

Oilfield workers' job satisfaction: A study of social support and work stress

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Received date: April 08, 2024
Accepted date: June 17, 2024

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Citation: Zhang J, Ye H. Oilfield workers' job satisfaction: A study of social support and work stress. Curr Res Psychiatry. 2024;4(1):1-7.

Abstract

This study aimed to investigate and identify the correlates of job satisfaction of large-scale industry employees. We randomly selected 299 employees from an oilfield in the East of China and administered a questionnaire survey. We found that when other variables controlled for, the conflict with leaders and the discontent with management was negatively related to job satisfaction, and conflict with colleagues was positively associated with job satisfaction. On the other hand, the workload was not an important influencing factor. Also, when other variables are controlled for, the subjective social support and utilization support can increase job satisfaction, but the effect of objective social support was not a significant correlation. Findings in the study have important implications in increasing employees' job satisfaction and improving their life quality.

Keywords: Job satisfaction, Work stress, Social support

Introduction

At the present time, crisis is the inseparable reality as the internal nature of organizations [1] and more scholars engage in caring employees in organization. Petroleum corporations, an important national energy enterprise in China, should address major concerns. We find that the oilfield workers' mental stress is more serious, and the job satisfaction is lower than the general people, which may be mainly due to the tough working environment. For example, the shiftwork institution would destroy the normal biologic rhythm and induce mental and physiological disorders. Meanwhile, the oil exploration zone located in remote places mostly with traffic inconvenience leads to the monotonous lifestyle and dangerous operation mode [2]. It is suggested that management should change their attention from the direct economic rewards to the workers' mental health and job satisfaction, and industry should focus on not only how to improve productivity, but also job satisfaction. There is a basic assumption that higher job satisfaction will lead to higher job performance [3]. Hence, empirical research on oilfield workers' job satisfaction is indeed essential.

Job satisfaction and its influencing factors

The conception of job satisfaction was proposed by Taylor in 1992 and then developed by Hoppck who suggested that job satisfaction means the staves' perception of working environment, physiological and mental satisfaction [4]. Job satisfaction has attracted the attention of scholars for several decades and it has been researched more than other variables in organizations [5]. Job satisfaction and its influential factors have been thoroughly addressed in literature. Scholars divided the factors into two categories [6]. The first is objective variables which include demographic variables, occupational variables and job-related variables. However, the results are mixed and fragmented. For example, even though age has been confirmed to be positively related with satisfaction, someone found that the job satisfaction of the one older than 55 years would decrease [6]. The relationship between other objective variables such as gender, education level, working experience, working hours and job satisfaction have the same trend [7-9]. The second part is subjective variables such as affect, self-

esteem, stress, support and so on. Among these variables, working stress and social support are important influential factors. They have been studied separately with job satisfaction. When being researched simultaneously, stress always acts as the independent variable but the social support as buffering variable [10,11]. Even though the former researchers have studied not only the separate effects of stress and support on job satisfaction but the buffering effect of support in the pressure model, there is little literature about the specific effects of these two factors as equivalent variables. The aim of this study is to contribute to the knowledge that currently exists on job satisfaction in petroleum corporations. Specially, it aims at simply analyzing the effect of different categories of working stress and social support on job satisfaction. Meanwhile, we also want to know the difference between these effects.

Work stress and social support

As to the conception of work stress, there are different definitions at different levels [12]. According to the broad sense, work stress includes stress in job-related situation and outside workplace. Comparatively, in a narrow sense, working stress only includes the first one. This study aims to explore the stress from workplace which includes job itself (e.g. workload, time pressures, and lack of freedom); the role played in the organizations such as the conflict between different individuals, different roles or different tasks; career development (e.g. working safety, retention, promotion and self-realization); organization structure such as culture, value, leadership style, etc. Studies show the effect of different pressures on job satisfaction was significantly different [13]. Challenging stressors mean the essential demand leading to success such as the workload, urgency, responsibilities, competition level, and the expectation from friends, family, and own myself. These stressors were positively related to job satisfaction. Another is hindrance stressors, which mean that when somebody wants to be successful, the difficulties he or she must overcome. These stressors include pressures from organization, the uncertainty of company, corporate culture, bureaucracy, interpersonal stress, and interpersonal conflicts, which negatively affect job satisfaction. The stressors in this study include workload, conflicts with leaders, conflicts with colleagues, company management. The workload belongs to challenging stressors, and the other three dimensions belong to hindrance stressors. Specially, the indicators of the conflicts with colleague not only include the competition, but the interpersonal contradiction. Therefore, the first two assumptions in our study are as follows:

H1: the more workload the employees perceive, the higher job satisfaction they will have.

H2: the more conflicts with leaders, the more dissatisfaction they feel about company management and the more conflicts with colleague, the job satisfaction of employees will decrease more rapidly.

Except for the work stressors, social support is another important factor when concerned the job satisfaction. Studies have found that the support from family and friends can predict the trend of job satisfaction well [14]. Social support refers to a network of interpersonal communication, which forms from the interaction of individual involvement in the group and can enable individuals to obtain spiritual and material help to relieve the negative effect of stress on health [10]. Scholars divide social support into two parts: objective social support and subjective social support. The relationship between these two parts and other dependent variables

is complicated. Someone found that these two parts can affect job satisfaction significantly [15]. Others have found that compared to objective social support, the effect of subjective social support was greater [16]. Because perceived social support is mental reality which influences individuals' behavior and development more strongly. Also, some scholars suggest that subjective social support act as mediation between objective social support and job satisfaction [17]. Thus, the other two hypotheses in our study are as follows:

H3: the more social support the staff perceive, the higher job satisfaction they will feel.

H4: in the three dimensions of social support, the effect of subjective social support on job satisfaction is greater than the effect of objective social support on job satisfaction.

In summary, this study aims to explore the two important influential factors of oilfield workers' job satisfaction-work stressors and social support. We want to understand the different effects of the specific variables on job satisfaction and provide better assistance and intervention to the employees in petroleum enterprises.

Method

Subjects

By using the stratified –sampling from the three branches of the S oilfield, and oilfield located in the East of China, we selected the general staff and first-line managers for our study. We distributed 450 questionnaires to the three companies, but the actual recovery was 421 consisting of 381 valid questionnaires. In this study, we excluded the ones who didn't answer the questionnaires entirely, with the remaining 299 questionnaires to be analyzed.

The data collection was administered by three masters majoring in sociology and subject to professional training. At first, we selected three branches through random sampling. Second, according to the number of staff in each branch, we sent out 450 questionnaires in total by email.

Measure

Socio-demographic data: This part included demographic variables and job-related variables. Firstly, the demographic factors included age, gender ("male" recorded as 1 and female recorded as 2), marital status ("unmarried" recorded as 1, "married" recorded as 2 and "divorce" recorded as 3), whether having children ("yes" recorded as 1 and "no" recorded as 2), educational background ("high school, college and below" recorded as 1, "tertiary" recorded as 2, "undergraduate" recorded as 3 and "graduate and above" recorded as 4). The job-related factors included income, job type ("captain/manager" recorded as 1, "production" recorded as 2, "security management" recorded as 3, "technical work" recorded as 4 and "support services" recorded as 5), work experience ("less than 1 year" recorded as 1, "1-3 years" recorded as 2, "3-10 years" recorded as 3 and "above 10 years" recorded as 4), average weekly working hours ("20-30 hours" recorded as 1, "30-40 hours" recorded as 2, "40-50 hours" recorded as 3, "50-60 hours" recorded as 4, "60-70 hours" recorded as 5 and "more than 70 hours" recorded as 6). The description of samples is shown in (Tables 1 and 2).

Work stress scale: Work stress was measured by the 28-item scale. The Scale includes five dimensions: workload (items 1-7), conflicts with leaders (items 8-14), company management (items 15-21), conflicts with colleagues (items 22-28) and stress response (items

Table 1. Sample Description – Categorical Variable.

Variables	Frequency	Percentage
Job satisfaction		
Very dissatisfaction (=1)*	34	11.37
Relative dissatisfaction (=2)	29	9.70
Hard to say (=3)	32	10.70
Basic satisfaction (=4)	125	41.81
Satisfaction (=5)	62	20.74
Very satisfaction (=6)	17	5.69
gender		
Male (=1)*	85	28.43
Female (=2)	214	71.57
Marital status		
Unmarried (=1)*	19	6.35
Married (=2)	272	90.97
Divorce (=3)	8	2.68
Whether having children or not		
Yes (=1)*	262	87.63
No (=2)	37	12.37
Job type		
Captain/manager (=1)*	18	6.02
Production (=2)	78	26.09
Security management (=3)	25	8.36
Technical work (=4)	90	30.10
Support services (=5)	88	29.43
Educational background		
High school, college and below (=1)*	188	62.88
Tertiary (=2)	70	23.41
Undergraduate (=3)	39	13.04
Graduate and above (=4)	2	0.67
Work experience		
Less than 1 year (=1)*	6	1.67
1-3 years (=2)	10	3.34
3-10 years (=3)	92	30.77
Above 10 years (=4)	192	64.21
Average weekly working time		
20-30 hours (=1)*	9	3.01
30-40 hours (=2)	67	22.41
40-50 hours (=3)	158	52.84
50-60 hours (=4)	29	9.70
60-70 hours (=5)	7	2.34
70 hours above (=6)	29	9.70

Table 2. Sample Description – Continuous Variable.

	Mean	S.D
Job Satisfaction	3.68	1.362
Workload	2.44	0.640
Conflict with leaders	2.23	0.735
Company management	2.60	0.801
Conflict with colleagues	2.13	0.699
Objective social support	3.48	1.054
Subjective social support	2.93	0.567
Utilization of social support	2.56	0.590

29-39). In our study, we just want to know the first four dimensions. There are four choices for each item ranging from 1 (very strongly disagree) to 4 (very strongly agree). Higher scores indicate stronger work stress [18]. According to our study, we selected the former four dimensions, and the internal consistency reliability is 0.941.

Social support rating scale: The scale includes three dimensions: objective social support (item 2, 6, 7), subjective social support (item 1, 3, 4, 5) and utilization of social support (item 8, 9, 10) [19]. According to the general criterion, the total score which is lower than 20 means the lower social support one has. The total score of 20-30 means the one has the general social support, and the total score of 30-40 means satisfying with social support. The higher scores mean the stronger social support and the internal consistency reliability is 0.739.

Job satisfaction: There is one item “what’s your satisfaction about your work: 1 very dissatisfied, 2 relative dissatisfied, 3 hard to say, 4 basic satisfied, 5 satisfied, 6 very satisfied”.

Ordinal variable logit model

For the dependent variable, we used ordered logit models (OLM).

Results

As we can see from the (Table 1), 41.81% of employees perceive basic satisfaction, 20.74% of employees think satisfied and 5.69% of employees perceive very satisfied. Using independent samples T-test of work stressors and social support partly with their own average scores, the workload of staff is at middle level ($t=-1.623$, $p>0.05$), and the level of conflict with leaders and colleague are at a low

level ($t=-6.329$; $t=-9.081$, $p<0.001$), but the stress from company management is at high level ($t=2.095$, $p<0.05$). Objective social support the oilfield workers own is at low level ($t=-5.721$, $p<0.001$), and subjective support is at high level ($t=6.358$, $p<0.001$), but the utilization of social support is at middle level ($t=1.826$, $p>0.05$).

In this survey, the average score of job satisfaction is 3.68, which means the level of job satisfaction in oilfield is medium. The scores of work stress and social support are also at the medium level.

In order to further analyze the regression of job satisfaction on work stress and social support, we should analyze the correlation between these variables. We found that except for the objective social support, the other independent variables were all correlated with job satisfaction significantly (Table 4).

According to the type of dependent variable, we chose ordinal regression. Firstly, in model 1, we include demographic variables and job-related variables but only found the effect of average weekly working time on job satisfaction was significant. Therefore, in model 2, we took these as controlled variables and added work stress and social support. The effect of workload on job satisfaction wasn't significant, but conflict with leaders and company management negatively affected the job satisfaction significantly ($p<0.01$, $p<0.001$). When the stress from conflict with leader added 1 unit, the odds of job satisfaction would decrease 51.57% ($1-e^{-0.725}$). When the stress from company management added 1 unit, the odds of job satisfaction would decrease 66.03% ($1-e^{-1.0798}$). We were surprised to find that the positive effect of conflict with colleague on job satisfaction ($p<0.05$), that is, the stress from conflict with colleague added 1 unit; the odds of job satisfaction would increase 81.63% ($e^{0.5968}-1$).

Table 3. Simple Correlation Coefficients between Dependent Variable and Independent Variables.

	1	2	3	4	5	6	7	8
1. Satisfaction	1.000							
2. Workload	-0.258***	1.000						
3. Conflict with leaders	-0.449***	0.516***	1.000					
4. Company management	-0.460***	0.459	0.684***	1.000				
5. Conflict with colleagues	-0.248***	0.312***	0.503***	0.635***	1.000			
6. Objective social support	0.025	-0.016	-0.020	0.036	-0.066	1.000		
7. Subjective social support	0.371***	-0.119*	-0.201***	-0.157**	-0.251***	0.275***	1.000	
8. Utilization of social support	0.218***	-0.006	-0.065	-0.030	-0.140*	0.166**	0.254***	1.000

Note: confidence is short for confidence in Chinese central government; $P<0.05$, ** $p<0.01$, *** $p<0.001$, two tailed tests.

Table 4. Regression of Job Satisfaction on Work Stress and Social Support.

Variables	Coef and Std. Err	
	Model 1	Model 2
Controlled variables		
Age	-0.0270 (0.0248)	-0.5000 (0.0262)
Gender (Male=1)	-0.0540 (0.2709)	-0.1081 (0.2854)
Educational background (high school, college and below =1)		
<i>Tertiary (=2)</i>	0.3408 (0.2799)	0.4539 (0.2903)
<i>Undergraduate (=3)</i>	-0.3277 (0.3829)	-0.2472 (0.4072)
<i>Graduate and above (=4)</i>	1.1016 (1.7235)	0.1757 (1.7721)
<i>Marital Status (unmarried =1)</i>		
<i>Married (=2)</i>	0.0516 (0.5815)	0.1919 (0.6156)
<i>Divorce (=3)</i>	-0.5373 (0.9511)	-0.5590 (0.9794)
Having children or not (yes=1)	-0.5430 (0.4672)	-0.8506 (0.4877)
Job type (captain/managers=1)		
<i>Production (=2)</i>	-0.5255 (0.4948)	-0.9402 (0.5368)
<i>Security management (=3)</i>	-0.6818 (0.5790)	-0.8853 (0.6087)
<i>Technical work (=4)</i>	-0.7036 (0.4986)	-0.7675 (0.5281)
<i>Support services (=5)</i>	-0.8379 (0.4879)	-1.2008* (0.5289)
<i>Work experience (less than 1 year =1)</i>		
<i>1-3 years (=2)</i>	1.9786 (1.0167)	1.0406 (1.0253)
<i>3-10 years (=3)</i>	1.3073 (0.8942)	0.5777 (0.9193)
<i>10 years and above (=4)</i>	1.5128 (0.9139)	0.6533 (0.9396)
Income	0.0007 (0.0004)	0.0008 (0.0004)
Average weekly working time (20-30 hours =1)		
<i>30-40 hours (=2)</i>	-0.0229 (0.6526)	-0.6527 (0.6656)
<i>40-50 hours (=3)</i>	-0.0323 (0.6476)	-0.5067 (0.6506)
<i>50-60 hours (=4)</i>	-0.3307 (0.7009)	-0.6744 (0.7187)
<i>60-70 hours (=5)</i>	-1.4891 (1.0738)	-1.3539 (1.0698)
<i>70 hours and above (=6)</i>	-2.5231** (0.7613)	-1.9260* (0.7678)
Independent variables		
workload		0.0527 (0.2170)
Conflict with leaders		-0.7250** (0.2396)
Company management		-1.0798*** (0.2518)
Conflict with colleague		0.5968* (0.2328)
Objective social support		-0.1169 (0.1136)
Subjective social support		1.2498*** (0.2333)
Utilization of social support		0.5380** (0.2031)
Constant (very dissatisfaction=1)		
Intercept 2 (relative dissatisfaction)	-1.8095 (1.4046)	-2.8279(1.7102)
Intercept 3 (hard to say)	-0.8245 (1.4013)	-1.6200(1.7047)
Intercept 4 (basic satisfaction)	-0.1470 (1.4026)	-0.7628(1.7073)
Intercept 5 (satisfaction)	1.8518 (1.4054)	1.8000(1.7050)
Intercept 6 (very satisfaction)	3.7141 (1.4170)	3.9944(1.7208)
Log likelihood	-433.13	-380.42

Note: (1) The dependent variable is job satisfaction, reference group is very dissatisfaction. (2) Standard error in parentheses.

As to the social support, we found that apart from the objective social support the other two dimensions affected significantly job satisfaction. When subjective social support added 1 unit, the odds of job satisfaction would increase 248.96% ($e^{1.2498}-1$). When the utilization of social support added 1 unit, the odds of job satisfaction would increase 71.26% ($e^{0.5380}-1$).

Discussion

The results of the independent sample T-test indicated that the level of job satisfaction in sample is relatively high (only 21.07% employees dissatisfied with job). When analyzing the objective influential factors, we just find the effect of working hours was significant. That is, when controlled by other variables, the longer the staff works, the lower their satisfaction with job, in accordance with the former research [20]. As to the work stressors, the workload of employees was at a medium level; the conflicts with leaders and colleagues were both relatively low; the dissatisfaction with company management was a little higher. The results revealed that in the different development stages, the work stressors were different. In this study, we selected the person whose age was between 19-54 years which stayed in middle adulthood according to Erikson [21]. In this stage, the people's socialization was relatively high [22] and the interpersonal relationships reached a state of relative harmony. Meanwhile, according to the theory of Erikson, the concern of a person in this stage is reproductive or stagnation and the focus is changed to the work-family. Also, they had abstract logical thinking level which lead to their own critique model and think more about authority or institution. Thus, we can find that these people were more dissatisfaction with workload and company management but had more mature solution to the conflicts in relationships. Then concerning the social support, we found that the score of objective social support was low; subjective social support was high; the utilization of social support was at a medium level. The results are consistent with the former research [23]. The objective social support was measured by the number of support sources. Relatively speaking, the person in middle adulthood is introverted and doesn't express emotions to others. It is self-internal adjustment that they use to support self. Thus, the choices of support sources are relatively less. Subjective social support indicates the affect experience and satisfaction one perceived such as respect, support and comprehension [23]. In this study, we measured it by the number of close friends and relationship with neighborhood and colleagues. The person in middle adulthood has formed their own relationship net. Specially, the oilfield workers' living area is concentrated and the interaction is stable which leads to the high level of subjective social support. At last, the measurement of the utilization of social support is through the evaluation of support from family and the ones' own eagerness for support. Because the subjects' focuses on this stage are family and work, one will have high evaluation of support from family. Some results showed that with the age increasing, the internal harmony will increase [24], the motivation to seek for support will decrease, one will be more confident [25].

According to the results of regression, we find that the workload has no significant effect on job satisfaction which is due to the working experience of the sample. In this study, 64.21% employees' working experience was above 10 years and some researchers found that the relationship between job seniority and satisfaction is reversed U-shape curve and when their seniority is above 6 years the job satisfaction will be positively related with seniority [26]. Thus, the veteran employees are familiar with the task and then the

workload will not be the main reason to influence job satisfaction. We also find that the conflicts with leaders and dissatisfaction with company management affect negatively job satisfaction which consists with the former research [14]. The effect of conflicts with colleagues on job satisfaction was positive, which is different from others. When analyzing the score of this dimension solely, we found that the score was relatively low. As the former research about the relationship between stress and work performance or motivation indicates that there is inverted U-shaped relationship [27]. That is, the low or high stress decrease performance or motivation but only the suitable work stress can lead to the best performance. As to social support, except the objective social support, the other two dimensions affect job satisfaction significantly. To the person in middle adulthood, psychological reality is more important than objective reality. Specifically, since they solve problems more dependent on themselves, their actual demand of objective support is not very great. However, subjective social support is always an important factor in the development stage. Finally, we can find that the positive effect size is greater than the negative, which means that the person has positive trends [28].

In this study, the conflicts with leaders and the conflicts with colleagues are both low and belong to the hindrance stressors but have different effects on job satisfaction. There are several reasons as follows: stress has two dimensions-quantity and quality. Firstly, in terms of the quantity, the inverted U-shaped relationship exists universally. The score of conflicts with leaders is higher than the conflicts with colleagues. Thus, we can say that the conflict with colleagues is in the rising stage of the curve but the conflict with leaders is in the downward phase. In terms of quality, conflict with colleagues includes competition and not only belongs to the hindrance stressors. Therefore, in future studies, we should partly consider the specific effect of quantity and quality to study deeply.

In an attempt to understand the job satisfaction of oilfield workers and its influential factors-work stressors and social support, this study examines the specific affect path of these variables. The results reveal as follows:

(1) When controlled by other variables, the conflict with leaders and the dissatisfaction with company management decreased the job satisfaction of staff. However, to the older workers during adulthood, conflicts with colleagues affected job satisfaction positively. Finally, we found the workload had no effect on job satisfaction.

(2) The more social support the oilfield workers perceive leads to higher job satisfaction. Subjective social support and utilization of social support increased job satisfaction significantly but the objective had no significant effect.

However, this study is not without weaknesses. Some potential limitations or areas for improvement include: 1) The cross-sectional design precludes determining causality or direction of effects. Longitudinal research, which was not an option in this study, could provide more robust evidence for relationships over time. 2) While powered adequately, the sample was recruited from one oilfield in China, limiting its generalizability, and replication in other contexts would strengthen confidence in findings. 3) Qualitative data, which were not accomplished in this study, could complement the quantitative survey data by providing richer, more textured insights into workers' experiences. 4) Differences based on demographic factors like gender were not explored but may be important to understand variations in experiences.

References

1. Heidarinejad R, Mehrdad GC, Taleghani M, Shakornia M. Investigation Efficacy of Organizational Communications on Crisis Management in Guilan Gas Company. *Interdisciplinary Journal of Contemporary Research Business*. 2013;5(5):265-74.
2. Liu Y, Mu L. The Application of EAP in the Petroleum Enterprises. *Management and Administration*. 2009;9:82-83.
3. Smayling M, Miller H. Job satisfaction and job performance at the internship level. *Journal of Leadership, Accountability and Ethics*. 2012 Feb 1;9(1):27-33.
4. Feng J, Qin QW. A review on job satisfaction research. *Psychological Science*. 2009;32(4):900-02.
5. Abdulla J, Djebarni R, Mellahi K. Determinants of job satisfaction in the UAE: A case study of the Dubai police. *Personnel review*. 2011 Feb 16;40(1):126-46.
6. Gu Y. Job satisfaction. *Social Psychology Science*. 2004;19(1):39-43.
7. Hulin CL, Smith PC. A linear model of job satisfaction. *J Appl Psychol*. 1965 Jun;49:209-16.
8. Judge TA, Bono JE, Locke EA. Personality and job satisfaction: the mediating role of job characteristics. *J Appl Psychol*. 2000 Apr;85(2):237-49.
9. Loher BT, Noe RA, Moeller NL, Fitzgerald MP. A meta-analysis of the relation of job characteristics to job satisfaction. *Journal of applied psychology*. 1985 May;70(2):280-89.
10. Cohen S, Wills TA. Stress, social support, and the buffering hypothesis. *Psychol Bull*. 1985 Sep;98(2):310-57.
11. Thoits PA. Stress, coping, and social support processes: where are we? What next? *J Health Soc Behav*. 1995;Spec No:53-79.
12. Ayupp K, Nguok TM. A study of workplace stress and its relationship with job satisfaction among officers in the Malaysian banking sector. *Interdisciplinary Journal of Contemporary Research in Business*. 2011;2(11):403-18.
13. Adams GA, King LA, King DW. Relationship of Challenge and Hindrance Stress with Coping Style and Job Satisfaction in Chinese State-Owned Enterprises. *Japanese Journal of Interpersonal and Social Psychology*. 2008;8(7):77-87.
14. Adams GA, King LA, King DW. Relationships of job and family involvement, family social support, and work-family conflict with job and life satisfaction. *Journal of Applied Psychology*. 1996 Aug;81(4):411-20.
15. Ducharme LJ, Martin JK. Unrewarding work, coworker support, and job satisfaction: A test of the buffering hypothesis. *Work and occupations*. 2000 May;27(2):223-43.
16. Singh-Manoux A, Marmot MG, Adler NE. Does subjective social status predict health and change in health status better than objective status? *Psychosom Med*. 2005 Nov-Dec;67(6):855-61.
17. Calsyn RJ, Winter JP, Burger GK. The relationship between social anxiety and social support in adolescents: a test of competing causal models. *Adolescence*. 2005 Spring;40(157):103-13.
18. Zhang J, Wang Z. Establishment and Preliminary Application of the Employees' Working Stress Scale L. S (Ed.). *Occupational Stress and Coping*. 2005; 120-34.
19. Xiao SY. Social Support Rating Scale X. In: Wang D, Wang XL, Ma H (Eds.). *Mental Health Assessment Scale Manual*. 1999. pp. 127-31.
20. Ye RS. New Development on the Study of European Work Satisfaction. *Journal of Hunan University of Science & Technology (Social Science Edition)*. 2008;11(3):85-9.
21. Lin CD. *Developmental Psychology*. Beijing: People's Education Press; 2008.
22. Jin SH. *Social Psychology*. Beijing: Higher Education Press; 2007.
23. Gan, Jin. Rural Secondary Schoole Teachers' Job Satisfaction and Social Support Related Research. *Social Psychology Science*. 2008;23(3-4):359-63.
24. Xv SL, Wu ZP, Wu ZY, Sun CH. A Study of the Age Differences of some Personality Characteristics in Adults. *Psychology Science*. 1996;19(1):1-5.
25. Mroczek DK, Kolarz CM. The effect of age on positive and negative affect: a developmental perspective on happiness. *Journal of Personality and Social Psychology*. 1998 Nov;75(5):1333-49.
26. Ronen S. Job satisfaction and the neglected variable of job seniority. *Human Relations*. 1978 Apr;31(4):297-308.
27. Hunter LW, Thatcher SM. Feeling the heat: Effects of stress, commitment, and job experience on job performance. *Academy of Management Journal*. 2007 Aug 1;50(4):953-68.
28. Peng DL. *General Psychology*. Beijing: Beijing Normal University; 2001.