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The impact of perceived organizational support on the relationship between job stress and burnout: a mediating or moderating role?

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Abstract
Compared to social support, organizational support in the job stress–burnout relationship has received little attention. Drawing on perceived organizational support (POS) theory and the notion of support as a stress buffer, this study examines the mediating and moderating effects of POS on the relationships between job stress and the three components of burnout (exhaustion, cynicism, and inefficacy) using a sample of 351 teachers in China. We found that job stress had significant main effects and indirect effects via POS on exhaustion and inefficacy, but not cynicism. The hypotheses of POS moderating effects of job stress on the three components of burnout were not supported. Moreover, job stress had a stronger effect on exhaustion among head teachers compared to non-head teachers and a stronger effect on inefficacy among non-head teachers. Exhaustion predicted cynicism, which predicted inefficacy. The theoretical and practical implications of these findings are discussed.

Keywords Job stress · POS · Exhaustion · Cynicism · Inefficacy

Introduction

Primary and secondary school teachers face high stress due to reforms to basic education, the teacher appointment system, teachers' bonuses being closely connected to students' examination scores, difficulty in controlling students, society and parents' high expectations for teacher performance, and career development, among other factors (Shi et al. 2005). If these stressors are not addressed effectively, it may lead to teachers experiencing job burnout, which is a psychological syndrome of exhaustion, cynicism, and inefficacy experienced in response to chronic job stress (Leiter and Maslach 1988; Leiter and Maslach 2004). Exhaustion refers to feelings of overextending oneself and draining one's emotional and physical resources, cynicism refers to a negative, callous, or unfeeling response to various aspects of the job, and inefficacy refers to feelings of incompetency and reduction in work achievement and productivity. Teachers who experience burnout are likely to experience diminished patience and affection for their students, have decreased readiness in their course preparation, and have a low sense of control and achievement, all of which affect not only their own mental and physical health but also their students' development (Zhao and Bi 2003). Therefore, to implement an effective intervention to prevent teacher burnout, it is of great importance to examine the mechanisms and boundary conditions regarding job stress influencing teacher burnout.

Researchers have consistently found a main effect of social support on burnout (e.g., Etzion 1984; Hendrix and Cantrell 1988; Russell et al. 1987; Cynthia et al. 2009; Adriaenssens et al. 2017). However, investigations of the hypothesis that social support buffers or moderates the effect of job stress on burnout have yielded mixed results: some researchers found that social support did moderate the relationship between job stress and burnout (e.g., Etzion 1984; Russell et al. 1987; Xu et al. 2013; You 2013; Jamal 2013; Wu et al. 2016a), but other researchers' studies did not provide support for the hypothesis (e.g., John et al. 1986; Hendrix and Cantrell 1988; Mutkins et al. 2011; Chen and Ding 2014). Different from social support, which is the support received by an individual from other individuals such as his or her supervisor, colleagues, spouse, relatives, or friends, organizational support is what an individual receives from the organization, and it is not limited to any particular problem (Cropanzano

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et al. 1997). In contrast to broad attention paid to the effects of social support on burnout, there are relatively fewer studies focusing on the effects of organizational support on burnout. For example, it is reasonable to suggest that organizational support, as a concept similar to social support, may moderate the relationship between job stress and burnout, but few studies have tested this hypothesis. In addition, some studies corroborated the mediating role of POS in the relationship between job stress and related outcomes (Richardson et al. 2008; Villanueva and Djurkovic 2009; Kim and Barak 2015). Therefore, we expect that POS may mediate the relationship between job stress and burnout except for its possible moderating role between them. Given that teachers suffer high stress and are at high risk of burnout (Li et al. 2008), this study used primary and secondary school teachers as a sample to test the possible moderating and mediating roles of POS in the relationship between job stress and burnout, thereby clarifying the effects of POS on burnout.

In Western culture, there were predicting relationships among the three components of burnout, i.e., exhaustion, cynicism, and inefficacy, which have not been corroborated in Eastern culture. Therefore, this study also explores the relationships among exhaustion, cynicism, and inefficacy to test whether the conclusions reached in Western culture are applicable to the Chinese context. Previous studies have tended to focus on either situational (e.g., leadership style, job stress) or personal (e.g., psychological capital, coping style, marital status, whether a subject is a head teacher) predictors of burnout. Some researchers have argued that behaviors in the workplace are the results of interaction between situational factors and personal characteristics (e.g., Ekehammer 1974; Schneider 1983). Similarly, we suggest that burnout is the interactional result of situational factors (job stress) and personal characteristics (whether a subject is a head teacher or not). To test this hypothesis, we examine whether the demographic variable of head teacher, i.e., whether a subject is in charge of a class or not, moderates the effect of job stress on burnout.

Literature Review and Hypotheses Development

Job Stress and Burnout

Job stress includes stressors and the outcomes of strain; it refers to job-related negative stimuli and a worker's physiological and psychological reactions (Ling et al. 2004). Job stress is considered to be highly related with burnout (Dunham and Varma 1998). The conservation of resources theory suggests that individuals experience strain when they face threats such as excessively high job demands, resources loss, and too much resources investment bringing insufficient returns (Hobfoll and Freedy 1993). However, these threats as initial stressors do not immediately cause burnout; rather, they lead to burnout only when the individual constantly loses his or her resources or feels threatened by resources loss. Previous studies indicated that stress from job characteristics, student achievement, social factors, and professional development positively predicted all the dimensions of teacher burnout (Li et al. 2009a) and that teachers' job stress positively predicted their exhaustion and cynicism (Xu et al. 2005). Therefore, Hypothesis 1 is posited as follows:

> **Hypothesis 1.** Job stress is positively related to exhaustion (1a), cynicism (1b), and inefficacy (1c).

The Mediating Role of POS

POS refers to employees' general belief that the organization respects their contributions and cares about their well-being (Eisenberger et al. 1986). Rhodes and Eisenberger's (Rhodes and Eisenberger 2002) meta-analysis indicated that reduction in employees' POS may result from role stress the employees experienced. George et al. (1993) suggested that POS may decrease negative physiological and psychological reactions caused by job stress because employees receive material and emotional support from the organization when coping with high job demands. Empirical studies also showed that POS was negatively related to burnout (e.g., Cropanzano et al. 1997).

According to Rhodes and Eisenberger (2002), four mechanisms proposed by organizational support theory (Eisenberger et al. 1986) underlie the indirect relationships of three categories of treatments received by employees from the organization (i.e., fairness, supervisor support, and rewards and job conditions)-POS-outcomes (e.g., increased job satisfaction, positive mood, reduced strain, increased affective commitment and performance, and reduced turnover). These four mechanisms are attributional processes, a feeling of obligation to aid the organization, fulfillment of socioemotional needs, and performance-reward expectancies. We suggest that the mechanisms of attributional processes and fulfillment of socioemotional needs can help to explain how job stress influences job burnout through POS: First, employees consider that many stressors (e.g., work overload, role ambiguity, role conflict) can be controlled by the organization and then attribute a stressful environment to a lack of support from the organization. Thus, job stress reduces POS. Second, reduced POS may increase employees' burnout because low POS fails to fulfill employees' socioemotional needs. Some studies found that POS has a mediating role in the relationships of stress with anger and depressive symptoms (Richardson et al. 2008) and with turnover intention (Villanueva and Djurkovic 2009; Kim and Barak 2015), which provides initial evidence for the hypothesis that POS

may mediate the relationship between job stress and burnout. Therefore, we formulate Hypothesis 2 as follows:

> **Hypothesis 2.** POS mediates the relationships of job stress with exhaustion (2a), cynicism (2b), and inefficacy (2c).

Exhaustion, Cynicism, and Inefficacy

According to Leiter and Maslach (1988), job stress at first leads to an individual's exhaustion in the development of burnout, and once exhaustion occurs, the person may cope by detaching himself or herself from others and showing indifference to them; thus, exhaustion is a predictor of cynicism. Once cynicism occurs, the individual may begin to feel less successful on the job and negatively evaluate himself or herself in terms of achievement; thus, cynicism is a predictor of inefficacy. In other words, exhaustion predicts inefficacy via cynicism. Though some studies provide evidences for the above arguments (Leiter and Maslach 2004; Leiter and Maslach 1988), the arguments have been less corroborated in the Chinese context. Therefore, we offer the following hypotheses:

> **Hypothesis 3.** Exhaustion is positively related to cynicism.
> **Hypothesis 4.** Cynicism is positively related to inefficacy.

The Moderating Role of POS

According to Cohen and Wills (1985), support has four functions to protect individuals from deleterious effects of job stress. First, support functions to promote individuals' self-esteem; that is, support can contribute to individuals' feelings of self-esteem and acceptance by signaling that they are respected and valued despite any deficiencies. Second, support serves an informational function by providing individuals with enough information to help define, comprehend, and cope with stressful events. Third, support serves a social companionship function that satisfies the needs for being accompanied and having affiliation and distracts individuals from the stress. Finally, support serves an instrumental function that provides material resources and services needed to help cope with the stress.

Organizational support can buffer the effect of job stress on burnout because it is highly relevant to three of the above functions, namely maintaining and promoting self-esteem, providing information, and providing material resources (George et al. 1993). First, when individuals cannot cope with stress effectively, they may attribute this failure to their lack of abilities and deficiencies in their personalities, thus bringing their self-esteem under threat. Such threats may lessen their evaluation of their own abilities to cope with the stress and aggravate their experiences of burnout. However, when individuals perceive that they are indeed valued and cared for by their organizations, it may decrease their esteem-threatening self-recriminations and boost their overall self-esteem, thus enhancing their perception of abilities to cope with the stress. Second, individuals who have high POS believe that their organizations will provide them all the information regarding the stressors and tell them how to cope with the stress in a functional way. Such beliefs may buffer the effect of the job stress on their burnout since they lessen their tendency to exaggerating the stressors and enhance their perception of available resources to cope with the stress. Finally, individuals who perceive that their organizations are supportive believe that the organizations will provide them with resources to cope with the stress, for example, time off from work and sufficient job autonomy, thus weakening the effect of the stress on their burnout. In sum, by influencing individuals' stress appraisal and their perception of available stress-coping resources (Cohen and Wills 1985), POS may buffer the effect of job stress on their burnout. Therefore, Hypothesis 5 is posited as follows:

> **Hypothesis 5.** POS moderates the positive relationships of job stress with exhaustion (5a), cynicism (5b), and inefficacy (5c), such that these relationships are stronger when POS is low rather than high.

The Moderating Effects of the Role of Head Teacher

Adopting the interactional view mentioned above that individual outcomes are the results of interaction between situational factors and personal characteristics, this study suggests that job stress and the role of head teacher interact to produce burnout. In primary and secondary schools, in addition to teaching the courses assigned to them, head teachers monitor and administrate courses taught by other teachers, as well as guide students' thinking and take an interest in students' lives. Thus, they do more on the job and bear more stress than non-head teachers, making them more likely to experience burnout than non-head teachers in the face of the same stressors (e.g., basic education reform, career development). Therefore, Hypothesis 6 is posited as follows:

> **Hypothesis 6.** The role of head teacher moderates the positive relationships of job stress with exhaustion (6a), cynicism (6b), and inefficacy (6c), such that these relationships are stronger among head teachers than among non-head teachers.

Methods

Sample and Procedure

Data for this study were collected from teachers at primary and secondary schools in the west areas of Guangdong province, China. The principals of the schools were firstly approached and notified of the purpose of the study. After we received their consent to carry out the survey, some teachers at each school were randomly sampled and told that the survey was being conducted solely for academic research. The participants were assured of the confidentiality of their responses. A total of 410 questionnaires were distributed via paper, and 351 valid responses were returned, resulting in a response rate of 86%.

Among the participants, 66.7% ($n = 234$) were female and 33.3% ($n = 117$) male; 58.7% ($n = 206$) were from rural areas and 41.3% ($n = 145$) from cities; 38.5% ($n = 135$) were single and 61.5% ($n = 216$) married; and 43% ($n = 151$) were head teachers and 57% ($n = 200$) non-head teachers. In terms of job titles, 47% ($n = 165$) of the participants had intermediate professional titles, followed by 40.5% ($n = 142$) junior professional titles and 12.5% (n = 142) senior professional titles. In terms of the highest level of education completed, 60.1% ($n = 211$) had undergraduate diplomas, 30.8% ($n = 108$) junior college diplomas, 7.7% ($n = 27$) graduate diplomas, and 1.4% ($n = 5$) technical secondary school or high school diplomas. There were 169 (48.1%) junior high school teachers, 104 (29.6%) senior high school teachers, and 78 (22.2%) primary school teachers. In terms of length of teaching experience, 38.7% ($n = 136$) of the participants had taught for 0 to 5 years, 24.5% ($n = 86$) for 6 to 10 years, 18.2% ($n = 64$) for 11 to 15 years, 9.4% ($n = 33$) for 16 to 20 years, and 9.1% ($n = 32$) for 21 years or more.

Measures

Job Stress

Job stress was measured using the Chinese version of the Primary and Secondary School Teachers' Job Stress Scale developed by Zhang et al. (2012), which was divided into five dimensions of social factors (e.g., "Parents and the society place too many and high demands on teachers"), occupational factors (e.g., "The educational and teaching reform places new, higher requirements on teachers so that I need to work very hard to attain them"), organizational factors (e.g., "My school determines teachers' bonuses, professional titles, and appointments according students' examination scores or enrollment rates"), self-factors (e.g., "I do not see that my career as a teacher is going anywhere") and student factors (e.g., "Students do not like studying"). Zhang et al. found that this scale had good reliability ($\alpha = 0.97$) and predictive validity supported by its negative relationship with subjective well-being. In this study, participants responded 34 items ($\alpha = 0.94$) on a 5-point scale ranging from 1 (no stress) to 5 (very high stress).

POS

POS was measured using the Chinese version of the Perceived Organizational Support Scale, which was found to have good reliabilities ($\alpha = 0.84$–0.87) and predictive validities supported by its positive relationships with affective commitment, organizational commitment, job performance, and voice in the previous studies on Chinese employees (Hui et al. 2004; Farh et al. 2007; Li et al. 2009b). The Chinese scale was translated from the short-form scale developed by Settoon et al. (1996), which was originated from the 36-item Survey of POS developed by Eisenberger et al. (1986). A sample item is "My school really cares about my well-being." In this study, participants responded to 6 items ($\alpha = 0.90$) on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Job Burnout

Job burnout was measured with the Chinese version of the Primary and Secondary School Teachers' Job Burnout Scale adapted by Wu et al. (2016b). The 22 items were divided into the three dimensions of exhaustion (e.g., "I feel that my teaching job drains my moods and emotions"), cynicism (e.g., "I feel that I often treat students as inanimate objects"), and inefficacy (e.g., "I can easily understand students' feelings"), with each dimension scored independently and the dimension of inefficacy scored reversely. The internal consistency reliabilities of the three dimensions were 0.75 to 0.90, and each dimension had a positive relationship with the criterion (Wu et al. 2016a, b). In this study, participants responded on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree), and the Cronbach's α coefficients of the three dimensions were as follows: exhaustion ($\alpha = 0.92$), cynicism ($\alpha = 0.73$), and inefficacy ($\alpha = 0.80$).

Control Variables

Because previous studies found the effects of gender, marital status, professional title (Chen 2007), area (He 2011), head teacher (Zheng 2008), years of teaching, education level, and school type (Wu et al. 2003) on primary and secondary school teachers' burnout, we controlled gender (1 for male and 0 for female), area (1 for city and 0 for rural area), marital status (1 for married and 0 for singled), head teacher (1 for head teacher and 0 for non-head teacher), professional title (1 for junior, 2 for intermediate, and 3 for senior), education level (1 for technical secondary school or high school, 2 for junior

college, 3 for undergraduate, and 4 for graduate), years of teaching (1 for 0 to 5 years, 2 for 6 to 10 years, 3 for 11 to 15 years, 4 for 16 to 20 years, and 5 for 21 years or more) and school type (1 for primary school, 2 for junior high school, and 3 for senior high school) in this study. Given that the variable of school was a categorical variable including the three levels (i.e., primary school, junior high school, and senior high school), it was transformed to the two dummy variables representing junior high school and senior high school, respectively, by using primary school as a referent group.

Common Method Variance

As responses in this study were self-reported, there might be an issue of common method variance (CMV). According to the suggestion of Chang et al. (2010), some statistical tests were conducted to address the issue of CMV. First, using Harman's one-factor test, subjecting all the items measuring job stress, POS, exhaustion, cynicism, and inefficacy to an exploratory analysis indicated that CMV was not a major issue. Second, a confirmatory factor analysis (CFA) revealed that the five-factor model fitted the data fairly well (see Table 1). Third, a χ^2 difference test indicated that the one-factor model had a poorer fit to the data than the five-factor model (see Table 1), showing that CMV was not a potential issue in this study.

Results

Confirmatory Factor Analysis

A confirmatory factor analysis was performed to test the discriminative validity of the five main study variables (i.e., job stress, POS, exhaustion, cynicism, and inefficacy). Given the numerous items in this study, item parceling was used to maintain a favorable indicator-sample-size rate. More specially, we followed the recommendations of Little et al. (2002) and created five domain-representative parcels for job stress, three random parcels for POS, four for exhaustion, three for cynicism, and four for inefficacy. As Table 1 shows, the five-factor model fit the data significantly better than the other alternative models, indicating that the five main variables were indeed distinct constructs.

Descriptive Statistics

Table 2 shows the means, standard deviations, correlations, and reliabilities for the five main study variables. Job stress was negatively related to POS ($r = -0.42$, $p < 0.01$) and positively related to inefficacy ($r = 0.32$, $p < 0.01$). POS was negatively to exhaustion ($r = -0.14$, $p < 0.05$) and inefficacy ($r = -0.31$, $p < 0.01$). In addition, exhaustion was positively related to cynicism ($r = 0.51$, $p < 0.01$).

Table 1 Measurement model comparison

Models	χ^2	*df*	$\Delta\chi^2$	IFI	TLI	CFI	RMSEA
Five-factor model (baseline model): Job stress; POS; exhaustion; cynicism; inefficacy	410.49	142		0.94	0.92	0.94	0.07
Four-factor model: Job stress and POS were combined into one factor	931.28	146	520.79***	0.82	0.78	0.81	0.12
Three-factor model: Exhaustion, cynicism and inefficacy combined into one factor	1081.78	149	671.29***	0.78	0.75	0.78	0.13
Two-factor model A: POS, exhaustion, cynicism and inefficacy combined into one factor	1774.72	151	1364.23***	0.62	0.56	0.62	0.18
Two-factor model B: Job stress, exhaustion, cynicism and inefficacy combined into one factor	2405.33	151	1994.84***	0.47	0.40	0.47	0.21
Two-factor model C: Job stress and POS were combined into one factor; Exhaustion, cynicism and inefficacy combined into one factor	1592.90	151	1182.41***	0.66	0.61	0.66	0.17
One-factor model: Five factors were combined into one factor	2772.57	152	2362.08***	0.38	0.30	0.38	0.22

*** $p<0.001$

Table 2 Means, standard deviations, correlations and reliabilities for the main study variables

	M	*SD*	1	2	3	4	5
1.Job stress	3.40	0.64	(0.94)				
2.POS	2.98	0.73	−0.42**	(0.90)			
3.Exhaustion	2.88	0.98	0.02	−0.14*	(0.92)		
4.Cynicism	2.23	0.60	−0.05	−0.06	0.51**	(0.73)	
5.Inefficacy	2.38	0.48	0.32**	−0.31**	−0.04	0.06	(0.80)

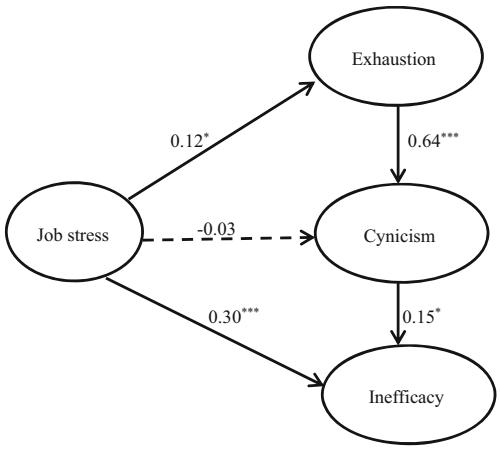
Reliability coefficients appear on the diagonal in parentheses ($N = 351$)

* $p<0.05$

** $p<0.01$

Testing the Main Effects of Job Stress on the Three Components of Burnout

Structural equation model (SEM) was used to test the main effects of job stress on the three components of burnout and the mediating effects of POS between job stress and these three components because SEM takes measurement errors into account and compares the hypothesized model with alternative models, thus obtaining accurate estimates of variable relationships. Using the same item parcels in the above CFA and controlling the control variables mentioned above, a model was tested in which job stress was directly related to exhaustion, cynicism, and inefficacy; exhaustion was directly related to cynicism; and cynicism was directly related to inefficacy. Figure 1 presents the standardized path coefficients of the model ($\chi^2 = 495.19$, $df = 207$, IFI = 0.94, TLI = 0.91, CFI = 0.94, RMSEA = 0.06). The results showed significant positive links from job stress to exhaustion ($\beta = 0.12$, $p < 0.05$) and inefficacy ($\beta = 0.30$, $p < 0.001$), from exhaustion to cynicism ($\beta = 0.64$, $p < 0.001$), and from cynicism to inefficacy ($\beta = 0.15$, $p < 0.05$). Thus, Hypotheses 1a, 1c, 3, and 4 were supported. However, the link from job stress to cynicism was not significant ($\beta = -0.03$, $p > 0.05$); therefore, Hypothesis 1b was not supported.



Note. * $p<0.05$. ** $p<0.01$.

Fig. 1 Structural equation modeling results: direct model. Note. * $p<0.05$. *** <0.001

Testing the Mediation Effects of POS

According to Baron and Kenny (1986), establishing the mediating role of *M* in the relationship between *X* and *Y* needs to meet the following four conditions: (1) *X* is related to *Y*, (2) *X* is related to *M*, (3) *M* is related to *Y*, and (4) the relationship between *X* and *Y* is not significant (complete mediation) or the strength of the relationship is reduced (partial mediation) when the mediator *M* is added to the model. Given that the first condition was met as Hypotheses 1a and 1c were supported in this study, to determine the mediating effects of POS, we next used SEM to test whether the second and third conditions were met simultaneously.

Using the same item parcels and controlling the same control variables as the prior test did, we tested a complete mediation model (Model 1 in Table 3) in which we were able to establish the direct links from job stress to POS; from POS to exhaustion, cynicism, and inefficacy; from exhaustion to cynicism; and from cynicism to inefficacy. The results showed that Model 1 had good fit: $\chi^2 = 603.41$, $df = 281$, IFI = 0.94, TLI = 0.92, CFI = 0.94, and RMSEA = 0.06. Next, we compared the complete mediation model against three alternative partial mediation nest models formed by adding the direct links from job stress to exhaustion, cynicism, and inefficacy, respectively, on the basis of Model 1. As shown in Table 3, the fits of Models 2 and 3 were identical to that of Model 1, with the difference in fit nonsignificant ($\Delta\chi^2[1] = 0.87$, *n.s.*; $\Delta\chi^2[1] = 0.55$, *n.s.*), while Model 4 had better fit to the data than Model 1, with the difference in fit significant ($\Delta\chi^2[1] = 8.51$, $p < 0.01$). Therefore, we excluded Models 2 and 3 and accepted Model 4 as the optimal model of this study. Figure 2 presents the standardized coefficients of Model 4.

As shown in Fig. 2, job stress was negatively related to POS ($\beta = -0.47$, $p < 0.001$) which in turn was negatively related to exhaustion ($\beta = -0.16$, $p < 0.01$) and inefficacy ($\beta = -0.22$, $p < 0.001$). Moreover, job stress was directly related to inefficacy ($\beta = 0.20$, $p < 0.01$). Therefore, POS completely mediated the effect of job stress on exhaustion and partially

Table 3 Comparison of structural equal models

Models	χ^2	*df*	χ^2/*df*	IFI	CFI	TLI	RMSEA	$\Delta\chi^2(\Delta df)$
Model 1 (complete mediation)	603.41	281	2.15	0.94	0.94	0.92	0.06	
Model 2 (partial mediation)	602.54	280	2.15	0.94	0.94	0.92	0.06	0.87(1)
Model 3 (partial mediation)	602.86	280	2.15	0.94	0.94	0.92	0.06	0.55(1)
Model 4 (partial mediation)	594.90	280	2.13	0.94	0.94	0.92	0.06	8.51^{**}(1)

Note. Model 2: adding the direct path from job stress to exhaustion. Model 3: adding the direct path from job stress to cynicism. Model 4: adding the direct path from job stress to inefficacy. The $\Delta\chi^2$ (Δdf) is in relation to Model 1

** $p<0.01$

mediated the effect of job stress on inefficacy, supporting Hypotheses 2a and 2c. Although job stress had a significant negative relationship with POS ($\beta = -0.47$, $p < 0.001$), the relationship of POS with cynicism was not significant ($\beta = -0.02$, $p > 0.05$), meaning Hypothesis 2b, which predicted that POS would mediate the effect of job stress on cynicism, was not supported. The results also suggested that the relationships from exhaustion to cynicism ($\beta = 0.63$, $p < 0.001$) and from cynicism to inefficacy ($\beta = 0.13$, $p < 0.05$) were positive and significant, providing further support for Hypotheses 3 and 4.

We conducted bootstrapping analysis in the PROCESS regressions (Preacher and Hayes 2008) to further examine the significance of these indirect effects by setting the number of bootstraps at 5000. The results indicated that the indirect effect of job stress on exhaustion through POS was significant (95% bias-corrected CI = [0.00, 0.15]) but the direct effects of job stress on exhaustion was not significant ($p > 0.05$), suggesting that POS completely mediated the relationship between job stress and exhaustion and providing further support for Hypothesis 2a. The indirect effects of job stress on inefficacy through POS (95% bias-corrected CI = [0.03, 0.11]) and the direct effects of job stress on inefficacy ($p < 0.01$) were all significant, suggesting the partial mediation role of POS in the relationship between job stress and inefficacy and providing further support for Hypothesis 2c. The indirect effect of job stress on cynicism through POS was not significant (95% bias-corrected CI = [−0.01, 0.09]), further rejecting Hypothesis 2b.

Testing the Moderation Effects of POS and the Role of Head Teacher

We used hierarchical regression to test Hypotheses 5a–5c (POS negatively moderates the effects of job stress on exhaustion, cynicism, and inefficacy) and Hypotheses 6a–6c (head teacher positively moderates the effects of job stress on exhaustion, cynicism, and inefficacy). Following the recommendation by Aiken and West (1991), we mean-centered the two continuous variables of job stress and POS in the interaction term, but omitted this step for the dichotomous variable of head teacher. We entered the control variables at Step 1, the independent variable (job stress) and the moderators (POS and head teacher) at Step 2, and the interaction terms (POS by job stress and head teacher by job stress) at Step 3 in the regression equation with exhaustion, cynicism, and inefficacy as the dependent variable, respectively. Table 4 presents the results of this regression analysis.

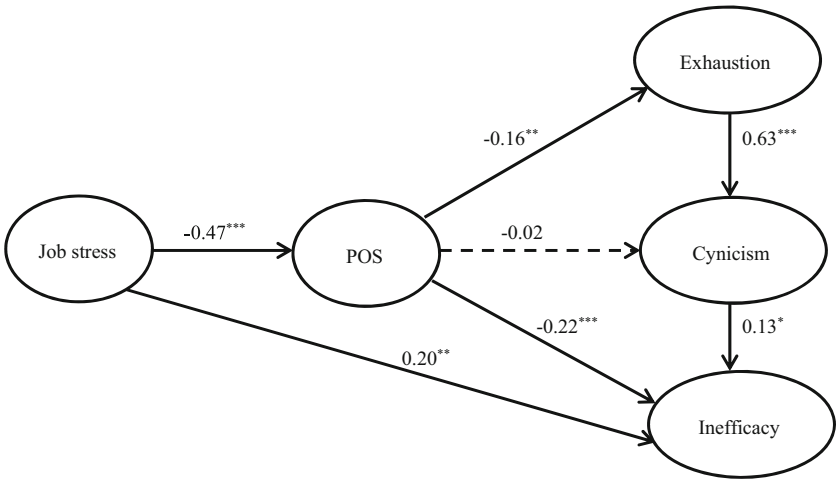


Fig. 2 structural equation modeling results: mediation model. Note. * $p<0.05$. ** $p<0.01$. *** $p<0.01$.

Table 4 Results of testing the moderation effects of POS and the role of head teacher

	Exhaustion			Cynicism			Inefficacy		
	M1	M2	M3	M4	M5	M6	M7	M8	M9
Controls									
Gender	−0.27*	−0.33**	−0.34**	−0.01	−0.04	−0.03	0.06	0.04	0.05
Education	0.35***	0.36***	0.35***	0.08	0.07	0.07	−0.16**	−0.13**	−0.13**
Area	0.00	−0.01	−0.01	0.23**	0.21**	0.20**	−0.05	0.02	0.02
Tittle	−0.26**	−0.27**	−0.27**	−0.08	−0.08	−0.08	0.03	0.01	0.01
Length of teaching	0.18***	0.21***	0.19***	0.01	0.02	0.01	−0.10***	−0.09***	−0.09***
Marital	0.07	0.00	0.02	0.07	0.05	0.04	0.22***	0.16**	0.15*
Junior high school	−0.23	−0.12	−0.12	−0.13	−0.05	−0.06	0.19*	0.20**	0.20**
Senior high school	0.16	0.21	0.21	−0.15	−0.10	−0.10	0.28**	0.23**	0.22**
Main effects									
Job stress		0.08	−0.07		−0.03	−0.06		0.13**	0.20***
POS		−0.15*	−0.15*		−0.08	−0.10		−0.14***	−0.14***
Head teacher		0.36***	0.36***		0.25***	0.25***		−0.04	−0.04
Interactions									
Job stress*POS			−0.02			0.08			0.02
Job stress*head teacher			0.36*			0.07			−0.17*
R^2	0.18	0.22	0.23	0.07	0.11	0.11	0.12	0.22	0.23
ΔR^2	0.18***	0.05***	0.01	0.07**	0.04**	0.01	0.12***	0.10***	0.01
F	9.10***	8.77***	7.93***	2.97**	3.76***	3.31***	5.67***	8.43***	7.59***

* $p<0.05$. ** $p<0.01$. *** $p<0.01$. Junior high school was dummy-coded as 1 for junior high school and 0 for otherwise. Senior high school was dummy-coded as 1 for senior high school and 0 for otherwise

Model 3 in Table 4 indicates that the interaction term between job stress and POS was not significantly related to exhaustion ($\beta = -0.02$, $p > 0.05$) and that the interaction term between job stress and head teacher was positively related to exhaustion ($\beta = 0.36$, $p < 0.05$), thus rejecting Hypothesis 5a and supporting Hypothesis 6a. The two interaction terms in Model 6 were not significantly related to cynicism ($\beta = 0.08$, $p > 0.05$; $\beta = 0.07$, $p > 0.05$), thereby rejecting Hypotheses 5b and 6b. The interaction term between job stress and POS in Model 9 was not significantly related to inefficacy ($\beta = 0.02$, $p > 0.05$), thus rejecting Hypothesis 5c. Although the interaction term between job stress and head teacher in Model 9 was significantly related to inefficacy ($\beta = -0.17$, $p < 0.05$), the negative sign before the coefficient of the interaction term was contrary to Hypothesis 6c, which predicted that the relationship between job stress and inefficacy was stronger for head teachers than for non-header teachers, thus rejecting Hypothesis 6c.

Following Aiken and West's (1991) procedure, we plotted Figs. 3 and 4 to demonstrate the nature of the significant interactions. Figure 3 shows that the effect of job stress on exhaustion was significant and positive for head teachers ($\beta = 0.34$, $p < 0.01$) but nonsignificant for non-head teachers ($\beta = 0.02$, $p > 0.05$), thus further supporting Hypothesis 6a. Figure 4 shows that the effect of job stress on inefficacy was nonsignificant for head teachers ($\beta = 0.08$, $p > 0.05$) but significant and positive for non-head teachers ($\beta = 0.27$, $p < 0.001$), thus further rejecting Hypothesis 6c.

Discussion

The present study examined the main effects and indirect effects through POS of job stress on exhaustion, cynicism, and inefficacy; the moderating effects of POS and the role

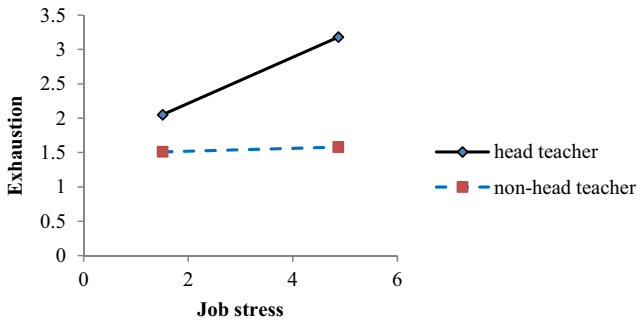


Fig. 3 Moderating effect of the role of head teacher on job stress-exhaustion relationship

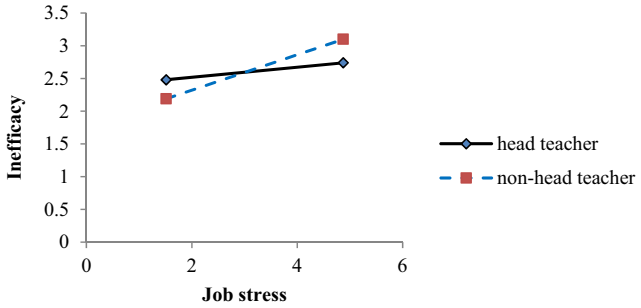


Fig. 4 Moderating effect of the role of head teacher on job stress-inefficacy relationship

of head teacher on the relationships between job stress and exhaustion, cynicism, and inefficacy; and the relationships among exhaustion, cynicism, and inefficacy. The results showed that job stress had significantly positive direct effects on exhaustion and inefficacy. However, contrary to our expectation, job stress had no significant direct effect on cynicism but could indirectly influence cynicism through exhaustion. We can draw on Leiter and Maslach's (2004) arguments to interpret this phenomenon. According to Leiter and Maslach, exhaustion represents basic individual stress experience and is a feeling of being overextended and depleted of one's emotional and physical resources. Thus, job stress often directly leads to exhaustion. However, exhaustion directly influences cynicism; that is, cynicism is a negative, callous, and excessively detached self-protective response to various aspects of the job after the overload of exhaustion, and it is such an immediate response to exhaustion that there is a strong relationship from exhaustion to cynicism consistently found in burnout research across a wide range of organizational and occupational contexts (Maslach et al. 1996). Therefore, we speculate that job stress is such a distal antecedent of cynicism relative to exhaustion that it can influence cynicism only through exhaustion.

Drawing on perceived organizational support theory, this study confirmed the mediating role of POS in the relationships between job stress and exhaustion and inefficacy, that is, individuals in a stressful environment will blame the organization for the stressors' presence and for not helping to deal with them, thus experiencing reduced POS which in turn aggravates their exhaustion and inefficacy. As expected, we found that head teachers tended to experience more exhaustion than non-head teachers in the face of the same stressors because they shouldered more tasks and responsibilities. However, contrary to our prediction, job stress was more likely to lead to non-head teachers' inefficacy. We speculate that this is possibly because head teachers have more opportunities for success and achieve more easily even though they are busier than non-head teachers, which leads to job stress having a weaker effect on their inefficacy. The hypotheses that predicted that POS would moderate the relationships between job stress and exhaustion, and cynicism and inefficacy were not supported in this study. We suggest that this is possibly because we measured the general support received by individuals from their organizations. Cohen and Wills (1985) suggested that the buffering effect of support occurs only when the support received matches the coping requirements of the stressors and that a general measure of support would have main effects but no buffering effects on burnout. Therefore, in the future, the special organizational supports that match the coping requirements of the stressors should be measured to test POS's buffering effects on burnout. Finally, we found that exhaustion predicted cynicism which in turn predicted inefficacy, supporting Leiter and Maslach's (1988) theory in the Chinese context.

Theoretical Implications

First, our study sheds light on how job stress influences burnout by identifying the mediating effects of POS on the relationships between job stress and exhaustion and inefficacy. Most previous studies used individuals' self-appraisals as mechanisms to explain how job stress influences burnout, including teaching efficacy (Li et al. 2008), coping style (Jia and Lin 2013), psychological capital (Zhang et al. 2014), and action control strategies (Qin and Liu 2015). Shifting from the previous perspective, this study examined appraisals of the organization (and not the self) as a mechanism to explain the job stress–burnout relationship, which is an important transformation given that the organization is an important source of job stress but can also provide valuable resources to help teachers cope with job stress. Second, this study further identified the boundary condition of job stress influencing burnout by finding the moderating effects of the role of head teacher on the relationships between job stress and exhaustion and inefficacy. Although previous studies found the main effect of the head teacher role on burnout (e.g., Zheng 2008; Zhu et al. 2010), our study is the first to examine the moderating effect of the role of head teacher on the job stress–burnout relationship. In comparison with previous studies focusing on the moderating effects of attitudinal and cognitive variables such as teaching efficacy (Liu 2004), career commitment (Huang et al. 2009), and coping style (You et al. 2014) on the job stress–burnout relationship, this study examined the moderating effects of the role of head teacher, an objective variable, on this relationship. However, we suggest that the mechanism behind the moderating effect of being head teacher is different from that behind the moderating effect of those attitudinal and cognitive variables. Kyriacou and Sutclisse (2001) pointed out that it is through individual cognitive appraisals that possible stressors become practical stressors that lead to individuals to experience strain at first and burnout in the long run. Therefore, we suggest that the attitudinal and cognitive variables may exert their moderating effects on the

job stress–burnout relationship by altering individual cognitive appraisals of stressors, whereas the role of head teacher may exert its moderating effects on this relationship by changing job demands or opportunities for success. Finally, researchers have discussed and tested the relationships among exhaustion, cynicism, and inefficacy in Western countries (e.g., Leiter 1993; Lee and Ashforth 1996; Leiter and Maslach 1988; Leiter and Maslach 2004). However, few similar studies have been conducted in Eastern countries. This study used Chinese primary and secondary school teachers as a sample to test the relationships among the three components of burnout, thereby contributing knowledge of the development process of burnout in the East.

Practical Implications

This study has implications for reducing primary and secondary school teachers' burnout. First, we can decrease teacher burnout by taking measures to control stressors, such as avoiding work overload, providing job autonomy, providing clear job specifications to avoid role ambiguity, and maintaining work-family balance. Second, because it is unrealistic to completely eliminate stressors for teachers, we can take inspiration from the finding that POS mediates the effects of job stress on burnout; that is, we can reduce teacher burnout by providing teachers with organizational supports, for example, demonstrating publicly to them that the organization cares about their welfare, values their opinions, and is proud of their achievements. Job stress resulting in reduced POS is a cognitive and attributional process; that is, employees attribute stressors' presence to conditions that can be controlled by the organization and to a lack of concern or aid from the organization, which implies that the effect of job stress on burnout can be reduced by shaping employees' cognition. For example, an organization may avoid having employees blame it for their stress by explaining to them that stressors are not controllable by the organization and that the organization is willing to work together with them to deal with stress, which would reduce the negative effect of job stress on POS and further the indirect effect of job stress on burnout via POS. Previous research on stress management and intervention indicated that reframing individual cognition may be more effective than changing the aspects of the job or organization that are stressful in terms of reducing deleterious effects of job stress (Le Fevre et al. 2006). Finally, the finding that the role of head teacher moderates the relationship between job stress and burnout suggests that different burnout intervention measures should be taken for head teachers and non-head teachers. For head teachers, special attention should be paid to relieving job stress to alleviate the effect of the stress on their exhaustion. Meanwhile, non-head teachers should be provided with work that helps them gain a sense of achievement in order to minimize impacts of job stress on their inefficacy.

Limitations and Future Directions

Some limitations in this study should be noted. First, the cross-section design in our study does not allow us to infer causality between the variables. For example, although we found support for the mediating role of POS in the relationships between job stress and exhaustion and inefficacy, it is reasonable to suggest that POS might decrease job stress. A three-wave method should be adopted to address this issue in future research. Second, the self-reported data in our study raises concern over CMV. However, the statistical tests recommended by Chang et al. (2010) indicated that CMV was not a major problem in our study. In addition, our finding that the role of head teacher acted as a moderator argued against the presence of CMV, because CMV makes it difficult to detect moderating effects (Siemsen et al. 2010). Therefore, we believe that our observed results are unlikely to be a function of CMV, though we cannot completely rule out the possibility. Nevertheless, future studies should collect data from different sources to overcome such problems. Previous research found that POS correlated to coworker support and supervisor support (e.g., Liao et al. 2004; Stinglhamber and Vandenberghe 2003; Bhanthumnavin 2003). It is impossible to determine the extent to which POS plays a role beyond that played by coworker support and supervisor support because we did not control the two key sources of workplace support. Therefore, future research should control for coworker support and supervisor support to examine the role of POS beyond the variance explained by these two factors.

Conclusion

Reducing primary and secondary school teachers' burnout benefits not only their own physical and mental health but also students' development. Therefore, it is of great importance to examine the mediating mechanisms and boundary conditions of job stress influencing teacher burnout. Our findings demonstrated that job stress influenced exhaustion and inefficacy through POS and the role of head teacher moderated the effects of job stress on exhaustion and inefficacy in opposite directions. Future research should explore other contextual and individual mediators and moderators of the relationship between job stress and burnout to further clarify the matter.

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Compliance with Ethical Standards

Conflict of Interest Author Zhihua Xu has received grant from Lingnan Normal University Special Project for Talents (grant number ZW1803). Author Fu Yang declares that he has no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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