

Article

# Structural equation models in proactive coping, organizational resource and work engagement of Chinese social workers

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**Abstract:** Proactive coping behavior has been considered an important personal job resource for employees. Organizations have paid considerable attention to the proactive coping behavior of employees to maintain their competitive advantage. The purpose of the current study is to discover the relationship between organizational job resources, work engagement, and proactive coping using structural equation modeling. The participants were 340 licensed Chinese social workers. In the rapidly growing social work sector in China, social work organizations require psychologically connected and dedicated social workers. Findings include the effect of organizational job resources and work engagement on proactive coping. Based on the results, impacts on organizational management are discussed.

**Keywords:** proactive coping; social worker; organizational job resources; work engagement; mainland China

## 1. Introduction

Proactive coping is a kind of personal job resource that helps mitigate the negative effects of job demands (Demerouti et al., 2001). The Job Demand and Resources Theory (JD-R) suggests paying attention to the efforts employed by employees in facing their job challenges. Engaged employees who hope to enhance their career development will adopt proactive coping (Angelo and Chambel, 2014). In fact, proactive coping involves various job behaviors, such as help-seeking behavior and networking activities (Kalliath and Kalliath, 2013). Proactive coping reflects employees' ability to handle difficult job situations, as previous research has shown a positive relationship between proactive coping behavior and work engagement (Searle and Lee, 2015; Wilke et al., 2019). Moreover, organizational resources play a role in reducing the negative effects of job demands. These resources can include positive feedback, team support, opportunities for job advancement, or financial rewards (Salanova et al., 2006). Proactive coping and organizational resources are important factors in managing job demands and minimizing their negative impact on individuals.

In the Chinese social work setting, social workers face various difficulties, including low job security, a heavy workload, low job satisfaction, and low public acceptance (Lei et al., 2018; Mo and Ho, 2021; Porfeli and Savickas ML, 2012). These challenges have negative effects on social workers' well-being and job performance. It is important to find ways to improve their work conditions and reduce the negative impact of job demands. Previous studies have highlighted the importance of organizational resources and their relationship with job performance, work

engagement, self-care, and job satisfaction (Mo, 2022). However, there is limited research on the individual proactive coping behaviors of Chinese social workers. It is necessary to study the proactive behavior of social workers in the context of Chinese social work because of the following reasons: a) The problem of the turnover of social workers in China is serious, and many studies have tried to explore ways to retain social workers (Su and Ng, 2019). How to increase the proactive coping behavior of Chinese social workers and how to help them engage in proactive behavior may be an effective solution; b) The development of social work in China has lasted for more than ten years, and more and more studies have begun to care about the career planning and personal growth of social workers (Mo, 2022); c) The development of social work in China has gradually expanded to remote areas and rural areas. The types of social work services are becoming more and more diversified (Jian et al., 2023); thus, the rapid development of social work services has given social workers more job opportunities, and social workers can use proactive behavior to give themselves more work options.

Overall, the study aims to fill the research gap by examining the relationship between organizational job resources and proactive coping among Chinese social workers. It also explores whether work engagement enhances proactive coping behavior. The findings of this study will contribute to understanding the factors that facilitate proactive coping. In the current study, proactive coping is chosen as the personal resource since previous studies have discovered that there is a positive relationship between proactive coping and work engagement (Searle and Lee, 2015; Wilke et al., 2019). Proactive coping reflects employees' personal confidence about their abilities to cope with difficult job situations and their optimistic attitude about their future career development (Xanthopoulou et al., 2007). The current study aims to address the research gap regarding the relationship between organizational job resources and proactive coping behavior in the context of Chinese social work. It also seeks to explore whether work engagement enhances proactive coping behavior among Chinese social workers.

## **2. Literature review**

### **2.1. Understanding job resources**

Job resources encompass organizational resources and personal resources under the Job Demands-Resources model (JD-R), which explains the balance between job demands and job resources (Demerouti et al., 2001; Bakker and Demerouti, 2017). According to the model, job resources help reduce stress and the negative effects of job demands (Demerouti et al., 2019; Schaufeli and Taris, 2014). Job resources include organizational resources like feedback from supervisors, peer support, and teamwork arrangements. These resources enhance successful adaptation to job challenges and reduce job stress (Salanova et al., 2006; Xanthopoulou et al., 2007; Bakker and Demerouti, 2017). A past study about home care workers discovered that job resources increase work motivation and enhance their professional efficacy (Bakker and Albrecht, 2018). Although they experience job burnout, they feel support in the human resource systems, such as supervisory support and positive relationships with upper-

level management (Beckstrand et al., 2017; Radey and Wilke, 2021). Similarly, Chinese social workers who are working in family services also benefit from job resources, which predict their organizational commitment and buffer the effects of heavy workloads (Luo and Lei, 2021; Su and Ng, 2019).

In addition to organizational resources, personal resources like self-efficacy, resilience, personality traits, optimism, family support, and proactive coping have been identified as moderators of the effects of work demands on burnout and work engagement (Searle and Lee, 2015; Geisler et al., 2019; Holman and Axtell, 2016). In particular, employees who adopt proactive coping behave in a more innovative way in handling their job challenges (Kwon and Kim, 2020). Past studies suggest that child welfare workers who adopt proactive coping have better psychological well-being (Wilke et al., 2019; Lee and Cho, 2020). Moreover, social workers who adopt proactive coping can achieve good work-life balance and enhance job flexibility (Kalliath and Kalliath, 2013; Searle and Lee, 2015; Wilke et al., 2019). The JD-R model suggests that proactive behavior is the result of high job resources and high job demands (Kwon and Kim, 2020). Engaged employees often adopt proactive coping in the workplace. Proactive coping is a valuable personal resource and an effective strategy for dealing with job stressors (Demerouti et al., 2019). Proactive coping involves employees' efforts to build personal job resources that support career growth and advancement (Angelo and Chambel, 2014; Demerouti et al., 2019).

In the context of Chinese social work, local studies have shown that social workers perceive their job as meaningful, but they experience a high level of job stress (Mo and Ho, 2021). The JD-R model has been applied in these studies to explore job demands and resources among Chinese social workers, investigating various types of job resources such as job autonomy, team support, collective psychological ownership, and mindfulness intervention (Su and Ng, 2019; Luo and Lei, 2021; Huang et al., 2021; Zhang and He, 2022). However, the exploration of proactive coping as a personal job resource remains limited. Therefore, the current study focuses on proactive coping as a personal resource and examines its relationship with work engagement among Chinese social workers.

## **2.2. Relationship between proactive coping and work engagement**

Work engagement is a concept reflecting the level of an employee's dedication to their jobs (Bakker and Albrecht, 2018). Engaged workers show better work performance, and they have more creative ideas (Cartwright and Cooper, 2014; Panthee et al., 2014). Past studies have explored the predictors of work engagement, for example, human resources practices, leadership, and organizational-level resources (Holman and Axtell, 2016; Panthee et al., 2014). Health workers who have higher work engagement will have a lower level of job burnout (Fong and Ng, 2012). Interventions such as job crafting will lead to more job resources, higher levels of work engagement, and improved performance (Gordon et al., 2017). International studies explain that work engagement encompasses workers' participation, energy, and efficacy (Kahn, 1990; Maslach and Leiter, 1997). An engaged employee has a higher level of work energy and organizational commitment (Fong and Ng, 2012). Work

engagement also brings benefits to the mental, physical, and social well-being of employees in the workplace (Seppälä et al., 2012; World Health Organization, 2004).

In the rapidly growing social work sector in China, social work organizations require psychologically connected and dedicated social workers (Wong, 2020). Employees' belief in their ability to meet challenges is crucial in this context (Xanthopoulou et al., 2007). Using career construction theory, proactive coping is viewed as an important coping behaviour in response to a rapidly changing working environment (Porfeli and Savickas, 2012). International studies suggest that proactive coping mediates the relationship between challenging work stressors and work engagement (Searle and Lee, 2015). Using JD-R theory, employers can provide job resources to enhance work engagement and job performance (Bakker and Demerouti, 2017). The provision of organizational support will enhance the job performance of Chinese social workers, and they have a higher intention to achieve career success (Mo and Ho, 2021). However, local studies often focus on the provision of organizational resources as a means to enhance work engagement; little is known about the relationship between proactive coping and work engagement among Chinese social workers.

### **2.3. Conceptual framework**

Proactive coping refers to individual job resources that reflect employees' confidence, willingness, and abilities to actively cope with difficult job situations (Xanthopoulou et al., 2007). It encompasses various behaviors such as building human capital, influencing, networking, seeking help, career development, and job mobility (Kim et al., 2018; Sturges et al., 2010; Wilhelm and Hirschi, 2019). Previous studies in occupational health psychology have found a relationship between proactive coping and subjective perceptions of job difficulties and stress (Gillespie and Gates, 2013). Proactive coping also serves as a preventive measure against future job stress and helps reduce its impact (Aspinwall, 2011). Work engagement is defined as a fulfilling emotional state related to the job, characterized by absorption, vigor, and dedication (Schaufeli and Taris, 2014; Schaufeli et al., 2006). Absorption refers to complete immersion in one's work, while vigor represents a willingness to invest personal effort, energy, and time. Dedication reflects an employee's enthusiastic involvement in their job. In this study, it is hypothesized that work engagement and proactive coping have a negative relationship, as a higher level of proactive coping is required to handle job difficulties, resulting in lower work engagement due to high job demands.

Organizational job resources are supportive resources provided within an organization's human resources system. These resources include different kinds of career support, the provision of career-related training and information, performance feedback, advancement opportunities, salary, and staff benefits (Beckstrand et al., 2017; Radey and Wilke, 2021). Previous research has shown that support from leaders, supervisors, and career development opportunities increases employees' likelihood of achieving career goals and investing effort in their job (Bakker and Demerouti, 2017; Schaufeli et al., 2006). It is hypothesized that organizational job resources play a motivational role in enhancing the proactive coping behaviors of social workers. In a

supportive work environment, social workers are more likely to take an active approach to exploring their career paths and developing their careers. Therefore, organizational job resources are expected to have a significant positive relationship with the proactive coping behaviors of social workers. It is further hypothesized that social workers who engage in proactive coping behaviors will perceive organizational job resources as highly important and actively utilize them for their career development.

Based on the literature review, the hypotheses are set as follows:

- H1: A significant positive relationship is found between social workers who engage in proactive coping behaviors and their perception of organizational job resources.
- H2: A significant positive relationship is found between social workers who engage in proactive coping behaviors and their work engagement.

### **3. Methods**

#### **3.1. Sampling procedures**

In the current study, a representative sampling method was employed to recruit a small pool of social workers who shared similar traits and attributes as the entire population. These participants were selected from the attendees of a national-level supervisor training program. The sample included social workers from different age groups, ranging from 20 to above 61, and from six regions in China, including the east, south, northeast, middle, southwest, and northwest regions. This representative sample aimed to capture the characteristics of social workers across different regions. The supervisory program, organized by the Institute of Social Service Development and the National Social Workers' Association, offered both classroom face-to-face training and online training modes. Due to the COVID-19 pandemic, the online mode was predominantly used to accommodate social workers from anywhere. The program covered advanced social work knowledge and skills, as well as supervision and management knowledge. The trainers were experienced social work experts with at least five years of frontline or management experience. The supervisory program consisted of eight subject areas and a total of 47 hours of learning. To be eligible for the program, social workers were required to have a minimum of three years of frontline social work experience or be currently working as a social work manager. Prior to data collection, the researchers obtained approval from the program organizers and sent an invitation letter to the supervisory program participants, explaining the study's objectives and data protection procedures. The first phase of the data collection period lasted for approximately six months, during which participants voluntarily completed an anonymous online survey. To prevent multiple responses from the same participant, response tracking was implemented within the survey platform. A total of 340 questionnaires were collected, resulting in a response rate of around 85%. The study received ethical approval from the Research Ethics Review Committee of the author's previous employer.

#### **3.2. Measurement**

The questionnaire consisted of four parts.

**Demographic variables** include age, gender, job position, work experience, location, and service area. The location is based on the textbook “New Chinese Physical Geography/Teaching Materials for Colleges and Universities” (Zhao et al., 2015), which was commonly used by teachers and students majoring in geography in colleges and universities.

**Organizational job resources:** adopted organizational job resource scale (Baruch and Peiperl, 2000), which includes 11 job resources such as opportunities for career development, support from supervisors and team building, performance appraisal, job training, and support from upper-level management. These job resources were available in Chinese social work organizations. Sample questions were, “What is your perceived importance of supervision provided by your organization?” “What is your perceived importance of career information provided by your organization?” The responses were rated on a five-point Likert-type scale, ranging from one to five points, from totally not important to totally important.

**Work engagement:** adopted a shortened version of the Utrecht Work Engagement Scale (Schaufeli and Bakker, 2004), which has nine items. The scale has good internal consistency and test-retest reliability (Fong and Ng, 2012; Schaufeli et al., 2006; Balducci et al., 2010). The Utrecht Work Engagement Scale preliminary manual provided a Chinese version. The scale measures vigor (3 items), dedication (3 items), and absorption (3 items). Sample questions include “I am enthusiastic about my job” (dedication), “At my job, I feel strong and vigorous” (vigor), and “When I am working, I forget everything else around me” (absorption). The responses were rated on a Likert scale ranging from zero (“never”) to six (“always”).

**Proactive coping:** The Adopted Career Self-Management Scale (Sturges et al., 2010) with nine items was selected to measure proactive coping behaviors. The items chosen were suitable for the social work context in China. Sample questions were, “I will take the initiative to introduce myself to people who have an impact on my career.” “I will build good relationships with people I work with in the workplace.” The responses were rated on a 5-point Likert-type scale, ranging from one (strongly disagree) to five (strongly agree).

### **3.3. Statistical analysis**

Frequency statistical analysis was done to examine the sample structure. Exploratory factor analysis tested the factor structure of proactive coping, organizational job resources, and work engagement. Path analysis was conducted to explain the causal relationships among variables. Structural equation modelling was used to test the relationship between observed variables and their latent constructs. The model fit index was used to assess model performance, with indices calculated for the overall goodness of fit. According to the model fit index, the value of Root Mean Square Error of Approximation (RMSEA) was set at 0.06 or below, and the Comparative Fit Index (CFI), Goodness-of-Fit (GFI) and Bentler-Bonnet Normed Fit Index (NFI) were above 0.9, indicating a satisfactory fit.

## 4. Results

### 4.1. Descriptive statistics

**Table 1** presents the demographic statistics of the respondents (N = 340). The majority of the participants were female (76.5%) and male (23.5%). The age range of the participants was 20–30 (27.9%), 31–40 (45.9%), 41–50 (21.1%), 51–60 (4.7%), and 61 or above (0.4%). More participants were from north and northeast China (9.1%), east China (29.7%), middle China (9.1%), south China (44.4%), southwest China (5.3%), and northwest China (2.4%). Frontline social workers (12.4%), center-in-charge (27.6%), group leader (22.1%), supervisor (7.6%), headquarters administrator (20.6%), and another administrative role (9.7%). In terms of working experience, 42.6% of them had social work working experiences below 3 years. All of them were licensed social workers.

**Table 1.** Demographic variables.

	Item	%
Gender	Male	23.5
	Female	76.5
Age	20–30	27.9
	31–40	45.9
	41–50	21.1
	51–60	4.7
	61 or above	0.4
	3 years or below	42.6
Social work working experiences	5 to 8 years	39.4
	9 years or above	18.0
Job position	Frontline social worker	12.4
	Centre in charge	27.6
	Group leader	22.1
	Supervisor	7.6
	Headquarter administrator	20.6
	Another administrative role	9.7
	North and Northeast China	9.1
Region	East China	29.7
	Middle China	9.1
	South China	44.4
	Southwest China	5.3
	Northwest China	2.4

### 4.2. Factor analysis

**Table 2** presents the factor analysis of the three variables, namely proactive coping (PC), work engagement (WE), and organizational job resources (OR). Principal component analysis with Varimax rotation revealed three components with eigenvalues greater than one, which explained 34.6%, 19.7%, and 11.2% of the total

variance, respectively. Factor 1 labeled “organizational job resources” (OR) (11 items with loadings from 0.796 to 0.883). Factor 2 is labeled “work engagement” (WE) (9 items with loadings from 0.701 to 0.848). Factor 3 is labeled “proactive coping” (PC) (9 items with loadings from 0.638 to 0.796). The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.925, indicating that there were sufficient items for each factor. A visual inspection of the scree plot for all variables revealed that the components could be used. The probability associated with the Bartlett test for all variables was  $p < 0.001$ . The diagonals of the anti-image correlation matrix were all over 0.5. The Cronbach’s alpha of the respective scales is “proactive coping” ( $\alpha = 0.898$ ), “work engagement” ( $\alpha = 0.924$ ), and “organizational job resources” ( $\alpha = 0.964$ ). The Cronbach alpha level of the three scales indicated that the internal consistency of the measures was good.

**Table 2.** Factor analysis.

	Factor		
	1	2	3
OR5	0.883	-0.015	0.195
OR6	0.871	-0.024	0.142
OR8	0.856	-0.080	0.194
OR10	0.854	-0.007	0.200
OR7	0.847	-0.023	0.110
OR4	0.846	-0.050	0.124
OR3	0.846	-0.045	0.124
OR9	0.825	0.066	0.202
OR2	0.822	-0.032	0.178
OR1	0.804	-0.035	0.192
OR11	0.796	-0.008	0.209
WE8	-0.035	0.848	-0.157
WE4	-0.085	0.844	-0.057
WE3	-0.052	0.841	-0.082
WE2	-0.050	0.810	-0.015
WE9	0.004	0.796	0.003
WE7	-0.046	0.789	-0.168
WE1	-0.030	0.753	-0.045
WE6	0.010	0.701	-0.055
WE5	0.074	0.701	-0.119
PC4	0.175	-0.056	0.796
PC1	0.148	-0.118	0.791
PC3	0.182	0.063	0.783
PC6	0.239	-0.056	0.742
PC5	0.218	-0.054	0.726
PC15	0.204	0.062	0.706
PC12	0.175	-0.213	0.679
PC16	0.161	-0.174	0.640
PC2	0.146	-0.218	0.638

Extraction method: Principal component analysis. a. Five components with varimax rotation.



### **4.3. Structural equation modeling**

First, structural equation modeling was used to test hypothesis 1. The results indicated that the model fitted the data well with  $\chi^2/df = 2.117$ , CFI = 0.972, NFI = 0.948, GFI = 0.919, RMSEA = 0.057, and PCLOSE = 0.085. The probability of getting a critical ratio as large as 7.771 in absolute value is less than 0.001. In other words, the regression weight for job resources in the prediction of proactive coping is significantly different from zero at the 0.001 level (two-tailed). Inspection of path coefficients revealed that when job resources go up by 1 standard deviation, proactive coping goes up by 0.459 standard deviations. The results indicated that H1: A significant positive relationship is found between social workers who engage in proactive coping behaviors and their perception of organizational job resources.

Second, structural equation modeling was used to test hypothesis 2. The results indicated that the model fitted the data well with  $\chi^2/df = 1.938$ , CFI = 0.97, NFI = 0.941, GFI = 0.97, RMSEA = 0.053, and PCLOSE = 0.347. The probability of getting a critical ratio as large as 3.128 in absolute value is less than 0.001. In other words, the regression weight for work engagement in the prediction of proactive coping is significantly different from zero at the 0.001 level (two-tailed). Inspection of path coefficients revealed that when work engagement goes up by 1 standard deviation, proactive coping goes down by 0.194 standard deviations. The results indicated that H2: A significant positive relationship is found between social workers who engage in proactive coping behaviors and their work engagement.

### **4.4. Discussion and implications**

The current study aims to address the research gap regarding the relationship between organizational job resources and proactive coping behavior in the context of Chinese social work. It also seeks to explore whether work engagement enhances proactive coping behavior among Chinese social workers. The results supported the two hypotheses: H1: A significant positive relationship is found between social workers who engage in proactive coping behaviors and their perception of organizational job resources; and H2: A significant positive relationship is found between social workers who engage in proactive coping behaviors and their work engagement.

The results highlight that proactive coping is a personal job resource that has a significant relationship with organizational job resources and work engagement. In line with past local studies, Chinese social workers have confidence and a willingness to actively cope with difficult job situations (Xanthopoulou et al., 2007). The various proactive behaviors adopted by Chinese social workers, such as building human capital, influencing, networking, help seeking, and career development, support them in facing difficult job situations (Kim et al., 2018; Sturges et al., 2010; Wilhelm and Hirschi, 2019). Proactive coping and work engagement show a negative relationship, as a lower level of work engagement reflects a higher level of job difficulties, resulting in more proactive coping being required to cope with the job challenges. However, the current study does not explore the relationship between proactive coping and job stress; this can be explored in future studies.

Previous JD-R studies reveal that engaged social workers use their personal resources to act in opposition to excessive job demands (Yucel et al., 2023). Work engagement contributes to retaining social workers and reducing turnover (Geisler et al., 2019). The result of the current study provides empirical evidence of the significant negative relationship between work engagement and proactive behaviors. This result can be explained by the fact that when social workers feel their work engagement is at a low level, they soon realize there is a problem and they need to take action to deal with it. Thus, proactive coping behaviors such as networking behaviors, influencing behaviors, action for building human capital, job mobility behaviors, career development behaviors, and searching for informational or emotional support can be considered a kind of self-regulation mechanism. Hence, proactive coping behaviors are self-regulation strategies employed toward the management of job stress and challenges (Searle and Lee, 2015). This implies that proactive coping behavior reflects an employee's abilities to handle job challenges (Gillespie and Gates, 2013). Proactive coping behaviors are related to a reaction to the subjective perception of immediate danger and crisis encountered by employees (Gillespie and Gates, 2013). It also represents a response to the impacts caused by work stress (Reuter and Schwarzer, 2011). Previous studies have discovered that proactive coping acts as a moderator of the effects of job demand on work engagement and job burnout (Searle and Lee, 2015). A future local study can further investigate the relationship between proactive coping behavior among Chinese social workers and other work-related issues such as job stress, burnout, and job satisfaction.

Organizational job resources serve as an important motivator of proactive coping, as confirmed in the current study. The JD-R model explains that supportive resources provided within an organization's human resources system increase employees' likelihood of achieving career goals and adopting proactive coping behaviors (Bakker and Demerouti, 2017; Chan and Lei, 2017; Chan, 2016). The results of the current study are consistent with international studies showing that organizational job resources are perceived as important by Chinese social workers, and they will take an active approach to developing their careers if organizations provide them with enough and suitable organizational resources. Thus, social work organizations or social worker-employing agencies are recommended to pay attention to the proactive coping of their social work practitioners. Social work managers can expect their social workers to take a more proactive role in their career development. Consistent with positive organizational scholarship, social work managers are recommended to offer positive organizational processes and human resource management practices that facilitate the proactive coping of social workers (Cartwright and Cooper, 2014).

The theoretical contributions of the current study are twofold. First, the current study aims to investigate the role of proactive coping as a personal resource based on the JD-R model. The study supports the relationship between proactive coping and work engagement among Chinese social workers. Moreover, the study supports the hypothesis that organizational job resources have a significant positive relationship with the proactive coping of Chinese social workers. The results extend the JD-R model by considering proactive coping as a meaningful and useful personal resource. Additionally, organizational resources can offer additional support to social workers when they are using proactive behaviors to cope with their stress and job difficulties.

Second, the current study considers proacting coping as a self-regulation strategy, and this further integrates JD-R theory with self-regulation theory to show how stressful working situations lower work engagement and translate social workers' efforts into proactive coping strategies. Thus, the study confirms that JD-R theory and self-regulation can be combined to understand the relationship between job strain and failed self-regulation (Bakker and De Vries, 2021; Mo et al., 2022; Mo and Chan, 2021).

## 5. Conclusions

To conclude, the JD-R model is used in the current study, which examines the relationship between proactive coping, organizational job resources, and work engagement. In line with the JD-R theory and self-regulation theory, Chinese social workers employ proactive coping to cope with difficult job demands and situations that lower their work engagement. Proactive coping can be viewed as a form of self-regulation. In the future, proactive coping can be further investigated to see its relationship with other job-related outcomes such as job burnout, job satisfaction, and job strain.

Finally, the limitations of the current study include: a) The scope of the current study is limited to social workers only; thus, the replication of the study should consider employees of other industries to see whether the results can be generalized to other work sectors; b) The data of the current study is only based on samples from a national supervisor training, and for more generalizability, another study is recommended to see whether the proposed model can work with another sample structure; c) The current study only examines the relationship between three variables, and other factors such as organizational culture or societal factors are ignored. A future study is recommended to test whether the proposed model can work with other factors.

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## References

- Ângelo, R. P., & Chambel, M. J. (2012). The role of proactive coping in the Job Demands–Resources Model: A cross-section study with firefighters. *European Journal of Work and Organizational Psychology*, 23(2), 203–216. <https://doi.org/10.1080/1359432x.2012.728701>
- Aspinwall, L. G. (2010). Future-Oriented Thinking, Proactive Coping, and the Management of Potential Threats to Health and Well-Being. In *Oxford Handbooks Online*. Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780195375343.013.0017>
- Bakker, A. B., & Albrecht, S. (2018). Work engagement: current trends. *Career Development International*, 23(1), 4–11. <https://doi.org/10.1108/cdi-11-2017-0207>
- Bakker, A. B., & de Vries, J. D. (2020). Job Demands–Resources theory and self-regulation: new explanations and remedies for job burnout. *Anxiety, Stress, & Coping*, 34(1), 1–21. <https://doi.org/10.1080/10615806.2020.1797695>
- Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology*, 22(3), 273–285. <https://doi.org/10.1037/ocp0000056>

- Balducci, C., Fraccaroli, F., & Schaufeli, W. B. (2010). Psychometric Properties of the Italian Version of the Utrecht Work Engagement Scale (UWES-9). *European Journal of Psychological Assessment*, 26(2), 143–149. <https://doi.org/10.1027/1015-5759/a000020>
- Baruch, Y., & Peiperl, M. (2000). Career management practices: An empirical survey and implications. *Human Resource Management*, 39(4), 347–366. [https://doi.org/10.1002/1099-050X\(200024\)39:4<347::AID-HRM6>3.0.CO;2-C](https://doi.org/10.1002/1099-050X(200024)39:4<347::AID-HRM6>3.0.CO;2-C)
- Beckstrand, J., Yanchus, N., & Osatuke, K. (2017). Only One Burnout Estimator Is Consistently Associated with Health Care Providers' Perceptions of Job Demand and Resource Problems. *Psychology*, 08(07), 1019–1041. <https://doi.org/10.4236/psych.2017.87067>
- Bauer, G. F., & Hämmig, O. (2014). *Bridging Occupational, Organizational and Public Health*. Springer Netherlands. <https://doi.org/10.1007/978-94-007-5640-3>
- Kwan Chan, C., & Lei, J. (2017). Contracting social services in China: The case of the Integrated Family Services Centres in Guangzhou. *International Social Work*, 60(6), 1343–1357. <https://doi.org/10.1177/0020872817725135>
- Chan, O. F. (2016). Explore Supervision and Training from the Social Work Supervision Training Class of the Chinese Mainland. *China Journal of Social Work*, 280(10), 62–63.
- Demerouti, E., Bakker, A. B., Nachreiner, F., et al. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86(3), 499–512. <https://doi.org/10.1037/0021-9010.86.3.499>
- Demerouti, E., Bakker, A. B., & Xanthopoulou, D. (2019). Job Demands-Resources theory and the role of individual cognitive and behavioral strategies. In: Taris, T., Peeters, M., DeWitte, H. (editors) *The fun and frustration of modern working life: Contributions from an occupational health psychology perspective*. Pelckmans Pro. pp. 94–104.
- Fong, T. C., & Ng, S. (2011). Measuring Engagement at Work: Validation of the Chinese Version of the Utrecht Work Engagement Scale. *International Journal of Behavioral Medicine*, 19(3), 391–397. <https://doi.org/10.1007/s12529-011-9173-6>
- Geisler, M., Berthelsen, H., & Muhonen, T. (2019). Retaining Social Workers: The Role of Quality of Work and Psychosocial Safety Climate for Work Engagement, Job Satisfaction, and Organizational Commitment. *Human Service Organizations: Management, Leadership & Governance*, 43(1), 1–15. <https://doi.org/10.1080/23303131.2019.1569574>
- Gillespie, G. L., & Gates, D. M. (2013). Using Proactive Coping to Manage the Stress of Trauma Patient Care. *Journal of Trauma Nursing*, 20(1), 44–50. <https://doi.org/10.1097/jtn.0b013e318286608e>
- Gordon, H. J., Demerouti, E., Le Blanc, P. M., et al. (2018). Individual job redesign: Job crafting interventions in healthcare. *Journal of Vocational Behavior*, 104, 98–114. <https://doi.org/10.1016/j.jvb.2017.07.002>
- Holman, D., & Axtell, C. (2016). Can job redesign interventions influence a broad range of employee outcomes by changing multiple job characteristics? A quasi-experimental study. *Journal of Occupational Health Psychology*, 21(3), 284–295. <https://doi.org/10.1037/a0039962>
- Huang, C., Xie, X., Cheung, S. P., et al. (2021). Job Demands, Resources, and Burnout in Social Workers in China: Mediation Effect of Mindfulness. *International Journal of Environmental Research and Public Health*, 18(19), 10526. <https://doi.org/10.3390/ijerph181910526>
- Jian, M., Wu, F., & Du, Y. (2023). Self-care interventions for social workers in China: a scoping review. *Asia Pacific Journal of Social Work and Development*, 1–14. <https://doi.org/10.1080/02185385.2023.2255331>
- Kahn, W. A. (1990). PSYCHOLOGICAL CONDITIONS OF PERSONAL ENGAGEMENT AND DISENGAGEMENT AT WORK. *Academy of Management Journal*, 33(4), 692–724. <https://doi.org/10.2307/256287>
- Kalliath, P., & Kalliath, T. (2013). Work–Family Conflict: Coping Strategies Adopted by Social Workers. *Journal of Social Work Practice*, 28(1), 111–126. <https://doi.org/10.1080/02650533.2013.828278>
- Kim, S. Y., Fouad, N., & Lee, J. (2018). The roles of work and family in men's lives: Testing the social cognitive model of career self-management. *Journal of Vocational Behavior*, 106, 153–164. <https://doi.org/10.1016/j.jvb.2018.01.008>
- Kwon, K., & Kim, T. (2020). An integrative literature review of employee engagement and innovative behavior: Revisiting the JD-R model. *Human Resource Management Review*, 30(2), 100704. <https://doi.org/10.1016/j.hrmr.2019.100704>
- Lee, Y., & Cho, D. (2019). The effects of job demands, job resources, and personal resources on the psychological well-being of middle-aged workers in the United States: assessing latent profile differences. *International Journal for Educational and Vocational Guidance*, 20(3), 501–521. <https://doi.org/10.1007/s10775-019-09414-2>

- Lei, J., Wang, Y., & Jiang, H. (2018). A Comparative Study of the Turnover Intentions of Chinese Social Workers in Autonomous-Embedded and Dependent-Embedded Patterns of Professionalization. *Smith College Studies in Social Work*, 88(4), 329–348. <https://doi.org/10.1080/00377317.2019.1562144>
- Luo, M., & Lei, J. (2021). Using the JD-R Model to Predict the Organizational Outcomes of Social Workers in Guangzhou, China. *Journal of the Society for Social Work and Research*, 12(2), 349–369. <https://doi.org/10.1086/714311>
- Maslach, C., & Leiter, M. P. (1997). *The Truth About Burnout: How Organizations Cause Personal Stress and What to Do About It*. Jossey-Bass.
- Mo, K. Y.-H., Leung, C. T.-L., & Chan, S. T.-M. (2022). Satisfaction with Organizational Career Management and the Turnover Intention of Social Workers in Guangdong Province, China. *Journal of Social Service Research*, 48(3), 353–364. <https://doi.org/10.1080/01488376.2022.2042457>
- Mo, Y. H. (2022). A study on positive organizational scholarship and social worker self-care in Guangdong region, China. *Qualitative Social Work*, 22(2), 249–265. <https://doi.org/10.1177/14733250211057107>
- Mo, K. Y. H., & Chan, O. F. (2023). Supervisory relationship in cyber supervision: Implications for social work supervision. *International Social Work*, 66(1), 65–79. <https://doi.org/10.1177/0020872821991887>
- Mo, K. Y., & Ho, H. W. M. (2021). Predictors of Job Satisfaction of Chinese Social Workers in Mainland China. *Journal of Social Service Research*, 47(6), 823–834. <https://doi.org/10.1080/01488376.2021.1928587>
- Panthee, B., Shimazu, A., & Kawakami, N. (2014). Validation of Nepalese Version of Utrecht Work Engagement Scale. *Journal of Occupational Health*, 56(6), 421–429. Portico. <https://doi.org/10.1539/joh.14-0041-oa>
- Porfeli, E. J., & Savickas, M. L. (2012). Career Adapt-Abilities Scale-USA Form: Psychometric properties and relation to vocational identity. *Journal of Vocational Behavior*, 80(3), 748–753. <https://doi.org/10.1016/j.jvb.2012.01.009>
- Radey, M., & Wilke, D. J. (2021). The Importance of Job Demands and Supports: Promoting Retention Among Child Welfare Workers. *Child and Adolescent Social Work Journal*. <https://doi.org/10.1007/s10560-021-00762-z>
- Reuter, T., & Schwarzer, R. (2012). Manage Stress at Work through Preventive and Proactive Coping. *Handbook of Principles of Organizational Behavior*, 499–515. Portico. <https://doi.org/10.1002/9781119206422.ch27>
- Salanova, M., Agut, S., & Peiró, J. M. (2005). Linking Organizational Resources and Work Engagement to Employee Performance and Customer Loyalty: The Mediation of Service Climate. *Journal of Applied Psychology*, 90(6), 1217–1227. <https://doi.org/10.1037/0021-9010.90.6.1217>
- Schaufeli, W., & Bakker, A. (2004). Utrecht work engagement scale preliminary manual. Available online: [https://www.wilmarschaufeli.nl/publications/Schaufeli/Test%20Manuals/Test\\_manual\\_UWES\\_English.pdf](https://www.wilmarschaufeli.nl/publications/Schaufeli/Test%20Manuals/Test_manual_UWES_English.pdf) (accessed 10 January 2022).
- Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The Measurement of Work Engagement With a Short Questionnaire. *Educational and Psychological Measurement*, 66(4), 701–716. <https://doi.org/10.1177/0013164405282471>
- Bauer, G. F., & Hämmig, O. (2014). *Bridging Occupational, Organizational and Public Health*. Springer Netherlands. <https://doi.org/10.1007/978-94-007-5640-3>
- Searle, B. J., & Lee, L. (2015). Proactive coping as a personal resource in the expanded job demands–resources model. *International Journal of Stress Management*, 22(1), 46–69. <https://doi.org/10.1037/a0038439>
- Seppälä, P., Mauno, S., Kinnunen, M.-L., et al. (2012). Is work engagement related to healthy cardiac autonomic activity? Evidence from a field study among Finnish women workers. *The Journal of Positive Psychology*, 7(2), 95–106. <https://doi.org/10.1080/17439760.2011.637342>
- Sturges, J., Conway, N., & Liefoghe, A. (2010). Organizational Support, Individual Attributes, and the Practice of Career Self-Management Behavior. *Group & Organization Management*, 35(1), 108–141. <https://doi.org/10.1177/1059601109354837>
- Su, X., & Ng, S.-M. (2018). The Differential Impacts of Collective Psychological Ownership and Membership Identification on Work Burnout and Engagement. *Journal of Social Service Research*, 45(1), 44–58. <https://doi.org/10.1080/01488376.2018.1479340>
- Potgieter, I. L., Ferreira, N., & Coetzee, M. (Eds.). (2019). *Theory, Research and Dynamics of Career Wellbeing*. Springer International Publishing. <https://doi.org/10.1007/978-3-030-28180-9>
- Wilke, D. J., Rakes, S., & Randolph, K. A. (2019). Predictors of Early Departure among Recently Hired Child Welfare Workers. *Social Work*, 64(3), 188–197. <https://doi.org/10.1093/sw/swz020>
- Wong, Y. (2020). Some thoughts and suggestions on the construction of social work talent team, China Collective Economy. Available online: <https://www.fx361.com/page/2020/0715/6870973.shtml> (accessed on 1 March 2022).

- World Health Organization. (2004). *Promoting Mental Health: Concepts, Emerging Evidence, Practice*. World Health Organization.
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., et al. (2007). The role of personal resources in the job demands-resources model. *International Journal of Stress Management*, 14(2), 121–141. <https://doi.org/10.1037/1072-5245.14.2.121>
- Yucel, I., Şirin, M. S., & Baş, M. (2021). The mediating effect of work engagement on the relationship between work–family conflict and turnover intention and moderated mediating role of supervisor support during global pandemic. *International Journal of Productivity and Performance Management*, 72(3), 577–598. <https://doi.org/10.1108/ijppm-07-2020-0361>
- Zhang, N., & He, X. (2022). Role Stress, Job Autonomy, and Burnout: The Mediating Effect of Job Satisfaction among Social Workers in China. *Journal of Social Service Research*, 48(3), 365–375. <https://doi.org/10.1080/01488376.2022.2048289>
- Zhao, J., Fang, X., & Wang, W. (2015). *New Chinese Physical Geography (Chinese)*. Higher Education Press.