

Job burnout, depression and anxiety symptoms: the mediating role of psychological capital among 969 managers in eastern China

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Abstract

Objectives: Psychological capital plays an important role in the improvement of mental health. However, the mediating role of psychological capital between job burnout and mental problems has rarely been addressed. This study aims to explore the association between burnout and anxiety and depression symptoms, and the mediating role of psychological capital in this association among managers in eastern China.

Methods: A total of 969 managers were recruited to complete a structured questionnaire consisting of items from demographic characteristics, job burnout, anxiety, to depression symptoms using the Maslach Burnout Inventory-General Survey, Generalized Anxiety Disorder Scale, Patient Health Questionnaire-9, and psychological capital scale. The associations between burnout, psychological capital, depression, and anxiety symptoms using multivariate linear regression models. The significance of the mediation effect was calculated using the Sobel test.

Results: A total of 969 participants were recruited. The average scores of burnout, psychological capital, depression, and anxiety symptoms were (36.6 ± 14.9) , (4.7 ± 0.7) , (5.0 ± 4.5) , and (6.1 ± 4.9) , respectively. Job burnout was positively associated with depression and anxiety symptoms ($P < 0.001$), and negatively associated with psychological capital ($r = -0.46$, $P < 0.001$). Psychological capital mediated the association between job burnout and depression symptoms ($P = 0.02$).

Conclusions: Our findings contribute to the understanding the mediating role of psychological capital in the association between job burnout and depression. Interventions are needed to improve positive psychological capital for the management of the burnout and mental problems among managers.

Novelty And Impact

This is the first study investigating the mediating role of psychological capital in the association between job burnout, depression and anxiety symptoms among managers in Eastern China. We found that job burnout was positively associated with depression and anxiety symptoms, and negatively associated with psychological capital. Psychological capital mediated the association between job burnout and depression symptoms. Our study provide valuable evidence for the mechanism of the association between job burnout and depression symptoms.

Introduction

Along with the intensification of social competition, the prevalence of job stress and mental health problems has been rising in recent years(1). Managers are responsible for achieving the goals set by the higher-level management, which makes them in a state of high job stress(2). The work stress decreased the development behavior of managers(3). A previous study(4) indicated that managers experienced longer working hours, higher levels of emotional stress, higher demands, higher level of conflicts, and lower level of social support from colleagues than employees. A study among Danish managers(5) found

that 20% of former managers were at risk of depression and 12% had developed major depression. However, the stress level of managers was different between Israel, Italy, and France(6). Moreover, little research has focused on the mental health of managers in China.

The early intervention is the most efficient way to maintain mental health and prevent further pathophysiological effects on the brain. However, current intervention to support early intervention for depression and anxiety symptoms have limited effectiveness. Although clinical intervention is important for the treatment of humans with depression or anxiety symptoms, the effect of the drug treatment is very slow for anxiety and depression(7). Therefore, more studies are urgently needed to develop the underlying mechanism between the reduction of job stress and mental symptoms among managers.

Research on positive psychological capital intervention is in its infancy, however, it has shown the effectiveness and benefits in workplaces(8). Psychological capital is an individual's positive psychological state of development and reflects a positive psychological state or psychological resources(9). Theoretically, psychological capital could provide individuals an adaptable ability to maintain emotional stability when coping with pressure situations (10). A previous study in China(11) found that psychological capital played a mediation role in the association between effort-reward imbalance and depressive symptoms, with a mediating role of 19.07%. A study in Spain(12) found that psychological capital was one of the effective personal resources in reducing burnout ($\beta = -0.767, P < 0.001$). Importantly, psychological capital was relatively stable and could be easily intervened(13). Hence, it can serve as a long-term mechanism to relieve employees' job stress, burnout and solve mental problems. Positive psychological capital is essential for achieving previous control of work stress and improving mental health among managers(14). However, few studies have focused on the mediating role of psychological capital in the occurrence of anxiety and depression caused by job stress or job burnout.

Hence, this study aims to identify the prevalence of job burnout, depression, and anxiety symptoms of managers in eastern China, and analyze the association between job burnout, psychological capital, anxiety, and depression symptoms. More importantly, we aims to examine the possible mediating role of psychological capital in the process of depression and anxiety symptoms caused by job burnout.

Methods

Study population

We randomly selected 982 managers from five cities of Zhejiang Province in China in March 2014. Four respondents without age information were dropped out, while nine respondents without gender information were dropped. Finally, 969 managers were included in this study.

Occupational burnout (predictor variable)

The Maslach Burnout Inventory-General Survey (MBI-GS) was used to measure burnout symptoms. The MBI-GS is a 16-item, and 7-point Likert scale (0-never; 6-every day). The MBI-GS includes three subscales:

emotional exhaustion, cynicism, and professional efficacy. The subjects reported their attitudes towards their work. There was reliable evidence about the reliability and validity of the MBI-GS in the Chinese samples (15). The Cronbach's α for the MBI-GS scale was 0.845. The CFA analysis for the MBI-GS scale indicated a good structural validity (CFI = 0.937, TLI = 0.925, and RMSEA = 0.09). Therefore, we considered the MBI-GS to be of high reliability and construct validity.

Anxiety symptom (outcome variable)

The Generalized Anxiety Disorder Scale (GAD-7) is a 7-item, anxiety-screening scale. It was widely used to measure anxiety due to its reliability and validity. The GAD-7 focused on how often the subjects suffered from the symptoms within the last two weeks with the scores of 0–3 (0-not at all; 1-on some days; 2-on more than half of the days; 3-almost every day) (16). The subject with the total GAD-7 score ≥ 10 was classified as existing of anxiety symptoms. Our data showed a high internal consistency of GAD-7 (the Cronbach's $\alpha = 0.930$). The CFA analysis for the GAD-7 scale indicated a good structural validity using our data (CFI = 0.959, TLI = 0.938, and RMSEA = 0.1).

Depression symptoms (outcome variable)

The PHQ-9 (Patient Health Questionnaire-9) scale was used to evaluate depression among participants. The PHQ-9 scale is a 9-item scale, and it can be responded to on a 4-point Likert Scale, with response categories ranging from 'never' (0 points) to 'nearly every day' (3 points) (17). We summed the scores of each item on the PHQ-9 scale. Then we categorized the subjects into minimal (the total score 0–4), mild (the total score 5–9), moderate (the total score 10–14), moderately severe (the total score 15–19), and severe (the total score 20–27). The scale has been translated and revised to make items culturally and linguistically applicable in China. The Chinese version of the PHQ-9 scale has shown good reliability and validity (18). The Cronbach's α for the internal consistency reliability of the PHQ-9 was 0.899. The result of confirmative factor analysis (CFA) showed that the depression symptoms scale had a good structural validity (CFI = 0.926, TLI = 0.902, and RMSEA = 0.1).

Psychological capital (mediating variable)

The psychological capital scale, developed by Luthans et. al.(9), contains 26 items in total. It measures the psychological capital through a six-point Likert-type scale (1 = strongly disagree; 6 = strongly agree). The psychological capital scale consists of four factors: self-efficacy, hope, resilience, and optimism. The Chinese version of the psychological capital scale has been validated within a large sample of subjects and has shown good psychometric properties in previous studies. In our study, the Cronbach's α was 0.89. The CFA results of positive psychological capital scale showed that CFI = 0.809 > 0.8, RMSEA = 0.091 < 0.1, indicating that the structural validity of positive psychological capital scale was acceptable.

Demographic characteristics (control variables)

We investigated the demographic factors as follows: region age, gender (male / female), marriage (unmarried / married / divorced / widowed), title (no title / junior / intermediate / senior), government

level (county / enterprises or institutions / villages, towns, or streets), education (technical secondary school and below / junior college / undergraduate / graduate and above).

Statistical analysis

Qualitative data are presented as frequency and proportion distributions. Quantitative variables with normal distribution are presented as $(\bar{x} \pm s_e)$, while variables with non-normal distribution are presented as median (25th percentile-75th percentile). The independent sample t-test or Mann-Whitney U test was used for comparison between two groups, based on the results of the normality test. One-way analysis of variance and Turkey method were used for comparing the means of three or more groups with the normal distribution. Kruskal-Wallis H test was used for the test of three or more groups without the normal distribution, and the Dunn test was used for multiple comparisons. Confirmatory factor analysis (CFA) was used to evaluate the structures and validity for the scales using Mplus (version 8.3). Reliability was calculated using Cronbach's alpha statistical test. Spearman correlation coefficients were calculated. We examined the relationships between burnout, psychological capital, depression, and anxiety symptoms using multivariate linear regression models, while controlling for confounding factors such as gender and age et al. Odds Ratios (*ORs*) and 95% confidence intervals (*CI*s) were used to assess the risks. The dependent and independent variables were centralized when calculating the mediation role of psychological capital. The Sobel test was used to estimate the mediating effect of psychological capital. Two-side $P < 0.05$ was considered statistically significant. IBM SPSS STATISTICS (version 17.0) and STATA software (version 13.0) were used for the statistical analyses. Graphpad PRISM (version 8.0.2) was used to draw the error bar plots and the correlation map.

Results

Sociodemographic characteristics of managers

Our sample included 643 male and 326 female managers (Table 1). A higher proportion (82.8%) of subjects were married. Among participants overall, 75.7% had the education level of undergraduate or above. More than 60% of the participants had primary title, while 3.8% of them had the senior title.

Table 1
Social demography of 969 managers

Variable	Category	Frequency	Percent (%)
Economic level of the district	High	375	38.7
	Low	594	61.3
Work unit	County level	340	35.1
	Enterprises or institutions	105	10.8
	Village level	524	54.1
Gender	Male	643	66.4
	Female	326	33.6
Age (y)	< 35	352	36.3
	36–45	348	35.9
	> 45	269	27.8
Marriage status	Unmarried	155	16.0
	Married	802	82.8
	Divorced or widowed	12	1.2
Education level	Junior college or below	235	24.3
	Undergraduate or above	734	75.7
Title	Primary	625	64.5
	Intermediate	177	18.3
	Senior	37	3.8
	Not available	130	13.4

Table 2. The mediating role of psychological capital between job burnout and anxiety symptoms among managers

Anxiety symptoms	Model 1	Model 2
Job burnout [#]	0.18 (0.01) ^{**}	0.18 (0.01) ^{**}
PsyCap [#]	-0.04 (0.18)	-0.15 (0.19)
R^2	37%	38%
Z value for the Sobel test	0.24	0.75
P value for the Sobel test	0.81	0.45
Note: # The regression coefficient (standard error) were showed in each model; * $P < 0.05$; ** $P < 0.01$; all the variables in the models were centralized; PsyCap: psychological capital; model 1 was adjusted by the work unit and economic level of the district; model 2 was adjusted by gender, age, marriage, education level, title, work unit, and economic level.		

Table 3. The mediating role of psychological capital between job burnout and depression symptoms among managers

Depression symptoms	Model 1	Model 2
Job burnout [#]	0.20 (0.01) ^{**}	0.19 (0.01) ^{**}
PsyCap [#]	-0.33 (0.19)	-0.48 (0.21) [*]
R^2	39%	41%
Z value for the Sobel test	1.75	2.28
P value for the Sobel test	0.08	0.02
Note: # The regression coefficient (standard error) were showed in each model; * $P < 0.05$; ** $P < 0.01$; all the variables in the models were centralized; PsyCap: psychological capital; model 1 was adjusted by the work unit and economic level of the district; model 2 was adjusted by gender, age, marriage, education level, title, work unit, and economic level.		

The scores of job burnout, depression, and anxiety symptoms are high among managers

A total of 129 participants (13.3%) had job burnout with an average score of (36.6±14.9; Fig. 1-A). Nearly 19% of the participants developed the depression symptom, while 14% had the anxiety symptom. Participants living in the district of low economic level had a higher score of job burnout, anxiety, and depression symptoms than those living in the district of high economic level ($Z = -4.406, -5.28, -4.369$, respectively; $P < 0.001$; Fig. 1-B). Participants ≤ 45 y had a higher score of job burnout, and they also had a higher score of depression ($\chi^2 = 25.37, P < 0.01$) and anxiety symptoms ($\chi^2 = 27.71, P < 0.01$; Fig. 1-D) compared to other participants. The score of the anxiety symptoms (the median value = 3; Fig. 1-G) was lower among the participants with the educational level of junior college or below compared with those

with the educational level of undergraduate or above (the median value = 5; $\chi^2 = -2.62$, $P = 0.01$). There was no difference in the score between participants with different gender, marriage status, and job title (Fig. 1-C, E, and F).

Job burnout is related to the scores of depressive, anxiety symptoms, and psychological capital scores

Job burnout was negatively associated with the depression ($r = 0.603$, $P < 0.001$; Fig. 2) and anxiety symptoms scores ($r = 0.60$, $P < 0.001$). Furthermore, the score of job burnout was positively associated with the psychological capital score ($r = -0.46$, $P < 0.001$). The score of depression symptoms was highly related to the score of anxiety symptoms ($r = 0.75$, $P < 0.001$). The score of depression or anxiety symptoms was slightly associated with the score of the psychological capital score ($r = -0.29$ and -0.25 , respectively; $P < 0.001$).

Psychological capital does not play any mediation role between job burnout and anxiety symptoms

The score of job burnout was associated with the score of anxiety symptoms in model 1 and model 2 ($\beta = 0.18$, $P < 0.01$; Table 2). However, the result of the Sobel test showed that the physical capital did not play a mediation role in the association between job burnout and anxiety symptoms ($Z = 0.24$, $P = 0.81$ in model 1, and $Z = 0.75$, $P = 0.45$ in model 2).

Psychological capital plays a partial mediating role between job burnout and depression symptoms

The score of job burnout was associated with the score of depression symptoms in model 1 and model 2 ($P < 0.01$; Table 3). The higher psychological capital score decreased the risk of depression symptoms in model 2 ($\beta = -0.48$, $P < 0.01$). The result of the Sobel test showed a partial mediating role of the psychological capital between the association between job burnout and depression symptoms ($Z = 2.28$, $P = 0.02$ in model 2).

Discussion

We found that the prevalence of job burnout, depression, and anxiety symptoms were high among managers. The managers in the district of high economic level and those ≤ 45 y had a higher score of job burnout, depression, and anxiety symptoms. The subjects with the educational level of junior college or below had a higher score of anxiety symptoms. We found a positive association between job burnout and both depression and anxiety symptoms, and a negative association between psychological capital and both depression and anxiety symptoms. Most importantly, we found a partial mediation role of psychological capital in the association between job burnout and depression symptoms among managers. These results provide us an opportunity to elucidate the complicated mechanism between job burnout and depression symptoms.

Our study found that the prevalence of depression and anxiety symptoms was high among managers, consistent with the previous report (19). The prevalence of depression symptoms in our study (18.5%) was almost the same as that in the Japanese public servants (18.8%), and the prevalence of anxiety symptoms in managers (14.3%) was somewhat lower than that of physicians in China (25.7%). Our findings showed that job burnout might explain the reason for the prevalence of depression and anxiety symptoms in managers in China. Hence, the government should develop a program for the delivery of mental health services for managers.

Our findings indicated that managers living in the district of low economic level had a higher score of job burnout, anxiety, and depression symptoms than other participants. The association between the economic level and depression was well established in the previous studies(20), with evidence that savings and homeownership might shape depression among low-income adults. The job burnout, depression, and anxiety symptoms might be higher among managers in the district of the low-income level due to factors such as income, unemployment, and financial distress. The rapid changes due to urbanization in the district of low-income level might also contribute to the increasing prevalence of stress-related diseases among managers. Additionally, the high prevalence of depression among managers in the district of low-income level could be explained by the psychological perceptions of environmental demands(21).

We found that the score of job burnout, depression, and anxiety differed in the managers of different ages, and younger workers always had the higher score of job burnout. Our findings concurred with the prior population-based study(22), which has demonstrated increased risks for depression among those with higher age. This might be explained by the fact that young managers do not adapt well to the new working environment, leading to the exhaustion of emotional resources and mental fatigue. Meanwhile, due to the lack of effective communication skills with the served subjects, new workers always encountered difficulties in dealing with interpersonal relationships(23). Another explanation was that new managers had high educational levels and high expectations for job prospects, however, they lacked practical work experiences. Therefore, they were more likely to feel frustrated, resulting in mental health problems such as anxiety and depression. In the contrast, old managers had more mature psychological resources, more working experiences, and more ways to deal with problems. Therefore, the prevalence of job burnout, anxiety, and depression symptoms were lower among the old managers compared to the younger ones.

We found that the score of anxiety symptoms was lower among the participants with a lower educational level compared with those with a higher educational level. People with a low educational level often adopted negative or temporary coping skills in the face of stress, and sometimes they chose to give up. However, the educational level of managers was highly correlated with age in our study, i.e., the managers with the older age had the higher educational level. Hence, we can conclude that managers with a higher educational level and younger ages had higher risks for anxiety symptoms.

Notably, we found that the psychological capital played a partial mediating role in depressive symptoms caused by job burnout, consistent with the previous report(24). The underlying mechanism was that the increase of job burnout led to the decrease of the stock of psychological capital, resulting in the lack of self-confidence, pessimism, and depression among managers. On the other hand, a previous study in China(25) demonstrated that the increase of psychological capital could help professional people deal with depressive symptoms more actively and more effectively. We should enhance the positive psychological resources of managers, and reduce the adverse effects due to job burnout and depression. Additionally, the mediating role of psychological capital is not significant in the association between job burnout and anxiety symptoms. The differences and underlying mechanisms should be well studied in the future.

Our study did have some advantages and disadvantages. We firstly demonstrated a partial mediating role of psychological capital in the association between job burnout and depression symptoms among managers in China. There were inevitably some disadvantages. Firstly, the cross-sectional design could not be beneficial to clarifying the causal relationship between job burnout, psychological capital, and mental symptoms. Secondly, the studying sample came from a population who underwent the routine psychological examination in a hospital, which might cause a selection bias. However, the studying hospital was the largest psychological specialized hospital. According to the demand of the local governments, almost all the managers in the studying area were included in the present study. That would be helpful to reduce the selection bias.

Conclusively, our findings highlight the role of psychological capital in the reduction of depression symptoms caused by job burnout. Intervention programs such as mindful self-compassion are beneficial for managers and should be provided in an effort to prevent mental problems among managers in China. Especially, this intervention would be cost-effective in reducing depression symptoms of managers. Future longitudinal studies may shed light on the mediating role of psychological capital between job stress, job burnout, and other mental problems.

Abbreviations

OR: Odds ratio; SD: Standard deviation

Declarations

- **Ethics approval and consent to participate**

This study was carried out according to the Declaration of Helsinki and was approved by the Ethics Committee of Affiliated Mental Health Center & Hangzhou Seventh People's Hospital, Zhejiang University School of Medicine (Code No. 10; date of approval: August 8, 2018). All subjects provided informed consent and agreed to participate in this study.

- **Consent for publication**

Not applicable.

- **Availability of data and materials**

The datasets generated and analysed during the current study are not publicly available due to the demand of researchers but are available from the corresponding author on reasonable request.

- **Competing interests**

The corresponding author, on behalf of all coauthors, has declared no conflict of interest.

- **Funding**

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- **Authors' contributions**

Conceptualization: J.L. and Z.J.

Data curation: Z.J. and M.J.

Formal analysis: Z.J. and M.J.

Funding acquisition: Z.J. and G.L.

Investigation: J.C., J.C., L.F., H.X., Y.L., H.X. and S.L.

Methodology: Z.J. and G.L.

Project administration: Z.N.

Resources: H.J. and Z.N.

Software: Z.J.

Supervision: J.L.

Validation: M.J.

Visualization: Z.J.

Roles/Writing - original draft: Z.J.

Writing - review & editing: J.L.

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References

1. Cavanaugh MA, Boswell WR, Roehling MV, Boudreau JW. An empirical examination of self-reported work stress among U.S. managers. *The Journal of applied psychology*. 2000;85(1):65–74.

2. Żołnierczyk-Zreda D, Sanderson M, Bedyńska S. Mindfulness-based stress reduction for managers: a randomized controlled study. *Occupational medicine (Oxford, England)*. 2016;66(8):630–5.
3. Roh KR, Kim EB. An Analysis of Male and Female Managers' Responses to Work Stress: Focused on the Case of South Korea. *International journal of environmental research and public health*. 2021;18(21).
4. Skakon J, Kristensen TS, Christensen KB, Lund T, Labriola M. Do managers experience more stress than employees? Results from the Intervention Project on Absence and Well-being (IPAW) study among Danish managers and their employees. *Work (Reading, Mass)*. 2011;38(2):103–9.
5. Bech P, Andersen MB, Bech-Andersen G, Tønnesen S, Agnarsdottir E, Borg V. Work-related stressors, depression and quality of life in Danish managers. *European psychiatry: the journal of the Association of European Psychiatrists*. 2005;20 Suppl 3:S318-25.
6. Gidron Y, Giangreco A, Vanuxem C, Leboucher O. The relationship between stress, hemispheric preference and decision making among managers. *Anxiety, stress, and coping*. 2012;25(2):219–28.
7. Schuch FB, Stubbs B. The Role of Exercise in Preventing and Treating Depression. *Current sports medicine reports*. 2019;18(8):299–304.
8. Da S, He Y, Zhang X. Effectiveness of Psychological Capital Intervention and Its Influence on Work-Related Attitudes: Daily Online Self-Learning Method and Randomized Controlled Trial Design. 2020;17(23).
9. Youssef-Morgan CM, Luthans F. Psychological Capital and Well-being. *Stress and health: journal of the International Society for the Investigation of Stress*. 2015;31(3):180–8.
10. Wu S, Xu Z, Zhang Y, Liu X. Relationship among psychological capital, coping style and anxiety of Chinese college students. *Rivista di psichiatria*. 2019;54(6):264–8.
11. Liu L, Chang Y, Fu J, Wang J, Wang L. The mediating role of psychological capital on the association between occupational stress and depressive symptoms among Chinese physicians: a cross-sectional study. *BMC public health*. 2012;12:219.
12. Freire C, Ferradás MDM. Psychological Capital and Burnout in Teachers: The Mediating Role of Flourishing. 2020;17(22).
13. Xu X, Zhou L, Asante-Antwi H, Bofo-Arthur A, Mustafa T. Reconstructing family doctors' psychological well-being and motivation for effective performance in China: the intervening role of psychological capital. *BMC family practice*. 2020;21(1):137.
14. Liu M, Jiao R, Nian Q. Training method and system for stress management and mental health care of managers based on deep learning. *Mathematical biosciences and engineering: MBE*. 2022;19(1):371–93.
15. Xu W, Pan Z, Li Z, Lu S, Zhang L. Job Burnout Among Primary Healthcare Workers in Rural China: A Multilevel Analysis. *International journal of environmental research and public health*. 2020;17(3).
16. Toussaint A, Hüsing P, Gumz A, Wingenfeld K, Härter M, Schramm E, et al. Sensitivity to change and minimal clinically important difference of the 7-item Generalized Anxiety Disorder Questionnaire (GAD-7). *Journal of affective disorders*. 2020;265:395–401.

17. Spitzer RL, Kroenke K, Williams JB. Validation and utility of a self-report version of PRIME-MD: the PHQ primary care study. Primary Care Evaluation of Mental Disorders. Patient Health Questionnaire. *Jama*. 1999;282(18):1737–44.
18. Wang W, Bian Q, Zhao Y, Li X, Wang W, Du J, et al. Reliability and validity of the Chinese version of the Patient Health Questionnaire (PHQ-9) in the general population. *General hospital psychiatry*. 2014;36(5):539–44.
19. Rodríguez-Saldaña J, Morley JE, Reynoso MT, Medina CA, Salazar P, Cruz E, et al. Diabetes mellitus in a subgroup of older Mexicans: prevalence, association with cardiovascular risk factors, functional and cognitive impairment, and mortality. *Journal of the American Geriatrics Society*. 2002;50(1):111–6.
20. Ettman CK, Cohen GH, Vivier PM, Galea S. Savings, home ownership, and depression in low-income US adults. 2021;56(7):1211–9.
21. Cristóbal-Narváez P, Haro JM, Koyanagi A. Perceived stress and depression in 45 low- and middle-income countries. *Journal of affective disorders*. 2020;274:799–805.
22. Maslach C, Schaufeli WB, Leiter MP. Job burnout. *Annual review of psychology*. 2001;52:397–422.
23. Song Y, McCreary LL. New graduate nurses' self-assessed competencies: An integrative review. *Nurse education in practice*. 2020;45:102801.
24. Sui G, Liu G, Jia L, Wang L, Yang G. Associations of workplace violence and psychological capital with depressive symptoms and burn-out among doctors in Liaoning, China: a cross-sectional study. *BMJ open*. 2019;9(5):e024186.
25. Kan D, Yu X. Occupational Stress, Work-Family Conflict and Depressive Symptoms among Chinese Bank Employees: The Role of Psychological Capital. *International journal of environmental research and public health*. 2016;13(1):134.

Figures

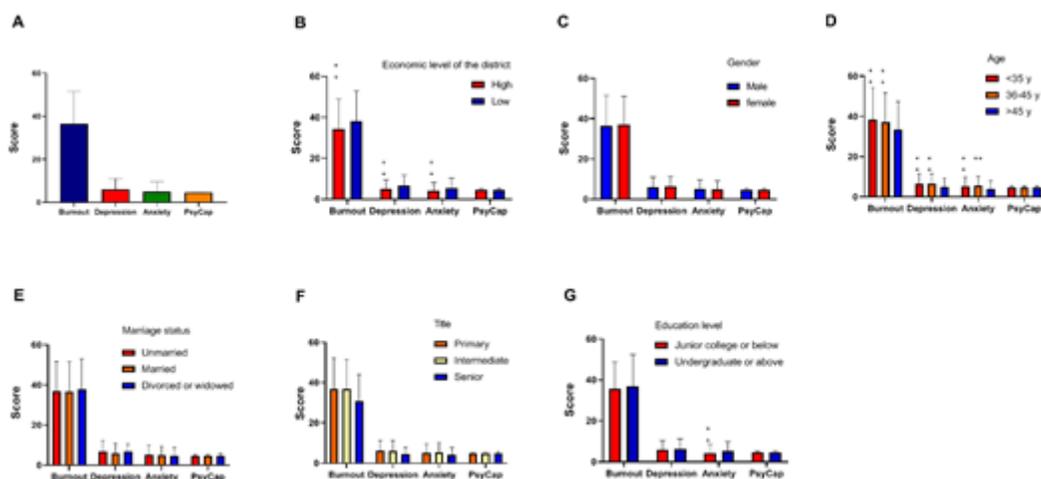


Figure 1

Prevalence of job burnout, depression symptoms,

anxiety symptoms, and psychological capital among managers

A: prevalence of job burnout, depression symptoms, anxiety symptoms, and psychological capital among all the managers;

B: prevalence of job burnout, depression symptoms, anxiety symptoms, and psychological capital between individuals from districts of high and low economic levels;

C: prevalence of job burnout, depression symptoms, anxiety symptoms, and psychological capital between individuals of different genders;

D: prevalence of job burnout, depression symptoms, anxiety symptoms, and psychological capital between individuals of different ages;

E: prevalence of job burnout, depression symptoms, anxiety symptoms, and psychological capital between individuals of different marriage status;

F: prevalence of job burnout, depression symptoms, anxiety symptoms, and psychological capital between individuals of different titles;

G: prevalence of job burnout, depression symptoms, anxiety symptoms, and psychological capital between individuals of different education levels;

PsyCap: psychological capital.

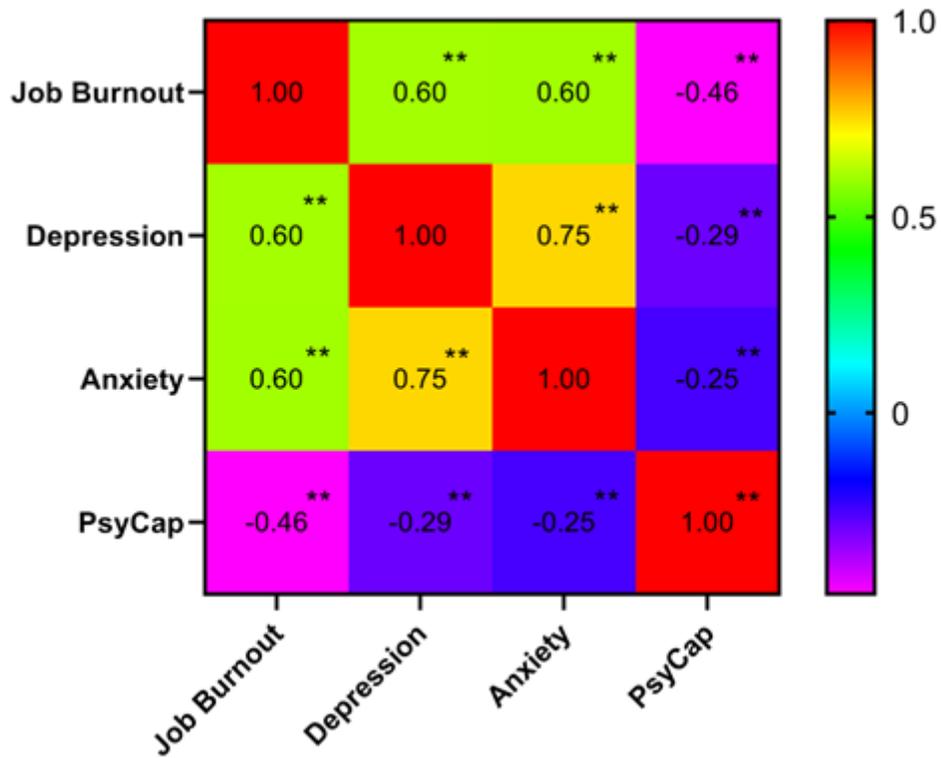


Figure 2

Correlation coefficients between job burnout, depression symptoms, anxiety symptoms, and psychological capital

PsyCap: psychological capital.