LINKING OBSERVATION OF COWORKERS' ORGANIZATIONAL CITIZENSHIP BEHAVIOR WITH ONE'S OWN ORGANIZATION CITIZENSHIP BEHAVIOR AND PSYCHOLOGICAL STRAIN: A LONGITUDINAL STUDY BASED ON THE THEORY OF PLANNED BEHAVIOR

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ABSTRACT

LINKING OBSERVATION OF COWORKERS' ORGANIZATIONAL CITIZENSHIP BEHAVIOR WITH ONE'S OWN ORGANIZATION CITIZENSHIP BEHAVIOR AND PSYCHOLOGICAL STRAIN: A LONGITUDINAL STUDY BASED ON THE THEORY OF PLANNED BEHAVIOR

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Organizational citizenship behaviors (OCBs) refer to discretionary behavior that exceed minimum job requirements and contribute to the social and psychological work environment. This research was proposed to understand whether and how changes in coworkers' OCBs would be related to changes in the focal employee's OCBs and psychological strain. Applying the theory of planned behavior, I hypothesized that within individuals, three belief states of OCB – perceived value of OCB, perceived social pressure of OCB, and perceived ease of OCB – would mediate the relations between coworkers' OCBs and one's own engagement of OCB and psychological strain. Besides, I expected that promotion and prevention foci would have cross-level moderation effects on the within-individual relation between coworkers' OCB and three types of beliefs concerning OCB. I collected longitudinal data over five weeks to test the hypotheses. Analyses of 850 cases from 121 employees supported the positive within-individual relations between coworkers' OCB and all three belief states of OCB and the positive within-individual relation between social pressure of OCB and psychological strain. However, the proposed relations between three types of beliefs concerning OCB and one's own engagement of OCB, as well as the moderation effects of promotion and prevention foci, were not supported.

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1. Introduction

As members of an employee's immediate community in the workplace, coworkers are important contextual factors that can affect the employee's attitudes and behaviors (Chiaburu & Harrison, 2008). Existing research has demonstrated positive relationships between the levels of certain behaviors exhibited by an individual and by the individual's coworkers, including antisocial behavior (Glomb & Liao, 2003; O'Fallon & Butterfield, 2011; Robinson & O'leary-Kelly, 1998), unethical behavior (O'Fallon & Butterfield, 2012), OCB (Bommer, Miles, & Grover, 2003), withdraw behavior (Eder & Eisenberger, 2008), and creativity (Zhou, 2003). However, this line of research has dominantly focused on the modeling effect of coworkers' behavior on one's own behavior per se, while largely neglect any mediating mechanism of such modeling effect and other possible associated outcomes. Based on social information processing theory (Salancik & Pfeffer, 1978), individuals search for information from their immediate work environments that can help them interpret events and develop appropriate judgments. Therefore the investigation of mediating processes underlying the relation of coworker behavior and one's own behavior can help to open the cognitive "black box" of coworker modeling effect. Studying such mediating processes is fruitful also because it will help to link coworker behavior to a broader range of outcomes that are associated with those mediating processes, thus providing a more comprehensive picture of the effect of one's coworkers' behavior on the focal employee.

The current research addresses this research need by examining the relations between observations of coworkers' organizational citizenship behavior (OCB) and (1) employees' own engagement of OCB, and (2) their psychological strain. Organizational citizenship behavior (OCB) consists of acts that go above and beyond the core job tasks and serve to contribute to the organizations (Organ, 1988; Organ, Podsakoff, & MacKenzie, 2005). Previous research has

shown that OCB is related to a variety of bottom-line measures of organizational effectiveness (Bolino, Turnley, & Bloodgood, 2002; Podsakoff & MacKenzie, 1997). There are several reasons why the focus on OCB is important for studying the process of coworkers' modeling effect in the current study. First, OCB should be particularly affected by modeling, since organizations generally cannot use formal systems such as job description and training to cultivate OCB (Podsakoff, MacKenzie, Paine, & Bachrach, 2000). Second, OCB is a deliberative decision-making process (Organ & Konovsky, 1989). Thus it is more likely to be motivated by cognitive mechanisms originated from observation of coworkers' OCB. Third, in the current study I look at the effect of observations of coworkers' OCB within individuals, not between individuals, and OCB has demonstrated considerable within-individual variances in previous research (e.g., Dalal, Lam, Weiss, Welch, & Hulin, 2009; Spence, Brown, Keeping, & Lian, 2014; Spence, Ferris, Brown, & Heller, 2011).

I apply the theory of planned behavior (Ajzen, 2001) to investigate what cognitive mechanisms may underlie the modeling effect of coworker OCB on one's own OCB. When an employee notices that coworkers are exhibiting relatively higher levels of OCB (e.g., helping others, working longer hours, showing loyalty to the organization), the employee may see it as social clue and make judgments about OCB. Based on the theory of planned behavior (Ajzen, 1991), I look at perceived value of OCB (a belief regarding the positive outcome of OCB), perceived social pressure of OCB (a belief regarding the norm and expected engagement of OCB), and perceived ease of OCB (a belief regarding having access to necessary internal and external resources of engaging in OCB) as mediators linking observations of coworkers' engagement of OCB and employees' engagement of OCB subsequently.

Another focus of the current research is to look at the indirect effect of observations of coworkers' OCB on employees' psychological strain via individuals' beliefs about OCB. I differentiate perceived social pressure of OCB and the other two beliefs by looking at the former as a type of job demand (aspect of the job requiring sustained investment of efforts) and the latter two as types of job resources (aspect of the job that are functional to goal achievement). Integrating previous research in the field of occupational health on job demand and resources (e.g., Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Schaufeli & Bakker, 2004), I hypothesize that although all three belief states contribute to an increase in OCB, they may have different effects on psychological strain: Perceived social pressure of OCB will be positively correlated to psychological strain while perceived value of OCB and perceived ease of OCB will be negatively correlated to psychological strain.

Finally, how people make use of the social information available in the close environment may differ across individuals. In the current research I will investigate regulatory focus (Higgins, 1997, 1998) as a potential moderator affecting how observation of coworker OCB influence one's beliefs about OCB. According to regulatory focus theory, those with higher chronic promotion (versus prevention) focus orientation are more sensitive to positive (versus negative) outcomes and concerned with achievement (versus responsibility) (Higgins et al., 2001). Therefore individuals with higher promotion focus may be more likely to interpret changes in coworker OCB as signals indicating changes in positive outcome of OCB and desirable opportunities of engaging in OCB. In contrast, individuals with higher prevention focus are vigilant of potential negative outcomes in the workplace. They may be more sensitive to normative meanings of coworker OCB in order to avoid negative outcome associated with not obeying norms. Thus, promotion focus may strengthen the within-individual relationships

between observation of coworker OCB and perceived value of OCB and perceived ease of OCB, whereas prevention focus may strengthen the within-individual relationships between observation of coworker OCB and perceived social pressure of OCB.

To summarize, my proposed research model suggests that over time, individuals' observations of their coworkers' OCBs will tend to promote their a) perceived value of OCB, b) perceived social pressure of OCB, and c) perceived ease of OCB, which all contribute positively to the their engagement in OCB. Meanwhile, increases in coworkers' OCBs may elevate individuals' psychological strain by enhancing their perceived social pressure of OCB. However, increases in coworkers' OCBs may reduce their psychological strain by enhancing perceived value of OCB and perceived ease of engaging in OCB. The extent to which individuals perceive social pressure to engage in OCBs based on their observations of coworkers' OCBs may be strengthened by prevention focus, whereas promotion focus may strengthen the extent to which they perceive value of OCB and ease of engaging in OCB based on their observations of coworkers' OCBs. The proposed model is presented in Figure 1 in the Appendix.

This model aims to make several contributions. First, the current research helps to uncover the self-regulation motivational processes embedded in planned behaviors by examining the moderating role of regulatory foci on the relations between observations of coworkers' OCBs and employees' three beliefs regarding OCB. A review of previous studies looking at motivation-related moderators in the framework of planned behaviors indicates that the only relevant finding is the moderating effect of action and state orientations on the relation between attitude and intention and intention and behavior (Song, Wanberg, Niu, & Xie, 2006). The current research contributes to the existing literature by looking at the motivational foundations of how individuals seek information to form the three beliefs specified by the theory of planned

behavior. Also it will provide one of the first insights to understand the interaction of contextual factors (i.e., observation of coworkers' OCBs) and individual factors (i.e., regulatory foci) in affecting beliefs about a planned behavior and subsequent outcomes associated with these beliefs. For example, the current research suggests that to employees with higher prevention focus, observations of coworker OCB serve as a "double-edged" sword because of the simultaneous positive effect on OCB as well as on psychological strain via increases in perceived social pressure of OCB. Thus, one practical implication of the current research may be that organizations should pay more attention to the health status of employees who are high in prevention focus when they are surrounded by a group of "good citizen" coworkers.

Second, the current research contributes to the job stress and strain literature by testing the three beliefs specified by the theory of planned behavior as new antecedents of psychological strain. Findings of the current research can then be leveraged to provide implications about ways to do intervention to help with stress management: It may be possible to develop or to change certain beliefs about a behavior in order to reduce the level of psychological strain. For instance, training and development can be conducted to increase individual's perceived capabilities of engaging in a challenging and desired behavior, so that individuals may perceive higher levels of ease of engaging in the behavior and experience less psychological strain.

Third, the current research uses a within-individual approach to investigate OCB and looks at cognitive antecedents of OCB. Previous research taking this within-individual approach to investigate OCB has put much emphasis on affective antecedents while overlooked the role played by cognitive factors. For instance, several studies have found that within individuals, momentary positive affect was positively related to OCB (Dalal et al., 2009; Ilies et al., 2006; Spence et al., 2014). Here I argue that besides the potential effect of affective factors, cognitive

factors may also affect the fluctuation of OCB within individuals. As discussed above, OCB is a deliberative decision-making process (Organ & Konovsky, 1989), thus investigating cognitive factors as antecedents of OCB can be fruitful. The current study measured positive affect and negative affects and controlled for their effects on OCB throughout the analyses, therefore it can help to uncover whether and how the cognitive factors (i.e., perceived value of OCB, perceived social pressure of OCB, perceived ease of OCB) contribute to the fluctuation of OCB within individuals that goes above and beyond the effect of affects.

In the following sections I will review related theory and research, develop specific hypotheses, and propose method and planned analysis to test the proposed model.

2. Literature review and hypothesis development

2.1 Within-individual investigation of OCB

OCB is discretionary behavior that exceeds minimum job requirements and contributes to the social and psychological work environment (Organ, 1997). Unlike task performance, OCB is less likely to be linked with formal rewards (Bateman & Organ, 1983; Organ, 1997). OCB includes behaviors directed at individuals (OCBI, such as helping coworkers and adjusting work schedule to accommodate others) or the organization (OCBO, such as attending work functions that are not required but that help the organizational and offering ideas to improve the organization).

Although usually not described in formal job description, OCB is still considered to be one of the three main dimensions of job performance (Rotundo & Sackett, 2002). At the individual level, OCB is positively related toperformance ratings and rewards recommendation from supervisors (Allen & Rush, 1998; Johnson, Erez, Kiker, & Motowidlo, 2002). Also, OCB is negatively related to individual withdraw such as turnover behavior and absenteeism (Chen, Hui, & Sego, 1998; Mossholder, Settoon, & Henagan, 2005). At the group level, OCB helps to enhance effectiveness of the whole group or organization. Research has shown that OCB is related to several important group-level performance indices such as productivity, efficiency, customer satisfaction, and group-level turnover (Koys, 2001; Podsakoff & MacKenzie, 1997; Sun, Aryee, & Law, 2007).

Because OCB is crucial to a variety of favorable individual, group, and organizational outcomes (Podsakoff, Whiting, Podsakoff, & Blume, 2009), there is value in investigating antecedents that promote (or hinder) OCB. Existing research has primarily considered OCB as the outcome of between-individual differences, leading to considerable investigation of relatively

chronic factors as antecedents of OCB. For instance, proactivity (Li, Liang, & Crant, 2010), agreeableness (Ilies, Fulmer, Spitzmuller, & Johnson, 2009; Kamdar & Van Dyne, 2007) and conscientiousness (Ilies et al., 2009; Lapierre & Hackett, 2007) have all been demonstrated to be the characteristics of "good citizens" that will be positively associated with engagement of OCB.

Despite the insights gained from this line of research on between-individual differences in OCB, paying greater attention to within-individual variance in OCB is fruitful. Instead of looking at patterns of OCB as static, between-individual difference, scholars have theoretically argued that OCB is a within-individual phenomenon that is ongoing and time-dependent. Job performance behaviors are believed to be episodic and dynamic in nature (Beal, Weiss, Barros, & MacDermid, 2005; Dalal, Bhave, & Fiset, 2014; Motowidlo, Borman, & Schmit, 1997), and OCB has been recognized as one dimension of job performance (Rotundo & Sackett, 2002). Similarly, Bolino and colleagues (2012) proposed a model of OCB as a within-person and episodic process of feedback-driven goal pursuit.

A number of empirical studies have found that there are momentary and episodic fluctuations in OCB over the course of minutes, days, and weeks (Dalal et al., 2009; Lam, Weiss, Welch, & Hulin, 2009; Glomb, Bhave, Miner, & Wall, 2011; Ilies, Scott, & Judge, 2006; Johnson, Lanaj, & Barnes, 2014; Koopman, Lanaj, & Scott, 2015; Miner & Glomb, 2010; Spence et al., 2014; Spence et al., 2011; Trougakos, Beal, Cheng, Hideg, & Zweig, 2015). Researchers have used experience-sampling methods (ESM) to capture the dynamic nature of OCB. Across these independent samples, 29% to 87% percentages (an average of 49%) of the observed variance in OCB was within-individual.

As discussed above, this line of research has emphasized affect as an antecedent of OCB within individuals (Dalal et al., 2009; Glomb et al., 2011; Ilies et al., 2006; Miner & Glomb,

2010; Spence et al., 2014), while the role played by cognitive factors has been overlooked. Meanwhile, very little is known about situational or contextual factors (e.g., factors associated with coworkers, supervisor, team, etc.) that may account for fluctuations in OCB. The current research represents an initial attempt to answer this question by studying the relationships between time-varying coworkers' OCBs and individuals' OCBs at within-individual level. The theory of planned behavior and social information processing theory will be integrated as the theoretical framework. Below I provide a brief description of theory of planned behavior and its application in the workplace.

2.2 Theory of planned behavior and OCB

2.2.1 Theory of planned behavior and its application in organization research

The theory of planned behavior (Ajzen, 1991) views human behaviors as derived from deliberative processes, reflecting conscious and careful decisions (Conner & Armitage, 1998). Within this theory, *intention* presents individuals' conscious plans or decisions to exert effort to engage in a behavior. Intention is the proximal determinant of the actual behavior. Intention is determined by three factors: Attitude towards the behavior, subjective norm for the behavior, and perceived behavioral control. *Attitude* towards the behavior refers to one's positive or negative evaluation of the outcome of a behavior – whether or not one believes there is value in performing a behavior. *Subjective norm* for the behavior reflects one's perception of the social expectations regarding a behavior, or pressure that people perceive from important others to perform or not to perform a behavior. *Perceived behavioral control* refers to beliefs about the ease or difficulty of performing a behavior - whether or not one has access to personal and external resources and opportunities that may be needed to successfully perform a behavior. The theory of planned behavior proposes that positive attitudes, high level of subjective norm, and

high level of perceived behavioral control contribute addictively to high intention, which in turn predicts the level of engagement in the behavior. The theory has gained considerable support as indicated by meta-analyses (Armitage & Conner, 2001; Conner & Armitage, 1998; Sutton, 1998).

There is considerable research applying the theory of planned behavior to study workplace. For example, studies have found that all three antecedent factors (attitudes, subjective norms, and perceived behavioral control) in the theory of planned behavior were positively related to intention to leave a job, which would lead to more actual turnover behavior (Lane, Mathews, & Prestholdt, 1988; Prestholdt, Lane, & Mathews, 1987).

Another organizational study area that has extensively applied the theory of planned behavior is the pursuit of a job or a career. Studies have shown that both perceived job search attitude and perceived subjective norm were positively related to job search intention, which was in turn positively related to job search behavior and job attainment (Van Hooft, Born, Taris, Van der Flier, & Blonk, 2004, 2005; Van Hooft & de Jong, 2009), while the effect of behavioral control of job search on intention was mixed. Research also showed that all three antecedents in the theory of planned behavior were negatively related to withdrawal in recruitment (Schreurs, Derous, Van Hooft, Proost, & De Witte, 2009; Griepentrog, Harold, Holtz, Klimoski, & Marsh, 2012). A longitudinal study also showed that job-search intention mediated the relationship between subjective norm and job-search self-efficacy in the prediction of job-search intensity but attitudes of job search was not significantly related to job-search intention (Wanberg, Glomb, Song, & Sorenson, 2005). Similarly, Arnold and colleagues (2006) found that all three antecedents elements in the theory of planned behavior were related to behavioral intention to pursue a nursing career. A recent study also reported that external pressure from parents and

teachers (an indication of subjective norm) and perceived ability (an indication of perceived behavioral control) in high school were positively related to actual pursuit of music career in college and post-college (Dobrow Riza & Heller, 2015).

There's also a burgeoning line of research applying theory of planned behavior to study various favorable behaviors in the workplace, including pro-environmental behavior (Cordano & Frieze, 2000), safety behavior (Newnan, Griffin, & Mason, 2008), proactive behavior (Kim, Hornung, & Rousseau, 2011; Shin & Kim, 2015), adoption and usage of new workplace technology (Marler, Fisher, & Ke, 2009; Morris & Venkatesh, 2000), engagement in career development (Hurtz & Williams, 2009), voice (Liang, Farh, & Farh, 2012), and adherence to service quality (Schaubroeck, Lam, & Peng, 2016). Research has generally found that these desirable behaviors were positively related to employees' perceived value of the behaviors, subjective norm of engaging in the behaviors, and perceived control of engaging in the behaviors.

It's worthwhile to note, however, not all studies supported the unique contribution of all three antecedents (attitudes, subjective norms, and perceived behavioral control) in the theory of planned behavior. For example, Hurtz and Williams (2009) found that among the three proposed antecedents, only attitudes related significantly with intentions to participate in career development activities. Marler and colleagues (2009) found that attitude and subjective norm were positively related to intention to adopt new technology but perceived behavioral control was not significantly related to this behavioral intention. Similarly, Schaubroeck and colleagues (2016) found that changes in attitude and subjective norm beliefs, not changes in the behavioral control belief, were related to changes in adherence to service quality and service behaviors. But generally speaking, the theory of planned behavior has gained a lot of support as a motivational

framework to study behaviors in the workplace.

2.2.2 OCB as a type of planned behavior

In the current study I propose that OCB, a type of discretionary behavior in the workplace, is an outcome of planned behavior out of deliberative decision making. On one hand, engaging in OCB may result in positive outcomes for employees. Although its weight is not as high as task performance, OCB is still taken into consideration when supervisors evaluate employees (Bergeron, 2007; Rotundo & Sackett, 2002). Employees who engage in more OCB will be rated higher in terms of overall job performance by supervisors and treated more favorably with regard to reward allocation decisions (Podsakoff, MacKenzie, & Hui, 1993; Podsakoff et al., 2009). On the other hand, evidence is accumulating to suggest that there may be professional and personal cost to engage in OCB. Using a resource-allocation framework, Bergeron and colleagues theorized and demonstrated that OCB may be challenging and time-consuming and engaging in OCB would diminish task performance and damage one's career (Bergeron, 2007; Bergeron, Shipp, Rosen, & Furst, 2013). A recent diary study also found that daily engagement of OCB was negatively corelated to daily work progress (Koopman et al., 2015). Research also showed that employees who engaged in OCB suffered from increased level of work overload, job stress and work-family conflict (Bolino & Turnley, 2005; Halbesleben, Harvey, & Bolino, 2009). Because of the potential benefits and costs associated with OCB, employees will make a calculated decision about performing OCB (Salamon & Deutsch, 2006).

Besides, research on motive of OCB showed that in addition to prosocial motive, OCB may stem from self-serving (e.g., impression management) motives as well (Grant & Mayer, 2009; Hui, Lam, & Law, 2000; Rioux & Penner, 2001; Yun, Takeuchi, & Liu, 2007), suggesting that OCB is an intentional behavior occurring after deliberative decision making. In fact, more than a

decade ago Organ and Konovsky (1989) have concluded: "OCB has a deliberate, controlled character, somewhat akin to conscious decision making rather than expressive emotional behavior" (p. 162).

To summarize, because of the potential personal benefits and risks associated with OCB and the complex motives underlying OCB, in the current thesis I consider OCB as an intentional and planned behavior. To support this proposition, previous research has suggested other types of discretionary behavior may be explained in terms of deliberative decision based on perceived valance, social norm, and behavioral control. For example, Liang and colleagues (2012) applied the theory of planned behavior to study voice and they found that voice behavior was related to psychological safety (an indication of attitude), felt obligation for constructive change (an indication of subjective norm), and organizational-based self-esteem (an indication of perceived behavioral control). In the next section how coworker OCB can serve as signals and clues for the focal employee to do such deliberation based on social information processing theory is discussed.

2.3 Effect of coworkers' OCB on the employees' OCB

According to social information processing theory (Salancik & Pfeffer, 1978), employee's job perceptions not only derive from objective structural properties of the work, but also from how the work is constructed in the immediate social environment consisting of coworkers, supervisors, customers, and other important stakeholders. Information in the social environment provides clues about what needs or values are important, and individuals use such information to develop attitudes, shape judgment, and understand expectations concerning their behaviors in the workplace. Since coworkers are a vital part of the social environment (Schneider, 1987; Chiaburu & Harrison, 2008), coworkers' behaviors greatly determine the focal employee's

behavior by affecting how the focal employee thinks and feels about aspects of the work.

Previous research has demonstrated positive relationships between the level of certain behaviors exhibited by an individual and by the individual's coworkers (Bommer et al., 2003; Eder & Eisenberger, 2008; Glomb & Liao, 2003; O'Fallon & Butterfield, 2011, 2012; Robinson & O'leary-Kelly, 1998; Zhou, 2003). But as discussed in the introduction, these studies used between-subject designs and did not look at coworkers' behavior as time-dependent, fluctuating construct. Since one individual's behavior may fluctuate, one's coworkers' behavior may also fluctuate. Below I will develop hypotheses regarding how fluctuation of a focal employee's OCB will be affected by fluctuation of observation of his/her coworkers' OCB via three mediating factors (attitude, subjective norm, and perceived behavioral control) as proposed by the theory of planned behavior.

2.3.1 Coworker OCB and perceived value of OCB

Haworth and Levy (2001) addressed an individual-level belief about OCB, which refers to the extent that one believes that OCB is in general worthwhile, and found this belief was positively related to this individual's engagement of OCB. Yaffe and Kark (2011) conceptualize a similar construct at the group level and found the group belief that OCB is worthy was associated with increased level of group-level OCB. Haworth and Levy (2001) theorized that individuals' beliefs that OCB is worthwhile are related to their perceptions that they will be rewarded in some way in the future for performing OCB. By contrast, Yaffe and Kark (2011) theorized that the group belief that OCB is worthy stems from group perception of OCBs' contributions to the group and the organization, not from perception of getting individual rewards for performing OCB. In the current research I acknowledge that OCB may help individual who does it as well as the organization and other members in the organization. I

conceptualize perceived value of OCB as an evaluative attitude about OCB, without specifying what potential benefits may be generated by OCB. Thus, perceived value of OCB is an indicator of attitude toward OCB in the theory of planned behavior as it describes the degree to which performing OCB is positively valued (Ajzen, 1991).

Observation of coworkers' OCB can affect employee's perceived value of OCB at within-individual level. When one's coworkers engage in relatively higher level of OCB, the focal employee will notice and interpret this information. Regardless of what attribution the focal employee makes about coworker OCB (e.g., other-serving or self-serving) (Tepper, Duffy, Hoobler, & Ensley, 2004), according to social information processing theory the focal employee will take coworkers' relatively higher levels of OCB performed during a period as a cue suggesting that OCB is valued. Coworker OCB may provide "social proof" of what is likely to be the effective behavior (Prislin & Wood, 2005; Schultz, Nolan, Cialdini, Goldstein, & Griskevicius, 2007). For example, an employee may perceive that a group assignment critically important and worthy of group members' more extra effort to accomplish during a particular period. He or she may also perceive that the supervisor is giving more attention to subordinates' OCB during that period, so OCB may therefore help him or her to make a better impression to the supervisor and lead to positive career-related outcomes (e.g., promotion). To summarize, employees' observations of higher levels of OCB performed by coworkers may signal to them that it is important to increase their OCB.

Hypothesis 1a: Employees' observations of coworkers' OCB will be positively related to their perceived value of OCB.

2.3.2 Coworker OCB and perceived social pressure of OCB

Employees are embedded in the social work environment and are constantly under the

influence of social norms indicating what is the established or encouraged way of behaving (Cialdini & Trost, 1998). Social pressure of OCB describes one's normative belief about the degree to which other important individuals in the workplace expect him or her to perform OCB. Social pressure of OCB is an indicator of subjective norm in the theory of planned behavior (Ajzen, 1991).

Observation of coworkers' OCB can affect employee's social pressure of engaging in OCB at within-individual level. According to social information processing theory (Salancik & Pfeffer, 1978), group members will see others as role models and are sensitive to what others in the group view as desirable behavior. When one's coworkers are performing higher levels of OCB, the focal employee may perceive that there is a temporary prescriptive norm to engage in more OCB (Ehrhart & Naumann, 2004). Thus, the focal employee may perceive that they are expected by others to engage in OCB in order to meet the norm (Cialdini, Reno, & Kallgren, 1990).

In support of this proposition, in a very recent study Schaubroeck and his colleagues (2016) found that ethical leadership was associated with higher level of follower's normative beliefs about engaging in customer service behavior, and the authors suggested that this effect was partly because of a peer role modeling of ethical leadership by persons who were leaders among their peers. Therefore, I hypothesize:

Hypothesis 1b: Employees' observations of coworkers' OCB will be positively related to their perceptions of social pressure to perform OCB.

2.3.3 Coworker OCB and perceived ease of OCB

Perceived ease of OCB, as an indicator of perceived behavioral control in theory of planned behavior (Ajzen, 1991), describes beliefs of access to resources and opportunities necessary to perform OCB. Perceived ease of a behavior is related to beliefs about the extent to which one

possesses specific internal capabilities (e.g., knowledge, skills, abilities) to successfully engage in a behavior. One aspect of such beliefs is self-efficacy (Chen, Casper, & Cortina, 2001). Perceived ease of a behavior is also related to beliefs about whether external factors (e.g., opportunities and barriers in the work context) are able to facilitate or inhibit the performance of a behavior, as with means efficacy (Eden, 2001). Employees may have low level of perceived ease of OCB because of lack of confidence in themselves and/or beliefs about work contexts that inhibit their ability to translate effort into OCB performance.

Observation of coworkers' OCB can affect employee's perceived ease of engaging in OCB at within-individual level. On one hand, information about one's performance of behaviors can be used to judge one's capacity to successfully perform the behaviors (Sitzmann & Yeo, 2013). After witnessing an increase in coworkers' performance of OCB, employees may tend to perceive greater capacity for coworkers to perform OCB. Coworkers are important and close social referents and based on social learning theory (Bandura, 1986) employees may perceive that they also have greater capacity to successfully perform OCB, such as ability to help others and ability to manage time to do the extra-role work.

On the other hand, coworkers' increased levels of OCB may lead employees to perceive more opportunities to engage in OCB and/or fewer constraints in the work context that prevent him/her from engaging in OCB. One example of the perceived opportunities to engage in OCB is the perception that several team members need help and one example of the perceived fewer constraints to engage in OCB is that a new regulation is put into action that permits working from home. To summarize, I hypothesize:

Hypothesis 1c: Employees' observations of coworkers' OCB will be positively related to their perceived ease of OCB.

Based on the theory of planned behavior (Ajzen, 2001), attitude, subjective norm, and perceived behavioral control are associated with intention to engage in a behavior and intention is further related to actual performance of the behavior. Consistent with many studies testing the theory of planned behavior (e.g., Bissing-Olson, Iyer, Fielding, & Zacher, 2013; Kim et al., 2011; Liang et al., 2012) in the current research I examine attitude, subjective norm, and perceived behavioral control as direct antecedents of engagement of behavior without including intention.

Although the majority of research studying theory of planned behavior is cross-sectional and between-subject in nature, a few longitudinal studies have shown that the changes of attitude, subjective norm, and perceived behavioral control were able to predict changes in actual performance of behaviors later on (Schaubroeck et al., 2016; Wanberg et al., 2005), suggesting the effects of the three belief states on behavior at within-individual level. Therefore, I hypothesize:

Hypothesis 2: Employees' perceived value of OCB (2a), perceived social pressure of OCB (2b), and perceived ease of OCB (2c) will be positively related to their engagement of OCB.

Integrating Hypotheses 1 and 2, I further hypothesize that observation of coworker OCB will influence the employees' engagement of OCB later on through employees' perceived value of OCB, perceived social pressure of OCB, and perceived ease of OCB.

Hypothesis 3:Employees' observations of coworkers' OCB will be indirectly related to their subsequent engagement of OCB via their perceived value of OCB (3a), perceived social pressure of OCB (3b), and perceived ease of OCB (3c).

2.4 Effect of coworkers' OCB on employees' psychological strain

Although I argue that perceived value of OCB, perceived social pressure of OCB, and perceived ease of OCB motivate OCB, these three belief states may have different effects on

psychological strain. Psychological strain refers to well-being related outcomes associated with work stress, such as anxiety, fatigue, and exhaustion (Jex, 1998).

Perceived social pressure of OCB describes the normative belief that engaging in OCB is appropriate and expected. Because social pressure of OCB is closely associated with a felt obligation to engage in OCBs, it can be regarded as a type of job demand. A job demand is defined as an aspect of a job that "requires sustained physical and/or psychological efforts and are therefore associated with certain physiological and/or psychological costs" (Schaufeli & Bakker, 2004, p. 296). Various types of job demands are positively associated with psychological strain such as job burnout at both between-individual level (Bakker & Demerouti, 2007) and within-individual level (e.g., Judge, Woolf, & Hurst, 2009; Schreurs, Guenter, Hülsheger, & van Emmerik, 2014). When perceived social pressure of OCB is relatively high, employees have to invest in additional effort of time and energy to engage in OCB, which is supposedly to be discretionary, and may find it overwhelming to fulfill the "good citizen role" since extra resources are required (Bolino & Turnley, 2005). Thus, employees may experience higher level of psychological strain after periods when they perceive more social pressure of OCB, compared to when they perceive less social pressure of OCB.

Whereas perceived social pressure of OCB is a type of job demand, here I argue that the other two beliefs (i.e., perceived ease of OCB and perceived value of OCB) are types of job resource. Job resources are functional to individuals to achieve their work goals (Demerouti et al., 2001). A higher level of perceived ease of OCB represents a higher level of control one believes he or she has over successfully performing OCB. It is functional to help individuals to engage in OCB because it refers to one's internal capabilities and/or external opportunities for performing OCBs. Job stress may stem from limited capabilities and opportunities compared to

job requirement (Sauter & Murphy, 1995). Thus, when perceived ease of OCB is relatively high employees will experience less job stress and less psychological strain. In support of this, empirical studies have found that various types of job resources such as social support and job autonomy were negatively correlated to psychological strain (e.g., Boyd et al., 2011; Halbesleben, 2006; Schaufeli & Bakker, 2004).

Perceived value of OCB is also a type of job resource. Higher perceived value indicates higher level of recognized needs to perform OCB. It may be functional in promoting OCB because it contributes to understanding the value and meaningfulness of engaging in OCB. Meaningfulness has been recognized as an important resource in mitigating work stress (Glazer, Kozusznik, Meyers, & Ganai, 2014). When employees perceive a higher level of value of OCB, their engagement of OCB is not just because of "having to" but with goals of obtaining desirable outcomes. Achieving such goals will therefore reduce experienced job stress and psychological strain. Job stress is partly a result of incompatibility between work activities and needs of employees (Sauter & Murphy, 1995). If perceived value of OCB is high, there will be more compatibility between work behaviors (OCB) and needs (desirable consequences generated by OCB), which will be associated with low level of job stress and low level of psychological strain. Thus, I propose that employees may experience less psychological strain after periods when they perceive higher value of OCB compared to when they perceive lower value of OCB.

To summarize, I hypothesize:

Hypothesis 4a: Employees' perceived value of OCB will be negatively related to their psychological strain.

Hypothesis 4b: Employees' perceived social pressure of OCB will be positively related to their psychological strain.

Hypothesis 4c: Employee's perceived ease of OCB will be negatively related to their psychological strain.

While previous research linking coworker with one's job stress process has prominently focused on direct interaction between coworkers and the employee such as social support from coworkers (e.g., Beehr, Jex, Stacy, & Murray, 2000; Karasek, Triantis, & Chaudhry, 1982) as antecedents of stress and strain, other types of coworker behavior may also have an effect on employees' psychological strain as well. This is because employees make sense of coworkers' behaviors and what they perceive about aspects of work from observing coworkers (Salancik & Pfeffer, 1978) affects their appraisal of the work and associated job stress process (Bhave, Kramer, & Glomb, 2010). Integrating Hypotheses 1 and 4, I further hypothesize that coworker OCB will influence the focal employee's psychological strain through its influence on perceived value of OCB, perceived social pressure of OCB, and perceived ease of OCB.

Hypothesis 5a: Employees' observations of coworkers' OCB will be negatively indirectly related to their psychological strain via their perceived value of OCB.

Hypothesis 5b: Employees' observations of coworkers' OCB will be positively indirectly related to their psychological strain via their perceived social pressure of OCB.

Hypothesis 5c: Employees' observations of coworkers' OCB will be negatively indirectly related to their psychological strain via their perceived ease of OCB.

2.5 Cross-level moderation of regulatory focus orientation

Higgins's regulatory focus theory (1997, 1998) proposes two motivational orientations: promotion focus orientation and prevention focus orientation. These two motivational orientations are driven by different needs and are associated with different desired end states. Promotion focus is conceptualized to be driven by a need of obtaining nurturance, and people

with high promotion focus are concerned with gain, growth and accomplishment (Higgins, 1998; Shah, Higgins, & Friedman, 1998). In contrast, prevention focus is conceptualized to be driven by a need to protect oneself from adverse circumstances, and people with high prevention focus are concerned with responsibilities, duties and obligations (Higgins, 1998; Shah et al., 1998). Thus, promotion focus is associated with ideal and hope-for goals, whereas prevention focus is associated with goals of avoiding mistakes and meeting social expected about what one "ought" to do (Carver & Scheier, 1998). Notably, promotion focus and prevention focus are independent dimensions, instead of two opposites on a same continuum (Higgins, 1997, 1998). Therefore, having high promotion focus does not necessarily mean having high prevention focus (Higgins et al., 2001; Wallace & Chen, 2006).

Promotion and prevention foci are important to understand strategies used to achieve performance goals with promotion focus aiming to achieve positive end-states and prevention focus seeking to avoid negative end-states. Studies have shown that the two regulatory foci have unique relations with different work behaviors. Promotion focus has a stronger relationship with performance emphasizing achievement and accomplishment, such as innovation, while prevention focus has a stronger relationship with performance emphasizing security and responsibilities, such as safety performance (e.g., e.g., De Cremer, Mayer, van Dijke, Schouten, & Bardes, 2009; Neubert, Kacmar, Carlson, Chonko, & Roberts, 2008; see Lanaj, Chang, & Johnson, 2012, for a meta-analysis). Regulatory foci distinguish individuals' sensitivity to different kinds of information in the environment, leading them to respond in different ways to the same stimuli. Promotion and prevention foci are therefore expected to be associated with individual's perception and attitudes of the job, besides performance. In a meta-analysis (Lanaj et al., 2012), promotion focus was positively related to job satisfaction and affective commitment

while prevention focus was negatively related to job satisfaction and positively related to normative commitment.

Regulatory focus can be regarded either as a chronic individual difference or as temporal, situational-based shifting state (Higgins, Shah, & Friedman, 1997; Shah & Higgins, 1997). In the current research I look at regulatory focus as a chronic variable. I investigate the more enduring effect of regulatory focus (Johnson, Chang, & Yang, 2010) on how individuals interpret information concerning their coworkers' OCBs that in turn promote psychological belief states (perceived value, perceives social pressure, and perceived ease of OCB).

2.5.1 Relation of coworker OCB and perceived value of OCB moderated by promotion focus

As discussed above, high levels of perceived value of OCB indicate the presence of positive consequences of OCB for individuals who perform OCB and/or the group and the organization (Haworth & Levy, 2001; Yaffe & Kark, 2011). Thus individuals will look for benefits of OCB in order to form beliefs regarding the value of OCB. In this process, OCB is regarded as an opportunity to gain accomplishment or achievement, for employees themselves and/or for the group and the organization. Individuals with a higher level of promotion focus are sensitive to the presence or absence of positive outcomes, and are motivated by achievement and accomplishments (Higgins et al., 2001; Pierro, Cicero, & Higgins, 2009). Regulatory focus theory suggests that individuals having a higher level of promotion focus will tend to interpret increases and decreases in coworker OCB as signs of increasing and decreasing positive outcomes of OCB, respectively. In contrast, those having a lower level of promotion are not very sensitive to the presence or absence of positive outcomes in the environment and thus are less likely to form beliefs regarding value of OCB based on information of fluctuations in coworkers'

OCB. Therefore I hypothesize:

Hypothesis 6a: Promotion focus will moderate the within-person relationship between observation of coworkers' OCB and perceived value of OCB, such that the relationship will be stronger for individuals with higher promotion focus.

2.5.2 Relation of coworker OCB and perceived social pressure of OCB moderated by prevention focus

Perceived social pressure of OCB concerns perceived normative standards and social expectation regarding the performance of OCB. Instead of promoting personal achievements and/or group and organization accomplishments, this belief contributes to effects to avoid punishment due to violating social norms (Cialdini & Trost 1998). Punishments for transgressing social norms can include sanction from the social group, such as social exclusion (Bicchieri, 2005; Fehr & Fischbacher, 2004). Since prevention focus yields sensitivity to the presence or absence of negative outcome (Higgins, 1997, 1998; Van Dijk & Kluger, 2011), individuals having a higher level of prevention focus will be more concerned with avoiding negative consequences in the workplace and thus they will be more likely to form normative beliefs based on their observations of coworkers' OCB.

Besides, social norm in a group is associated with obligation and duty of each member to the group (Cialdini & Trost 1998; Ehrhart & Naumann, 2004). An individual with a higher level of prevention focus may feel compelled to set goals out of a sense of duty or obligation – the "ought" goals (Higgins et al., 1997). Therefore employees having a higher level of prevention focus will be more likely to perceive higher level of social pressure to engage in OCB from coworkers' higher level of engagement in OCB because these employees are motivated to find cues that can direct them to fulfill obligations and duties in their job. Therefore, I hypothesize:

Hypothesis 6b: Prevention focus will moderate the within-person relationship between observation of coworkers' OCB and perceived social pressure of OCB, such that the relationship will be stronger for individuals with higher prevention focus.

2.5.3 Relation of coworker OCB and perceived ease of OCB moderated by promotion focus

Perceived ease of OCB is refers to the availability of internal capabilities and external opportunities to engage in OCB. Individuals with higher promotion focus seek to attain hope-for goals associated with growth and accomplishments (Ferris et al., 2013; Higgins et al., 2001; Pierro et al., 2009). In order to fulfill such goals, these individuals will be more motivated to seek out social cues in the environment to decide whether the essential prerequisites to perform the desired behaviors are present, because the existence of such prerequisites may underlie the success of their efforts. Therefore, the signaling effect of coworker OCB on the perception of ease of engaging in OCB may be strengthened for individuals with higher level of promotion focus. Therefore, I hypothesize:

Hypothesis 6c: Promotion focus will moderate the within-person relationship between observation of coworkers' OCB and perceived ease of OCB, such that the relationship will be stronger for individuals with higher promotion focus.

Integrating the moderation hypotheses and hypotheses regarding the relationship between three belief states and OCB and psychological strain, I propose the overall, moderated mediation hypotheses that the indirect effect of observation of coworkers' OCB on the focal employee's OCB and psychological strain through the three belief states is shaped by each individual's promotion and prevention focus:

Hypothesis 7a: The positive indirect effect of observations of coworkers' OCB on employees' subsequent OCB via their perceived value of OCB will be stronger for individuals with higher

promotion focus.

Hypothesis 7b: The positive indirect effect of observations of coworkers' OCB on employees' subsequent OCB via their perceived social pressure of OCB will be stronger for individuals with higher prevention focus.

Hypothesis 7c: The positive indirect effect of observations of coworkers' OCB on employees' subsequent OCB via their perceived ease of OCB will be stronger for individuals with higher promotion focus.

Hypothesis 8a: The negative indirect effect of observations of coworkers' OCB on employees' subsequent psychological strain via their perceived value of OCB will be stronger for individuals with higher promotion focus.

Hypothesis 8b: The positive indirect effect of observations of coworkers' OCB on employees' subsequent psychological strain via their perceived social pressure of OCB will be stronger for individuals with higher prevention focus.

Hypothesis 8c: The positive indirect effect of observations of coworkers' OCB on employees' subsequent psychological strain via their perceived ease of OCB will be stronger for individuals with higher promotion focus.

3. Method

3.1 Participants and procedure

Participants in this study were recruited through Amazon's Mechanical Turk (MTurk; Amazon, 2016), an online crowdsourcing labor market. Data obtained via MTurk are comparable to data obtained using traditional convenient sampling methods (Buhrmester, Kwang, & Gosling, 2011; Paolacci, Chandler, & Ipeirotis, 2010; Steelman, Hammer, & Limayem, 2014) and scholars have encouraged the use of MTurk as a new way to collect data for organizational research (Landers & Behrend, 2015).

Criteria for study participation included: (a) participants should be full-time employees based in U.S., (b) they were not working independently but should have at least two coworkers (i.e., employees who have frequent daily interactions with them and report to the same supervisor) at work, (c) they had no scheduled absences from work (i.e., vacation) during the longitudinal data collection time window of five weeks. Participants were first asked to fill in a baseline survey, which assessed their regulatory foci, demographic information, and other between-individual level variables. After the baseline survey, they were administered ten surveys across five consecutive weeks with two surveys on each week. These semiweekly surveys assessed the observation of coworkers' OCB in recent two workdays, current belief states of OCB, one's own engagement of OCB in the recent two workdays, perceived psychological strain in the recent two workdays, and positive and negative affects at work in the recent two workdays. The semiweekly surveys were sent on Tuesday afternoon and Thursday afternoon at 4 pm, and participants were asked to complete the survey before midnight on that day.

The number of participants who filled in the baseline survey was 198. To encourage participants to stay in the study to complete as many semiweekly surveys as possible, incentive

system was designed in a way that later surveys were paid higher than earlier surveys and participants needed to fill in certain number of earlier surveys to be eligible to complete later surveys. More specifically, the incentive for the baseline survey (Survey #0) was $ 0.50 and the ten following surveys were divided into three stages with different incentives. The incentive for each survey in stage 1 (Survey #1 to Survey #4) was $ 0.50, in stage 2 (Survey #5 to Survey #8) was $ 0.75, and in stage 3 (Survey #9 to Survey #10) was $ 1.00. The bonus of completing all surveys in each stage was $ 0.50, $ 0.75, and $ 1.00, respectively. Participants had to complete at least three surveys in each stage to be eligible to continue participation in the next stage. If they completed all ten biweekly surveys from Survey #1 to Survey #10, they would receive another $1.25 as bonus. The total payment for participants who completed all 11 surveys was $10.00. Response rate at the end of each stage was 66.2%, 53.5%, and 46.5%.

A critical issue in data collection using MTurk is to use attention-checking questions to select participants who showed attentiveness when answering questions (Chandler, Mueller, & Paolacci, 2014). The instructions of attention-checking question in each semiweekly survey read as follows: *This is an attention check question. Regardless of your experience at work, please choose "Neither agree nor disagree" for all the statements below. The purpose of this question is to evaluate whether you pay attention to instructions and answer the questions carefully. Again, regardless of your experience at work, please choose "Neither agree nor disagree" for all the statements below*.

For semiweekly surveys that did not pass the attention checking, responses in that survey were treated as missing values. Hauser and Schwarz (2016) analyzed data retrieved from a recent collaborative psychology study (Klein et al., 2014), and their analyses showed that the passing rate of a similar attention checking as used in the current research question from multiple cites

was around 70%. Therefore in the current research only participants whose overall passing rate was greater than 70% were included.

The final sample consisted of 850 cases of observation from 121 individuals. Among them, 67 (55.4%) were male and 54 (44.6%) were female. The majority of them were Caucasians (81.0%). They ranged in age from 18-30 years (37.2%), 31-40 years (29.8%), and 41 years and older (33.1%). Their average tenure in the current organization was 7.12 years (*SD* = 6.31) and the average tenure in the current group was 4.59 years (*SD* = 3.88). On average, each participant had 8.6 coworkers who had frequent daily interactions with him or her and reported to the same supervisor.

3.2 Measurement

3.2.1 Measurement in the baseline survey

Regulatory focus was measured with 12 items of the work-based regulatory focus scale developed by Johnson and Chang (2008). Six items were used to measure work-based promotion focus (e.g., "My goal at work is to fulfill my potential to the fullest in my job", Cronbach's α = 0.81) and 6 items were used to measure work-based prevention focus (e.g., "I am fearful about failing to prevent negative outcomes at work", Cronbach's α = 0.83). Participants were asked to rate the extent to which each item is characteristic of them or their general behavior at work using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

In addition to promotion and prevention foci, the baseline survey also included measurement of several control variables that may affect the three types of beliefs concerning OCB (Carlson & Wu, 2012). One control variable is task interdependence, the degree to which team members need to work closely with others and share material and information in order to complete their tasks (Cummings, 1978). Research has shown that task interdependence can increase the

importance of OCB in the workplace (Bachrach, Powell, Bendoly, & Richey, 2006). Therefore, task interdependence may be positively related to one's perceived value of OCB and social pressure of OCB. Task interdependence creates opportunity to help group members to complete tasks (Liden, Erdogan, & Wayne, 2006), and thus may be positively related to perceived ease of OCB. Task interdependence was measured with 5 items (e.g., "I need to collaborate with my colleagues to perform my job well", Cronbach's $\alpha = 0.75$) from the scale developed by Van der Vegt and Janssen (2003). Participants were asked to rate the extent to which each item is characteristic of them or their general behavior at work using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Other control variables in the baseline survey were whether OCBs are seen as critical role behaviors in the participant's organization and whether participants are exposed to formal feedback from peers as part of their performance evaluation. They were each measured with one-item question ("Going above and beyond what's required for the job task is critical to fulfill my role in my work group" and "In my organization, my coworkers provide formal evaluation as a part of my performance appraisal").

Demographic and other basic information was also collected in baseline survey, including participants' age, gender, industry, tenure in the current organization and tenure in the current work group, and the number of coworkers with whom they work.

3.2.2 Measurement in the biweekly survey

Observation of coworkers' OCB was measured with 6 items (Cronbach's $\alpha = 0.81$) from the scale developed by Lee and Allen (2002). Previous studies have used this scale to measure daily OCB and this scale has exhibited considerable daily fluctuations within individuals (Ilies et al., 2006; Spence et al., 2011, 2014). In the current study, items that would be less likely to be

observed by others and did not have high frequencies were deleted. In the current scale, three items are interpersonally focused (OCBI, e.g., "Gave up time to help others who had work or nonwork problems") and three items are organizationally focused (OCBO, e.g., "Offered ideas to improve the functioning of the organization"). Participants were asked to rate the extent to which they observe their coworkers have engaged in the listed behaviors in the recent two workdays using a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*to a great extent*).

One's own engagement of OCB was measured with the same 6 items as in the scale of observation of coworkers' OCB. Cronbach's $\alpha = 0.78$. Participants were asked to rate the frequency they have engaged in the listed behaviors in the recent two workdays using a 6-point scale ranging from 1 (*never*) to 6 (*five times or more*).

Perceived value of OCB was measured with four items from Haworth and Levy (2001) and Yaffe and Kark (2011) (e.g., "I believe performance above and beyond the formal job requirements is valuable to me", Cronbach's $\alpha = 0.93$). Participants were asked to rate the extent to which they agree with each statement right now using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Perceived social pressure of OCB was measured with three items adapted from Ajzen's (1991, 2002) subjective norm scale. Similar as the approach used by previous study (e.g., Shin & Kim, 2015), wording modifications were applied to make it suitable for OCB (e.g., "It is expected for me to perform extra-role behaviors at work", Cronbach's $\alpha = 0.88$). Participants were asked to rate the extent to which they agree with each statement right now using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Perceived ease of OCB was measured with three items adapted from measurement of perceived behavioral control to engage in high-quality service (Schaubroeck et al., 2016).

Wording modifications were applied to make it suitable for OCB (e.g., "It is definitely within my range of abilities to devote efforts beyond job requirements", Cronbach's $\alpha = 0.83$). Participants were asked to rate the extent to which they agree with each statement right now using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Psychological strain was measured with four items developed by Keller (1984). This scale has been used by previous research and has demonstrated good psychometric properties (Chowdhury & Endres, 2010). An example item was "I experience tension from my job". Cronbach's $\alpha = 0.74$. Participants were asked to rate the extent to which they agree each statement describe themselves right now using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Affect was measured with 6 items selected from PANAS (Watson, Clark, & Tellegen, 1988). Three items measured positive affects (e.g., "delighted", Cronbach's $\alpha = 0.71$) and three items measured negative affects (e.g., "distressed", Cronbach's $\alpha = 0.86$). Participants were asked to rate the extent to which these words described their feeling at work in the recent two workdays accurately using a 5-point Likert scale ranging from 1 (*very inaccurate*) to 5 (*very accurate*).

All scale items are shown in the Appendix.

3.3 Analyses approach

In this research the data had a two-level hierarchical structure with Level 1 as within-person (semiweekly) variations and Level 2 as between-person variations. Following recommendations of Hofmann et al. (2000), I centered the within-individual predictor variable around each participant's mean to remove between-person variance in this variable, and I centered the between-individual variable around the grand mean. Multilevel path analysis was conducted using Mplus 7 (Muthén, & Muthén, 2014) to test the multilevel, stage-1 moderated mediation

model (Edwards & Lambert, 2007). In accordance with recommendations about missing data in longitudinal designs (Newman, 2003), maximum likelihood approach was used to deal with missing data to allow for using all available information.

Throughout the analyses, the independent variable (i.e., coworkers' OCB) was modeled as the predictor to the mediators (i.e., three belief states of OCB) measured in the next observation; the mediators were also modeled as the predictors to the outcomes (i.e., one's own engagement of OCB and psychological strain) measured in the next observation. Therefore, the relations tested in the current research were between coworkers' OCB at Time t, three types of beliefs concerning OCB at Time (t+1), own engagement of OCB at Time (t+2), and psychological strain at Time (t+2). Autoregressive paths linking previous types of beliefs concerning OCB (t) with current types of beliefs concerning OCB (t+1), linking previous engagement of OCB (t+1) with current engagement of OCB (t+2), and linking previous strain (t+1) on current strain (t+2) were also included throughout the analyses. Thus, belief states, OCB and psychological strain are residualized by controlling for the previous observation, and thus may be interpreted in terms of change (Cronbach & Furby, 1970; Scott & Barnes, 2011).

When testing the hypothesized within-individual relations, random slopes were modeled for the paths linking coworkers' OCB, three belief states of OCB, own engagement of OCB, and psychological strain. Following approaches taken by other recently published within-person studies (e.g., Koopman et al., 2015; Wang, Liao, Zhan, & Shi, 2011), fixed slopes were modeled for all other paths concerning control variables (i.e., autoregressive paths and the paths linking positive and negative affects with outcomes). When testing the cross-level moderation effects, promotion and prevention foci were modeled as Level 2 predictors of the random slopes linking coworkers' OCB and three belief states of OCB.

4. Results

First, I did variance partitioning of the focal Level 1 variables by estimating their variance at the within- and between-individual levels. The results were presented in Table 1. As the results showed, all Level 1 variables exhibited considerable within-individual variability.

Descriptive analyses of the focal variables were presented in Table 2. As the results in Table 2 showed, at the within-individual level, coworkers' OCB was positively related to perceived value, social pressure, and ease of OCB, as well as with one's own engagement with OCB and psychological strain. The three types of beliefs concerning OCB were also positively related to one's own engagement of OCB and psychological strain. At the between-individual level, coworkers' OCB was positively related to one's own engagement of OCB but negatively related to psychological strain. Promotion focus was positively related to perceived value of OCB and perceived ease of OCB, while prevention focus was negatively related to perceived value of OCB and perceived ease of OCB.

4.1 Testing the measurement model

I ran confirmatory factorial analysis (CFA) to test the measurement model of the focal variables. More specifically, all focal within-individual variables (i.e., coworkers' OCB, three types of beliefs concerning OCB, self engagement of OCB, and psychological strain) were group-mean centered and CFA was conducted at the within-individual level. The CFA results showed that the measurement model had acceptable fit: CFI = 0.92, TFL = 0.91, RMSEA = 0.058, SRMR = 0.050. χ^2 (284)= 2438.73, $p < 0.01$. All loadings were significant.

Several alternative measurement models were tested and compared with the original model. The results of model comparison were presented in Table 3. Alternative model 1 combined the measurements of perceived value of OCB and perceived social pressure of OCB as one factor.

Alternative model 2 combined the measurements of perceived value of OCB and perceived ease of OCB as one factor. Alternative model 3 combined the measurements of perceived social pressure of OCB and perceived ease of OCB as one factor. Finally, alternative model 4 combined the measurements of coworkers' engagement of OCB and one's own engagement of OCB as one factor. All alternative models were specified by fixing the correlation between the corresponding latent variables to be 1. As the results in Table 3 showed, model comparisons based on Satorra-Bentler scaled Chi-Squares (Satorra & Bentler, 2010) showed that the original model significantly fit the data better than all alternative models. Taken together, these results provided discriminatory validity of the measurement.

4.2 Testing the within-individual main effects

Before testing the full model with the proposed cross-level moderation, I first ran analyses to test the within-individual main effects of coworkers' OCB on three types of beliefs concerning OCB as well as the main effects of three types of beliefs concerning OCB on self engagement of OCB and psychological strain. Results were presented in Table 4 and Table 5. All path analyses were not conducted piece-by-piece, but simultaneously. The results were presented in two tables just for the purpose of ease to read.

As the results in Table 4 indicated, after controlling for the autoregressive paths, the relation between coworkers' OCB and perceived value of OCB ($b = 0.36$, $p < .01$), perceived social pressure of OCB ($b = 0.23$, $p < .05$), and perceived ease of OCB ($b = 0.37$, $p < .01$) were all significant. Therefore, Hypotheses 1a, 1b, and 1c were supported.

As the results in Table 5 indicated, the relation between coworkers' OCB and self engagement of OCB ($b = 0.17$, $p < .05$) and psychological strain ($b = 0.17$, $p < .05$) were both significant, indicating that the direct effects of coworkers' OCB on one's own OCB and one's

strain were positive. However, the proposed positive relations between all three beliefs about OCB and one's own engagement of OCB were not significant (all $p > 0.05$). Hypotheses 2a, 2b, and 2c were not supported. The relation between positive social pressure and psychological strain was positive ($b = 0.14$, $p < .05$), while the relations between the other two types of beliefs concerning OCB and psychological strain were not significant. Therefore, hypothesis 4b was supported but hypotheses 4a and 4c were not supported.

Notably, task interdependence, as a control variable at the between-individual level, was positively related to perceived value of OCB ($b = 0.65$, $p < .05$), perceived social pressure of OCB ($b = 0.48$, $p < .05$), perceived ease of OCB ($b = 0.77$, $p < .05$), as well as one's own engagement of OCB ($b = 0.16$, $p < .05$). This suggests that task interdependence may be an important contextual factor when investigating types of beliefs concerning OCB based on the theory of planned behavior.

To test the proposed mediation hypotheses, Monte Carlo simulations (Preacher & Selig, 2010) were used to test the indirect effect of coworkers' OCB on psychological strain via perceived social pressure of OCB. The results showed that although the path between coworkers' OCB on perceived social pressure of OCB and the patch between perceived social pressure of OCB and psychological strain were both significant, the 95% confidence interval of the indirect effect included zero ([-0.02, 0.14]). Therefore, this indirect effect was not significant. Therefore, all mediation hypotheses (Hypotheses 3a, 3b, 3c, and Hypotheses 5a, 5b, and 5c) were not supported.

4.3 Testing the cross-level moderating effects

Before testing the cross-level moderating effects, I first tested whether the random slopes linking observation of coworkers' OCB and the three types of beliefs concerning OCB had

significant variance. I conducted model comparisons between a model that allowed the random slopes to have variance and a constrained model that fixed the variance of the random slope to be zero. Log likelihood tests showed that for all three slopes linking coworkers' OCB to the types of beliefs concerning OCB, the full model fit the data no better than the constrained model. Therefore, the variances of the random slopes were not significant.

Based on the recommendation of Aguinis et al. (2013), the best practice is to "proceed with the cross-level interaction test even when the null hypothesis of no slope variance is retained when there is a strong theory-based rationale for a particular hypothesis" (p. 1502). Therefore, although the variances of the random slopes were not significant, I continued testing the cross-level moderation effect of promotion and prevention foci. The results were presented in Table 6. All path analyses were not conducted piece-by-piece, but simultaneously.

As Table 6 showed, the main effects of coworkers' OCB on three types of beliefs concerning OCB were all positive, and the main effect of promotion focus on perceived value of OCB was positive. However, promotion and prevention foci were not significantly related to the paths linking coworkers' OCB and the three types of beliefs concerning OCB (all $p > 0.05$). Thus, promotion and prevention foci did not have significant moderation effect on the relations between coworkers' OCB and the three types of beliefs concerning OCB. Hypotheses 6a to 6c were not supported.

Adding the cross-level moderator at stage 1 did not alter the significance of the paths at stage 2. The relation between positive social pressure and psychological strain remained positive ($b = 0.14$, $p < .05$). The relations between the other two types of beliefs concerning OCB and psychological strain as well as between all three beliefs about OCB and one's own engagement of OCB remained insignificant (all $p > 0.05$).

Because the hypothesized cross-level moderation was not supported, the hypotheses regarding moderated mediation were not supported. Therefore, hypotheses 7a to 7c and hypotheses 8a to 8c were not supported.

Notably, throughout the analyses, removing the control variables did not alter the significance of all paths.

A summary of all statistical analyses for testing the proposed hypotheses is presented in Table 7. The overall results are presented in Figure 2.

4.4 Supplementary analyses

I ran supplementary analyses that differentiated OCBI and OCBO, to explore the possibility that observing coworkers' OCBI and OCBO would have diverse effect on the three types of beliefs concerning OCB, as well as the possibility that the three types of beliefs concerning OCB would have different relations with self engagement of OCBI and OCBO. The results were presented in Table 8 and Table 9. All path analyses were not conducted piece-by-piece, but simultaneously. The results were presented in two tables just for the purpose of ease to read.

As shown in Table 8, observing coworkers' OCBI had positive relations with perceived value of OCB ($b = 0.28$, $p < .05$), perceived social pressure of OCB ($b = 0.23$, $p < .05$), and perceived ease of OCB ($b = 0.29$, $p < .05$). However, observing coworkers' OCBO did not have significant relations with all three types of beliefs concerning OCB (all $p > 0.05$). Promotion focus and prevention focus did not moderate the slopes linking observation of OCBI and three types of beliefs concerning OCB as well as the slopes linking observations of OCBO and three types of beliefs concerning OCB (all $p > 0.05$). As shown in Table 9, the three types of beliefs concerning OCB did not have significant relations with own engagement of OCBI or OCBO (all $p > 0.05$). To summarize, the supplementary analyses indicated that observation of coworkers'

OCBI may have effect on increasing perceived value, social pressure, and ease of OCB, while observation of coworkers' OCBO was not significantly related to the three types of beliefs concerning OCB.

5. Discussion

5.1 Elaboration of research findings

First, results of analyses showed that within individuals, coworkers' OCB was positively related to all three beliefs states of OCB. This finding suggests that as observation of coworkers' OCB increases, one tends to perceive more value of OCB, feel more social pressure of engaging in OCB, and evaluate the engagement of OCB as easier subsequently. Consistent with social information processing theory (Salancik & Pfeffer, 1978), this study supports that one will seek information in the nearby environment (i.e., behavior of coworkers) to alter critical evaluations regarding work activities.

However, the current study failed to support the hypotheses that apply the theory of planned behavior to OCB, as within individuals all three belief states of OCB (i.e., perceived value of OCB, perceived social pressure of OCB, and perceived ease of OCB) were not significantly related to one's own engagement of OCB later on. These findings are inconsistent with previous studies that demonstrated positive links between the three beliefs in the theory of planned behavior and discretionary behaviors in the workplace (e.g., pro-environmental behavior, Cordano & Frieze, 2000; voice behavior, Liang et al., 2012). What is worth mentioning is that those previous studies all used between-individual design, and to my best knowledge the current study is the first to test the theory of planned behavior using within-individual design. Unlike between-individual design that answers the question of *who*, within-individual design answers the question of *when* by accounting for patterns and phenomena across time (Dalal, Bhave, & Fiset, 2014). Future studies can continue to explore whether the theory of planed behavior only works at the between-individual level, or also works at the within-individual level.

As for the relation between the three belief states and psychological strain, as hypothesized, perceived social pressure of OCB was positively related to work strain later on. This result indicates that perceived social pressure of OCB may serve as a type of job demands (aspect of the job requiring sustained investment of efforts, Schaufeli & Bakker, 2004) and is detrimental to one's well being at work (Bolino et al., 2010). However, perceived ease of OCB and perceived value of OCB were not significantly related to strain later on. It has been argued that job stress is the result of limited capabilities and opportunities compared to job requirement (Sauter & Murphy, 1995). Although perceived ease of OCB signals one's internal capabilities and/or external opportunities for performing OCBs, it does not guarantee that with these capabilities and opportunities one can meet the requirement of performing OCB. As for perceived value of OCB, it indicates the meaningfulness of engaging in OCB, meanwhile it may also suggests a need to engage in OCB based on internal judgment of its value. Actually, as shown in Table 2, within individuals both perceived ease of OCB and perceived value of OCB had positive binary correlation with psychological strain later on. More research is needed to further investigate the relation between these two types of belief states and stress process.

The final hypotheses regarding the cross-level moderation of promotion and prevention foci on the relations between coworkers' OCB and perceived value of OCB, perceived social pressure of OCB, and perceived ease of OCB later on were not supported. One reason is that the slopes linking coworkers' OCB with the three belief states did not have significant variance – the relations between coworkers' OCB and three belief states did not vary substantially across individuals. Besides, what is worth mentioning is that promotion focus had a significant main effect on perceived value of OCB. This suggests that employees with higher promotion focus generally tend to evaluate engaging in OCB as more worthwhile, regardless of fluctuation of

coworkers' engagement of OCB. Those with higher promotion focus are more concerned with gains, growth and accomplishment at work (Higgins, 1998; Lanaj et al., 2012; Shah et al., 1998), thus they are motivated to actively seek the positive consequences of OCB such as more favorable evaluation from supervisors and high level of effectiveness for the group (Podsakoff et al., 2009). Therefore they are more likely to form beliefs regarding the value of engaging in OCB.

Supplementary analyses further showed that coworkers' OCBI was positively related to perceived value of OCB, perceived social pressure of OCB, and perceived ease of OCB later on, while coworkers' OCBO was not significantly related to the three belief states of OCB. These results are intriguing because they suggest that observing coworkers' OCB towards different targets (individuals versus organization) may have diverse relations with the belief states of OCB. Previous research has shown that OCBI is more likely to be rewarded by supervisors than OCBO (Podsakoff, MacKenzie, & Hui, 1993). Therefore individuals may perceive more value of OCB after observing an increase in coworkers' OCBI, compared with coworkers' OCBO. Besides, it is very likely that the target of OCBI is the focal employee himself. Based on the norm of reciprocity (Gouldner, 1960), one may feel that the other party expects him or her to return the favor and feel obligated to reciprocate. By contrast, coworkers' OCBO does not directly benefit the focal employee and the focal employee may not feel so expected to engage in such discretionary behaviors. As a result, within individuals coworkers' OCBI will be more strongly related to perceived social pressure of OCB, as compared with coworkers' OCBO. As for perceived ease of OCB, it is unclear whether coworkers' OCBI (versus OCBO) has stronger relation with perceived internal capabilities to engage in OCB or with external opportunities to engage in OCB. Notably, all the above discussions are based on supplementary and post-hoc

analyses. Future research is needed to look at the impact of coworkers' OCBI and OCBO on the focal employee more thoroughly.

Another result worth mentioning is the different relation between certain variables at between- and within- individual level. As Table 2 showed, at between-individual level, coworkers' OCB was negatively related to psychological strain; while at within-individual level, coworkers' OCB was positively related to psychological strain. Between individuals, those whose coworkers engage in more OCB tend to have less strain. One explanation of the between-individual relation may be that for those whose coworkers generally engage in more OCB, their teams tend to have higher level of cohesiveness (Kidwell, Mossholder, & Bennett, 1997) and in such teams they tend to experience less work strain (Griffith & Vaitkus, 1999). By contrast, within individuals when one's observation of coworkers' OCB increases, the focal employee is more likely to experience an increase in strain afterwards. Taken together, the opposite relations between coworkers' OCB and work strain at within- and between- individual levels support the necessity to differentiate between psychological processes that unfold between individuals and within individuals (e.g., Vancouver, Thompson, Tischner, & Putka, 2002).

5.2 Theoretical and practical contribution

The current research makes theoretical contribution to the existing literature in several ways. First, it adds to the theory of planned behavior by examining a contextual factor – coworkers' behavior – as an important antecedent of attitude, social norm, and behavioral control. Previous research that applies the theory of planned behavior in the work place emphasized individual characteristics as antecedents. For example, Hurtz & Williams (2009) investigated learning goal orientation and conscientiousness as antecedents of attitude towards voluntary developmental activities, Shin & Kim (2015) studied learning goal orientation as the antecedent of attitude

towards proactive behavior, and Van Hooft and colleagues (2004) looked at work valence (job versus calling) as the antecedent of attitude towards job search. Despite the insights gained from these studies, it is also necessary to study whether and how employees seek information from the social contexts in which they are embedded in to form beliefs about the value, social norm, and behavioral control of certain activities. A recent study (Schaubroeck et al., 2016) studied peers' ethical and transformational leadership as antecedents of change in attitudes and social norm of service behavior. Notably, in Schaubroeck and colleagues' study (2016) a critical incident took place (a peer leader was selected for each group) and the selected peer leader had contextual influence on members' perceived attitudes and social norms in each group. The current research shows that even in the absence of critical incident, fluctuation of coworkers' OCB may serve as a contextual factor that shapes the types of beliefs concerning OCB afterwards.

Second, by taking a dynamic, within-individual approach, the current research uncovers some important yet overlooked outcome of coworkers' OCB. Previous research (e.g., Bommer, Miles, & Grover, 2003; O'Fallon & Butterfield, 2012; Robinson & O'leary-Kelly, 1998) looking at the effect of one's coworkers' behavior on the focal individual was between individual in nature, so it failed to capture whether and how fluctuation of coworker behavior has an impact on the focal person within individuals as time unfolds. As discussed above, the current research found that the relation between coworkers' OCB and the focal employee's work strain was negative between individuals while positive within individuals. Therefore, it answers the question of *when* will the same individual experience different levels of work strain as his or her coworkers' OCB fluctuates. By contrast, the research adopting between-individual approach can only answer the question of *who* will experience more strain as an outcome of coworkers' OCB. The current research is consistent with the recent argument that testing within-individual

relationships adds significant contribution to organizational research since within-person theorizing account for patterns and phenomena across time and situations and is frequently richer than between-individual theorizing (Dalal et al., 2014).

Another theoretical contribution of the current study is that it adds evidence to support the distinguishment between OCBI and OCBO. Williams and Anderson (1991) proposed making general categories of OCB based on the target of the behavior, and they characterized OCBI (the target is another individual, such as altruism and courtesy) versus OCBO (the target is the whole organization, such as sportsmanship, civic virtue, and conscientiousness). Previous research has shown that OCBI and OCBO sometimes have unique antecedents (LePine, Erez, & Johnson, 2002) and may differ in the strength of relations with other variables (Eatough, Chang, Miloslavic, & Johnson, 2011), suggesting that distinguishing between OCBI and OCBO is useful. The current research showed that only coworkers' OCBI (not OCBO) was positively related to belief states (i.e., perceived value, perceived social pressure, and perceived ease) of OCB, suggesting that in social information processing, individuals may evaluate coworkers' OCBI and OCBO in different ways and develop different beliefs regarding OCB.

The current research also has some practical implications. It found that within individuals, perceived social pressure of OCB was positively related to subsequent work strain. This finding can be leveraged to help with stress management/intervention in organizations. For example, training can be designed to increase employees' awareness of social pressure of OCB as a potential source of work strain and educate them to cope with this perception more adaptively. Previous research has supported the effectiveness of interventions that are designed to educate employees about the role of their thoughts in managing stress and to provide them with skills to alter their thoughts to facilitate adaptive coping (Richardson & Rothstein, 2008).

5.3 Limitations and future research direction

One potential limitation of the current research is that only self-report data is used, which is vulnerable to common method bias (Podsakoff et al., 2003). This concern is somewhat alleviated in that all responses were centered around each individual's mean to model within-individual relationships, which controls for confounding factors at between-individual level such as response tendencies. Besides, throughout the analyses the autoregressive paths were controlled. Use of such residualized data made it possible to interpret the results with regard to focal variables in terms of change (Cronbach & Furby, 1970; Scott & Barnes, 2011).

Another limitation is that the measurement I used to assess OCB may not capture the whole universe of the OCB construct. Due to the limitation of survey length, only six items were used to measure OCB. These items were from the scale developed by Lee and Allen (2002) and had relatively high frequencies in the original study. In spite of this, individuals might have engaged in other types of OCBs (e.g., defended opinion or suggestion of someone they work with, spoke highly about someone they work with, demonstrated concern about the image of the organization; defended the organization when other employees criticized it) that were not included in the measurements. Thus, the potential problem of criterion deficiency of OCB may be the reason that the results did not support the expected hypotheses regarding OCB.

A third limitation of the current research is that the use of two days as time lag between the assessment of belief states of OCB and actual engagement of OCB may not be ideal. For instance, it might be possible that the period of two days was not enough for the effect of belief states of OCB on actual OCB behavior to unfold. Previous studies that apply the theory of planned behavior to study workplace behaviors have used longer time lag between the measurement of beliefs and actual behaviors (e.g., two weeks as time lag between beliefs and the

behavior of job search, in Wanberg et al., 2005; six weeks as time lag between beliefs and the behavior of promotive and prohibitive voice, in Liang et al., 2012; three months as time lag between beliefs and the behavior of engaging in voluntary developmental activities, in Hurtz & Williams, 2009; 3.5 years as time lag between beliefs and the behavior of career pursuit, in Dobrow Riza & Heller, 2015). If the timing of assessments is inconsistent with the time interval it actually requires for the potential effects to unfold in longitudinal designs, the observed effects are difficult to explain (Cole & Maxwell, 2003). Investigations into how long it takes for the three types of beliefs concerning OCB to have potential impact on actual behavior of OCB is fruitful, because it can provide important guidelines to conduct following longitudinal research.

Also, it may be worthwhile for future studies to look at alternative mediating mechanism underlying the relation between coworkers' OCB and one's own engagement of OCB and work strain. The results of the current research did not support the proposed indirect effects through three belief states (i.e., perceived value, social pressure, and ease of OCB) based on the theory of planned behavior. A possible alternative mechanism, for instance, is social comparison. Social comparison refers to the process of thinking about information about one or more other people in relation to the self (Wood, 1996). In organizations employees look at coworkers as referents and tend to compare themselves with coworkers. When coworkers' OCB increases, social comparison allows the focal employee to be aware that his or her relative position within groups may be at stake (Allen & Rush, 1998; Johnson et al., 2002; Podsakoff et al., 1993). On one hand, such social comparison may be associated with less positive affects, leading to increases in work strain (Spence et al., 2011). On the other hand, the focal employee may engage in more OCB subsequently in order to keep up with the coworkers.

Finally, the current study identified that task interdependence can serve as an important contextual factor that shapes the three beliefs regarding OCB. Future research is necessary to investigate whether and how task interdependence may affect the evaluation and accepted norm regarding certain work activities among group members in a more systematic manner.

In conclusion, findings of the current research suggest that within individuals, coworkers' OCB is associated with the focal employees' perceived value of OCB, perceived social pressure of OCB, and perceived ease of OCB afterwards. Within individuals, perceived social pressure of OCB is further related to psychological strain afterwards.

APPENDICES

APPENDIX A: Measurement used in the baseline survey

Work-based regulatory focus

Please rate the extent to which each item below is characteristic of you or your general behavior at work.

1 – strongly disagree, 2 – somewhat disagree, 3 – neither agree nor disagree, 4 – somewhat agree, 5 – strongly agree

Promotion focus

1. My goal at work is to fulfill my potential to the fullest in my job.
2. I am focused on successful experiences that occur while working.
3. In general, I tend to think about positive aspects of my work.
4. I see my job as a way for me to fulfill my hopes, wishes, and aspirations.
5. I think about the positive outcomes that my job can bring me.
6. I feel happy when I have accomplished a lot at work.

Prevention focus

1. I am focused on failure experiences that occur while working.
2. I am fearful about failing to prevent negative outcomes at work.
3. In general, I tend to think about negative aspects of my work.
4. I feel anxious when I cannot meet my responsibilities at work.
5. I think about the negative outcomes associated with losing my job.
6. I sometimes feel anxious at work.

Task interdependence

Please rate the extent to which you agree with each description about your work.

1 – strongly disagree, 2 – relatively disagree, 3 – neither agree nor disagree, 4 – relatively agree, 5 – strongly agree

1. I need information and advice from my colleagues to perform my job well.
2. I have a one-person job; it is not necessary for me to coordinate or cooperate with others.
3. I need to collaborate with my colleagues to perform my job well.
4. My colleagues need information and advice from me to perform their jobs well.
5. I regularly have to communicate with colleagues about work-related issues.

Whether OCBs are seen as critical role behaviors

Please rate the extent to which you agree with each description about your work.

1 – strongly disagree, 2 – relatively disagree, 3 – neither agree nor disagree, 4 – relatively agree, 5 – strongly agree

Going above and beyond what's required for the job task is critical to fulfill my role in my work group.

Whether participants are exposed to formal feedback from peers as part of their evaluation

Please rate the extent to which you agree with each description about your work.

1 – strongly disagree, 2 – relatively disagree, 3 – neither agree nor disagree, 4 – relatively agree, 5 – strongly agree

In my organization, my coworkers provide formal evaluation as a part of my performance appraisal.

APPENDIX B: Measurement used in the biweekly survey

Observation of coworkers' OCB

Please rate the extent to which you observe your coworkers' overall engagement in the behaviors listed below in the recent two workdays.

1 – not at all, 2 – not often, 3 – sometimes, 4 – often, 5 – to a great extent

1. Helped others who have been absent.
2. Showed genuine concern and courtesy toward coworkers, even under the most trying business or personal situations.
3. Gave up time to help others who had work or nonwork problems.
4. Attended functions that were not required but that helped the organizational image.
5. Offered ideas to improve the functioning of the organization.
6. Took action to protect the organization from potential problems.

Self engagement of OCB

Please rate the frequency you have engaged in the listed behaviors in the recent two workdays.

1 – not at all, 2 – once, 3 – twice, 4 – three times, 5 – four times, 6 – five times or more

1. Helped others who have been absent.
2. Showed genuine concern and courtesy toward coworkers, even under the most trying business or personal situations.
3. Gave up time to help others who had work or nonwork problems.
4. Attended functions that were not required but that helped the organizational image.
5. Offered ideas to improve the functioning of the organization.
6. Took action to protect the organization from potential problems.

Perceived value of OCB

Please rate the extent to which you agree with each statement right now.

1 – strongly disagree, 2 – somewhat disagree, 3 – neither agree nor disagree, 4 – somewhat agree, 5 – strongly agree

1. It is worthwhile to perform behaviors above and beyond the job requirements even though I am not formally rewarded for them.
2. Performance above and beyond the formal job requirements is valuable.
3. It is beneficial to my career to perform extra-role behaviors at work.
4. It is worthy to devote efforts far beyond job requirements, even if these efforts are not paid for.

Perceived social pressure of OCB

Please rate the extent to which you agree with each statement right now.

1 – strongly disagree, 2 – somewhat disagree, 3 – neither agree nor disagree, 4 – somewhat agree, 5 – strongly agree

1. My coworkers think I should perform behaviors above and beyond the job requirements.
2. It is expected for me to perform extra-role behaviors at work.
3. My coworkers would disapprove it when I wouldn't devote efforts beyond job requirements.

Perceived ease of OCB

Please rate the extent to which you agree with each statement right now.

1 – strongly disagree, 2 – somewhat disagree, 3 – neither agree nor disagree, 4 – somewhat agree, 5 – strongly agree

1. For me to perform behaviors above and beyond the job requirements is easy.
2. It is definitely within my range of abilities to devote efforts beyond job requirements.

3. I am sure that I can perform extra-role behaviors at work.

Psychological strain

Please rate the extent to which you agree each statement describe you, based on your feeling at work in the recent two workdays.

1 – strongly disagree, 2 – relatively disagree, 3 – neither agree nor disagree, 4 – relatively agree, 5 – strongly agree

1. I experience tension from my job.
2. Aspects of my job are a source of frustration to me.
3. There is no strain from working in my job.
4. I don't feel pressure in my job.

Positive affects and negative affects

Below is a list of words. Please rate the extent to which these words describe your feeling at work in the recent two workdays accurately.

1=very inaccurate, 2=relatively inaccurate, 3=neither inaccurate nor accurate, 4=relatively accurate, 5= very accurate

1. Delighted
2. Alert
3. Excited
4. Afraid
5. Scared
6. Distressed

APPENDIX C: Tables and Figures

Table 1. Within-individual and Between-individual Variances of Focal Variables

	Within-individual variance (e^2)	Between-individual variance (r^2)	% of within-individual variance
Coworkers' OCB	0.84	0.44	64
Perceived value of OCB	1.30	0.83	61
Perceived social pressure of OCB	1.02	0.98	50
Perceived ease of OCB	1.34	0.73	64
Self engagement of OCB	1.07	0.50	68
Psychological strain	1.23	0.44	73

Note. The percentage of within-individual variance was calculated as $e^2/(e^2 + r^2)$.

Table 2. Descriptive Analyses of Focal Variables

	M	SD	1	2	3	4	5	6	7	8
1 Coworkers' OCB (t)	2.45	1.13	-	-0.10	0.02	-0.16	0.53**	-0.18*	0.38**	0.10
2 Value of OCB (t+1)	2.98	1.46	0.10**	-	0.28**	0.75**	0.36**	0.08	0.50**	-0.27**
3 Social pressure of OCB (t+1)	2.39	1.41	0.07*	0.90**	-	0.35**	0.37**	0.36**	0.07	0.12
4 Ease of OCB (t+1)	3.08	1.44	0.09**	0.96**	0.91**	-	0.45**	0.15	0.36**	-0.30**
5 Self engagement of OCB (t+2)	2.56	1.25	0.08*	0.34**	0.31**	0.33**	-	0.18*	0.29**	0.02
6 Psychological strain (t+2)	1.64	1.29	0.10**	0.14**	0.29**	0.10**	0.18**	-	-0.28**	0.52**
7 Promotion focus	4.18	0.62	-	-	-	-	-	-	-	-0.37**
8 Prevention focus	2.78	0.94	-	-	-	-	-	-	-	-

Note. Within-individual correlations (n = 850) are below the diagonal and represent group-mean centered relationships. Between-individual correlations (n = 121) correlations are above the diagonal and those involving Level 1 variables were based on aggregated scores. * $p < .05$, ** $p < .01$.

Table 3. Confirmatory Factor Analyses of the Measurement Model

	χ^2	CFI	TLI	RMSEA	SRMR	Difference in χ^2	Difference in *df*
Original model	χ^2 (284)= 2438.73	0.92	0.91	0.058	0.050		
Alternative model 1	χ^2 (285)= 2981.46	0.91	0.89	0.064	0.052	242.29	1
Alternative model 2	χ^2 (285)= 2675.38	0.92	0.90	0.061	0.051	42.74	1
Alternative model 3	χ^2 (285)= 2861.21	0.91	0.90	0.063	0.051	231.31	1
Alternative model 4	χ^2 (285)= 2523.28	0.92	0.91	0.059	0.051	21.40	1

Note. Alternative model 1 combined the measurements of perceived value of OCB and perceived social pressure of OCB as one factor. Alternative model 2 combined the measurements of perceived value of OCB and perceived ease of OCB as one factor. Alternative model 3 combined the measurements of perceived social pressure of OCB and perceived ease of OCB as one factor. Alternative model 4 combined the measurements of coworkers' engagement of OCB and one's own engagement of OCB as one factor. Model comparisons were based on Satorra-Bentler scaled chi-square difference test. Scaled χ2 = (F0*c0 - F1*c1)*(d0 - d1)/(c0*d0 - c1*d1). (F0 = The χ2 value from the constrained model. F1 = The χ2 value from the freely estimated model. c0 = The scaling correction factor in the constrained model. c1 = The scaling correction factor in the freely estimated model. d0 = The degrees of freedom from the constrained model. d1 = The degrees of freedom from the freely estimated model.)

Table 4. Relations of Coworkers' OCB with Types of Beliefs Concerning OCB

	Perceived value of OCB (t+1)			Perceived social pressure of OCB (t+1)			Perceived ease of OCB (t+1)		
	b	*SE*	*t*	*b*	*SE*	*t*	*b*	*SE*	*t*
Within-individual level									
Coworkers' OCB (t)	0.36	0.12	2.92**	0.23	0.10	2.20*	0.37	0.12	3.01**
Previous belief of OCB (t)	0.01	0.15	0.04	0.06	0.11	0.52	-0.21	0.15	-1.40
Between-individual level									
Task interdependence	0.65	0.17	3.76**	0.48	0.16	2.92**	0.77	0.16	4.75**
Coworker evalua	-0.06	0.08	-0.76	-0.09	0.07	-1.16	-0.12	0.07	-1.63
OCB role	0.04	0.12	0.34	0.13	0.11	1.10	-0.03	0.11	-0.27

Note. Coefficients of coworkers' OCB are the estimates of mean of the random slopes linking coworkers' OCB and three types of beliefs concerning OCB. All other within-individual relations were modeled with fixed slopes. Coworker evalua = Whether participants are exposed to formal feedback from peers as part of their performance evaluation. OCB role = Whether OCBs are seen as critical role behaviors in the participant's organization. * $p < .05$, ** $p < .01$.

Table 5. Relations of Types of Beliefs Concerning OCB on Engagement of OCB and Psychological Strain

Predictors	Engagement of OCB (t+2)			Psychological strain (t+2)		
	B	*SE*	*t*	*B*	*SE*	*t*
Within-individual level						
Coworkers' OCB (t)	0.17	0.08	2.08*	0.17	0.08	2.09*
Perceived value of OCB (t+1)	0.10	0.09	1.13	0.14	0.09	1.51
Perceived social pressure of OCB (t+	0.09	0.06	1.55	0.14	0.06	2.50*
Perceived ease of OCB (t+1)	0.14	0.09	1.58	0.06	0.10	0.54
Previous engagement of OCB (t+1)	0.01	0.06	0.19			
Previous psychological strain (t+1)				0.02	0.08	0.21
Positive affect (t+1)	-0.08	0.07	-1.17	-0.04	0.06	-0.58
Negative affect (t+1)	0.08	0.08	0.99	0.01	0.08	0.93
Between-individual level						
Task interdependence	0.16	0.07	2.44*			
Coworker evalua	0.05	0.03	1.42			
OCB role	0.05	0.04	1.38			
Num coworker	-.01	0.1	-1.81			

Note. Coefficients of coworkers' OCB, perceived value of OCB, perceived social pressure of OCB, and perceived ease of OCB are the estimates of mean of the random slopes. All other within-individual relations (i.e., autoregressive paths and paths involving positive and negative affects) were modeled with fixed slopes. The between-individual control variables were only modeled on self engagement of OCB, not on psychological strain. Coworker evalua = Whether participants are exposed to formal feedback from peers as part of their performance evaluation. OCB role = Whether OCBs are seen as critical role behaviors in the participant's organization. Num coworker = Number of coworkers. * $p < .05$, ** $p < .01$.

Table 6. Moderation of Promotion and Prevention Foci on the Relation between Coworkers' OCB and Three Types of Beliefs Concerning OCB

	Perceived value of OCB (t+1)			Perceived social pressure of OCB (t+1)			Perceived ease of OCB (t+1)		
	b	*SE*	*t*	*b*	*SE*	*t*	*b*	*SE*	*t*
Within-individual level									
Coworkers' OCB (t)	0.37	0.12	3.10**	0.24	0.11	2.30*	0.39	0.12	3.10**
Previous belief of OCB (t)	0.02	0.13	0.13	0.07	0.12	0.54	-0.21	0.14	-1.55
Between-individual level									
Promotion focus	0.52	0.26	2.00*	-0.24	0.27	-0.89	0.20	0.22	0.92
Prevention focus	-0.21	0.14	-0.89	0.05	0.13	0.41	-0.22	0.12	-1.76
Task interdependence	0.59	0.19	3.02**	0.51	0.15	3.63**	0.77	0.16	4.75**
Coworker evalua	-0.07	0.07	-0.96	-0.08	0.08	-1.06	-0.12	0.07	-1.70
OCB role	-0.11	0.12	-0.94	0.19	0.13	1.48	-0.12	0.14	-0.84
Cross level									
COCB * Promotion	0.30	0.22	1.39	0.25	0.19	1.29	0.17	0.22	0.75
COCB * Prevention	0.18	0.14	1.30	0.19	0.12	1.60	0.16	0.14	1.11

Note. Coefficients of coworkers' OCB are the estimates of intercepts of the random slopes linking coworkers' OCB and three types of beliefs concerning OCB. All other within-individual relations were modeled with fixed slopes. Coefficients of the cross-level interaction are the effect of promotion focus and prevention focus on the random slopes linking coworkers' OCB and the three types of beliefs concerning OCB. Coworker evalua = Whether participants are exposed to formal feedback from peers as part of their performance evaluation. OCB role = Whether OCBs are seen as critical role behaviors in the participant's organization. COCB = coworkers' OCB. * $p < .05$, ** $p < .01$.

Table 7. Summary of Statistical Analyses for Hypothesis Testing

Number	Hypothesis	Analysis	Expected result	Supported or not by analyses
1	Hypothesis 1a	Model a random slope linking observation of coworkers' OCB (t) and perceived worthiness of OCB (t+1)	Estimated mean of the random slope is positive and significant	Supported
2	Hypothesis 1b	Model a random slope linking observation of coworkers' OCB (t) and perceived social pressure of OCB (t+1)	Estimated mean of the random slope is positive and significant	Supported
3	Hypothesis 1c	Model a random slope linking observation of coworkers' OCB (t) and perceived ease of OCB (t+1)	Estimated mean of the random slope is positive and significant	Supported
4	Hypothesis 2a	Model a random slope linking perceived worthiness of OCB (t+1) and own OCB (t+2)	Estimated mean of the random slope is positive and significant	Not supported
5	Hypothesis 2b	Model a random slope linking perceived social pressure of OCB (t+1) and own OCB (t+2)	Estimated mean of the random slope is positive and significant	Not supported
6	Hypothesis 2c	Model a random slope linking perceived ease of OCB (t+1) and own OCB (t+2)	Estimated mean of the random slope is positive and significant	Not supported
7	Hypothesis 3a	Use a Monte Carlo simulation with 20,000 replications to create CIs for the conditional indirect effect of observation of coworkers' OCB (t) on self OCB (t+2) via perceived value of OCB (t+1)	The lower bound of the 95% CI is larger than zero	Because Hypothesis 2a was not supported, Hypothesis 3a could not be supported and was not tested.

Table 7 (cont'd)

8	Hypothesis 3b	Use a Monte Carlo simulation with 20,000 replications to create CIs for the conditional indirect effect of observation of coworkers' OCB (t) on self OCB (t+2) via perceived social pressure of OCB (t+1)	The lower bound of the 95% CI is larger than zero	Not supported
9	Hypothesis 3c	Use a Monte Carlo simulation with 20,000 replications to create CIs for the conditional indirect effect of observation of coworkers' OCB (t) on self OCB (t+2) via perceived ease of OCB (t+1)	The lower bound of the 95% CI is larger than zero	Because Hypothesis 2c was not supported, Hypothesis 3c could not be supported and was not tested.
10	Hypothesis 4a	Model a random slope linking perceived worthiness of OCB (t) and psychological strain (t+1)	Estimated mean of the random slope is negative and significant	Not supported
11	Hypothesis 4b	Model a random slope linking perceived social pressure of OCB (t) and psychological strain (t+1)	Estimated mean of the random slope is positive and significant	Supported
12	Hypothesis 4c	Model a random slope linking perceived ease of OCB (t) and psychological strain (t+1)	Estimated mean of the random slope is negative and significant	Not supported
13	Hypothesis 5a	Use a Monte Carlo simulation with 20,000 replications to create CIs for the conditional indirect effect of observation of coworkers' OCB (t) on psychological strain (t+2) via perceived value of OCB (t+1)	The upper bound of the 95% CI is smaller than zero	Because Hypothesis 4a was not supported, Hypothesis 5a could not be supported and was not tested.

Table 7 (cont'd)

14	Hypothesis 5b	Use a Monte Carlo simulation with 20,000 replications to create CIs for the conditional indirect effect of observation of coworkers' OCB (t) on psychological strain (t+2) via perceived social pressure of OCB (t+1)	The lower bound of the 95% CI is larger than zero	Not supported
15	Hypothesis 5c	Use a Monte Carlo simulation with 20,000 replications to create CIs for the conditional indirect effect of observation of coworkers' OCB (t) on psychological strain (t+2) via perceived ease of OCB (t+1)	The upper bound of the 95% CI is smaller than zero	Because Hypothesis 4c was not supported, Hypothesis 5c could not be supported and was not tested.
16	Hypothesis 6a	Regress the random slope linking observation of coworkers' OCB (t) and perceived worthiness of OCB (t+1) on promotion focus	Estimated regression coefficient is positive and significant	Not supported
17	Hypothesis 6b	Regress the random slope linking observation of coworkers' OCB (t) and perceived social pressure of OCB (t+1) on prevention focus	Estimated regression coefficient is negative and significant	Not supported
18	Hypothesis 6c	Regress the random slope linking observation of coworkers' OCB (t) and perceived ease of OCB (t+1) on promotion focus	Estimated regression coefficient is positive and significant	Not supported

Table 7 (cont'd)

19	Hypothesis 7a	Use a Monte Carlo simulation with 20,000 replications (Preacher, Zyphur, & Zhang, 2010) to create CIs for the conditional indirect effects of observation of coworkers' OCB (t) on self OCB (t+2) via perceived worthiness of OCB (t+1) when promotion focus is higher (+1 SD) and lower (-1 SD)	CIs for differences in the indirect effects when promotion focus is higher (+1 SD) versus lower (-1 SD) exclude zero	Because Hypothesis 6a was not supported, Hypothesis 7a could not be supported and was not tested.
20	Hypothesis 7b	Use a Monte Carlo simulation with 20,000 replications to create CIs for the conditional indirect effects of observation of coworkers' OCB (t) on self OCB (t+2) via perceived social pressure of OCB (t+1) when prevention focus is higher (+1 SD) and lower (-1 SD)	CIs for differences in the indirect effects when prevention focus is higher (+1 SD) versus lower (-1 SD) exclude zero.	Because Hypothesis 6b was not supported, Hypothesis 7b could not be supported and was not tested.
21	Hypothesis 7c	Use a Monte Carlo simulation with 20,000 replications to create CIs for the conditional indirect effects of observation of coworkers' OCB (t) on self OCB (t+2) via perceived ease of OCB (t+1) when promotion focus is higher (+1 SD) and lower (-1 SD)	CIs for differences in the indirect effects when promotion focus is higher (+1 SD) versus lower (-1 SD) exclude zero.	Because Hypothesis 6c was not supported, Hypothesis 7c could not be supported and was not tested.
22	Hypothesis 8a	Use a Monte Carlo simulation with 20,000 replications to create CIs for the conditional indirect effects of observation of coworkers' OCB (t) on psychological strain (t+2) via perceived worthiness of OCB (t+1) when promotion focus is higher (+1 SD) and lower (-1 SD)	CIs for differences in the indirect effects when promotion focus is higher (+1 SD) versus lower (-1 SD) exclude zero.	Because Hypothesis 6a was not supported, Hypothesis 8a could not be supported and was not tested.

Table 7 (cont'd)

23	Hypothesis 8b	Use a Monte Carlo simulation with 20,000 replications to create CIs for the conditional indirect effects of observation of coworkers' OCB (t) on psychological strain (t+2) via perceived social pressure of OCB (t+1) when prevention focus is higher (+1 SD) and lower (-1 SD)	CIs for differences in the indirect effects when prevention focus is higher (+1 SD) versus lower (-1 SD) exclude zero.	Because Hypothesis 6b was not supported, Hypothesis 8b could not be supported and was not tested.
24	Hypothesis 8c	Use a Monte Carlo simulation with 20,000 replications to create CIs for the conditional indirect effects of observation of coworkers' OCB (t) on psychological strain (t+2) via perceived ease of OCB (t+1) when promotion focus is higher (+1 SD) and lower (-1 SD)	CIs for differences in the indirect effects when promotion focus is higher (+1 SD) versus lower (-1 SD) exclude zero.	Because Hypothesis 6c was not supported, Hypothesis 8c could not be supported and was not tested.

Table 8. Supplementary Analyses: Moderation of Promotion and Prevention Foci on the Relation between Coworkers' OCBI and OCBO and Three Types of Beliefs Concerning OCB

	Perceived value of OCB (t+1)			Perceived social pressure of OCB (t+1)			Perceived ease of OCB (t+1)		
	b	*SE*	*t*	*b*	*SE*	*t*	*b*	*SE*	*t*
Within-individual level									
Coworkers' OCBI (t)	0.28	0.11	2.49*	0.23	0.11	2.11*	0.29	0.12	2.34*
Coworkers' OCBO (t)	0.08	0.12	0.65	0.00	0.10	0.01	0.08	0.12	0.64
Previous belief of OCB (t)	0.02	0.14	0.16	0.04	0.12	0.36	-0.23	0.14	-1.66
Between-individual level									
Promotion focus	0.48	0.38	1.27	-0.24	0.32	-0.76	0.16	0.24	0.67
Prevention focus	-0.13	0.16	-0.85	0.05	0.14	0.38	-0.23	0.12	-1.85
Task interdependence	0.59	0.17	3.41**	0.51	0.15	3.37**	0.73	0.17	4.42**
Coworker evalua	-0.07	0.07	-0.95	-0.08	0.07	-1.06	-0.12	0.07	-1.80
OCB role	-0.11	0.13	-0.83	0.19	0.14	1.37	-0.11	0.13	-0.87
Cross level									
COCBI * Promotion	0.08	0.16	0.49	0.04	0.19	0.19	-0.09	0.23	-0.39
COCBO * Promotion	0.27	0.23	1.16	0.29	0.22	1.33	0.33	0.25	1.34
COCBI * Prevention	0.14	0.14	0.99	0.19	0.14	1.39	0.13	0.16	0.81
COCBO * Prevention	0.04	0.13	0.32	0.01	0.12	0.04	0.04	0.14	0.29

Note. Coefficients of coworkers' OCBI and OCBO on the three types of beliefs concerning OCB are the estimates of intercepts of the random slopes. All other within-individual relations were modeled with fixed slopes. Coefficients of the cross-level interaction are the effect of promotion focus and prevention focus on the random slopes linking coworkers' OCBI and OCBO and the three types of beliefs concerning OCB. Coworker evalua = Whether participants are exposed to formal feedback from peers as part of their performance evaluation. OCB role = Whether OCBs are seen as critical role behaviors in the participant's organization. COCBI = coworkers' OCBI. COCBO = coworkers' OCBO. * $p < .05$, ** $p < .01$.

Table 9. Supplementary Analyses: Relations of Three Types of Beliefs Concerning OCB on Engagement of OCBI and OCBO

Predictors	Engagement of OCBI (t+2)			Engagement of OCBO (t+2)		
	B	*SE*	*t*	*B*	*SE*	*t*
Within-individual level						
Coworkers' OCBI (t)	0.01	0.06	0.23			
Coworkers' OCBO (t)				-0.02	0.05	-0.47
Perceived value of OCB (t+1)	0.13	0.26	0.51	0.09	0.08	1.19
Perceived social pressure of OCB (t+1)	0.09	0.08	1.23	0.04	0.06	0.56
Perceived ease of OCB (t+1)	0.15	0.22	0.66	0.15	0.08	1.72
Previous engagement of OCBI (t+1)	0.04	0.07	0.52			
Previous engagement of OCBO (t+1)				0.01	0.07	0.14
Positive affect (t+1)	-0.12	0.10	-1.09	-0.05	0.07	-0.77
Negative affect (t+1)	0.10	0.09	1.08	0.04	0.08	0.48
Between-individual level						
Task interdependence	0.21	0.09	2.51**	0.13	0.07	1.75
Coworker evalua	0.02	0.04	0.54	0.05	0.03	1.67
OCB role	0.08	0.05	1.58	0.05	0.04	1.31
Num coworker	-.01	0.1	-1.80	-0.01	0.01	-1.07

Note. Coefficients of coworkers' OCBI and OCBO, perceived value of OCB, perceived social pressure of OCB, and perceived ease of OCB are the estimates of mean of the random slopes. All other within-individual relations (i.e., autoregressive paths and paths involving positive and negative affects) were modeled with fixed slopes. Coworker evalua = Whether participants are exposed to formal feedback from peers as part of their performance evaluation. OCB role = Whether OCBs are seen as critical role behaviors in the participant's organization. Num coworker = Number of coworkers. * $p < .05$, ** $p < .01$.

Figure 1. Proposed Research Model

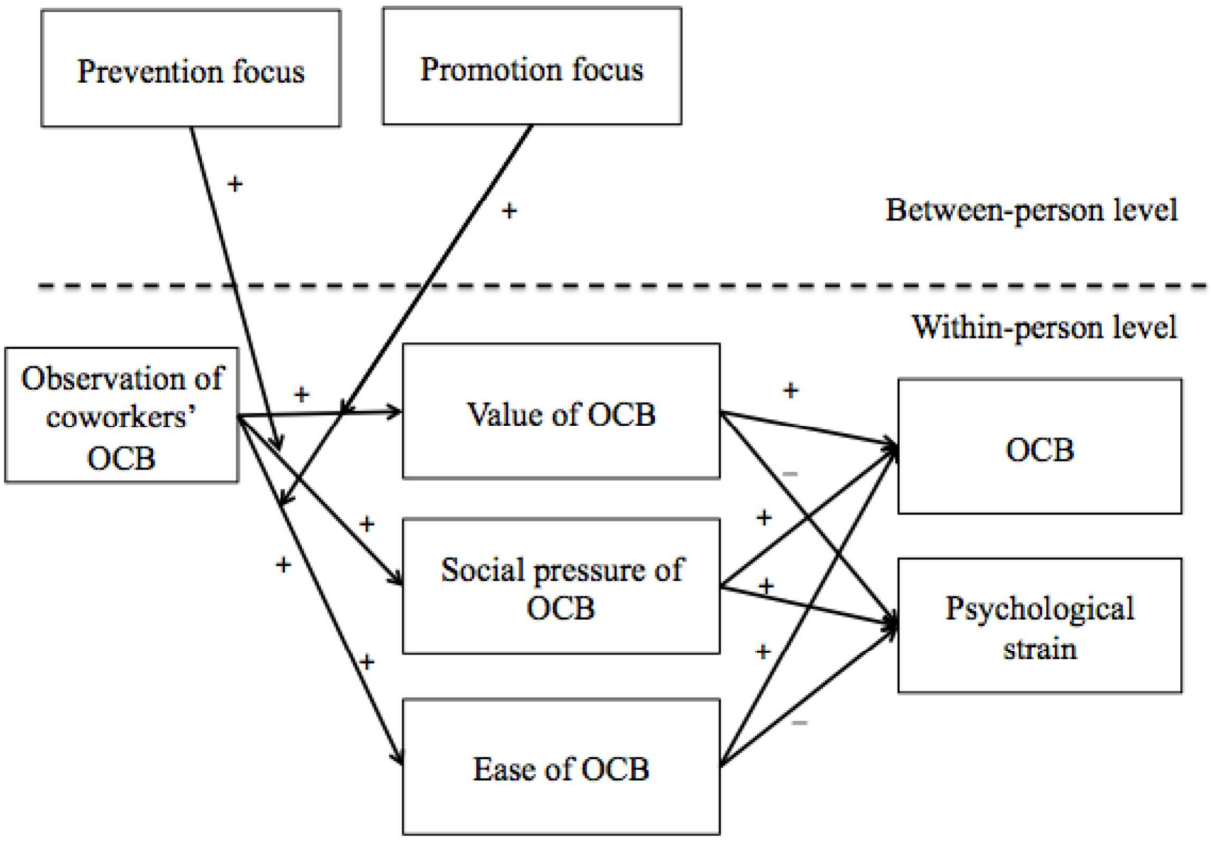
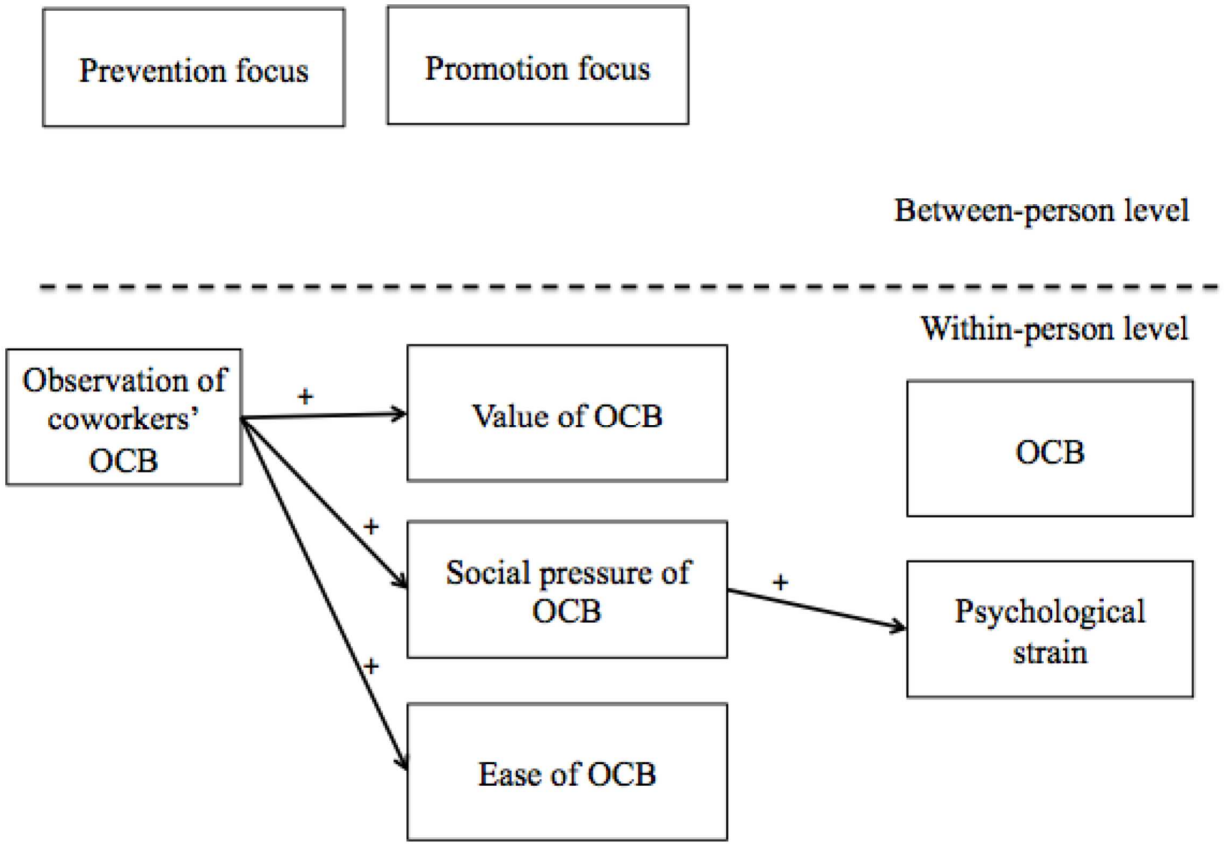


Figure 2. Summary of Model Results



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