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Shakespeare-Finch & Obst, 2011). Based on the JDCS model, this study examined the interactions between job demand, job control and social support on work-related stress induced outcomes (burnout and work engagement).

In the JDCS model, the strain hypothesis was expanded to address the conditions of high demand, low control and low support, the most disadvantageous condition for workers. Subsequently, the strain hypothesis was renamed the ‘iso-strain’ hypothesis (Dawson, O’Brien, & Beehr, 2016). The buffer hypothesis was expanded to incorporate social support to represent the condition of high demand, low control and high support, which tends to be more effective for mitigating the adverse effects of high demand and low control; the buffer hypothesis was thus renamed the ‘synergistic buffer’ hypothesis (Johnson & Hall, 1988).

A review of several studies of the JDCS model has indicated the iso-strain hypothesis is more widely accepted than the synergistic buffer hypothesis (Bakker & Demerouti, 2007; Dawson et al., 2016; Häusser et al., 2010). Some scholars even contend that the function of social support is more effective than the source of this support (Colbert, Bono, & Purvanova, 2016; Shakespeare-Finch & Obst, 2011), and Rogala et al. (2016) argued the function of social support is generally a more accurate predictor of work-related outcomes than other types of social support. That is, previous research on the JDCS model used the social support function as the basis for determining its classification (e.g., supervisor support, co-worker support or family support), and categorised it as emotional support or instrumental support (Bakker & Demerouti, 2007; Häusser et al., 2010; Luchman & González-Morales, 2013; Shakespeare-Finch & Obst, 2011).

The emotional and instrumental elements of social support can be intangible or tangible, and objective or subjective, representing the various assistance types offered by significant shareholders (Lindsey & Yates, 2004; Williams et al., 2004). For example, supervisors or colleagues can give employees tangible assistance featuring emotional support (e.g., caring) or intangible assistance featuring instrumental support (e.g., solving customer problems) (Semmer, Elfering, Jacobshagen, Beehr, & Boos, 2008).

Above all, this study examined how the social support function (emotional and instrumental support) can be applied to infer the influences of JDC on burnout and work engagement (see Fig. 1). This study has contributed the following theoretical implications. First, the social support function (emotional and instrumental support) was used in this study as a moderating variable in the JDCS model to compare results with previous research findings and obtain additional insights into this subject. Second, some previous studies of the JDCS model adopted burnout as a dependent variable based on its negative effect (Gordon et al., 2015; Hessels, Rietveld, & van der Zwan, 2017; Schaubroeck & Merrit, 1997; Schaufeli, Bakker, & van Rhene, 2009), but relatively few studies employed the positive effect (e.g., work engagement) as a dependent variable. The different effects chosen in this study can be

considered one of the major contributions in this subject area. Finally, this study has expanded the generalizability of the JDCS model by using a sample of frontline employees working in a hotpot¹ restaurant franchise in a Chinese context.

2. Literature review

2.1. Burnout and work engagement

‘Burnout’ describes psychological fatigue. It is generally considered a negative psychological state and a consequence of work stress. Burnout usually occurs when there is a period of imbalance between an individual’s job demands and their capabilities (Baranik & Eby, 2016; Jung & Yoon, 2014; Stirpe, Profili, & Sammarra, 2021; Wu, Yuan, Yen, & Xu, 2019). Burnout typically affects individuals working in the service industry, and may comprise emotional exhaustion, depersonalisation and/or feeling a lack of personal accomplishments. However, recent studies revealed burnout not only affects service providers but also individuals in ordinary jobs (Maslach, Jackson, & Leiter, 1996). In general, burnout consists of emotional exhaustion, cynicism and professional inefficacy. ‘Emotional exhaustion’ describes the level of job fatigue a person feels; specifically, they experience resource exhaustion and energy loss and then become incapable of satisfying their job demands owing to their physical and psychological fatigue. ‘Cynicism’ can be regarded as a specific type of physical or mental distancing from jobs or work roles. For example, employees who are cynical and/or detached will respond to the associated job demands by turning into more frustrated and depersonalised. Further, ‘Professional inefficacy’ is a feeling of reduced personal accomplishment. In other words, employees may evaluate their job performance negatively and consequently, do not cope with job demands well. According to Rogala et al. (2016), job demands positively correlate with burnout, whereas autonomy, job control and resources negatively correlate with burnout. These findings are consistent with studies on the effects of job demand and job control in the JDCS model (e.g., Häusser et al., 2010).

‘Work engagement’ is defined as an experiential state characterised by a dynamic cognitive and emotional dimension entailing personal enthusiasm (Schaufeli et al., 2009; Wu, Parker, Wu, & Lee, 2018). It is also associated with the current positive psychology research trend (Karatepe & Karadas, 2015). The positive psychology perspective focuses on individuals’ abilities and optimal functions, situating them in occupations most likely to engender job enthusiasm; the alternative approach is simply to avoid negative psychological states. Maslach and Leiter (1997) contended work engagement opposes burnout. That is, individuals who achieve low scores in emotional exhaustion and cynicism but high scores in professional efficacy tend to exhibit stronger work engagement. Schaufeli et al. (2009) noted work engagement is a positive work-related psychological state characterised by factors including vigour, dedication and absorption. ‘Vigour’ refers to high energy and mental flexibility at work, a willingness to expend additional effort on one’s tasks, and/or the ability to persist through difficulties. ‘Dedication’ refers to a worker ascribing value and meaning to their work and feeling a sense of enthusiasm and pride in carrying out their job; while ‘absorption’ refers to an individual being totally engaged with their job. Karatepe and Karadas (2015) found job demand is negatively correlated with work engagement, whereas other researchers found autonomy and a supportive environment are positively correlated with

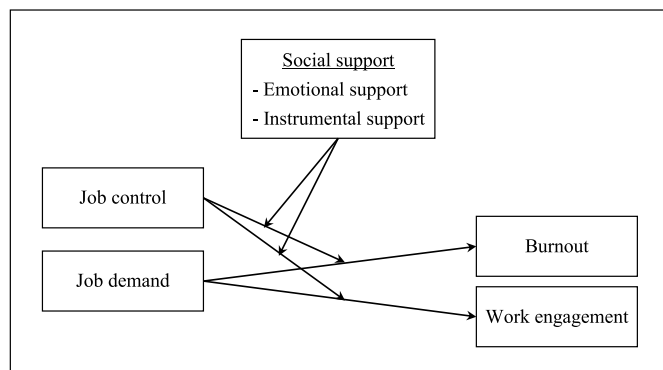


Fig. 1. The research framework of the three-way interactions of job demand, job control, and social support on burnout and work engagement.

¹ ‘Hotpot’ is a famous style/type of East Asian cooking, a dish consisting of raw ingredients such as thinly sliced meat and vegetables cooked by diners at the table by dipping them into boiling broth. ‘Hotpot’ also implies ‘reunion’. In China, there are many hotpot restaurants in which the strict and consistent management policies and high service standards are applied to handling/reconciling the variability of customer interactions. Frontline employees always have a heavy workload, providing various associated services each day.

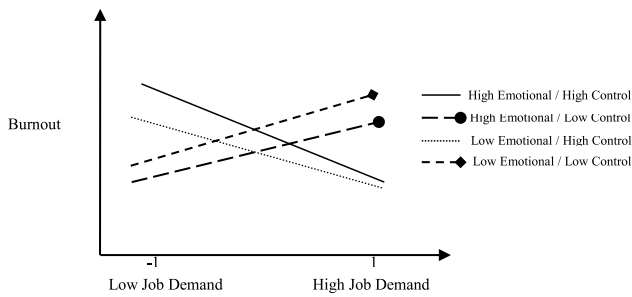


Fig. 2. Interaction effects of job demand, job control, and emotional support on burnout.

demand/low control/high emotional support situation had a positive slope. Accordingly, emotional support mitigated the positive effect of high demand/low control on burnout. The synergistic buffer hypothesis in the JDCS model was supported, thereby confirming H1.1a and H1.1b. Consequently, with respect to emotional support, a high demand/low control/low support situation leads to a higher level of burnout than other work–situation combinations; however, emotional support can reduce the positive effect of high demand/low control on burnout.

Step 4 of Table 2 shows the three-way interaction effect of job demand, job control and emotional support on work engagement achieved significance ($\beta = -0.019, \Delta R^2 = 0.04, p < 0.05$). Compared with the other work condition combinations, the condition of high demand/low control/low emotional support yielded the lowest level of work engagement (Fig. 3). That is, the iso-strain hypothesis in the JDCS model was supported. Second, the slopes in the work conditions with high demand/low control/high emotional support and with high demand/low control/low emotional support were positive. As a result, emotional support mitigated the negative effect of high demand/low control on work engagement. The synergistic buffer hypothesis proposed in the JDCS model was thus supported, thereby confirming H1.2a and H1.2b. This demonstrated that, with respect to emotional support, a high demand/low control/low support condition leads to a lower level of work engagement compared with other work condition combinations, but emotional support mitigates the negative effects of high demand/low control on job engagement.

Step 4 of Table 3 indicates the three-way interaction effect of job demand, job control and instrumental support on burnout achieved significance ($\beta = 0.16, \Delta R^2 = 0.004, p < 0.05$). First, compared with other work condition combinations, the high demand/low control/low instrumental support condition yielded the highest level of burnout (Fig. 4). Thus, the iso-strain hypothesis in the JDCS model was supported. Second, compared with the high demand/low control/low instrumental support condition, the high demand/low control/high instrumental support condition produced a lower level of burnout. Therefore, instrumental support mitigated the positive effect of high job demand/low job control on burnout. The synergistic buffer hypothesis in the JDCS model was supported, thereby also supporting H1.3a and

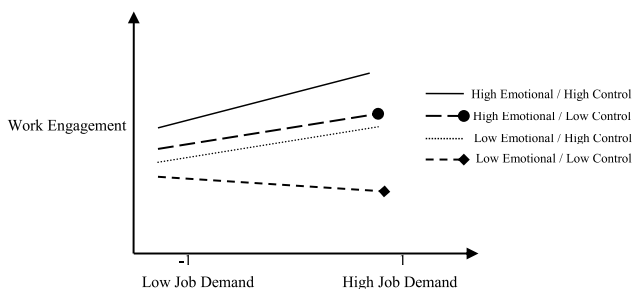


Fig. 3. Interaction effects of job demand, job control, and emotional support on work engagement.

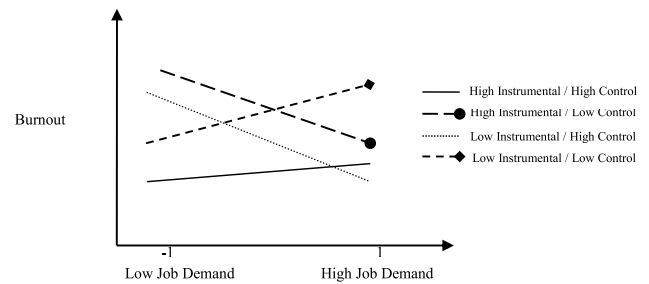


Fig. 4. Interaction effects of job demand, job control, and instrumental support on burnout.

H1.3b. This demonstrated that, with respect to instrumental support, the high demand/low control/low support condition leads to a higher level of burnout compared with other work condition combinations, but instrumental support mitigates the positive effects of high demand/low control on burnout.

Step 4 of Table 3 indicates the three-way interaction effect of job demand, job control and instrumental support on work engagement did not achieve significance ($\beta = -0.11, \Delta R^2 = 0.01, p > 0.05$). Therefore, H1.4a and H1.4b were rejected. Nonetheless, the patterns of the effects of emotional support in the JDC model were expected. With respect to emotional support, the high control/high emotional support condition exhibited stronger buffering effects than the high control/low emotional support and low control/high emotional support conditions. However, with respect to instrumental support, the high control/low instrumental support and low control/high instrumental support conditions exhibited stronger buffering effects than the high control/high instrumental support condition.

5. Conclusions and discussion

5.1. Conclusions

Based on the JDCS model, this study adopted the social support function as a moderator and investigated its effect on the relationships between two independent variables (job demand and job control) and outcome variables (burnout and work engagement). The results demonstrated that, with respect to emotional support, the situation of high demand/low control/low support leads to the most burnout and the least work engagement; however, emotional support can mitigate the adverse effects of high demand/low control on burnout and work engagement (H1.1a, H1.1b, H1.2a, and H1.2b were supported). With respect to instrumental support, the high demand/low control/low support condition leads to the greatest level of burnout; as with emotional support, instrumental support can mitigate the adverse effects of high demand/low control on burnout (H1.3a and H1.3b were supported). The above hypotheses (H1.1–H1.3) were consistent with previous studies (De Jonge & Dormann, 2006; Häusser et al., 2010).

However, this study uncovered that instrumental support did not contribute any benefit to the interaction effect of job demand and job control on work engagement (H1.4a and H1.4b are not supported). Further analysis showed that the combined effect of high instrumental support and high job demand would reduce employees' work engagement (the product term of job demand and instrumental support on work engagement in Table 3: $\beta = -0.15, p < 0.05$). This yields the question: Why can employees not take the advantage of instrumental support in some conditions?

Social support has been considered a coping resource (Bakker & Demerouti, 2007). The current study indicates that of the two social support functions, instrumental support may not always promote employee work engagement in high demand workplaces. This finding contributes some insight to the JDCS model. Based on the JDCS model,

