

Investigation on the mental health of staff for oil marketing enterprise in Sichuan, China

Qingjing Yang

School of Economics and Management Southwest Petroleum University, Chengdu, China

ABSTRACT

In this paper, we investigated the mental health status of 463 respondents, as well as the comparisons of job satisfaction between different tension intensity and the comparisons of work ability between different tension intensity. The results indicated that 36.5% of the respondents had positive symptom based on the SCL-90 Self Rating Scale, and there were significant differences between various indexes among different tension intensity. It can be seen from the table that the 7 indexes of low tension were lower than the other two groups. All of the 7 indexes in moderate tension were significantly higher than the high group except the index of work with colleagues. The work abilities of employees in oil marketing enterprise decreased as the increase of tension intensities. It is also evident that the decreasing of work ability in male workers was more obviously than it in female workers.

KEYWORDS

mental health; oil marketing enterprise; occupational stress; Chinese

1 Introduction

In modern society, with the rapid development of economy and company competition, mental health issues of employees are more and more serious, especially in oil marketing enterprise. Mental health refers to a state of psychological functioning in which an individual has no mental illness or abnormality, is well adapted to society, has a perfect personality and ability, and can fully realize their potential ^[1]. The survival and development of many enterprises, as well as national stability, can be directly affected by the physical and mental health of the population and the ability to be socially well-adjusted ^[2]. Some research shows that The prevalence of mental disorders in China is 12% ^[3]. While the mental health status of staff for oil marketing enterprise in China is more serious. According to Michigan occupational stress model, occupational stress is a complex, multivariate and dynamic process ^[4-6]. In this process, stressors, perceived stress, short-term responses (mental illness, rising of blood pressure, changes in behavior, etc.), long-term health outcomes (depression, hypertension, injuries, etc.), and modifying variables (coping styles, social support, personality, etc.) are all interrelated. Currently, most researches about mental health are mainly focus on teachers, medical personnel, skilled workers, oil workers, police, etc. The results showed that long-term excessive pressure or harsh working environments aggravate the occurrence of mental illness ^[7-11]. Other factors such as gender, age, education, marriage were also studied ^[12-14]. Some studies demonstrated that excessive working hours, frequent shift work, and high workloads would lead to a series of negative emotions ^[15-17]. The evaluation of health risk factors plays a positive role in disease prevention ^[18-19].

Oil marketing workers are a special group between oil workers and service staff. They not only need to provide normal and safe service for consumers, but also have to work in noisy air-polluted environment, as well as night shift. Some gas stations are located in remote or mountain areas and the lifestyle of the workers are closed, monotonous and lonely. Those special lifestyle and environment would bring lots of psychological pressure and eventually leads to mental health issue. However, there are few studies on the mental health status of staff in oil marketing enterprise. Therefore, our study mainly focus on the analysis of mental health status of oil marketing workers and provided solutions to improve the psychological health level of oil marketing workers. As a developing country, China has rapidly expanded its gas station in the past decades and currently employs thousands of oil marketing workers. What were the health status of those workers? No study in the current literature addresses this question. Therefore, in this paper, we investigated the mental health status of 463 respondents, as well as the comparisons of job satisfaction between different tension intensity and the comparisons of work ability between different tension intensity in 10 oil marketing enterprises in Sichuan, China, and aim to explore the mental health status of those workers among Chinese oil marketing enterprise.

2 Materials and methods

2.1 Study participants

The subjects of this research were from 10 oil marketing enterprises in Sichuan, China. The survey was conducted

during the period of July 2021 and October 2022. A total of 500 questionnaires were randomly distributed and 463 of these were validly returned, with a recovery rate of 92.6%.

2.2 Mental Health Status

Symptom Checklist 90 (SCL-90) Self Rating Scale was introduced in this study to evaluate the mental health. The scale including 90 rating items e.g. somatization, compulsive symptoms, interpersonal sensitivity, depression, anxiety, hostility, fear, paranoia, psychosis and other nine factors. The responses of questionnaires were measured by a scale ranging from 1 to 5, and in which, 1 represents none, 2 represents mild, 3 represents moderate, 4 represents severe and 5 represents severe.

2.3 Evaluation of Occupational Stress Intensity

Based on the score of the Occupational Stress questions in the questionnaire, the employees were divided into three groups with the label of high tension, moderate tension and low tension.

2.4 Evaluation of Work Ability

WAI (Work Ability Index) was introduced to evaluate the work ability of research object, and higher value of WAI indicated higher work ability.

2.5 Quality Control

Firstly, a formal training was conducted for the investigator to clarify the goal and significance of the investigation through the management department of the company. And then the questionnaires were distributed to the respondents. When the survey was completed, the investigator would check the contents. If there were any doubts or errors, the investigator made an effort to solve it in a prompt manner.

2.6 Data Analysis

The data analyses were conducted by SPSS 19.0 software package. The measurement data were expressed as ($\bar{x} \pm s$), and $P < 0.05$ indicated statistically significant differences.

3 Results

3.1 General Information

Among all of the 463 respondents, 183 (39.52%) were woman and 280 (60.48%) were man. The average age of these respondents was (37.8 ± 7.5) years old. The median of working time was 19 (2-36) years and the educational levels of them were mostly senior high school and junior college (63.7%). 274 (59.17%) were married and 189 (40.83%) were unmarried.

3.2 Level of psychological health

The results of psychological health level were shown in Table 1. Among the 463 respondents, 169 (36.5%) of them had positive symptom based on the SCL-90 Self Rating Scale. The results indicated that this group of people had a certain status of mental stress, which meant they may have some sort of psychological disorders. In addition, the normal people occupied 294 (63.5%). The percentage of anxiety was the highest of all factors, occupied 6 percentage of all, and it indicated that some employees demanded much of themselves and took serious attitude to their daily work. On the other hands, those kinds of employees might have great pressure while dealing with fault or criticism and it might result in serious psychological issues if the employees could not adjust themselves in time.

3.3 The comparisons of job satisfaction between different tension intensity

The results were shown in Table 2. Table 2 indicates that there are significant differences between various indexes among different tension intensity. It can be seen from the table that the 7 indexes of low tension were lower than the other two groups. All of the 7 indexes in moderate tension were significantly higher than the high group except the index of work with colleagues.

Table 1 The distributions of psychological health status^{*}

Factor	Score >2 and <3		Score ≥3	
	Number of people	Percentage(%)	Number of people	Percentage(%)
Somatization	14	3.0	5	1.1
Obsessive symptoms	16	3.4	6	1.3
Interpersonal sensitivity	13	2.8	4	0.8
Depression	17	3.7	7	1.5
Anxiety	28	6.0	9	1.9
Hostility	6	1.3	0	0
Terror	7	1.5	2	0.4
Paranoia	6	1.3	3	0.6
Psychosis	12	2.6	2	0.4
Others	8	1.7	4	0.8

*When the score ≤ 2, the respondents were asymptomatic in this factor; when the score ≥ 2 and ≤ 3, the respondents were symptomatic in this factor; when the score ≥ 3, the respondents had prominent symptoms in this factor.

Table 2 The comparison of job satisfaction between different tension intensity^{x±s}

Index	High tension	Moderate tension	Low tension	P
Arrangement of personnel	2.61±1.01	3.02±0.91	3.14±0.92	<0.001
Arrangement of work time	2.59±1.03	2.81±1.23	3.12±0.71	<0.001
Work with colleagues	2.91±1.15	2.97±0.87	3.23±0.85	<0.001
Work place	2.47±1.09	2.68±1.37	3.20±0.76	<0.001
Concern and attention from leaders	2.71±1.07	3.08±0.87	3.18±0.82	<0.001
Work management and planning	2.81±1.06	3.04±0.86	3.32±1.08	<0.001
Relationship between superior and subordinate	2.59±1.03	2.68±1.01	3.42±0.79	<0.001

3.4 The comparisons of work ability between different tension intensity

The comparisons of work ability between different tension intensity were shown in Table 3. It can be seen from table 4 that the work abilities of employees in oil marketing enterprise decreased as the increase of tension intensities. It is also evident that the decreasing of work ability in male workers was more obviously than it in female workers.

Table 3 The comparison of work ability between different tension intensity^{x±s}

Tension intensity	Male			Female		
	n	x±s	P	n	x±s	P
High tension	117	32.18±5.89	<0.001	48	34.97±6.37	<0.001
Moderate tension	85	34.71±7.26	<0.001	79	36.82±6.24	<0.001
Low tension	78	35.23±6.15	<0.001	56	37.23±5.81	<0.001

4 Discussion

Due to the rapid demand for oil in modern society, the mental health of petroleum industry employee has received more and more attention than before. Some studies demonstrated that that mental issues are highly correlated risk factor for sleep disorders, while stress, anxiety, depression and other emotions reduce the working ability of the work population, which would seriously affect the quality of life and work population^[20-22]. The status of mental health directly decide the emotional change and cognitive style and emotional problems are the major reason that some adults lose working ability^[23]. Some researchers shows that the workers have good status of mental health while they are satisfied with their works. However, when the workers have high tension intensity, it comes with emotion unstable, malaise and fatigue, while it eventually leads to mental symptom such as depression and anxiety^[24].

The employees of oil marketing enterprise are in the front line of the market competition, and have extensive contact with people from all levels of society. The content and standard of their job need strict requirement of the employees, which would exert high pressure.

The results of this research indicated that

(1) Among 463 respondents in the oil marketing enterprise, 169 (36.5%) of them had positive symptom based on the SCL-90 Self Rating Scale. And the normal people occupied 294 (63.5%) of all.

(2) There are significant differences between various indexes among different tension intensity. All of the 7 indexes listed in moderate tension were significantly higher than the high group except the index of work with colleagues

(3) The work abilities of employees in oil marketing enterprise decreased as the increase of tension intensities, and the decreasing of work ability in male workers was more obviously than it in female workers.

5 Conclusion

The incidence of mental health issues among employees of oil marketing enterprise differed according to many factors. In this paper, we investigated the mental health status of 463 respondents, as well as the comparisons of job satisfaction between different tension intensity and the comparisons of work ability between different tension intensity. The results indicated that 36.5% of the respondents had positive symptom based on the SCL-90 Self Rating Scale, and there were significant differences between various indexes among different tension intensity. It can be seen from the table that the 7 indexes of low tension were lower than the other two groups. All of the 7 indexes in moderate tension were significantly higher than the high group except the index of work with colleagues. The work abilities of employees in oil marketing enterprise decreased as the increase of tension intensities. It is also evident that the decreasing of work ability in male workers was more obviously than it in female workers.

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