

Helping Behavior and Cognitive Strain: *A Job Resource Transformation Perspective*

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ABSTRACT

The purpose of this paper is to clarify the day-to-day relationship between employee helping behavior and cognitive strain. A daily experience sampling method was adopted in order to collect data and to test the conceptual model. The current study collects 350 matched cases nested in 70 full-time workers over 5 consecutive workdays in mainland China. A multilevel structural equation model and hierarchical linear regression model were performed to analyze the data. Employee helping behavior was positively associated with cognitive strain. Both job control and perceived supervisor support buffered the positive relationship between employee helping behavior and cognitive strain. The moderating effect of perceived supervisor support was mediated by the moderating effect of job control.

Keywords: *Helping behavior, Cognitive strain, Perceived supervisor support, Job control.*

1. INTRODUCTION

Considering its positive effect on team cohesion and organization effectiveness, organizational behavior literature has focused on the antecedents of employee helping behavior, defined as voluntary assistance given to coworkers in order to accomplish goals or prevent problems (Yue, Wang, & Groth, 2017). An emerging stream of research has recently begun to explore the potential emotional and cognitive outcomes of helping behavior (Gabriel, Koopman, Rosen, & Johnson, 2018; Lin, Ilies, Pluut, & Pan, 2017). Until now, researches have reached a consistent viewpoint on the emotional results of employee helping behavior. Helping behavior would nurture employees' positive affectivity on a daily basis and further lead to sequential positive work behavior (Lin et al., 2017; Bolino & Grant, 2016).

However, there are still some paradoxical outcomes as to the cognitive results of employee helping behavior. For instance, Gabriel et al., (2018) found that helping behavior would result in daily ego depletion and reduce helping behavior on the following day. In contrast, Bolino and Grant (2016) suggested that helping behavior would enhance employees' cognitive abilities, especially information processing ability, in order to cope with work-related difficulties. To further clarify the cognitive outcomes, this research attempts to

explore the relationship between employee helping behavior and cognitive strain, denoting a class of conscious thought revolving around a common instrumental theme that recurs in the absence of immediate environmental demands requiring such thoughts (Mohr, Muller, Rigotti, Aycan, & Tschan, 2006), and which results in slow recovery from stressful work (Roger & Jamieson, 1988).

A potential explanation for these paradoxical cognitive outcomes may be the neglect of employees' possessed job resources (Halbesleben, Beveu, Paustian-Underdahl & Westman, 2014). Most studies concerning outcomes of helping behavior have been based on conservation of resources (COR) theory (Lin et al., 2017; Gabriel et al., 2018). However, they mostly neglect the influences of employees' job resources. The COR theory suggests that employee possessed job resources would inhibit the negative effect of loss of job resources on employee well-being and would motivate employees to invest their job resources in order to achieve resource gain spirals (Hobfoll, Halbesleben, Neveu, & Westman, 2018). Based on the characteristics of job resource, the COR theory divides job resources into contextual and personal job resources. Contextual resources are job resources acquired from the workplace, family and community (Halbesleben et al., 2014). Perceived supervisor support, defined as

employees' global beliefs concerning the extent to which their supervisors value their contributions (Eisenberg, Stinglhamber, Vandenberghe, Sucharski, & Rhoades, 2002), has been identified as a typical contextual job resource at work. Personal resources are employees' inherent job resources. Job control, defined as the perceived capability to exert influence on one's work environment (Ganster & Fusilier, 1989), has been identified as a typical personal job resource.

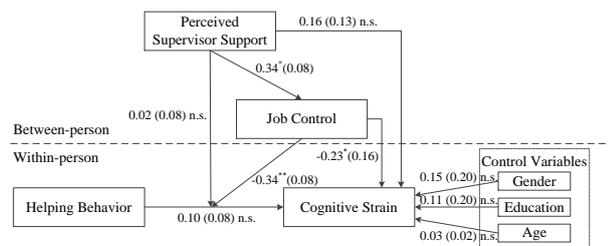


Figure 1. Conceptual Model and Results of Multilevel Structural Model

Previous research has found that both perceived supervisor support and job control had buffering effects on the resource depletion process. For instance, Jung and Tak (2008) found that perceived supervisor support compensated the relationship between career plateau and job satisfaction. Du, Zhang, and Tekleab (2018) indicated that job control attenuated the relationship between job strain and job performance. Given the buffering influences of perceived supervisor support and job control, we adopted perceived supervisor support and job control as two meaningful moderating variables in the relationship between helping behavior and cognitive strain, which would be expected to buffer the induced effect of helping behavior on cognitive strain. Furthermore, prior research has examined the moderating roles of contextual (i.e. perceived supervisor support) and personal (i.e. job control) resources independently (Chan, 2017), which makes us still know little about the synergy mechanism in the moderating roles of contextual and personal job resources. Given that perceived supervisor support is a critical antecedent of job control (Thompson & Prottas, 2006), the present study assumes that perceived supervisor support would first be transformed into job control, and then would exert a moderating influence on the relationship between helping behavior and cognitive strain.

In accordance with previous research, we base our research within the framework of the COR theory. The COR theory offers a tenet by which to depict the cognitive outcomes of employee helping behavior through elaboration of the ebbs and flows in job

resources on a daily basis (Qin, Huang, Johnson, Hu, & Ju, 2018). To test the proposed conceptual model (see Figure 1), this research adopts an experience sampling method to collect daily data.

2. METHODS

2.1. Participants

The participants were from full-time (at least 40 hours per week) workers in mainland, China. We asked them whether they would participate in our five-day survey and elaborated on the research purpose and survey procedure. Of the 100 alumni contacted, 74 confirmed their participation. The survey contained two stages. In the first stage, participants were asked to complete a baseline questionnaire, including gender, age, education, perceived supervisor support and job control on the first Sunday. During the second stage, they were asked to complete a midday (from 11:00 to 13:00) questionnaire assessing helping behavior an evening (from 18:00 to 20:00) questionnaire assessing cognitive strain. Finally, 350 cases nested in 70 samples were returned for analysis, with four participants failing to finish the entire research process. The effective response rate was 94.6%.

The percentage of male samples was 31%, and the average age of the respondents was 29.08 (± 4.80) years. With regard to education, 7.10% of the samples had a college certificate or below, 67.10% had a bachelor degree, and 25.7% had a master's degree or above.

2.2. Measures

2.2.1. Daily Measures

Helping behavior. Three items were used to measure employee helping behavior developed by Yue et al., (2017). The sample item was "Today, I helped my colleagues when their workloads were high." The Cronbach's alpha of the scale in this study was 0.73.

Cognitive strain. Two items from the study by Mohr et al. (2006) were used to measure cognitive strain, such as, "Today, I thought of my problems at work, even at home." The scale yielded a Cronbach's alpha of 0.71.

2.2.2. Baseline Measures

Perceived supervisor support. Four items from the study by Shanock and Eisenberger (2006) were used to measure perceived supervisor support, such as, "my supervisor is willing to help me when I need a special favor." Its Cronbach's alpha was 0.83.

Table 1 Results of Hierarchical Regression Analysis

Variables	Cognitive Strain			
	Model 1		Model 2	
	γ	SE	γ	SE
Intercepts	2.76	.50	2.61	.56
Between-Person Level (N=70)				
Gender	0.11	.20	0.16	.19
Education	0.09	.19	0.12	.21
Age	0.04*	.02	0.03	.02
PSS	0.13	.13		
JC			-0.15	.11
Within-Person Level (N = 350)				
HB	0.12	.09	0.10	.08
Interactive Item				
HB \times PSS	-0.20*	.10		
HB \times JC			-0.31**	.05
Deviance	778.54		758.98	

Note: HB = Helping behavior, PSS = Perceived supervisor support, JC = Job control; * $p < .05$; ** $p < .01$.

Table 2 Results of Monte Carlo Bootstrapping Test

Moderating Role of PSS	Mean	SD	95%LLCI	95%ULCI
Low PSS (M-SD)	.28	.12	.05	.52
High PSS (M+SD)	-.04	.12	-.28	.19
Difference	-.32	.16	-.64	-.01
Moderating Role of JC				
Low JC (M-SD)	.09	.12	-.14	.32
High JC (M+SD)	-.39	.12	-.62	-.16
Difference	-.48	.08	-.63	-.33
Mediated Moderation Model				
Indirect Effect (Moderating Effect of PSS via JC)	-.12	.06	-.24	-.02
Direct Effect (Moderating Effect of PSS)	.02	.08	-.13	.17

Note: HB = Helping behavior, PSS = Perceived supervisor support, JC = Job control; LLCI = Lower level confidence interval, ULCI = Upper level confidence interval, Bootstrapping = 20000.

Job control. Three items from the scale developed by Lee et al. (1990) were used to measure job control. The sample item was, “I have enough power in this organization to control events that might affect my job”. The reliability coefficient of this scale was 0.71.

Control variables. The demographic variables of gender, education, and age were used as control variables, which were usually controlled in the exploration of the predictors of job strain, especially cognitive strain (Halonen et al., 2017; Triana-Palebcia et al., 2019).

3. RESULTS

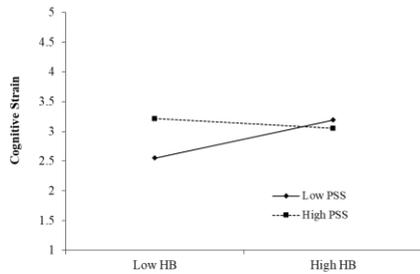
The hypotheses were tested through a multilevel moderation analysis and a multilevel structural equation

model analysis by Mplus software (Version 7.0). Before we ran the hierarchical linear models, two episodic variables were group centered, and continuous between-person variables (e.g. age, perceived supervisor support, and job control) were grand centered.

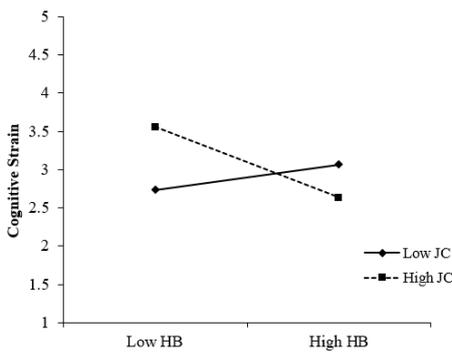
The results of the analysis were shown in Table 1. The result of model 1 indicated that the interactive item of helping behavior with perceived supervisor support was significantly associated with cognitive strain ($\gamma = -.20, p < .05$). To further test the moderating role of perceived supervisor support, we adopted the Monte Carlo bootstrapping test in order to calculate the confidence interval for the interactive effect.

The results in Table 2 showed that the relationship between helping behavior and cognitive strain was significant under the condition of low perceived

supervisor support (effect = 0.28, 95%CI = [0.05, 0.52]). However, under the condition of high supervisor support, the relationship was not significant (effect = -.04, 95% CI = [-.28, .19]). The slope difference was also significant (effect = -.32, 95% CI = [-.64, -.01]), justifying the moderating role of perceived supervisor support, which was shown in Figure 2. Hypothesis 1 was supported.



Note: PSS = Perceived supervisor support; HB = Helping behavior
Figure 2 Moderating Role of Perceived Supervisor Support



Note: JC = Job control; HB = Helping behavior
Figure 3 Moderating Role of Job Control

The interactive item of helping behavior with job control was significantly correlated with cognitive strain ($\gamma = -0.31, p < .01$). To further test the moderating role of job control, we ran the Monte Carlo bootstrapping test in order to calculate the confidence interval for the interactive effect. The results in Table 4 showed that the relationship between helping behavior and cognitive strain was not significant under the condition of low job control (effect = 0.09, 95%CI = [-.14, .32]). However, under the condition of high job control, the relationship was significantly negative (effect = -.39, 95% CI = [-.62, -.16]). The slope difference was also significant (effect = -.48, 95% CI = [-.63, -.33]), justifying the moderating role of job control, which was shown in Figure 3. Hypothesis 2 was supported.

To test the whole mediated moderation model, we follow the suggestion from Roesch et al. (2010). The results in Figure 1 indicated that the relationship between perceived supervisor support and job control was significant ($\gamma = 0.34, p < .05$). The moderating effect

of job control was significant ($\gamma = -0.34, p < .01$), while the moderating effect of perceived supervisor support was not significant ($\gamma = 0.02, n.s.$). Furthermore, we ran the Monte Carlo bootstrapping test on the mediated moderation model. The indirect effect was significant (effect = -.12, 95% CI = [-.24, -.02]), while the direct effect was not significant (effect = .02, 95% CI = [-.13, .17]). Hypothesis 3 was supported.

4. CONCLUSION

The present study clarifies the relationship between helping behavior and cognitive strain. Only when perceived supervisor support is low does helping behavior lead to cognitive strain. Where there is high perceived supervisor support, the relationship is no longer significant. Taking job control into consideration changes the relationship between helping behavior and cognitive strain. Under the condition of low job control, the relationship of helping behavior to cognitive strain is insignificant. When job control increases, helping behavior instead decreases cognitive strain. Furthermore, job control mediates the moderating role of perceived supervisor support on the relationship between helping behavior and cognitive strain. By addressing the cognitive outcome of helping behavior, this study makes contributions to the helping behavior and COR theory literature.

AUTHORS' CONTRIBUTIONS

Author Jing Xiu: Data collection, statistical analyses, and manuscript writing.

Author Huan Xiao: Manuscript writing and editing.

Author Huilei Han: Manuscript writing and editing.

Author Zhenduo Zhang: Study framework design and manuscript writing.

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