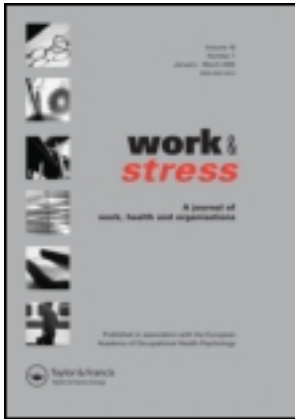


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Publisher: Routledge

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Work & Stress: An International Journal of Work, Health & Organisations

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/twst20>

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Published online: 30 Apr 2014.

To cite this article: Luo Lu, Si-Qing Peng, Hui Yen Lin & Cary L. Cooper (2014) Presenteeism and health over time among Chinese employees: The moderating role of self-efficacy, *Work & Stress: An International Journal of Work, Health & Organisations*, 28:2, 165-178

To link to this article: <http://dx.doi.org/10.1080/02678373.2014.909904>

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Presenteeism and health over time among Chinese employees: The moderating role of self-efficacy

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(Received 19 March 2013; final version accepted 21 October 2013)

The aim of this study was two-fold: first, to examine both the immediate and the lasting effects of presenteeism on health; second, to explore the moderating effect of self-efficacy on the presenteeism-health relationship in a Chinese context. We employed a two-wave study design in which presenteeism, health (i.e. physical health, mental health and exhaustion), and self-efficacy were assessed at Time 1; health was measured again at Time 2 three months later. We surveyed a diverse sample of 345 full-time Chinese employees working in Taiwan and mainland China. Hierarchical regression analyses showed that presenteeism over the previous six months was negatively related to employees' physical health, mental health and exhaustion at Time 1. However, we found no association between presenteeism and health at Time 2, after controlling for the baseline level of health, indicating that presenteeism may not have a lasting effect. Self-efficacy was found to moderate the relationships between presenteeism and all three aspects of health at Time 2, suggesting that for some individuals presenteeism may not on balance be a bad thing. The study sheds light on the association between presenteeism and health. The findings on self-efficacy also extend the literature to incorporate individual characteristics in the presenteeism context.

Keywords: presenteeism; self-efficacy; health; Chinese

Introduction

In the current climate of the global economic recession, presenteeism is becoming more prevalent in the workplace. The most recent scholarly conceptualization of presenteeism involves “showing up for work when one is ill” (Johns, 2012), succinctly put as “unhealthy and present” (Robertson & Cooper, 2011) or “sickness presenteeism” (Löve, Grimby-Ekman, Eklöf, Hagberg, & Dellve, 2010). In other words, presenteeism occurs when employees are physically present but they actually feel they should take sick leave.

Almost all of the existing literature treats presenteeism as a negative phenomenon, claiming that employees often demonstrate lower levels of performance and productivity when they attend work while ill. The claim that presenteeism causes on aggregate, much more productivity loss than absenteeism, helps to fuel the interest surrounding the subject

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(Robertson & Cooper, 2011). However, with unresolved problems regarding the definition and measurement of presenteeism, and questionable translation of self-estimated time loss or productivity decrement into dollars, the impact of presenteeism on productivity might be exaggerated (Johns, 2012). The field suffers too from the lack of rigorous research designs to make it possible to distinguish between the immediate and long-lasting effects of presenteeism to substantiate the claims of production loss and damage to health. Thus, the first aim of our study is to distinguish between the immediate and long-lasting effects of presenteeism on health. Although there is considerable variation in the meanings and definitions attached to the term *health* in organizational research, in this study we follow Danna and Griffin's (1999) conceptualization in their widely-cited review of the literature. Specifically, health comprises the combination of such mental/psychological indicators as affect, frustration, emotional exhaustion and anxiety; and such physical/physiological indicators as blood pressure, heart condition and general physical health.

The majority of the research on presenteeism is done in the health field, driven by the idea that managing presenteeism effectively could be a distinct source of competitive advantage (Hemp, 2004). Although recent organizational studies have looked at antecedents of presenteeism, they focus almost exclusively on features of the work context and organizational culture (Johns, 2010), overlooking individual characteristics such as personality and attitudes. Thus, the second aim of our study is to examine the role of self-efficacy as a stress buffer in the context of presenteeism.

Presenteeism and health

Although recent organizational studies have found presenteeism to be negatively related to employees' health (see Johns, 2010, 2011 for reviews), these are cross-sectional data. In what is probably the only longitudinal study to date, Demerouti, Blanc, Bakker, Schaufeli, and Hox (2009) found in a sample of Dutch nurses, that presenteeism increased depersonalization (one aspect of burnout) over time, while emotional exhaustion (another aspect of burnout) had a reciprocal relation to presenteeism. To explain this reciprocal relation, the authors suggested that when employees experience exhaustion, they mobilize "compensation strategies", which ultimately increases their exhaustion. Although this longitudinal study is valuable in demonstrating the lasting negative effects of presenteeism on burnout, more evidence is clearly needed to extend such effects to a broader range of health indicators with more diverse occupational groups.

As observed by Johns (2010), the research and speculation concerning presenteeism have been markedly atheoretical. The emerging small amount of organizational research on the topic has focused on mapping out personal and organizational contextual antecedents of presenteeism (e.g. Aronsson & Gustafsson, 2005; Baker-McClearn, Greasley, Dale, & Griffith, 2010; Demerouti et al., 2009). We believe that the supposed detrimental effects of presenteeism on health can be explained by the "recovery theory" (Meijman & Mulder, 1998). The main proposition is that employees need adequate rest after exertion of efforts at work, to recover and recharge both physically and psychologically. Failing to gain sufficient recovery will result in a depletion of energy, which will force individuals to increase their efforts to cope with subsequent work demands and further lead to prolonged damage to health. Applying this theory in the context of presenteeism, when people are sick, they are in particular need of resources to

gain a complete recovery, including time to rest and detachment from their jobs. Thus, attending work while ill deprives people of opportunities to recuperate from illness. Continuously attending work while sick might trigger a downward spiral of worsening health conditions and piling up of workload, shown as the increased likelihood of burnout in Demerouti et al.'s longitudinal study (2009). Namely, if employees go to work in spite of physical or psychological morbidity or discomfort, depriving themselves of recovery opportunities, they might suffer more from the accumulating tiredness and fatigue. This reasoning is also consistent with the Conservation of Resources (COR) Theory (Hobfoll, 1989), which states that demanding characteristics of work result in loss, because they draw on people's resources. When losses occur, people apply resource conservation strategies by investing resources available to them in order to adapt successfully. Therefore, we expect that not only is working while ill demanding, but also presenteeism does not allow for the replenishment of resources needed to overcome the illness state. Bergström, Bodin, Hagberg, Aronsson, and Josephson (2009) indeed found that presenteeism was a significant risk factor for future sick leave of more than 30 days, indicative of serious health problems. In the present study, we operationalize health to include physical health, mental health and exhaustion. We thus hypothesize that:

Hypothesis 1a: Presenteeism will predict significant variance in physical health at both Time 1 and Time 2.

Hypothesis 1b: Presenteeism will predict significant variance in mental health at both Time 1 and Time 2.

Hypothesis 1c: Presenteeism will predict significant variance in exhaustion at both Time 1 and Time 2.

Self-efficacy as a moderator in the presenteeism context

Although there have been recent studies investigating personality factors as antecedents of presenteeism (e.g. Hansen & Andersen, 2008; Johns, 2011), their roles as moderators still await exploration. The "differential reactivity hypothesis" (Bolger & Zuckerman, 1995) suggests that certain dispositional variables may moderate the impact of job stressors on individuals' affective outcomes. Namely, some individuals are more vulnerable to stressful situations than others. The impact of stressful situations can differ across individuals. Put simply, this means that the effects of presenteeism (i.e. a stressor) will vary depending on whether an individual is high or low on a specific individual characteristic.

Bandura's Social Cognitive Theory (SCT) (1997) may help to explain the differential reactivity in stress and adaptation. Specifically, the SCT describes the triadic reciprocal determinism among the environment (e.g. social support), the individual (e.g. self-efficacy) and behaviour (e.g. presenteeism). The SCT advocates that individuals tend to undertake behaviours that they believe will result in a "better" outcome. Defined as the belief in one's competence to cope with a broad range of stressful or challenging demands, general self-efficacy thus is a very important factor in shaping the meaning that people ascribe to situations (Bandura, 1997).

One mechanism by which self-efficacy may act as a moderator variable is that self-efficacy affects the appraisal of, and extent to which, an employee will engage in

behaviours to solve a problematic situation (Chang & Lu, 2007; Litt, 1988; Lu et al., 2011). People with high self-efficacy tend to set challenging goals and act firmly with confidence (Bandura, 1997). It has been argued that individuals with high self-efficacy tend to use active or problem-focused coping strategies (Jex, Bliese, Buzzell, & Primeau, 2001; Schaubroeck, Lam, & Xie, 2000; Semmer, 2003). With the combination of firm beliefs in oneself to be able to perform and the increased exertion of effort, self-efficacy acts as a buffer mitigating the negative effects of work stressors on employees' health.

Empirical evidence supporting self-efficacy as a moderator in the stressor/health relationship is now available in Western (See Cooper, Dewe, & O'Driscoll, 2001 for a review, also Prati, Pietrantonio, & Cicognani, 2010; Salanova, Peiró, & Schaufeli, 2002) and Chinese societies (Lu, Siu, & Cooper, 2005; Lu et al., 2011; Siu, Spector, Cooper, & Lu, 2005). However, whether these findings can be extended to presenteeism has not previously been studied. Furthermore, the moderating effects of self-efficacy for Chinese workers are inconsistent. Specifically, Lu et al. (2011) found a "double-edged" effect of self-efficacy in a Taiwanese sample: self-efficacy buffered the negative impact of a work stressor (lack of autonomy) on job performance, but exacerbated the negative impact of the same stressor on job satisfaction. We thus attempt to clarify the direction of the moderating effect of self-efficacy through the use of a more diverse sample of Chinese workers and the inclusion of more varied work settings from both mainland China and Taiwan. We also included a greater variety of health indicators (physical and mental health, exhaustion) as outcomes. We hypothesized that:

Hypothesis 2: Self-efficacy will moderate the relationship between presenteeism and health (i.e. physical and mental health, exhaustion), at both Time 1 and Time 2. Specifically, the negative relationships between presenteeism and physical and mental health will be *weaker* when the level of self-efficacy is high; the positive relationship between presenteeism and exhaustion will be *weaker* when the level of self-efficacy is high.

Method

Participants and procedures

The participants in our study were full-time employees working in different organizations of diverse industries in mainland China and Taiwan. We employed a prospective design in which presenteeism, health (physical health, mental health and exhaustion) and self-efficacy were assessed at Time 1, and health was measured again at Time 2 three months later. We chose the time lag to both allow sufficient fluctuation over time (providing sufficient variance) and to minimize potential confounds during the lapse of time. We recruited participants from executive training programmes in two prestigious universities in Taiwan and Beijing to maximize both the heterogeneity of the sample and the two-wave questionnaire response rate.

At Time 1 (T1), along with the first questionnaire, each participant received a cover letter informing them of the purpose of the study, the commitment required and assuring them of anonymity. Participants completed structured questionnaires at their training classes. At the end of the study, a total of 245 (Taiwan) and 100 (China) participants had data for both times (T1 response rate of 90%; retention rate of 79%). As a precaution, we systematically examined differences between respondents in the panel sample and the

dropouts with regard to demographic characteristics as well as the mean scores on the study variables (data from T1). Analyses revealed no significant differences. We thus concluded that no serious selection problems due to panel loss had occurred.

It needs to be noted that we had no a priori theoretical basis to presume that there would be any differences between the samples from mainland China and Taiwan in relations between presenteeism, health and self-efficacy. Furthermore, recent studies in the Greater China region have reported unequivocal evidence that the patterns of relations involving work stressors, work attitudes and health are far more similar than different for workers in mainland China and Taiwan (e.g. Lu, Siu, & Lu, 2010). However, to be on the safe side, we compared the China and Taiwan samples on all the research constructs and found *no* significant differences in mean scores. Further information is available upon request from the first author. We thus proceeded to pool the China and Taiwan samples to gain a greater statistical power for hypothesis testing.

The study sample was 56% male and 44.20% female, with a mean age of 36.5 ($SD = 7.0$), and mean job tenure of 7.5 years ($SD = 9.6$). Almost two thirds of the sample (64%) was married, and almost three quarters of the respondents (71%) were managers at various levels. More people worked in service (42%) and manufacturing (33%) than other industries (e.g. education, medical/health care).

Instruments

The questionnaire survey was administered in Chinese, and the measures we used have established Chinese versions validated in previous studies, with satisfactory reliability and validity. These references will be given along with the original English-language version when each scale is introduced below.

Self-efficacy. We used the General Self-efficacy Scale (five items, Lu, Chang, & Lai, 2011; Schwarzer, Babler, Kwiatek, Schroder, & Zhang, 1997 for the Chinese version; e.g. “I am confident that I could deal efficiently with unexpected events”) to measure self-efficacy. Each item was rated on a six-point scale (1 = *not at all true*, 6 = *very true*), with high scores representing high levels of self-efficacy. The internal consistency α was .82.

Presenteeism. We developed two items (“Although you felt sick, you still forced yourself to go to work” and “Although you had physical symptoms such as headache or backache, you still forced yourself to go to work”) to access “sickness presenteeism” behaviour (Aronsson, Gustafsson, & Dallner; 2000; Lu, Lin, & Cooper, 2013 for the Chinese version). We conducted exploratory factor analysis (EFA) in an independent sample of Chinese workers ($N = 307$) and confirmed that these two items represent a single construct, accounting for 88.30% of the total variance. The question stem on the presenteeism scale was “Have you experienced the following in the last six months?” Each item was rated on a four-point scale (1 = *never*, 4 = *more than 5 times*), with high scores representing more frequent instances of presenteeism. The internal consistency α was .85.

Health. Two scales from the Occupational Stress Indicator (OSI-2) (Cooper, Sloan, & Williams, 1988; Lu, Tseng, & Cooper, 1999 for the Chinese version) were used to measure employees' mental and physical health: (i) the Mental Health Scale (12 items; e.g. "During an ordinary working day are there times when you feel unsettled and upset for no obvious reasons?") and (ii) Physical Health Scale (six items; e.g. "Pricking sensations or twinges in parts of your body"). Each item was rated on a six-point scale, with higher scores indicating *better* health status (1 = *very frequent*, 6 = *never*). The internal reliability coefficients of the mental health scale were .82 (T1) and .85 (T2); those of the physical health scale were .81 (T1) and .85 (T2).

Exhaustion was measured with nine items (Lu, Lee, & Shieh, 2005; Maslach & Jackson, 1986 for the Chinese version; e.g. "I feel *emotionally drained from my work*"). Each item was rated on a seven-point scale (0 = *never*, 6 = *every day*), with high scores representing high levels of exhaustion. The internal consistency α was .94.

In addition, information on gender (coded female = 0, male = 1), marital status (coded married/cohabiting/remarried = 1, single/separated/widowed = 0), tenure on the job, and position (coded managers = 1, non-managers = 0) were recorded. These were used as control variables.

Results

Confirmative factor analysis

To ensure whether all variables in the study were distinct constructs, and the results were not caused by the potential impact of common method variance, we compared separate measurement models for the measures employed at Time 1 and those employed at Time 2. For the Time 1 measures, we compared a hypothesized five-factor model (measurement model, in which presenteeism, self-efficacy, exhaustion, mental health and physical health are five distinct factors) with four alternative models: the four-factor model (combining presenteeism and exhaustion), three-factor model (combining presenteeism and exhaustion, combining mental health and physical health), two-factor model (combining presenteeism, exhaustion, mental health and physical health), and one-factor model (combining presenteeism, exhaustion, mental health, physical health and self-efficacy). The results suggest that the measurement model ($\chi^2 = 838.20$, $df = 517$, Goodness of Fit Index (GFI) = .83, Root Mean Square Error of Approximation (RMSEA) = .05) fitted the data best. For the Time 2 measures, we compared a hypothesized three-factor model (measurement model, in which exhaustion, mental health and physical health are three distinct factors) with the two-factor model (combining mental and physical health and exhaustion) and the one-factor model (combining mental health, physical health and exhaustion). The results showed that the measurement model ($\chi^2 = 563.53$, $df = 321$, GFI = .85, RMSEA = .05) again provided the best fit to the data.

Descriptive analysis

Prior to the hypotheses testing, bi-variable correlations were computed; the results are shown in Table 1. Presenteeism negatively correlated with mental health (T1) and physical health (T1, T2), and positively correlated with exhaustion (T1, T2). Self-efficacy, however, exhibited the opposite pattern of correlations with health. As can be seen in

Table 1. Means, SDs and intercorrelations among main research variables with Cronbach's α on the diagonal.

	1	2	3	4	5	6	7	8	9	10	11	12
1. Presenteeism (T1)	.85											
2. Self-efficacy (T1)	.13*	.82										
3. Mental health (T1)	-.23***	.32***	.82									
4. Physical health (T1)	-.24***	.13*	.57***	.81								
5. Exhaustion (T1)	.30***	-.23***	-.67***	-.53***	.93							
6. Mental health (T2)	-.05	.19**	.46***	.35***	-.33***	.85						
7. Physical health (T2)	-.14*	.08	.39***	.46***	-.34***	.64***	.85					
8. Exhaustion (T2)	.17**	-.17**	-.37	-.32***	.52***	-.64***	-.53***	.94				
9. Gender	-.15**	.00	.02	.16**	-.09	.10	.17**	-.10	-			
10. Marital status	-.05	.10	.18**	.07	-.19**	.12*	.07	-.16**	.18*	-		
11. Tenure	-.05	-.01	.04	.07	-.03	.00	.00	-.04	.00	.22***	-	
12. Position	.04	.14*	.17**	.09	-.16**	.10	.06	-.11*	.02	.31***	.14*	-
Scale mean	2.72	4.63	3.92	3.99	1.92	3.96	4.02	1.84	-	-	7.45	-
SD	1.92	3.16	9.05	5.84	10.44	9.49	5.88	10.22	-	-	9.64	-

Notes: Gender: 0 = female, 1 = male; Marital status: 0 = single/separated/widowed, 1 = married/cohabiting/remarried; Position: 0 = non-manager, 1 = manager.
* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 1, gender, marital status and position each correlated with some indicators of health; thus, we controlled for these three demographic characteristics in the subsequent analyses.

Hypotheses testing

Following Baron and Kenny's (1986) suggestion for testing and reporting moderating effects, we conducted a series of hierarchical regression analyses to test our hypotheses. Predictors were standardized and interaction terms were created from these standardized predictors. When predicting health at Time 1, we first entered all the control variables in the regression models. At the second step, we entered presenteeism and self-efficacy, measured at T1. At the third step, the interaction term (presenteeism x self-efficacy) was entered. The results are reported in Table 2, showing that having controlled for demographic effects, presenteeism significantly predicted physical health, mental health and exhaustion at Time 1. Thus, Hypotheses 1a, 1b and 1c were supported pertaining to the association between presenteeism and health at Time 1. However, self-efficacy did not moderate the presenteeism-health relationship at Time 1. Thus, Hypothesis 2 was not supported pertaining to the moderating effects of self-efficacy on the immediate presenteeism-health relationship.

When predicting health at Time 2, we first entered all the control variables in the regression models. At the second step, we entered health measured at Time 1 as the baseline. At the third step, we entered presenteeism and self-efficacy measured at T1. Finally, the interaction term (presenteeism x self-efficacy) was entered. The results are reported in Table 3, showing that having controlled for the effects of demographics and baseline health, presenteeism at Time 1 did not predict physical health, mental health or exhaustion at Time 2. Thus, Hypotheses 1a, 1b and 1c were not supported pertaining to the effects of presenteeism on health at Time 2. Self-efficacy did moderate the presenteeism-health relationship at Time 2.

Regarding the moderating effect of self-efficacy on the presenteeism-mental health relationship, the simple slope (Figure 1) was larger for the low self-efficacy group ($b = -1.43$, $p < .001$) and smaller for the high self-efficacy group ($b = 0.06$, ns). In other

Table 2. Hierarchical regression analysis predicting effects of presenteeism on strain and well-being at Time 1.

Dependent variables		Mental health (T1)		Physical health (T1)		Exhaustion (T1)	
Step	Predictors	β	ΔR^2	β	ΔR^2	β	ΔR^2
1.	Gender	-.05		.11*		.00	
	Marital status	.11*		-.01		-.11*	
	Position	.11*	.05**	.08	.03	-.12*	.05**
2.	Presenteeism (P) (T1)	-.25***		-.21***		.30***	
	Self-efficacy (SE) (T1)	.31***	.15***	.13*	.06***	-.22***	.13***
3.	P x SE	-.03	.00	-.05	.00	.05	.00
	Total R^2	.20		.10		.19	
	Final $F_{(df)}$	13.11***	(6, 317)	5.89***	(6, 325)	12.09***	(6, 320)

Notes: Gender: 0 = female, 1 = male; Marital status: 0 = single/separated/widowed, 1 = married/cohabiting/remarried; Position: 0 = non-manager, 1 = manager.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 3. Hierarchical regression analysis predicting effects of presenteeism on strain and well-being at Time 2.

Dependent variables		Mental health (T2)		Physical health (T2)		Exhaustion (T2)	
step	Predictors	β	ΔR^2	β	ΔR^2	β	ΔR^2
1.	Gender	.11*		.10*		-.05	
	Marital status	.02		.03		-.06	
	Position	.00	.03*	.01	.03*	-.01	.04*
2.	DV (T1)	.45***	.19***	.44***	.19***	.48***	.24***
3.	Presenteeism (P) (T1)	.03		-.05		.05	
	Self-efficacy (SE) (T1)	.04	.01	.02	.00	-.05	.00
4.	P x SE	.13*	.02*	.14**	.02*	-.10*	.01*
	Total R^2	.24		.24		.29	
	Final $F_{(df)}$	13.29*** _(7, 301)		14.28*** _(7, 319)		17.54*** _(7, 308)	

Notes: Gender: 0 = female, 1 = male; Marriage: 0 = single/separated/widowed, 1 = married/cohabiting/remarried; Position: 0 = non-manager, 1 = manager; DV (T1) = dependent variable as measured at Time 1. * $p < .05$; ** $p < .01$; *** $p < .001$.

words, the negative relationship between presenteeism and mental health was *weaker* for employees with higher levels of self-efficacy. Regarding the moderating effect of self-efficacy on the presenteeism-physical health relationship, the simple slope (Figure 2) was again larger for the low self-efficacy group ($b = -1.87, p < .001$) and smaller for the high self-efficacy group ($b = -0.76, p < .05$). In other words, the negative relationship between presenteeism and physical health too was *weaker* for employees with higher levels of self-efficacy. Regarding the moderating effect of self-efficacy on the presenteeism-exhaustion relationship, the simple slope was again larger for the low self-efficacy group ($b = 1.36, p < .001$) and smaller for the high self-efficacy group ($b = 0.52, p < .05$). In other words, the positive relationship between presenteeism and exhaustion was also *weaker* for employees with higher levels of self-efficacy. Thus, Hypothesis 2 was supported pertaining to the moderating effects of self-efficacy on the presenteeism-health relationship at Time 2.

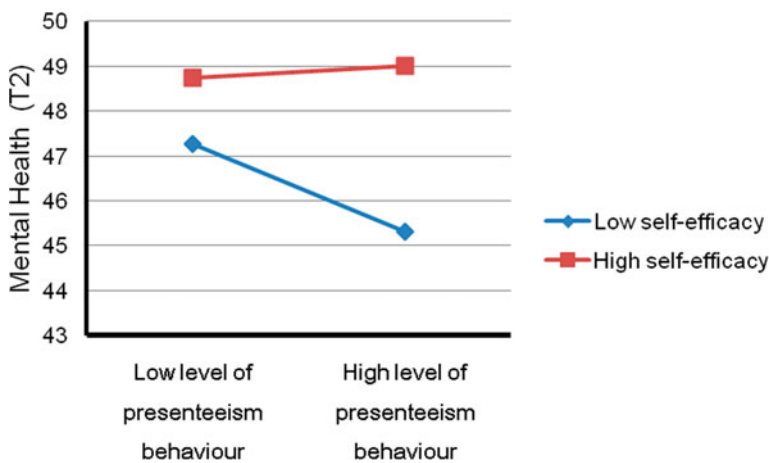


Figure 1. The moderating effect of self-efficacy on the impact of presenteeism on mental health at Time 2.

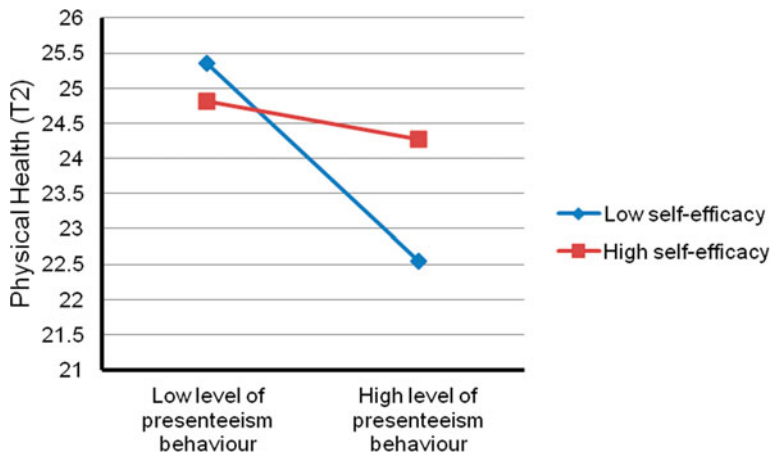


Figure 2. The moderating effect of self-efficacy on the impact of presenteeism on physical health at Time 2.

Discussion

The aim of this study was two-fold: to explore the temporal characteristics of presenteeism by clarifying the persistence of its effects on employees' health, and to incorporate self-efficacy as a key individual characteristic in explaining individual differences in the presenteeism process. We found that presenteeism over the six months prior to T1 was related to employees' health at Time 1 but not at Time 2. We found too that self-efficacy could buffer the noxious effects of presenteeism on employees' health at Time 2. The following discussion will be organized around these two findings, further contrasting the "bad" and possibly "good" sides of presenteeism in today's world of work.

"Bad presenteeism": An exaggerated case?

The first thrust of our study is that we used a prospective design to systematically examine the effects of presenteeism on a variety of health indicators. As critiqued by Johns (2010, 2012), there is considerable variation in the definitions of presenteeism in the existing literature and some may run the risk of conflating the cause and effect, thus exaggerating the impact of presenteeism on individual outcomes. In the present study, we have taken significant steps in purifying the conceptualization of presenteeism to relate to *only* "sickness presenteeism" behaviour, and measured it as a continuous variable. Furthermore, we measured health at two points in time to control for the baseline levels of the outcome. Our findings in the cross-sectional data confirm that pushing oneself to go to work when ill has an immediate association with worsened physical and mental health, and elevated exhaustion (Table 2). These results corroborate findings from previous cross-sectional studies that presenteeism was negatively related to employees' physical health (See Johns, 2011, for a review). We have extended the negative effects of presenteeism to mental health. Our findings are also consistent with the positive association between presenteeism and burnout (depersonalization and exhaustion) found in Demerouti et al. (2009). However, using longitudinal data, we found no effects of presenteeism on health

three months later (Table 3). This should bring some relief to researchers and practitioners who are increasingly concerned about this prevalent phenomenon in today's workplace.

Self-efficacy: An important buffer in presenteeism

Although almost all the existing literature on presenteeism treats it as a negative phenomenon, scholars have wondered whether coming to work is nonetheless *worse* than taking sick leave (e.g. Johns, 2010). Indeed, when Dew, Keefe, and Small (2005) interviewed nurses in focus groups about their experiences of presenteeism, some nurses used a metaphor of “sanctuary” and described their teams as “family”. Those nurses were highly engaged in their jobs, and with the help of their “family”, they worked through mild sickness, and eventually felt better or ignored discomfort altogether. It thus seems that attending to work while experiencing minor discomfort, even with momentary elevated health problems, may be beneficial to the employee and the employer compared to going absent. Furthermore, for some people, presenteeism connotes perseverance in the face of adversity. Presenteeism may be seen as a sign of high commitment and high work involvement (Snir & Harpaz, 2012). Recent studies have found that people with lower neuroticism, internal health locus of control (Johns, 2011) and those who were committed to work (Hansen & Andersen, 2008) were more likely to go to work when sick. Thus, it seems that incorporating individual characteristics and work attitudes into the study of presenteeism may allow for the consideration of “good presenteeism”. Our present study is an effort in this direction. Self-efficacy has been established as a viable personal resource in coping with work stress (e.g. Cooper et al., 2001; Lu et al., 2011; Prati et al., 2010). Unlike the inconsistent findings regarding the moderating effects of self-efficacy in the above mentioned work stress research (especially with Chinese employees, e.g. Lu et al., 2011), the present study revealed that self-efficacy attenuated all the relationships between presenteeism measured at Time 1 and indicators of health measured at Time 2. Complimenting social resources (e.g. team support) identified by Dew et al. (2005), personal resources such as self-efficacy may also have important roles in mitigating the negative effects of presenteeism. Future research is needed to explore in detail the possible buffering mechanisms of self-efficacy, for example, setting challenging goals, having active and problem-focused coping strategies, and the increased exertion of efforts under stress, in relation to theories that some individuals are more vulnerable to stress than others (the differential reactivity hypothesis, Bolger & Zuckerman, 1995, and the SCT, Bandura, 1997).

Practical implications

What we found in the present study has implications for both individual coping and for managerial practices. As we have demonstrated, presenteeism had an immediate association with employees' health. It is plausible to assume that the appropriate use of sick leave is health-promoting insofar as it provides the opportunity for physical and mental recuperation after illness, as implied by the recovery theory (Meijman & Mulder, 1998) and the COR theory (Hobfoll, 1989). Thus, we suggest that organizations and managers should promote the legitimacy of taking sick leave when needed, and establish job replacement mechanisms to lessen the pressure on employees forcing themselves to work when ill. For individual employees, equipping themselves with personal resilience

may help in coping with the noxious effects of presenteeism. Affirming the belief of self-confidence and building the sense of personal capability may enhance personal resilience to future challenges.

Limitations

It should be kept in mind that there are limitations in this study. First, we used self-reports to collect data, which may increase the possibility of contamination of the reported relationships through common method variance (CMV). However, such influences are more likely in cross-sectional rather than longitudinal studies because only a few participants might be able to recall their Time 1 scores during the second wave of the study. Thus our two-wave design, separating assessments of presenteeism and health outcomes, lowers the likelihood of finding correlations due to consistency in responses. In addition, using data at Time 1, we tested an alternative model that matches our hypothesized research model except for the inclusion of an unmeasured, latent method factor, following the suggestion by Podsakoff, MacKenzie, Lee, and Podsakoff (2003). The model fit was very poor ($\chi^2 = 836.91$, $df = 515$, GFI = .65, RMSEA = .06), indicating that it was unlikely that any substantial proportion of variability in responses could be attributable to the method. Nonetheless, there is still room for improvement in the study design. Future research, for instance, should collect objective data such as days of sick leave as indicators of health.

Second, to our knowledge, this is the first study on presenteeism of Chinese workers. Aware of the exploratory nature of the study, we recruited a convenience sample in mainland China and Taiwan. Although we did not postulate ad hoc differences between mainland and Taiwan Chinese workers, the mainland China sample was too small to stand alone for hypothesis testing anyway. Future studies should strive for larger and more representative samples from more diverse geographical locations in the Greater China region, to establish the generalizability of findings in the present study both within Greater China and between China and Western countries.

Conclusions

To conclude, we have undertaken the first step to investigate presenteeism in a Chinese work context, in the wake of a worldwide recession that has affected China like other countries throughout the world. Emphasizing the overlooked temporal issue, we used a prospective design to distinguish both immediate and longitudinal associations between presenteeism and health outcomes. We integrated the SCT with the differential reactivity hypothesis to examine the moderating role of self-efficacy, an individual characteristic in the presenteeism context. Our findings have also filled in an important gap in the literature by focusing on Chinese workers, a culturally different population compared to Western employees, and one in which there is likely to be higher levels of presenteeism than in other countries. We have clarified that there is indeed an association between the presenteeism and health for Chinese employees. We have also established self-efficacy as a potential moderator in the presenteeism-health relationship. These will be promising agendas for further research. Our final message is that employees' decision to work while ill should be explored in the context of a psychological process, and individual differences should be more fully considered in research in this field.

Funding

This research was supported by a grant from the Service Science Society of Taiwan, and a joint grant from Colleges of Management of National Taiwan University (Taiwan) and Peking University (China).

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