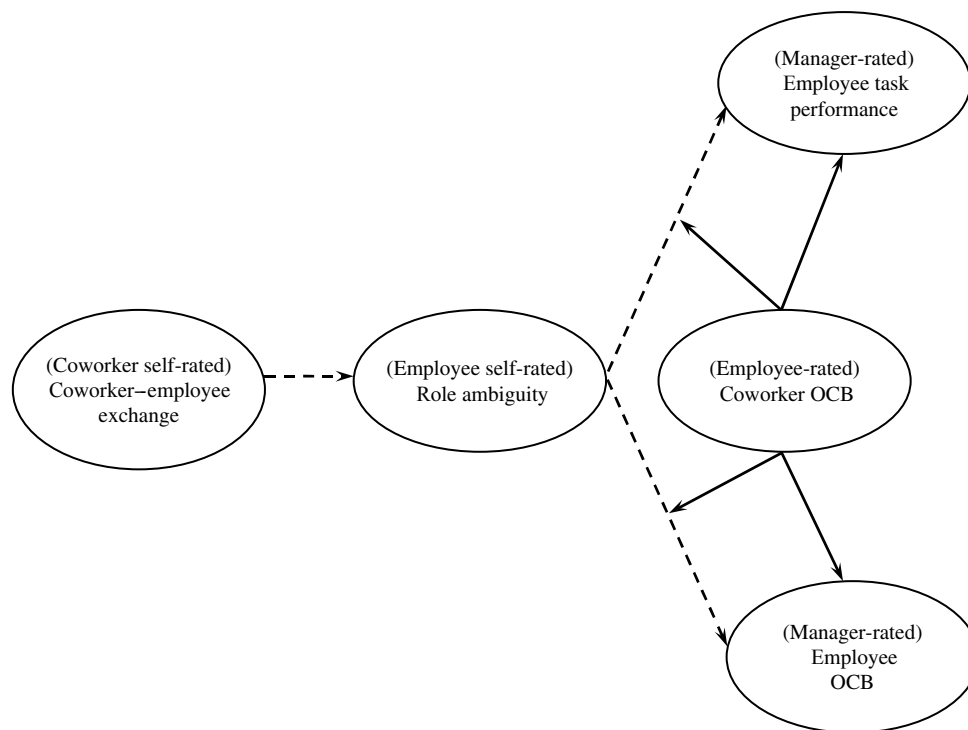
Moreover, the issue of how they interact with each other has escaped the spotlight.

To address these important issues, we integrate the social information processing and social cognitive theoretical perspectives with the social exchange and role theoretical perspectives in the coworker influence literature. In particular, we develop a process-based model (as shown in Figure 1) by using proxies to capture the mechanisms as the social information processing theory suggests. With this model, we aim to show *why* and *how* the three mechanisms combined can account for the effect a high-quality exchange relationship with a closely related coworker has on employee job performance behaviors.

First, we focus on coworker–employee exchange (CEX; see Sherony and Green 2002), which indicates the quality of an exchange relationship between two employees (a coworker and an employee) that is built on work roles and aims at achieving common goals. In line with the attention-shifting mechanism, we expect that a high level of CEX directly fosters employee job performance behaviors. Second, relying on the role theory (Katz and Kahn 1978), we explain how a high-quality exchange partner, as an information sharer, reduces employee role ambiguity (“the discrepancy between the information available to the person and that which is required for adequate performance of his role”; see Kahn et al. 1964, p. 73). Thus, we use role ambiguity as a proxy for the role-sending mechanism. Because the attention-shifting and role-sending mechanisms may simultaneously exert independent impacts on the focal employee, we predict that the effect of CEX on employee job performance is partially mediated through employee role ambiguity. In this manner, we conceptualize the unmediated, direct relationship between CEX and employee job performance behavior as a proxy for the attention-shifting mechanism. Third, we consider a coworker as a role model who fosters employee vicarious learning. This means that the coworker sets an example for the employee, such that the employee learns from the coworker’s behaviors. Considering social cognitive theory (Bandura 1997, 2001), we examine the role-modeling mechanism by studying the effects of coworker OCB. Thus, we utilize the positive relationship between coworker OCB and employee job performance behavior to proxy for the role-modeling mechanism. We propose that coworker OCB is positively related to employee job performance behaviors. Finally, we predict that coworker OCB will have a moderating effect, such that a higher level of coworker OCB weakens the negative relationship between role ambiguity and employee job performance behaviors.

Consequently, this study extends the coworker influence literature in three ways. First, our study offers a more comprehensive conceptualization and investigation of coworker influence mechanisms via proxies.

Figure 1 Moderated Mediation Model of Coworker Influence



Note. Dashed lines indicate negative relationships, and solid lines indicate positive effects.

Through these proxies, we synthesize three forms—namely, the role-sending, attention-shifting, and role-modeling mechanisms—of coworker influence on focal employees’ job performance behaviors. Thus, our model transcends more traditional approaches that typically focus on one type of coworker influence only, neglecting other types of influence. Second, we connect two separate lines of investigation with one theoretical anchor. We identify role ambiguity as an important mediator for the relationship between CEX and employee job performance behaviors.² As a result, our model offers a complementary perspective to current approaches, which are mainly based on self-concept research (Vinarski-Peretz et al. 2011) and motivational theories (Liao et al. 2010, Liden et al. 2000). Third, by integrating social information processing and social cognitive theories, our model provides a more complete and realistic view of the dynamics underlying the influence of a coworker. In particular, we propose and show how the role-sending and role-modeling mechanisms of coworker influence exhibit interactive impacts on employee job performance behaviors. This endeavor also provides an explanation for the substantial amount of variance that is found in prior research regarding the impact of role ambiguity on job performance behaviors, which has not been well explained by extant frameworks (Gilboa et al. 2008). This may be considered a secondary contribution to the literature on role stress.

Theoretical Background and Overview

Coworker Influence from a Relational Perspective

Following the recognition of the key role played by coworkers in the focal employee’s performance (Kahn et al. 1964, Mayo 1933, Roethlisberger and Dickson 1939, Schneider 1987), management scholars have examined coworker influence on the focal employee’s outcomes across multiple research domains. For example, organizational socialization studies have found that supportive coworkers help newcomers adjust better to work settings and improve job performance (e.g., Bauer et al. 2007), social network research has found that employees display more interpersonal OCB toward coworkers with whom they have strong friendship ties (Bowler and Brass 2006), and works on social exchange process have demonstrated that effective exchange relationships with teammates facilitate employee task performance (Liden et al. 2000) and creativity (Liao et al. 2010). Together, these findings show that a coworker can exert a considerable amount of influence on employee work outcomes. At the same time, social information processing theory explains why coworkers matter to employee outcomes—because coworkers are an important source of social influence that provides setting-specific “cues which individuals use to construct and interpret events” in the workplace (Salancik and Pfeffer 1978, p. 226; see also Jones and Skarlicki 2005).

We also recognize that there are different approaches to understanding how coworkers can influence a focal

employee. For instance, some researchers adopt an *averaged* approach by treating all coworkers the same. So when a study asks employees to rate coworker support, a typical item refers to “coworkers” as a uniform group (e.g., “My coworkers are good at helping me solve problems”; see Wang et al. 2010, p. 379). A second approach, called the *social network* approach, examines the impact of a coworker’s network position or network characteristics on an employee (e.g., Bowler and Brass 2006). A third approach, the *relational* approach, realizes that employees maintain different relationships with their coworkers and considers coworker influence at the dyadic level (Mas and Moretti 2009).

Although we acknowledge the advantages and disadvantages associated with each approach, we adopt the relational approach in the current studies. The reason, according to social information processing theory (Salancik and Pfeffer 1978), is that coworker influence involves a variety of social cues. These cues are largely derived from interpersonal relationships and affect focal employees directly and indirectly via daily interaction (Katz and Kahn 1978). Among all the coworkers engaged in a work setting, those who are socially more important will exert a greater influence on the focal employee than others. For instance, a closely related coworker who is more familiar with the work of a focal employee will likely play a greater role in shaping that employee’s attitudes and behaviors than another coworker who has little interaction with that employee (Burkhardt 1994, Mas and Moretti 2009). To capture the social nature of coworker influence, we adopt a relational approach to examine coworker influence at the dyadic level (i.e., between a focal employee and a closely related coworker). In fact, the current literature has called for studies to disentangle social influence in a relational setting (Grant 2008, Humphrey et al. 2007).

According to the social information processing theory, a coworker’s relational influence likely affects a focal employee via three mechanisms. First, by focusing on CEX, we consider a coworker’s attention-shifting influence based on ongoing work relationships (Sherony and Green 2002). This concept of CEX is similar to leader–member exchange (LMX), which describes the quality of the exchange relationship between a leader and a subordinate (Graen and Scandura 1987). Previous research has found that LMX has a positive impact on an employee’s job performance behaviors (e.g., Kamdar and Van Dyne 2007). According to social information processing theory, a coworker’s positive influence shifts a focal employee’s attention to the favorable aspects of work and highlights these positive aspects for the focal employee (Bhave et al. 2010, Salancik and Pfeffer 1978). With a high level of CEX, employees believe that their coworkers know their challenges and needs and will go out of their ways to help them resolve these problems

(Sherony and Green 2002). This perception of a favorable workplace leads focal employees to display appropriate job performance behaviors (Caldwell and O’Reilly 1982). In line with the attention-shifting mechanism, we expect CEX to positively affect employee job performance behavior.

To model the second mechanism that both social information processing and role theories have suggested (Graen and Uhl-Bien 1995, Katz and Kahn 1978), we propose that role ambiguity will have a mediating role in the CEX–employee job performance behavior relationship. In particular, role theory (Katz and Kahn 1978) posits that when focal employees assimilate role expectations from interpersonal relationships, they will first try to gauge what they should and should not do as part of their roles (Katz and Kahn 1978). Based on this evaluation, they may then form other types of role perceptions such as role conflict and role overload. If so, role ambiguity represents one of the most critical factors underlying the role-sending mechanism that we are trying to model (Chiaburu and Harrison 2008). We thus expect role ambiguity to have a leading role in mediating the CEX–employee job performance behavior relationship. Because the attention-shifting and role-sending mechanisms can independently account for coworker influence on employee job performance behavior, we expect role ambiguity to be a partial mediator of that relationship.

As mentioned earlier, the third mechanism reflects a coworker’s role modeling, which promotes employee vicarious learning. In our model, we focus on a coworker’s role modeling through OCB because firms or leaders “cannot rely on formal systems of job description, training, or rewards to cultivate OCB” (Yaffe and Kark 2011, p. 806). As a result, role modeling figures prominently in the influence of coworker OCB on employee job performance behaviors, especially on employee OCB, as predicted by the social cognitive theory (Bandura 1997, 2001). Integrating this theory with role theory (Katz and Kahn 1978), we also hypothesize an interaction effect between employee role ambiguity and coworker OCB on employee job performance behaviors. Before introducing our model, we elaborate on the mediating effect of role ambiguity in the next section.

Hypothesis Development

Role Ambiguity as a Mediator Between CEX and Employee Job Performance Behaviors

As mentioned earlier, we hypothesize that a coworker, as an information sharer (role sender), can influence a focal employee’s job performance behaviors by reducing employee role ambiguity when a high-quality exchange relationship exists (i.e., high CEX) between the two. Specifically, when CEX is high, an effective coworker

is more likely to realize/understand the problems, challenges, or ambiguities facing a focal employee (Sherony and Green 2002). Furthermore, this coworker is more inclined to use personal resources such as power, expertise, and know-how to help the focal employee resolve these issues (Sherony and Green 2002). From the focal employee's perspective, having a positive relationship that features mutual trust, respect, and consideration also encourages him or her to seek more feedback from this exchange partner (Chen et al. 2007, Vinarski-Peretz et al. 2011). Especially when there are multiple ways to interpret an event, interaction with a closely related coworker will help the employees test and confirm their own interpretations (Bhave et al. 2010). As a result, the focal employees will incorporate this effective relationship into their perception of their jobs (Grant 2007), and information shared by the coworker will help them clarify ambiguities and uncertainties related to their role sets. This continuous communication will reduce the focal employees' role ambiguity. As such, we hypothesize the following.

HYPOTHESIS 1A (H1A). *CEX is negatively related to employee role ambiguity.*

Given that the relationships between role ambiguity (and other role stressors) and employee job performance behaviors have been well established (see Eatough et al. 2011, Gilboa et al. 2008), we also expect role ambiguity to be negatively associated with employee job performance behaviors (i.e., task performance and OCB). Based on social information processing and role theories (Katz and Kahn 1978), we further predict role ambiguity will mediate the positive relationship between CEX and employee OCB, even though the current literature has not considered the mediating role of role ambiguity thus far.

Specifically, role theory posits that a closely related coworker can shape an employee's attitudes and behaviors by influencing what the employee considers important (such as the importance of OCB) (Katz and Kahn 1978). When CEX is high, the focal employees will likely internalize the coworker's overt statements (Bhave et al. 2010, Burkhardt 1994) and adapt their attitudes and behaviors to the coworker's expectations (Graen 2003). They will consider it as more acceptable and important to pursue mutual benefits than their self-interests. This perception subsequently leads to behaviors that can help the coworker (such as helping or interpersonally oriented OCB). Second, when focal employees interpret and evaluate their jobs, they will remember the high-quality CEX (Grant 2007). When they face difficulties in fulfilling their roles, they will know to whom to turn (Sherony and Green 2002). As such, the focal employees may be able to perform beyond the call of duty. Third, a cordial coworker releases the focal employees from the burdens

of unsatisfactory working conditions (i.e., role ambiguity). The focal employees can then invest time and effort into helping others (e.g., passing along information or listening to their problems and worries).

Nonetheless, we expect role ambiguity to act as a partial mediator of the relationship between CEX and employee OCB because OCB represents employees' discretionary behaviors that are not explicitly required by their role sets (Organ et al. 2006). Moreover, a high-quality CEX will shift the employees' attention to the more favorable aspects of their working experiences and lead to more employee OCB, which may not be related strongly to the employees' role perceptions. Thus, we expect the following.

HYPOTHESIS 1B (H1B). *Employee role ambiguity partially mediates the relationship between CEX and employee OCB.*

We also expect role ambiguity to partially (rather than fully) mediate the relationship between CEX and employee task performance. Similar to what we have mentioned previously, the first reason is that high-quality CEX prompts focal employees to reciprocate their partners' goodwill by pursuing mutual interests (Graen 2003). At the same time, this perception that they should reciprocate their partners' goodwill reduces ambiguities in the employees' role sets. One way for employees to maintain high-quality CEX is to engage in behaviors that can enhance the efficiency in accomplishing common goals, such as task performance. Second, a high level of CEX informs employees of how and where to obtain valuable support and resources so that they might achieve excellence in fulfilling their duties (Sherony and Green 2002). Such know-how can also foster the employees' task performance. In addition, our rationale implies that a reduction in role ambiguity accounts for the positive influence of high-quality CEX on employee task performance. Taking the attention-shifting mechanism also into account, we expect role ambiguity to be a partial mediator. Specifically, establishing high-quality CEX with coworkers leads the employees to pay more attention to the positive aspects of their work and motivates them to exhibit better task performance. This orientation may not be related strongly to the employees' role perceptions (i.e., role ambiguity). Thus, we hypothesize the following.

HYPOTHESIS 1C (H1C). *Employee role ambiguity partially mediates the relationship between CEX and employee task performance.*

Differential Impacts of Role Ambiguity on Employee Task Performance and OCB

Based on our previous reasoning, we believe that role ambiguity is generally negatively related to employee task performance and OCB. Yet two distinctions

between task performance and OCB lead us to expect essential differences in the magnitudes of these relationships. The first distinction is that task performance reflects an employee's accomplishment of formal role prescriptions (Kiker and Motowidlo 1999). In contrast, one's job requirements often do not mention OCB (Organ et al. 2006). Engaging in OCB is volitional. In that case, an ambiguous role perception (e.g., how one's role is defined, what it involves, and what the responsibilities are) is more likely to thwart an employee's attempts to fulfill his or her duty (i.e., task performance) than to prevent him or her from engaging in discretionary behaviors (i.e., OCB).

Second, these two types of job performance behaviors differ in terms of whether or not they are job specific (Bergeron 2007, Eatough et al. 2011). In particular, task performance is related to a job's technical requirement. For instance, to achieve task performance, an employee often needs to transform the raw materials into the organization's final product and take control of the technical process (Kiker and Motowidlo 1999). Clearly, different tasks require different techniques and expertise to accomplish. Yet exemplary OCB includes cooperating with coworkers, attending meetings on time, and listening to coworkers' concerns and problems (Williams and Anderson 1991). These behaviors are less constrained by one's expertise and experience and are similar across different tasks. Because of this distinction, we also expect uncertain role perception (i.e., role ambiguity) to have a stronger negative effect on employee task performance than on employee OCB. Thus, we propose the following.

HYPOTHESIS 2. *Employee role ambiguity has a stronger negative relationship with employee task performance than with employee OCB.*

Coworker OCB and Employee Job Performance Behaviors

In the workplace, employees respond to informational cues given off by coworkers not only in an automatic and mechanistic manner as a "role receiver" but also in an active way as a "role learner" (Bandura 2001). In addition to explicit sharing or hands-on experiences, individuals can obtain useful information through observation and imitation (Bandura 1997). In fact, social cognitive theory posits that people learn most of their behaviors from the actions of others (Bandura 1997). Social information processing theory also suggests that coworkers, who often share a similar microenvironment with focal employees, can affect these employees by facilitating their vicarious learning (Grant et al. 2010, Salancik and Pfeffer 1978). Though coworkers may give off various cues, in this study we focus on coworkers' role modeling through OCB.

In line with the social cognitive theory, we argue that coworker OCB is positively related to employee OCB.

When closely related coworkers display more OCB, some subconscious process of mental rehearsal may be activated in the employees' minds (Wood and Bandura 1989). This means that when the employees try to understand their coworkers' behaviors, they would put themselves in their coworkers' shoes (Bandura 2001). This mental rehearsal enhances knowledge and (vicarious) experience about OCB, thereby strengthening one's own tendency to exhibit OCB. Moreover, coworkers' OCB represents an appropriate and useful behavioral strategy (Ehrhart and Naumann 2004) and motivates the focal employees to also exhibit OCB in the workplace. In a somewhat different vein, focal employees may engage in OCB if they observe a closely related coworker displaying such behaviors, so that they will not be overshadowed or outperformed by the coworker. Moreover, employees may approach coworkers who have displayed OCB to seek out the latter's intention. In this way, focal employees themselves can make sense of such behaviors. This process functions as "secondary social sharing" (Cole et al. 2008, p. 947) and leads to a homogeneity among peers' behaviors. Taken together, we propose the following.

HYPOTHESIS 3A (H3A). *Coworker OCB is positively related to employee OCB.*

In addition, we also expect coworker OCB to associate positively with employee task performance for the following reasons. First, a closely related coworker's OCB, such as helping behavior, might initiate a transfer of workload from a focal employee to others, which helps the focal employee accomplish assigned tasks (Mas and Moretti 2009); therefore, coworker OCB fosters employee task performance. Second, coworker OCB contributes to an increase in collective resources (technical know-how, expertise, time, etc.) shared by all employees working in the same setting. A focal employee can use these resources to achieve assigned goals. As a result, a closely related coworker's OCB frees a focal employee from the restrictions of his or her personal resources. For instance, when a focal employee observes a coworker helping others remove technical barriers or overcome challenges (even when this behavior is not directly targeted toward the focal employee), the employee indirectly learns how to deal with similar issues and can apply this knowledge to his or her own work. This will lead to an improvement in the employee's task performance.

Third, an employee might take a closely related coworker's OCB as a benchmark against which he or she measures his or her own job performance behaviors (Ehrhart and Naumann 2004). In following the guidance of the role model, the focal employee will exhibit greater dedication and better performance. Moreover, the focal employee may pay more heed to achieving superior task

performance to avoid being overshadowed or outperformed by the coworker. In short, witnessing a closely related coworker's OCB causes a focal employee to achieve better task performance. Thus, we hypothesize as follows.

HYPOTHESIS 3B (H3B). *Coworker OCB is positively related to employee task performance.*

Coworker OCB as a Moderator

In addition to their main effects, we also expect the two mechanisms of coworker dyadic influence, the role-sending and role-modeling processes, to interact with each other and enhance employee job performance behaviors. More specifically, we expect coworker OCB to weaken the negative relationship between employee role ambiguity and job performance behaviors. This is derived from both social information processing theory, which states that different types of coworker influence affect a focal employee at the same time (Salancik and Pfeffer 1978), and social cognitive theory (Bandura 1997, 2001), which argues that employees acquire motivation as well as behavioral strategy knowledge from their role model's behaviors. In this case, these informational and motivational benefits from a coworker's relational influence facilitate the employees' self-regulation and compensate for their low capability to utilize their own knowledge and skills to attain better job performance, an inadequacy caused by ambiguous role perceptions (Kanfer and Ackerman 1989).

In line with this proposal, we first predict that coworker OCB weakens the negative role ambiguity–employee OCB relationship. First, coworker OCB motivates the focal employees to perform well in their jobs (Bandura 2001, Wood and Bandura 1989). A high level of coworker OCB frees focal employees from the uncertainties associated with insufficient information about what behaviors are desirable and appropriate (Rizzo et al. 1970). Moreover, closely related coworkers' OCB compels the focal employees to display more OCB to remain competitive in the presence of the coworkers, even if they are not sure of the best way to improve organizational functioning. For both reasons, there will be a weaker role ambiguity–employee OCB relationship if coworker OCB is high. In contrast, a low level of coworker OCB suggests that such behaviors are not valued or desired in the workplace (Ehrhart and Naumann 2004). Without an external provision of motivational and informational cues, the negative influence of role ambiguity will be more pronounced. Focal employees are more likely to refrain from displaying OCB, given that OCB is discretionary in nature and can be costly to exhibit (Bolino and Turnley 2005). In summary, we propose the following.

HYPOTHESIS 4A (H4A). *Coworker OCB moderates the negative relationship between employee role ambiguity*

and employee OCB such that the relationship is weaker when coworker OCB is high than when it is low.

Finally, we predict coworker OCB will weaken the negative relationship between employee role ambiguity and task performance. That is, a role model's OCB facilitates a focal employee's self-monitoring and regulation because it functions as an external performance benchmark (Ehrhart and Naumann 2004). When a coworker sets a high standard, the focal employee is motivated to match or even beat that standard, even if he or she is hindered by ambiguous role perceptions. In addition, focal employees pick up behavioral strategies from their role models' OCB. As such, restrictions as a result of insufficient knowledge about how to mobilize their expertise and skills to attain task goals (i.e., role ambiguity) will have a weaker effect on employee task accomplishment (Kanfer and Ackerman 1989). For instance, when a focal employee sees a closely related coworker tolerating less than ideal circumstances and remaining dedicated to the pursuit of organizational goals, he or she will be motivated to bear ambiguous role perceptions and to aim at a higher level of task performance.

Yet a low level of coworker OCB tells a focal employee that dedication to and engagement in the pursuit of organizational goals is not a useful behavioral strategy (Ehrhart and Naumann 2004). This situation makes it more difficult for the focal employee to efficiently regulate his or her own behaviors to achieve superior task performance, especially if his or her role ambiguity is already high. In addition, a low level of coworker OCB reduces the necessity for the focal employee to outperform others at work. Thus, the hindering effect of role ambiguity on employee task performance will increase. We thus predict the following.

HYPOTHESIS 4B (H4B). *Coworker OCB moderates the negative relationship between employee role ambiguity and employee task performance such that the relationship is weaker when coworker OCB is high than when it is low.*

Overview of Studies

To test our predictions and the proposed moderated mediation process model, we conducted two studies based on two multisource field samples. In Study 1, we directly tested our model by measuring CEX in a coworker survey and asking the focal employees to report their role ambiguity. We also measured coworker role modeling through OCB by asking the employees to rate their coworkers' OCB. Finally, the managers evaluated their focal employees' job performance behaviors. We chose to collect the information from three independent sources not only to avoid percept–percept bias but also to match our measurement with the conceptualization of these constructs. Moreover, to replicate the results of Study 1, we included several control variables

in Study 2 to rule out potential alternative explanations and tested our model in a more conservative manner.

Study 1

Method

Design and Participants. Our sample³ consisted of 407 triads made up of one focal employee, one coworker, and their immediate manager, all of whom were affiliated with a university in Hong Kong. We first contacted the focal employees and invited them to participate in the study. Once we obtained their consent, we provided them with a survey pack that contained (1) a cover letter, (2) three instruction sheets (one for the focal employee, one for the coworker, and one for the manager), (3) three different surveys, and (4) envelopes for returning the surveys. We told focal employees to hand the manager survey to their immediate supervisor and the coworker survey to the coworker who was most closely related to them and familiar with them at work, along with an instruction sheet and a return envelope for each person. We then instructed the focal employee to fill out his or her own questionnaire, and on a separate instruction sheet, we asked coworkers and managers to fill out their own surveys. We asked participants to place the surveys in university-addressed envelopes, seal them, and sign on the flap before returning them.

In total, we approached 450 full-time employees in fall 2006. Among them, 407 triads returned matched and usable surveys. Of these, 362 triads provided full information. Rather than dropping cases with missing values, we adopted an iterative procedure recommended by Graham et al. (2003) to preserve those cases. Assuming data are missing at random, this procedure first uses an expectation-maximization algorithm to generate maximum-likelihood estimates for the variance-covariance matrix. Then, it uses multiple imputations based on this matrix to replace missing values and generate a new data set. Specifically, we used Schafer's (1997) NORM program to generate values for those cases. As a result, we used the responses from all 407 triads, corresponding to an effective response rate of 90.44%. Such a high response rate was achieved as a result of the strong affiliations these employees had with the university.

Within the focal employee sample, nearly half of the respondents were female (49%). They were 34.82 years old on average ($SD = 11.67$), were primarily Chinese (95.2%), and had been with their respective firms for an average of 72.36 months ($SD = 84.81$). Within the coworker sample, just under half of the respondents were female (49%). They were also predominantly Chinese (94.2%), were 33.48 years old on average ($SD = 9.60$), and had been with their respective firms for an average of 62.46 months ($SD = 67.30$). Within the managerial sample, just under a third of the

respondents were female (32%). They were 41.93 years old on average ($SD = 9.35$), were predominantly Chinese (94.7%), and had been with their respective firms for an average of 123.03 months ($SD = 93.20$). Because of our specific sampling method, our sample was representative of a wide variety of industries and occupations.

Survey Translation Procedure. Although English is commonly used in Hong Kong, the surveys were translated into Chinese by a paid professional translator. To ensure the validity and appropriateness of the items in the Chinese context, two senior Chinese Ph.D. students read over the Chinese version of the surveys several times to identify any concerns. The second author and the Ph.D. students then addressed these concerns through discussions in an iterative process. Once all parties reached a consensus, another Chinese Ph.D. student translated the items back into English. This process is in line with the procedures recommended by Brislin (1990) for survey translations across different languages.

Measures

Except for the demographic variables, the response categories for all variables ranged from strongly disagree (1) to strongly agree (7). In addition, we averaged scores across all items to form an overall measure for each variable and used these measures as the basis of our analysis.

CEX. The coworkers responded to six items developed by Sherony and Green (2002) that assessed the quality of their exchange relationships with the focal employees ($\alpha = 0.83$). One of the sample items includes "My working relationship with this coworker is very effective." These items were adapted from a seven-item LMX scale constructed by Scandura and Graen (1984). Following Sherony and Green (2002), we dropped one item ("How well does your leader recognize your potential?") because it was inappropriate in the coworker influence context. Because the LMX scale examines the nature of the dyadic relationship between a leader and a member (Gerstner and Day 1997), our operationalization of CEX was consistent with the relational approach for studying coworker dyadic influence.

Employee Role Ambiguity. We measured this variable on a five-item scale used by Rizzo et al. (1970). A sample item is as follows: "I have clear, planned goals and objectives for my job." Because the original scale used by Rizzo et al. assessed employee role clarity, we asked the focal employees to rate the five items ($\alpha = 0.82$) and then reverse coded the scores so as to capture employee role ambiguity. Such an approach has been used in previous studies and is consistent with the definition of role ambiguity (e.g., Yun et al. 2007). In this approach, a higher score denotes greater role ambiguity.

Coworker OCB. We asked the focal employees to rate 11 items related to coworker OCB ($\alpha = 0.90$) selected from a 14-item OCB scale developed by Williams and Anderson (1991). One of the sample items reads, “Takes time to listen to coworkers’ problems and worries.” We deleted three negatively worded items from the original scale because these items have been shown to form a separate factor (e.g., Yun et al. 2007). We combined the remaining 11 items into one factor in line with Hoffman et al. (2007), who meta-analyzed the dimensionality of OCB and recommended viewing OCB as a single latent factor.

Employee Task Performance. We obtained the focal employees’ task performance ($\alpha = 0.89$) from the managers using a four-item scale taken from Van Dyne and LePine (1998). A sample item is as follows: “Fulfills the responsibilities specified in his/her job description.”

Employee OCB. We assessed employees’ OCB using Williams and Anderson’s (1991) 11 items (without the negatively worded items; e.g., “Goes out of the way to help new employees”) and asked the managers to rate these items ($\alpha = 0.90$). This enabled us to reduce common method bias concerns.

Control Variables. To rule out the confounding effects on dependent variables not directly relevant to this investigation, we controlled for a set of variables. First, we controlled for coworker and focal employee’s demographic variables, including age, gender (0 = female, 1 = male), and education level (1 = middle school, 2 = high school, 3 = two-year college degree, 4 = four-year university degree, 5 = graduate school), as most studies of employee job performance behaviors have done (e.g., Kamdar and Van Dyne 2007, Whitaker et al. 2007).

In addition, we also controlled for LMX because the dyadic relationship between the focal employee and his or her manager may have a confounding effect on our results (Chiaburu and Harrison 2008, Sherony and Green 2002). We used the seven-item scale developed by Scandura and Graen (1984) (with items such as “My supervisor understands my problems and needs well enough”) to obtain ratings from the focal employees ($\alpha = 0.80$), particularly because this scale has illustrated a higher internal consistency than all other instruments (Gerstner and Day 1997). Finally, we assessed the employee’s trust of the coworker to control for an alternative explanation for the CEX–employee job performance behavior relationship, based on social exchange theory (Cropanzano and Mitchell 2005). To measure this variable, we used the six-item scale developed by Robinson and Rousseau (1994); a sample item is as follows: “In general, I believe my coworker’s motives and intentions are good” ($\alpha = 0.83$). Our results are not substantively altered by including these control variables.⁴

Analytical Procedure

To test our hypotheses, we first standardized employee role ambiguity and coworker OCB and created an interaction term for them to enhance interpretability of the results. We also examined the variance inflation factor (VIF) to evaluate the extent of multicollinearity problems that may exist in this study and found the VIF to be below 10. To test Hypothesis 1, we employed an approach recommended by Preacher and Hayes (2004) that uses a bootstrapping method to examine the indirect effect. In comparison with other approaches for testing mediation effects, this new method has two advantages: (1) rather than arbitrarily requiring a normal distribution for the standard error of the indirect effect, it generates bias-corrected confidence intervals for the standard errors that can be used in nonparametric tests; and (2) it offers a direct test of the indirect effect. In testing Hypothesis 2, we followed Cohen and Cohen’s (1983, pp. 56–57) approach to examine the differences between relationships obtained from the same sample. To test Hypotheses 3 and 4, we used multiple regression analyses and regressed employee job performance behaviors on CEX, employee role ambiguity, coworker OCB, and the interaction term between role ambiguity and coworker OCB.

Finally, we used Edwards and Lambert’s (2007) approach to further test Hypothesis 4. This approach has two advantages over the ordinary least square (OLS) regression and other methods for testing moderated mediation effects. First, there is a smaller chance of making a Type I error in the Edwards–Lambert approach because it does not require a normal distribution for the standard errors of the product terms (Edwards and Lambert 2007). In contrast, it conducts a nonparametric test based on bias-corrected confidence intervals that are generated from sample bootstrapping. Second, it offers direct evidence of where the moderating effect occurs by using a path-analytical procedure that is able to consider the moderating effects and the mediation effect simultaneously.

Results

Because of the conceptual overlap among several constructs in our theoretical model, we conducted a series of confirmatory factor analyses (CFAs) to verify their distinction. First, we focused on the focal employees’ task performance and OCB, both of which were rated by the managers. A CFA of the two-factor baseline model fitted the data well ($\chi^2(88, N = 407) = 279.63, p < 0.01$; root mean square error of approximation (RMSEA) = 0.08; comparative fit index (CFI) = 0.98) (Hu and Bentler 1999). In contrast, an alternative model, where we merged task performance and OCB into one factor, yielded a significantly poorer model fit ($\chi^2(89, N = 407) = 300.80, p < 0.01$; $\Delta\chi^2 = 21.17, p < 0.01$). Second, we assessed the distinctiveness between

employee role ambiguity and coworker OCB, both of which were obtained from the focal employees' ratings. As expected, a two-factor baseline model fitted the data well ($\chi^2(102, N = 407) = 344.74, p < 0.01$; RMSEA = 0.08; CFI = 0.97). Yet a competing model where we combined role ambiguity and coworker OCB into one factor yielded a significantly poorer model fit ($\chi^2(103, N = 407) = 447.36, p < 0.01$; $\Delta\chi^2 = 102.62, p < 0.01$). Thus, these results provide support for the distinctions among the substantive variables examined in our study.

The descriptive statistics for all the variables are listed in Table 1. The zero-order correlations in Table 1 show CEX to be correlated with employee role ambiguity ($r = -0.14, p < 0.01$), task performance ($r = 0.21, p < 0.01$), and OCB ($r = 0.16, p < 0.01$). Thus, Hypothesis 1A, which stated that CEX is negatively related to employee role ambiguity, is supported. Employee role ambiguity was also negatively correlated with employee OCB ($r = -0.27, p < 0.01$) and task performance ($r = -0.36, p < 0.01$). These results are in line with Hypotheses 1B and 1C. Using Cohen and Cohen's (1983) formula, we found role ambiguity had a stronger relationship with employee task performance than with OCB ($t = -2.86, p < 0.01$), which supports Hypothesis 2. Moreover, coworker OCB was positively correlated with employee task performance ($r = 0.43, p < 0.01$) and OCB ($r = 0.38, p < 0.01$), as Hypotheses 3A and 3B predicted.

Hypotheses 1B and 1C proposed that employee role ambiguity partially mediates the relationships between CEX and the two types of employee behaviors. To examine the mediation effect, we first bootstrapped the sample 1,000 times, as previous simulations have found that, given $\alpha = 0.05$, bootstrapping 1,000 times provides a parameter estimate that deviates from the true value by less than 5% with a probability of approximately 0.95 (Andrews and Buchinsky 2000). Results showed that role ambiguity significantly mediated the relationships between CEX and employee OCB ($\beta = 0.03, p < 0.01$), and between CEX and task performance ($\beta = 0.04, p < 0.01$). The test of direct effects showed that CEX had positive associations with OCB ($\beta = 0.10, p < 0.05$) and task performance ($\beta = 0.14, p < 0.01$) that were not mediated by role ambiguity. Thus, Hypotheses 1B and 1C receive full support. Role ambiguity partially mediated the relationships between CEX and employee OCB (H1B) and between CEX and task performance (H1C).

Hypothesis 3 predicted that coworker OCB is positively related to employee OCB (H3A) and employee task performance (H3B). As shown in Table 2, coworker OCB was positively related to employee OCB ($\beta = 0.28, p < 0.01$) and task performance ($\beta = 0.30, p < 0.01$) (M2 for Model 2). Thus, we find strong support for Hypothesis 3. Hypothesis 4 predicted that coworker

OCB weakens the negative effects of role ambiguity on employee OCB (H4A) and employee task performance (H4B). The results are listed as M3 (for Model 3) in Table 2. Indeed, coworker OCB interacted with employee role ambiguity to affect employee OCB ($\beta = 0.14, p < 0.01$) and task performance ($\beta = 0.17, p < 0.01$).

To test the moderated mediation model, we used Edwards and Lambert's (2007) approach. To obtain the coefficient estimates for sample bootstrapping, we standardized all variables and ran two regressions for each model:

$$\begin{aligned} \text{RoleAmbiguity} = & a_0 + a_x \text{CEX} + a_z Z \\ & + a_{xz} \text{CEX} \times Z + \varepsilon_1, \end{aligned} \quad (1)$$

$$\begin{aligned} Y = & b_0 + b_x \text{CEX} + b_M \text{RoleAmbiguity} + b_Z Z \\ & + b_{xz} \text{CEX} \times Z + b_{Mz} \text{RoleAmbiguity} \times Z \\ & + \varepsilon_2, \end{aligned} \quad (2)$$

where Y refers to the dependent variable (employee OCB or task performance) and Z refers to coworker OCB. Next, we substituted Equation (1) for role ambiguity into Equation (2) to calculate the coefficients of five major effects: (1) the direct effect of CEX on employee job performance behaviors ($b_x + b_{xz}Z$), (2) the indirect effect of CEX on employee job performance behaviors through role ambiguity ($(a_x + a_{xz}Z)(b_M + b_{Mz}Z)$), (3) the total effect of CEX on employee job performance behaviors ($(a_x + a_{xz}Z)(b_M + b_{Mz}Z) + (b_x + b_{xz}Z)$), (4) the second-stage effect of role ambiguity on employee job performance behaviors ($b_M + b_{Mz}Z$), and (5) the first-stage effect of CEX on role ambiguity ($a_x + a_{xz}Z$). Based on these formulas and coefficients, we calculated the simple slope effects for each model by replacing the moderator (Z) with a value that is one standard deviation above or below its mean (see Table 3).

As in the mediation effect test, we computed the bias-corrected confidence intervals for each standard error and derived alternative significance tests again by bootstrapping the sample 1,000 times. Differences in the simple slope effects for each model were calculated by subtracting the effects of low coworker OCB from the effects of high coworker OCB. Furthermore, from the bootstrapping analysis, we obtained results of the significance tests for every difference in the corresponding simple slope effects. From these coefficients and significance tests, we plotted the interaction effect between role ambiguity and coworker OCB for each dependent variable in Figures 2 and 3.

As shown in Table 3, coworker OCB significantly moderated the second-stage effect of role ambiguity on employee OCB as well as task performance. When coworker OCB was high, the relationship between role ambiguity and employee OCB was positive ($\beta = 0.08, ns$), and when

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Table 1 Descriptive Statistics and Correlations

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1 CEX ^a	0.87/0.83	-0.14**	0.18**	0.16**	0.21**	0.16**	0.12*							-0.02	-0.01	0.07	0.04	0.00	0.16**
2 Role ambiguity ^b	-0.18**	0.83/0.82	-0.51**	-0.27**	-0.36**	-0.48**	-0.31**							-0.18**	-0.02	-0.08	-0.09	-0.03	-0.06
3 Coworker OCB ^b	0.28**	-0.45**	0.90/0.90	0.38**	0.43**	0.36**	0.37**							0.12*	0.02	0.11*	0.04	0.13**	0.12*
4 Employee OCB ^c	0.24**	-0.40**	0.40**	0.89/0.90	0.77**	0.23**	0.21**							0.09	0.07	0.02	0.07	0.13*	0.04
5 Employee task performance ^c	0.32**	-0.35**	0.34**	0.76**	0.88/0.89	0.23**	0.24**							0.05	0.08	0.08	0.10*	0.10	0.05
6 LMX ^b	0.25**	-0.50**	0.30**	0.23**	0.28**	0.78/0.80	0.41**							0.14**	-0.08	0.04	0.07	0.00	0.07
7 Trust of coworker ^b	0.25**	-0.35**	0.64**	0.35**	0.30**	0.38**	0.83/0.83							0.03	-0.01	0.14**	0.04	0.03	0.12*
8 Coworker ostracism ^b	-0.10	0.28**	-0.44**	-0.32**	-0.23**	-0.10	-0.39**	0.97/											
9 Organizational identification ^b	0.21**	-0.34**	0.26**	0.11*	0.22**	0.47**	0.27**	-0.07	0.85/										
10 POS ^b	0.21**	-0.28**	0.14**	0.09	0.19**	0.60**	0.24**	0.08	0.66**	0.75/									
11 Employee felt obligation ^b	0.18**	-0.40**	0.32**	0.22**	0.24**	0.51**	0.34**	0.00	0.63**	0.57**	0.76/								
12 OBSE ^b	0.16**	-0.54**	0.35**	0.30**	0.29**	0.54**	0.34**	-0.12*	0.48**	0.50**	0.52**	0.91/							
13 PIS ^b	0.13*	-0.42**	0.31**	0.27**	0.27**	0.45**	0.33**	-0.10	0.44**	0.44**	0.50**	0.57**	0.87/						
14 Employee age ^b	-0.01	-0.23**	0.12*	0.17**	0.15**	-0.02	0.09	-0.02	0.03	-0.02	0.14**	0.11*	0.11*	0.00	-0.23**	0.53**	-0.01	-0.11*	-0.11*
15 Employee gender ^b	0.02	0.03	-0.03	-0.02	0.02	0.04	0.03	0.09	0.07	0.09	0.07	0.01	0.01	0.05	-0.11*	0.06	0.29**	-0.14**	-0.14**
16 Employee education ^b	0.02	-0.07	0.04	0.12*	0.12*	0.10	0.10	-0.05	0.11*	0.15**	0.05	0.18**	0.03	-0.19**	0.00	-0.17**	-0.08	0.68**	0.68**
17 Coworker age ^a	-0.01	-0.18**	-0.02	0.10	0.09	-0.08	0.01	0.11*	-0.08	-0.11*	0.08	0.07	0.05	0.59**	-0.02	-0.13*	-0.04	-0.11*	-0.11*
18 Coworker gender ^a	0.03	0.02	-0.08	-0.10	-0.01	0.05	-0.05	0.12*	0.05	0.04	0.02	0.02	0.05	-0.02	0.21**	-0.07	0.03	-0.04	-0.08
19 Coworker education ^a	-0.04	0.04	-0.02	-0.05	0.00	0.01	0.06	-0.07	0.10	0.11*	-0.01	0.12*	0.03	-0.14**	0.01	0.54**	-0.19**	-0.01	-0.01
Study 1 mean	4.48	2.98	4.90	5.13	5.36	4.43	4.38							35.05	0.52	2.79	33.37	0.51	2.87
Study 1 SD	0.78	0.83	0.78	0.80	0.85	0.77	0.90							11.45	0.50	1.16	9.57	0.50	1.18
Study 2 mean	4.48	3.01	4.83	4.99	4.99	4.56	4.65	2.16	4.50	4.27	4.47	4.65	4.82	34.57	0.54	2.87	34.34	0.50	3.09
Study 2 SD	0.84	0.86	0.76	0.74	0.93	0.75	0.89	1.05	0.94	0.70	0.85	0.87	0.98	11.21	0.87	1.18	9.74	0.54	1.17

Notes: N = 407 (Study 1); N = 357 (Study 2). Reliability estimates (coefficient α) are on the diagonal. The first coefficient indicates reliability estimates in Study 2, and the second coefficient represents the α values in Study 1.

^aCoworker rating.
^bMeasured from focal employees.
^cManagerial rating.
 * $p < 0.05$; ** $p < 0.01$ (two-tailed).

Table 2 Regression Analyses of the Interaction Between Employee Role Ambiguity and Coworker OCB

Dependent variable = Variable	Study 1						Study 2					
	OCB			Task performance			OCB			Task performance		
	M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3
Employee age	0.04	0.02	0.02	-0.04	-0.06	-0.06	0.14*	0.13*	0.13*	0.10	0.09	0.09
Employee gender	0.04	0.04	0.05	0.05	0.05	0.06	0.01	0.01	0.02	0.02	0.02	0.02
Employee education	-0.00	-0.01	-0.00	0.07	0.06	0.07	0.18**	0.18**	0.18**	0.14*	0.14*	0.14*
Coworker age	0.03	0.04	0.03	0.09	0.10*	0.10	-0.03	-0.01	-0.01	0.03	0.04	0.04
Coworker gender	0.11*	0.07	0.08	0.07	0.04	0.04	-0.07	-0.06	-0.07	0.01	0.01	0.01
Coworker education	0.02	0.00	0.01	-0.03	-0.05	-0.05	-0.09	-0.08	-0.08	-0.06	-0.06	-0.06
LMX	0.09	0.07	0.07	0.02	-0.01	0.00	-0.02	-0.01	-0.01	0.04	0.05	0.05
Trust in the coworker	0.10*	0.05	0.05	0.12*	0.06	0.06	-0.04	-0.12	-0.12	0.07	0.02	0.02
Coworker ostracism							-0.23**	-0.18**	-0.17**	-0.13*	-0.12*	-0.11*
POS							-0.01	0.03	0.02	-0.01	0.00	-0.01
Organizational identification							-0.16*	-0.17*	-0.17*	0.00	0.00	0.00
Employee felt obligation							0.09	0.07	0.08	0.03	0.02	0.02
OBSE							0.08	0.06	0.06	0.04	0.03	0.03
PIS							0.08	0.07	0.09	0.10	0.09	0.10
CEX	0.10*	0.08	0.09	0.15**	0.13**	0.13**	0.24**	0.22**	0.20**	0.23**	0.22**	0.22**
Employee role ambiguity	-0.17**	-0.06	-0.04	-0.29**	-0.18**	-0.15**	-0.22**	-0.19**	-0.18**	-0.12*	-0.10	-0.10
Coworker OCB		0.28**	0.28**		0.30**	0.30**		0.21**	0.22**		0.10	0.11
CEX × Coworker OCB			-0.03			-0.04			0.11*			0.03
Role ambiguity × Coworker OCB			0.14**			0.17**			0.11*			0.06
Overall F	5.62**	7.65**	7.36**	9.40**	12.02**	11.78**	8.68**	8.99**	8.61**	7.18**	6.90**	6.26**
R ²	0.12	0.18	0.20	0.19	0.25	0.28	0.32	0.34	0.36	0.25	0.26	0.26
F change		24.59**	4.91**		31.06**	8.12**		9.82**	3.87*		2.06	0.84
R ² change		0.05**	0.02**		0.06**	0.03**		0.02**	0.02*		0.01	0.00

Notes. N = 407 (Study 1); N = 357 (Study 2). Dependent variables refer to the employee.
 *p < 0.05; **p < 0.01 (two-tailed).

coworker OCB was low, it became negative ($\beta = -0.19$, $p < 0.01$), with the difference between high and low coworker OCB being highly significant ($\beta = 0.27$,

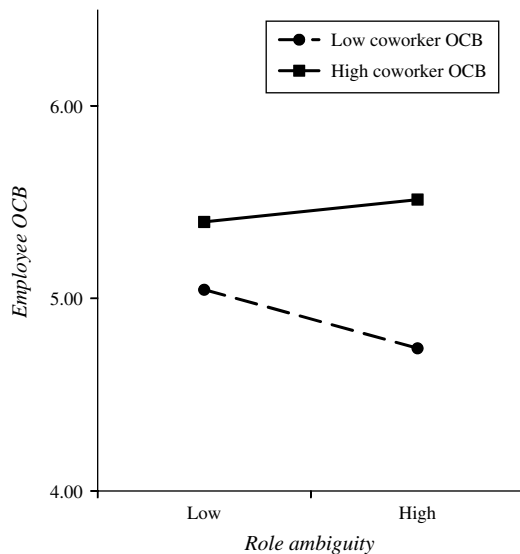
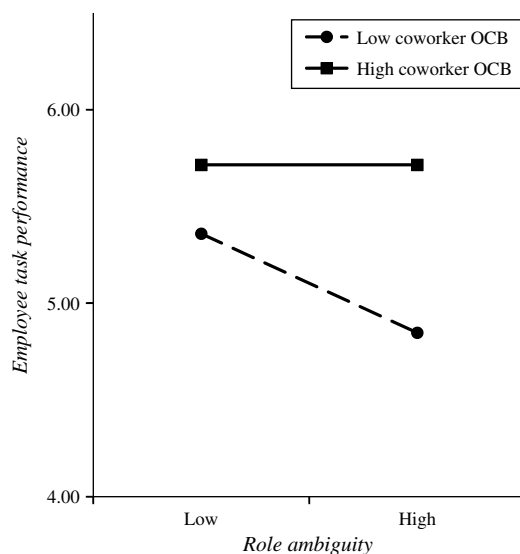
$p < 0.01$). Similarly, when coworker OCB was high, the relationship between role ambiguity and employee task performance disappeared ($\beta = 0.00$, ns). When coworker

Table 3 Results of Simple Effects Based on Bootstrap Estimates

Study	Dependent variable	Moderator	Stage		Effect		
			First	Second	Direct	Indirect	Total
Study 1	Employee OCB	Coworker OCB					
		High	-0.10	0.08	0.05	-0.01	0.04
		Low	0.02	-0.19**	0.13*	-0.00	0.13*
	Employee task performance	Coworker OCB					
		High	-0.10	0.00	0.09	0.00	0.09
		Low	0.02	-0.30**	0.17*	-0.01	0.17*
Study 2	Employee OCB	Coworker OCB					
		High	-0.12*	-0.16	0.26**	0.02*	0.28**
		Low	-0.06	-0.33**	0.09	0.02	0.11
	Employee task performance	Coworker OCB					
		High	-0.12	-0.20**	0.28**	0.02*	0.31**
		Low	-0.06	-0.32**	0.25**	0.02	0.27**
		Difference	-0.06	0.12	0.03	0.01	0.04

Notes. N = 407 (Study 1); N = 357 (Study 2). Entries are simple effects calculated from Equation (2). Tests of differences for the indirect and total effects were based on bias-corrected confidence intervals derived from bootstrap estimates.

* p < 0.05; ** p < 0.01 (two-tailed).

Figure 2 Moderating Effect of Coworker OCB on the Relationship Between Role Ambiguity and Employee OCB (Study 1)**Figure 3** Moderating Effect of Coworker OCB on the Relationship Between Role Ambiguity and Employee Task Performance (Study 1)

OCB was low, the relationship became negative and significant ($\beta = -0.30$, $p < 0.01$). In addition, the difference between these two conditions was also significant ($\beta = 0.30$, $p < 0.01$). Thus, the moderated mediation model test provides results that are consistent with our OLS analysis. It also provides support for Hypothesis 4 in that coworker OCB weakened the negative linkages between role ambiguity and employee OCB (H4A) and between role ambiguity and task performance (H4B).

In summary, the results from Study 1 provided strong support for the relationships we modeled (see Figure 1). However, they are not without limitations. First,

we examined coworker influence based on a relational approach. As such, one could argue that the results (and associated theoretical explanations) would differ if we took an averaged approach to coworker influence. To address this limitation, in Study 2 we include a focal employee's perception of ostracism by all of his or her coworkers to represent coworker antagonism (Chiaburu and Harrison 2008). Coworker ostracism is a lack of support at work and is less related to work roles than the establishment of high-quality CEX (Ferris et al. 2008). Thus, it serves as an indicator of an employee's general relationships with his or her coworkers. By including this variable, we aim to rule out the concern that our findings may change if we adopted an averaged approach.

Second, we adopted social information processing as the overarching framework and proposed that role ambiguity mediates the CEX–employee job performance behavior association. Yet one may wonder whether role ambiguity is indeed the most relevant and critical factor accounting for this relationship. For instance, several alternative perspectives, such as self-concept research, might also account for the CEX–employee job performance behavior relationship. To illustrate the robustness of our results and to address potential alternative explanations, we also added several additional variables (such as felt obligation and organization-based self-esteem (OBSE)) to control for competing mechanisms. Finally, some measurement issues (such as deleting negatively worded items from the OCB scale or using Williams and Anderson's 1991 scale) may be a concern. In Study 2, we address these issues.

Study 2

Method

Design and Participants. In this study, we approached 430 full-time employees through connections of undergraduate students studying at a major university in Hong Kong in 2009. We utilized this sampling method to recruit participants from across a wide spectrum of industries and occupations. We obtained the name of a full-time employee from each student (i.e., 430 students) and contacted the focal employees. After obtaining their consent, we distributed to each employee a survey pack including three separate survey questionnaires according to the same procedure as in Study 1. Similarly, all items went through the same translation–back translation procedure used in Study 1. The items were rated on a seven-point Likert-type response scale (ranging from 1 = strongly disagree to 7 = strongly agree). After matching ratings from each source, our sample contained 357 triads with usable responses. Of these, 315 triads responded to all questions. Rather than dropping those cases with incomplete responses, we preserved them by

using the iterative procedure developed by Graham et al. (2003) as in Study 1. Thus, the responses from all 357 triads were used in this study, which corresponds to an effective response rate of 83.02%.

Regarding demographics, 56% of the focal employees were female. On average, they were 34.39 years old ($SD = 11.36$) and had been with their respective firms for 96.46 months ($SD = 104.04$). About half of the coworker sample was female. They were on average 34.27 years old ($SD = 9.65$) and had been in their respective firms' service for 67.47 months ($SD = 68.96$). Within the managerial sample, 72% of the respondents were female. They were on average 44.61 years old ($SD = 24.73$) and had been working for their respective firms for 92.41 months ($SD = 81.91$).

Measures

CEX. We assessed this variable using Sherony and Green's (2002) six-item scale ($\alpha = 0.87$).

Employee Role Ambiguity. Focal employees rated their role ambiguity based on the five-item scale developed by Rizzo et al. (1970) ($\alpha = 0.83$). As in Study 1, we reverse coded all ratings for these items to capture employee role ambiguity.

Coworker OCB. We measured this variable using a 14-item full scale developed by Williams and Anderson (1991) ($\alpha = 0.90$). Then, we combined the 14 items into a single latent factor.

Employee Task Performance. Each focal employee's direct supervisor rated the employee's task performance ($\alpha = 0.88$). We assessed this variable using a four-item scale developed by Farh and Cheng (1999), which has demonstrated reasonable reliability and validity in the Chinese context (Chen and Aryee 2007). Illustrative items include "This employee always finishes the assigned tasks on schedule" and "His/her performance always meets my requirements/expectations."

Employee OCB. We asked the manager to rate the focal employee's OCB on Williams and Anderson's (1991) 14-item scale, and we combined all the ratings into a single latent factor ($\alpha = 0.89$).

Control Variables. We first controlled for the coworker's and focal employee's age, gender, and education level, which were measured in the same way as in Study 1. Based on Katz and Kahn's (1978) original framework, we then included a set of variables to control for the alternative mediating mechanisms or confounding effects on the dependent variables. We relied on this framework as it explicitly explains what factors shape role-sending processes in organizational life. This framework labels those factors as the individual, interpersonal, and contextual determinants. Because we adopted a relational approach and focused mainly on the interpersonal

process of coworker influence, we believe it is important to control for the effects of individual and contextual determinants.

To control for influences from the broader organizational context, we first included LMX and perceived organizational support (POS). Focal employees rated LMX on the Scandura and Graen (1984) seven-item scale ($\alpha = 0.78$) and POS on the Eisenberger et al. (1990) nine-item scale ($\alpha = 0.76$). A sample item from the latter is as follows: "The organization takes pride in my accomplishments at work." We also assessed coworker ostracism because it indicates the general (and negative) relationships that an employee has with coworkers. The variable captures overall coworker influence as the averaged approach would and represents the negative interactions between peers, which may have a more critical influence on an employee's interpersonal behavior than positive interactions (Chiaburu and Harrison 2008). Employees rated ostracism by their coworkers using a 10-item scale developed by Ferris et al. (2008) ($\alpha = 0.97$). A sample item is as follows: "My coworkers ignore me at work."

Next, we assessed the focal employees' felt obligation to and trust in their coworkers because both of these reflect the social exchange process, a competing explanation for the role-sending mechanism that we are studying (Graen and Uhl-Bien 1995). Employees rated their felt obligation on a six-item scale developed by Eisenberger et al. (2001) ($\alpha = 0.76$). One of the sample items reads, "I feel a personal obligation to do whatever I can to help the organization achieve its goals." We used Robinson and Rousseau's (1994) five-item scale to assess employees' trust in their coworkers ($\alpha = 0.83$); one of the sample items reads, "I fully trust my coworkers."

In Katz and Kahn's (1978) framework, the individual determinants refer to one's self-identity. We measured employees' self-identity in terms of (a) how they make sense of themselves within the firm and (b) how they evaluate their standing as a member of the organization (Blader and Tyler 2009). Prior research has found that one's self-identity strongly determines his or her job attitude and work performance (Blader and Tyler 2009, Chen and Aryee 2007). To capture the first component (Blader and Tyler 2009), we measured employees' organizational identification on a six-item scale developed by Mael and Ashforth (1992) ($\alpha = 0.85$). A sample item is as follows: "When I talk about my company, I usually say 'we' rather than 'they.'" We also measured employees' perceived insider status (PIS), which is "an employee's conception of himself/herself as having earned a place and acceptance in a work organization" (Chen and Aryee 2007, p. 228). We assessed this variable based on a six-item scale that Stamper and Masterson (2002) developed ($\alpha = 0.87$); a sample item

is as follows: “I feel I am an ‘insider’ in my work organization.”

To capture the self-evaluation component of one’s self-identity, we followed an approach used in prior research (Chen and Aryee 2007) and assessed the focal employee’s self-esteem. As we aim to disentangle coworker relational influence in the workplace, we focus on employees’ OBSE rather than their general self-esteem (Pierce and Gardner 2004). We asked the employees to rate their OBSE based on the 10-item scale developed by Pierce et al. (1989) ($\alpha = 0.91$). A sample item is as follows: “I count around here.”

By including the above variables, we were able to provide a more robust investigation of our conceptual model and illustrate how it explains incremental variances beyond alternative explanations.

Analytical Procedure

Similar to Study 1, we first standardized all substantive variables and created an interaction term between CEX and coworker OCB and another one between role ambiguity and coworker OCB. We also examined VIF to evaluate the extent of the multicollinearity problem that may exist in this study and found VIF to be below 10. Regarding hypothesis testing, we adopted identical procedures to those in Study 1. We report the results in the following section.

Results

We conducted a series of CFAs to verify the conceptual distinctions among the key constructs in our model. First, a CFA of a two-factor model, which included the focal employee’s task performance and OCB, demonstrated acceptable model fit ($\chi^2(129, N = 357) = 511.76, p < 0.01$; RMSEA = 0.09; CFI = 0.97). An alternative model where we merged these two variables into one factor yielded a significantly poorer model fit ($\chi^2(130, N = 357) = 586.43, p < 0.01$; $\Delta\chi^2 = 74.67, p < 0.01$). Similarly, a two-factor model with employee role ambiguity and coworker OCB fits the data reasonably well ($\chi^2(151, N = 357) = 611.45, p < 0.01$; RMSEA = 0.09; CFI = 0.95) and yielded significantly better fitness than an alternative model where we combined these two variables into one factor ($\chi^2(152, N = 357) = 732.67, p < 0.01$; $\Delta\chi^2 = 121.22, p < 0.01$). As such, we treated these concepts as distinct variables in the following analysis.

Table 1 shows the descriptive statistics for all the variables. As shown in the lower diagonal of the correlation matrix, CEX was significantly correlated with employee role ambiguity ($r = -0.18, p < 0.01$), task performance ($r = 0.32, p < 0.01$), and OCB ($r = 0.24, p < 0.01$), supporting Hypothesis 1A. In addition, employee role ambiguity was negatively correlated with employee OCB ($r = -0.40, p < 0.01$) and task performance ($r = -0.35, p < 0.01$). These results are

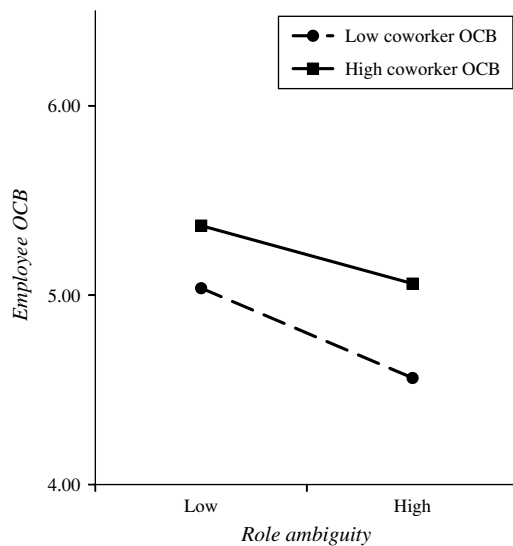
in line with Hypotheses 1B and 1C. Using Cohen and Cohen’s (1983) approach, we found role ambiguity did not have differential relationships with employee task performance and employee OCB ($t = 1.48, ns$). Yet, in support of Hypotheses 3A and 3B, coworker OCB was positively related to employee OCB ($r = 0.40, p < 0.01$) and task performance ($r = 0.34, p < 0.01$).

As a test of Hypotheses 1B and 1C, we bootstrapped the sample 1,000 times and found that employee role ambiguity significantly mediated the relationships between CEX and employee OCB ($\beta = 0.06, p < 0.01$) and between CEX and employee task performance ($\beta = 0.06, p < 0.01$). Meanwhile, there remained significant main effects from CEX on employee OCB ($\beta = 0.20, p < 0.01$) and task performance ($\beta = 0.30, p < 0.01$). These results suggest that role ambiguity partially mediated the relationships between CEX and employee OCB and between CEX and task performance, just as Hypotheses 1B and 1C predicted.

In addition, the results from the current study support Hypothesis 3A, which stated that coworker OCB is positively related to employee OCB (H3A). As shown in Table 2, coworker OCB was positively related to employee OCB ($\beta = 0.21, p < 0.01$). Meanwhile, the relationship between coworker OCB and employee task performance approached significance ($\beta = 0.10, p < 0.10$). This might reflect a relatively smaller statistical power from a smaller sample size than that in Study 1. A similar pattern emerges for Hypothesis 4, which predicted that coworker OCB weakens the negative effects of role ambiguity on employee OCB (H4A) and employee task performance (H4B). Specifically, as shown in Table 2, coworker OCB interacted with employee role ambiguity to affect employee OCB ($\beta = 0.11, p < 0.05$) but not with employee task performance ($\beta = 0.06, p < 0.10$).

To further probe the nature of the moderated mediation effect, we conducted a supplementary analysis based on Edwards and Lambert’s (2007) approach. As shown in Table 3, coworker OCB significantly moderated the second-stage effect of role ambiguity on employee OCB. When coworker OCB was high, the relationship between role ambiguity and employee OCB was negative but not significant ($\beta = -0.16, ns$). When coworker OCB was low, it became significant ($\beta = -0.33, p < 0.01$), with the difference between high and low coworker OCB also being significant ($\beta = 0.17, p < 0.05$) (see Figure 4 for a graphic illustration). Regardless of the level of coworker OCB, there was a negative relationship between employee role ambiguity and employee task performance ($\beta = -0.20, p < 0.01$ for high coworker OCB; $\beta = -0.32, p < 0.01$ for low coworker OCB). Moreover, the difference between these two conditions was not significant ($\beta = 0.12, ns$). Thus, these findings were consistent with those obtained from the OLS regression.

Figure 4 Moderating Effect of Coworker OCB on the Relationship Between Role Ambiguity and Employee OCB (Study 2)



General Discussion

In the current study, we address a central question in the coworker influence literature about the different roles that a coworker can simultaneously play in fostering a focal employee's job performance behaviors. As the first endeavor in the literature, our study not only distinguishes between the different mechanisms of coworker influence suggested by social information processing theory (Grant et al. 2010) but also investigates their *main* and *interactive* effects. Organizational scholars have raised questions and concerns about this theory, such as "whether social cues can have lasting effects on the job perceptions and performance of employees" (Grant et al. 2010, p. 424) and "although it was found that these social characteristics related to satisfaction, their lack of relationships with behavioral outcomes...tempered enthusiasm" (Humphrey et al. 2007, p. 1336). Our study thus represents an important extension of this theory.

With clear evidence from not one but two multisource field studies, we found that coworker relational influence is indeed positively related to employee job performance behaviors, including both OCB and task performance. We believe there are two reasons that can account for the questions and concerns about the above-mentioned social information processing theory. First, although social information processing theory argues that coworker influence may shape employee behaviors through multiple mechanisms (Grant et al. 2010, Salancik and Pfeffer 1978), previous studies have tended to examine one mechanism at a time. Prior empirical research has not acknowledged the possibility that different mechanisms may interact with each other. As a result, previous studies have only recorded part of the "true" influence. Second, despite social information processing theory's emphasis on the social/relational

nature of coworker influence, the majority of prior research has not approached coworker influence by studying it as different forms of relational cues. Yet, based on its original premise, it is more appropriate to test social information processing theory using a relational approach. Our study may help address these two issues as we adopted a relational approach to model coworker dyadic influence mechanisms through the use of proxies.

In terms of results, we first found that maintaining a high-quality exchange relationship with a closely related coworker (CEX) relates positively to employee job performance behaviors. In addition, a focal employee's role ambiguity partially mediates such influence, after controlling for a set of variables, including felt obligation, trust in coworkers, OBSE, PIS, and organizational identification. This piece of knowledge directly extends the coworker influence literature by elucidating the psychological process through which coworker influence is transmitted. Our results serve as an empirical extension of this line of investigation.

More importantly, only a few studies thus far have revealed the mechanisms via which the coworker's relational influence may be positively associated with employee job performance. Employing different perspectives, their findings suggest that self-identity—self-efficacy and affective commitment—plays a key role in accounting for coworker influence (Liao et al. 2010, Liden et al. 2000, Vinarski-Peretz et al. 2011). Here, we utilize social information processing and role theories (Katz and Kahn 1978), both of which emphasize the importance of individual role perception in shaping employee work behavior. Based on our results related to the control variables, we found that social information processing theory is a strong complementary perspective to current approaches, with role ambiguity seeming to be a more critical mediator than employee self-concept or the social exchange variables.

Additionally, we also found that CEX was related to employee job performance behavior beyond the effects of all the control variables and that this effect was not fully mediated by employee role ambiguity. This finding is in line with social information processing theory, which argues that coworker influence can shape employee behavior by shifting a focal employee's attention to certain domains of his or her work experience. Moreover, we obtained some evidence suggesting that role ambiguity associates more strongly with employee task performance than with employee OCB. This means that the extent of dyadic role clarification and the influence of a role stressor depend on the content or type of individual job performance behaviors. Yet this effect was not strong and may be very sensitive to statistical power.

Based on social cognitive theory, we modeled another form of coworker influence (i.e., role modeling) as the

main effect of coworker OCB and found coworker OCB to have strong associations with employee OCB and task performance. This finding demonstrates the role-modeling mechanism predicted by social information processing and social cognitive theories (Bandura 1997, 2001). Because we studied both employee OCB and coworker OCB, our results also provide an additional or complementary perspective to the social exchange perspective that is dominant in the general organizational behavior literature (Cropanzano and Mitchell 2005). According to social exchange theory alone, we would have expected that only the coworker OCB aimed at a focal employee would be positively related to the focal employee's OCB aimed at the specific coworker. Yet we found coworker overall OCB, consisting of both the OCB targeted toward individuals and the OCB targeted toward the organization (Williams and Anderson 1991), to be related to employee overall OCB. Moreover, our major focus here was to reveal the coworker's dyadic influence on employee job performance behaviors, including both OCB and task performance. Thus, we examined a broader domain than the dyadic reciprocal process between an employee and a coworker where the social exchange perspective alone might apply. Meanwhile, after controlling for the social exchange variables (e.g., POS, LMX, felt obligation, trust), there was still empirical support for our rationale and the modeled relationships.

In short, we found that coworker influence relates to employee job performance behaviors, as the role-sending, role-modeling, and attention-shifting mechanisms have depicted. This finding, obtained through studying such behaviors from a dyadic perspective, enriches our current knowledge of the nomological network of employee OCB (Organ et al. 2006). Beyond these main effects, we found coworker OCB weakened the negative relationships between employee role ambiguity and the two types of employee behaviors. In particular, the more focal employees saw their coworkers engage in more OCB, the less impeded their job performance behaviors were by ambiguous role perception. Thus, we have shown the usefulness of social information processing and social cognitive theories in integrating role and social exchange theories for understanding coworker influence. In addition, we have looked at the gaps in the literature regarding role ambiguity and studied potential moderators of the role ambiguity–job performance relationship (Gilboa et al. 2008). Based on social cognitive theory, we have demonstrated coworker OCB to be an interesting candidate for future research.

Theoretical and Practical Implications

Our findings extend the current knowledge of coworker influence and related topics in the field of management in several ways. First, we emphasize that CEX is built on work roles and indicates quality of exchange between

two employees. Yet we recognize that employees often make friends with their coworkers and establish relationships that have less to do with their role sets. It is reasonable to speculate that maintaining these friendships is more important for non-work-related outcomes (e.g., life satisfaction or well-being). In the current coworker influence literature, no study has looked into this issue. We encourage future studies to adopt our rationale (by integrating the social information processing and social cognitive theories with the social exchange theory) and reveal the coworker's dyadic influence on non-work-related outcomes.

Second, we have investigated dyadic role clarification as one critical mechanism through which a coworker can influence employee job performance behaviors, stemming from concerns related to its theoretical contribution and because of its relevance to the coworker influence literature (Chiaburu and Harrison 2008). Based on social information processing theory, we attribute the unmediated, direct effect to the attention-shifting mechanism of coworker influence. At the same time, we also acknowledge the existence of other mechanisms, such as social exchange-related variables (e.g., trust, support) or self-identity variables (e.g., OBSE, organizational identification). In addition to calling for further studies to directly assess the attention-shifting mechanism, we recommend subsequent studies to contrast and compare the role-sending mechanism with the self-concept mechanism. Only then would we be able to understand when (and to what type of employee behavioral outcomes) one mechanism is stronger than another in transmitting coworker influence. Moreover, it is also meaningful to explore the roles of other types of work stressors (Gilboa et al. 2008) in the coworker influence–employee performance relationship.

Third, our finding that employee role perception has a greater influence on their work behaviors that are related strongly to role sets (e.g., task performance versus OCB) highlights two directions for future research. The first relates to the cultural background of our sample. We tested our model in Hong Kong, where employees tend to broaden their role duties by including discretionary categories such as OCB (Lam et al. 1999). These employees will engage in volitional and constructive behaviors regardless of their role perceptions. This cultural perspective may explain why individual work behaviors yield less to the role-sending mechanism of coworker influence. Future research can examine whether the pattern of relationships we found here persist in Western settings and to what extent this pattern is contingent on individual cultural values (e.g., individualism, power distance). The other implication is that future research can investigate the underlying motives for employees to engage in OCB. In our case, it is possible that some poor performers display prosocial (or organizational citizenship) behaviors to compensate for their

low levels of in-role (task) performance or to avoid being overshadowed or outperformed by the coworkers. In other words, one's in-role achievement or intention to compete with his or her coworkers may weaken the relationship between his or her role perception and engagement in extra-role behaviors. We believe this is an interesting question for future research.

Fourth, future research could utilize our rationale about the interaction effect between role perception and coworker role modeling to explore coworker influence across a variety of contexts. For instance, rather than focusing only on the role-sending mechanism, studies of organizational socialization could also examine how coworkers help newcomers adjust through role modeling. Similarly, follow-up studies can analyze employee job performance behaviors by adopting a within-person approach. In the current study, we have taken coworker OCB as an external source of cues about vicarious learning for employees. Yet there are theoretical and empirical reasons to believe that employees differ in their tendencies to look for and rely on such guidance (Burkhardt 1994, Deelstra et al. 2003). Here, we have assumed that employees closely monitor their own attitudes and behaviors, and they adjust themselves according to cues from the workplace. As such, employee personality traits such as self-monitoring or openness to experience may modify their responses to coworker influence during daily interactions (Burkhardt 1994). Another assumption of our argument is that employees will find such guidance useful and valuable. Yet this is often not the case in the workplace. As an employee masters his or her job and finds it less challenging through the course of time, coworker guidance or role modeling will become less important or may even be detrimental to his or her performance and growth (Deelstra et al. 2003). To model these dynamic processes, we recommend that future studies examine coworker influence on employee outcomes using both within-person and between-person approaches.

Finally, our results have practical implications for managers. For instance, evidence of the effect role ambiguity has on employees suggests that managers can build up an effective workforce by helping employees clarify their work roles. To achieve this, managers can (1) provide more career- or job-related mentoring, (2) encourage employees to take each other as role models and thus facilitate vicarious learning (Bandura 1997), (3) redesign jobs through job rotation so that coworkers have better opportunities to observe each other and participate in mutual coaching (Ostroff and Kozlowski 1992), (4) increase task interdependence, and (5) adopt advanced technology to facilitate information flow in the workplace.

Limitations and Future Directions

Our results and implications must be interpreted in the light of several limitations. First, our data were cross-

sectional; thus, we were unable to address the issue of causality. Perhaps coworkers simply preferred to establish friendships with those employees who showed better performance and had a clearer understanding of their work roles. However, this concern does not account for the finding that the relationship between role ambiguity and employee job performance behaviors varies across different levels of coworker OCB. Moreover, our model is derived from several well-established theories. It is difficult to conceive how reversed causality can account for the relationships found. Nonetheless, we would encourage future research to replicate our findings using a longitudinal design.

Second, we have examined only part of the underlying mechanisms of coworker social influence. Beyond role perceptions, we offer few insights into the alternative processes such as affective processes through which employees (i.e., employees and coworkers) affect each other or the social context within which coworker influence is achieved. Future research might extend our inquiry by considering whether task interdependence, job level (Gilboa et al. 2008), or organizational climate (Ehrhart and Naumann 2004) changes the impact of coworkers. For instance, when there is a high level of task interdependence between two fellow employees, these employees are more likely to coordinate their work and fulfill their duties by communicating with each other to clarify what they need to achieve and how well they are progressing. This tendency will influence employee role perceptions as their communication helps bind "individual roles . . . by clarifying the roles that each individual fills" (Humphrey et al. 2007, p. 1336). We consider this an interesting issue for future study to examine.

Third, we examined how a single coworker selected by the focal employee affected him or her. Given our explicit instruction, it is most likely that the focal employee gave the survey to a coworker who was already very close to him or her (or even took the employee as a friend). Thus, we may be conflating the proximity of coworker influence and the valence of such influence. This may present a situation in which our hypotheses were likely to be supported. However, our intention was not to demonstrate that coworker influence is identical across all groups of coworkers but rather to illustrate that a coworker who is close to an employee can indeed exert an influence on that employee's job performance behaviors (see Takeuchi et al. 2011). Future studies might complement our findings by analyzing whether the dyadic-level mechanisms and effects differ among various groups of coworkers. We also think it valuable to tease out the difference between the proximity of coworker influence and the valence of this influence.

Fourth, we have paid little attention to the temporal aspect of coworker influence. That is, the form and magnitude of coworker influence may differ depending on

whether the dyad shares a well-established relationship or if the coworkers are newly acquainted. In fact, a study by Jokisaari and Nurmi (2009) showed that, although it helped to reduce employee role ambiguity, supervisor support significantly declined 6–21 months after an employee's first day with a firm. More critically, the decrease in supervisory support also led to the reduction in role ambiguity. Applying this finding to the coworker influence literature implies that role clarification resulting from CEX may become weaker as the dyadic relationship matures. We recommend future research to look into this issue.

Fifth, though not intentional, our model may appear to depict the focal employee as simply a receiver of different forms of coworker influence.⁵ Yet employees could be more or less responsive to coworker influence depending on the circumstances. Previous research has shown that the influence of role modeling and role clarification is more likely to show up if the focal employee needs such guidance (Deelstra et al. 2003), works in the vicinity of the role model (Yaffe and Kark 2011), or favorably attributes the reason for their coworker's OCB to an intrinsic dedication to the firm (Tepper et al. 2004). Because it is beyond the scope of our study to investigate these possibilities, we encourage subsequent research to study factors that are potentially contingent on these mechanisms, which will improve our understanding of *why* and *when* coworker influence does not exist or even backfires.

Sixth, we relied on a series of proxies to represent and account for the mechanisms by which coworker influence shapes employee job performance behavior. Though we chose these proxies based on the related theoretical perspectives, we realize that relying on proxies to capture theoretical mechanisms may lead to unstable findings. This issue can be resolved by directly measuring these mechanisms in subsequent studies.

Conclusion

Our study contributes to the coworker influence literature by looking into coworker influence with a relational approach and by examining the multiple mechanisms together (e.g., Chiaburu and Harrison 2008, Grant 2008, Grant et al. 2010, Humphrey et al. 2007, Kamdar and Van Dyne 2007). In particular, we provide a moderated mediation model to highlight how three forms of coworker influence may simultaneously shape an employee's job performance behaviors as main and interactive effects. Findings from this research may calm worries about whether the social information processing perspective can explain employee performance. In addition, our study sheds light on the underlying mechanisms of coworker influence and leads to several promising directions for further development in the coworker influence literature.

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Endnotes

¹In line with previous research on employee job performance (e.g., Hoffman et al. 2007, LePine et al. 2002), in the current paper, we conceptualize employee job performance behaviors to include both task performance and OCB.

²We do not intend to argue that this is the only mediator of the relationship between CEX and job performance behaviors. However, from a social information processing perspective and the role theory (Katz and Kahn 1978), role ambiguity is considered the most relevant mediator in our study context.

³Some of the data from the database obtained for Study 1 were used previously (Takeuchi et al. 2012). However, there is no variable overlap between these two studies. More detailed information can be obtained from the first author upon request.

⁴The results without the control variables are available from the corresponding author upon request.

⁵We thank an anonymous reviewer for pointing this out to us.

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