

## Establishment and Analysis of Chinese Judges' Occupational Stress Scale

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### Abstract

As the decision makers of cases, judges' physical and mental health directly affects the outcome of the cases, and is related to the fairness and efficiency of the judiciary. Some studies have shown that the current level of mental health of judges is lower than people in general, and the rise of judges' turnover rate in recent years also reflects their occupational stress from one aspect. This study selected 1,159 judges from seven regions including Beijing, Tianjin, Jilin, Liaoning, Shanxi, Hubei, and Henan for test, and conducted the questionnaire of occupational stress inventory-revised (OSI-R), established the occupational stress scale of Chinese judges, and converted crude points to T points to grade the tension degree. Test results have showed that compared to groups of professionals and lawyers, the group of judges has a higher degree of tension, and seniority, gender, geography, age are the variables which affect the results of OSI-R questionnaire the most, and education and marital status affect secondly.

**Key words:** Judges; Occupational stress; OSI-R; Scale

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## **INTRODUCTION**

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Occupational stress arises from the interactions between the working environment and personal characteristics when a job requires more than a person's capability (Ross & Alnaier, 1944). It is negative reaction to work stress that can lead to physical and psychological injury, and in turn affects the work (Addley, 1997). Zhan (1999) defined occupational stress as "under a certain occupational condition the psychological and physiological stress brought by the imbalance between objective demands and subjective response."

The research of occupational stress commenced in the 1960s, focusing on the influences of occupational stress on human physiological, psychological and behavioral functions (Hu, 1995). Some researches have shown that the influences of occupational stress on health, behavior and work efficiency have become an important international occupational health issue (Cartwright & Cooper, 1994). Excessive tension will lead to fatigue, anxiety, depression, decreased ability to work (Yang, et al., 2004), affect health, quality of life (Chandola, Brunner, & Marmot, 2006; Chen, Wang, & Yu, 2008), or even cause job fatigue and overwork caused death (Yang et al., 2007). For the evaluation of occupational stress, at this stage, a variety of scales have still been used as the main means. The occupational stress scales which have been used widely in domestic are Cooper's OSI questionnaire introduced by Yu and Zhang (1997, 2000), and Osipow's OSI-R questionnaire introduced by Li Jian et al. (2001). These questionnaires have comprehensive contents, rich information, and can implement an overall assessment of occupational stress (Lan & Zhang, 2014).

As the decision makers of cases, judges' physical and mental health directly affects the outcome of cases and is related to the fairness and efficiency of judiciary. However, the contemporary Chinese judges are overwhelmed with unbearable work and psychological burden, low political and economic benefits, and request leave or early retirement, which subverts judges' image in the minds of ordinary people. (Fu, 2013). Surveys also show that the mental health of judge group is worrisome, and have a higher degree of occupational stress and tension. (Dong, 2007; Gong, & Zhang, 2008; Yu, 2013) However, due to the small sample size and self-made questionnaire and SCL-90 test as the survey tool, these evidence-based investigations cannot comprehensively and objectively describe the occupational stress situation of the contemporary Chinese judges.

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## **1. OBJECT AND METHOD**

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### **1.1 Object**

Use random sampling method. 1,200 judges were selected for testing from seven regions including Beijing, Tianjin, Jilin, Liaoning, Shanxi, Hubei and Henan.

Excluding 41 people who did not answer questions completely, the remaining testees are 1159 people, including 662 males, 428 females, 69 with unreported gender, age  $38.73 \pm 9.59$  years' old, minimum 19 years' old, and maximum 61 years' old.

## **1.2 Method**

### **1.2.1 Material**

Use Osipow's (1998) Occupational Stress Inventory Revised Edition Questionnaire (OSI-R) to test. The scale has a good reliability and validity in China after partial modification. (Jian et al., 2001) The scale includes 3 subscales, 14 sub-items and 140 entries. Occupational Role Questionnaire (ORQ) includes 6 sub-items of role overload, role insufficiency, role ambiguity, role boundary, responsibility and physical environment. Personal Strain Questionnaire (PSQ) includes 4 sub-items of vocational strain, psychological strain, interpersonal strain and physical strain. Personal Resource Questionnaire (PRQ) includes 4 sub-items of recreation, self-care, social support and rational/cognitive. Each sub-item is constituted by 10 entries, and each entry is scored in 5 grades. A higher score in ORQ or PSQ indicates a higher degree of tension, and a higher score in PRQ indicates a higher capability to cope with stress.

### **1.2.2 Process**

People from one area were placed in a soundproofed conference room for test. They were distributed with unified scales and requested to answer collectively. To ensure the authenticity and enthusiasm of the testees, they were asked to answer anonymously and remember the scale number. The test results would be informed by number. Finally, they were asked to fill out sex, age, education, length of service, marital status, court and other demographic information.

## **1.3 Statistical Method**

Use SPSS16.0 to conduct descriptive statistics, multiple regression analysis and variance analysis.

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## **2. RESULT AND STATISTICS**

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### **2.1 Judges' Occupational Stress Scale**

Judges' occupational stress scale in Table 1.

**Table 1**  
**Judges' Occupational Stress Scale**

Questionnaire /entry	Average(n=1,159)	Standard deviation
Occupational Role Questionnaire (ORQ)	156.36	24.39
Role Overload (RO)	30.25	5.56
Role Insufficiency (RI)	28.07	5.34
Role Ambiguity (RA)	24.65	7.93
Role Boundary (RB)	23.82	5.20
Responsibility (R)	27.02	6.48
Physical Environment (PE)	22.56	6.78
Personal Strain Questionnaire (PSQ)	99.18	20.68
Vocational Strain (VS)	21.67	5.95
Psychological Strain (PSY)	27.10	7.06
Interpersonal Strain (IS)	26.09	5.09
Physical Strain (PHS)	24.32	6.24
Personal Resources Questionnaire (PRQ)	126.52	16.72
Recreation (RE)	27.15	4.90
Self-Care (SC)	29.99	5.20
Social Support (SS)	36.09	6.30
Rational/Cognitive (RC)	33.28	6.25

## 2.2 The Table Which Converts Coarse Points Into *T* Points Based on Judges' OSI-R Scale

Convert the coarse points in the occupational stress scale into a total score whose mean is 50 and standard deviation is 10 (*T* value) by linear conversion. Convert according to the formula  $T=50+10\times\frac{x-\bar{x}}{s}$  (Osipow, 1998). *x* is the original score,  $\bar{x}$  is the mean of the scale sample, *s* is the standard deviation. The table which converts coarse points into *T* points is omitted.

## 2.3 Grading of Occupational Stress Degree

According to the judges' occupational stress scale, the table which converts the scale sample's coarse points into *T* points, and the chart which converts OSI-R scale's coarse points, we can grade occupational stress. The grading is as follows: high occupational stress, strain (*T* point = 70), middle occupational stress, strain (*T* point = 60 to 69), moderate occupational stress, strain (*T* point = 40 to 59), and lack of occupational stress, strain (*T* point <40); high lack of personal resources (*T* point <30), middle lack of personal resources (*T* point = 30 to 39), moderate personal resources (*T* point = 40 to 59), and strong personal resources (*T* point =

60). Specifically, we need to make score for each entry to get the score of each sub-item, convert them into  $T$  points, through drawing a chart to convert OSI-R scale coarse points, and use the  $T$  point of each sub-item to easily and accurately analyze the current occupational stress, personal strain and personal resources of individuals and groups. (Yang, Wang, Jin, & Lan, 2006).

## 2.4 The Analysis on the Related Factors of Judges' Occupational Stress

### 2.4.1 The Multiple Regression Analysis on the Influencing Factors of Judges' Occupational Stress

Take gender, age, education, length of service, marital status and court as the independent variables, sub-items of OSI-R scale as the dependent variable to conduct multiple regression analysis stepwise, and the results are shown in Table 2. Table 2 shows that, in general, seniority, gender, geography and age are the variables which affect the outcome of OSI-R the most, followed by education and marital status. The variables which affect occupational role are geography, age, length of service and education successively; the variables which affect occupational stress are gender and age successively; the variables which affect personal resources are seniority, gender and geography successively.

**Table 2**  
The Multiple Regression Analysis Results of the Influencing Factors of Judges' Occupational Stress (Standard Partial Regression Coefficient Beta)

Entry	Sex	Age	Education	Service length	Marital status	Court	Region
ORQ		-0.123**	0.074*				0.151**
RO			0.116**				0.218**
RI				-0.175**	-0.086*	0.102**	0.061*
RA		-0.129*		-0.133**	-0.116**		0.074*
RB		-0.13**					
R	-0.085**		0.121**	0.247**			
PE		-0.081**					0.149**
PSQ	-0.072*			-0.139**			
VS	-0.090**	-0.202**			-0.073*		
PSY							
IS		-0.186**					
PHS	-0.128**						
PRQ	0.083*			0.156**			
RE				0.120**			-0.143**
SC	0.089**		0.068*	0.139**			0.098**
SS	0.086**						
RC	0.066*			0.210**			

Note. \* $P < .05$  \*\* $P < .01$

## 2.4.2 Judges' Occupational Stress Differences in Demography

Take seniority, gender, geography, age, education, marital status and court as the independent variables, and take 3 subscales and sub-items as the dependent variables to conduct one-factor analysis of variance, the results are shown in Table 3.

**Table 3**  
**Judges' Occupational Stress Differences in Demographic Variables (*F*)**

Entry	Service length	Sex	Region	Age	Education	Marital status	Court
ORQ	11.85**	0.45	29.75**	10.48**	5.80**	4.85**	2.39*
RO	4.63**	0.00	14.02**	2.14	9.21**	0.44	3.78**
RI	20.12**	6.72*	23.41**	20.04**	0.63	15.22**	3.71**
RA	43.64**	26.30**	41.21**	53.26**	2.51	37.63**	5.21**
RB	5.79**	0.03	11.85**	5.82**	5.06**	1.53	2.88**
R	21.42**	26.83**	2.97**	20.11**	1.92	16.44**	3.40**
PE	2.88*	0.38	12.15**	2.14	4.93**	0.49	4.38**
PSQ	4.22**	0.35	8.53**	3.98**	5.70**	1.61	1.97*
VS	15.16**	0.29	16.40**	15.23**	5.76**	9.43**	1.84
PSY	0.34	0.04	5.34**	1.24	4.07*	0.73	3.18*
IS	10.49**	4.09*	12.85**	11.66**	7.43**	5.11**	2.11*
PHS	0.73	15.13**	3.34**	0.35	3.07*	0.80	1.35
PRQ	8.75**	0.74	1.87	4.41**	2.86	3.42*	1.03
RE	8.65**	2.49	6.03**	5.67**	4.26*	0.97	3.41**
SC	3.51*	2.12	3.30**	1.47	1.95	2.60	1.57
SS	0.51	5.80*	33.35**	0.50	3.12*	0.89	0.56
RC	16.96**	0.01	0.92	13.99**	3.31*	7.76**	0.75

Note. \* $P < .05$ , \*\* $P < .01$

As can be seen from the table, length of service and age have significantly different scores on the three subscales; geography, education and court have significantly different scores on ORQ and PSQ; marital status receives remarkably different scores on ORQ and PRQ; gender on three subscales has not significantly different scores.

Specifically, the judges with shorter than 10 years' service length have the highest occupational stress. Female judges have higher scores than male judges on the sub-items of role insufficiency, role ambiguity, interpersonal strain and social support, have a lower score than male judges on physical strain; judges from Beijing generally have a higher occupational stress than other regions; the younger than 30-year-old judges generally have higher occupational stress and occupational tension than other age groups; the judges with a higher than postgraduate degree and a high school diploma generally have a higher occupational stress than the judges

with other educational qualifications; the judges with a undergraduate degree have the most abundant resources to cope with stress; unmarried judges have a higher occupational stress than married, divorced and widowed judges; commercial court judges have the highest degree of occupational stress.

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## DISCUSSION

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Comparing judges' occupational stress scale with Yang Xinwei's (2004) 984 professionals' scale (hygiene, law, finance, education, sports, journalism, publishing and cultural workers), judges have higher scores on ORQ and PSQ (156.36, 99.18) than professionals (143.38, 84.80), and have lower score on PRQ (126.52) than professionals (129.84). This shows that compared to the professional groups, the judges have a higher degree of occupational stress and lower ability to respond to stress. However, due to the different survey years, social environment and life pace are different, thus the comparison of occupational stress may have errors. Compared to the 62 lawyers' group (Li, Zhu, Chen, Xiong, & Zhang, 2013), judges have higher scores than lawyers on ORQ and PSQ (145.50, 88.52), lower score than lawyers on PRQ (127.90). This shows that compared to the lawyers, the judges have a higher degree of occupational stress and lower capacity to respond to stress. This explains to some extent that why in recent years a large number of judges left to become lawyers. Of course, due to the small sample size of the lawyer group, there might be bias in the result.

In the multiple regression analysis of the influencing factors of judges' occupational stress, seniority, gender, geography and age are the variables which affect the outcome of OSI-R the most, followed by education and marital status, which is unlike the Southwest China Scale (Yang et al., 2007) that occupation, gender and education are the variables which affect the most, followed by age and length of service. On the one hand, this difference comes from the different variables collected, Chinese judge scale does not have the occupational variable, and the Southwest China scale does not have the geographical variable. On the other hand the qualification has a great impact in the Southwest China scale, while in the judge scale it only has the second impact. Possible reasons are that qualification difference in the judges group is small, which is mainly focused on undergraduate degree, graduate and above, with only 11 people having a high school diploma. In addition, the impact of gender on the two scales is great, which is in line with the existing study (Zhao & Xu, 1996; Qiu, 1999; Gu, Yu, & Li, 1999) that gender affects occupational stress.

For the impacts of demographic factors on the occupational stress of judges, length of service and age show a high degree of consistency. 10 years seniority judges (lowest seniority group) and 30-year-old judges (minimum age group) have higher scores than others on the total occupational role questionnaire, sub-items of

role overload, role insufficiency, role ambiguity and role boundary, total personal strain questionnaire and sub-items of vocational strain and interpersonal strain, which is inconsistent with the conclusion of the previous study (Yang, 2004) that 40-year-old group and older than 50-year-old group have higher scores on the total occupational role questionnaire, sub-items of role overload, role boundary and role insufficiency, that higher seniority judges have more pressures on workload, and young people more adapt to environment. This may be determined by the features of judges and the internal organization. Judges working on the first line to handle cases are mostly young judges. They are struggling to cope with a lot of difficult and complicated cases (Yu, 2013), and often need to participate in some auxiliary work such as “maintain social stability” (Lu, 2011). While as the age grows, the majority of judges no longer hear cases after taking leadership positions, which in turn increase the workload of young judges (Yu, 2013).

Female judges have higher scores than male judges on the sub-items of role insufficiency, role ambiguity and interpersonal strain, which is in consistent with the Southwest China occupational stress scale study (Yang et al., 2007) that male judges have higher scores than female judges on all sub-items (excluding physical environment) and total stress reaction scores. Possible explanations are that female judges are a relatively special professional group, who works on the first line of trial (Song, 2009), and often uses their female superiority to try juvenile offenders (Chen, 2008), and protects women and children's rights (Wang, 2007). In the face of these special parties, they often have rational and emotional contradictions, and are easy to have role insufficiency and role ambiguity. On the physical strain male judges have a higher score than female judges, which are consistent with the Southwest China scale study (Yang et al., 2007), perhaps this is because women are more focused on health care compared to men. On the sub-item of social support, female judges have a higher score than male judges. On the one hand, judge is a more stable job and has a higher social status. Women are more likely to choose a stable job. On the other hand, although judges have experienced a number of pay rises as civil servants, their wages still belong to the middle level (Yu, 2013). While men often need to take more responsibility for their families, so they get relatively lower supports from family and society.

Beijing judges have higher scores on the occupational role, occupational stress questionnaire and sub-items than other regions. Northeast China and Tianjin have lower scores. This is more consistent with people's feeling. As a political, economic and cultural center, Beijing has a high population density, large cases and a more fast-paced life, receives more attention from media and the public, thus judges are more likely to have an occupational tension.

The judges with a postgraduate degree or above qualifications have higher scores than the judges with an undergraduate degree on occupational role and OSI-R, which is inconsistent with the conclusion of the previous studies (Yang, 2004) that



lower level of education judges have higher scores on both occupational role and OSI-R. Possible explanations are that on the one hand, judges generally receive high education, excluding 11 judges with a high school diploma, the others all have an undergraduate degree, graduate degree or above. They are capable to properly handle general cases, and it's not likely to be difficult to deal with the work as those who with low educational levels. Another more important reason is that because of the low salary of judges, narrow rising channel (Yu, 2013), judge occupational risks, lack of a sense of work accomplishment (Dong, 2007) and other reasons, especially compared with the lawyer group who has similar professional levels but high incomes, the judges who have higher educational levels are more vulnerable to fall into contradictions, have higher occupational tension, and a lot of them even leave and switch jobs, which is also in line with the effort-reward imbalance model (ERI) proposed by Siegrist (1996) .

Different court judges are significantly different on occupational role score and OSI-R score, where commercial court judges have the highest score. This may be due to the irrational proportion of cases to people in court authorities, which are consistent with the previous findings (Yu, 2013).

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## CONCLUSION

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By establishing judges' occupational stress scales and grading standards, we have found that seniority, gender, geography and age are the variables which affect OSI-R questionnaire results the most, and education, marital status affects secondly. Younger judges, and those with a shorter length of service have higher occupational stress; female judges have higher scores than male judges on the sub-items of role insufficiency, role ambiguity, interpersonal strain and social support, and have a lower score than male judges on the sub-item of physical strain; the judges from Beijing tend to have high occupational stress; the judges with a high school diploma, postgraduate degree or higher degree have more occupational stress than the judges with an undergraduate degree; unmarried judges have high occupational stress; commercial court judges have high occupational tension.

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