

Determination of Job Stresses and Their Consequences in Drivers in Ilam

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Abstract:

Background: Human factors cause 60-70 percent of automobile accidents. Everything related to people that is involved in and interacting with a system is considered to be a human factor. These factors can be psychological, biological, or social, and all of them can affect drivers' behaviors. Therefore, one of the negative and unfavorable effects of these factors is that they cause accidents. According to previous research, increases in the job stresses result in increases in the incidence of car accidents. Drivers who feel stressed often do not to observe the rules, and they may not even notice the warning signs. By measuring the job stress among drivers and its adverse effects, this research aimed to provide an appropriate managerial solution to reduce these problems.

Methods: The sample in this descriptive-analytical study consisted of 250 drivers who were selected and investigated. A job stress questionnaire was used as a means for collecting data. Health conditions were assessed by referring to clinical documents provided for the drivers. Accident data were included in the study using accident-related documentation. Two hundred and fifty drivers from Ilam, Iran participated and were analyzed in this study. This research is a cross-sectional study that was performed by dossiers and personal memoirs. Data were analyzed by SPSS16 and the chi-squared test.

Results: The study showed that the main factors that cause medium- to high-level stress are the physical environment, workload and ambiguity of duties. It also showed that the incidence and severity of accidents increased as stress levels increased.

Conclusion: This study shows high prevalence of job stress amongst drivers in Ilam. The main causes of the prevalence of stress among drivers in Ilam City are physical environment, workload and ambiguity of duties, responsibility.

Keywords: Job stress; Drivers; Human factors

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1. Introduction

In every region of the world, people's environments and lifestyles have undergone drastic changes in recent years. These changes are especially significant in industrialized countries due to the social and economic chaos they can produce. Sources of stress have become more prevalent in such societies, and people's lives are affected continually by this stress (1). These changes started to intensify in the early 1990s. Science and technology had a significant impact on the extent of these changes. For instance, after the advent of electricity in 1882A.D, airplane in the 1903A.D, radar and television in the 1930s, nuclear energy in the 1950s, space exploration in the 1960s and 1970s, and information technology and the Internet in the 1980s and 2000s, people's lifestyles and the extent of stress they experienced were changed (3). People living in the 20th century are witnessing more extensive and rapid changes in their daily lives and environment than have ever occurred in the past. The rate of these changes is accelerating, and they seem to get more complicated as time passes. Therefore, the number of research efforts focused on stress and its adverse impacts has been increasing, and some new scientific fields have been established, such as industrial psychiatry and work-related medicine (2-4).

In a study, Jones and Bright (2001) stated that, in spite of relatively satisfactory levels of welfare and health in the west, stress has increased during this decade and is still increasing (5). Thus, it is essential to be able to identify the causes of work-related stress in order to effectively eliminate them. The importance of this approach is amplified by the fact that different causes of stress produce different effects, and, consequently, different methods and specific mechanisms are required to counter these effects (5-8). Fletcher (1981) indicated that 60% of absences in the workplace are caused by stress-related (8). On the other hand, reported individual job performance improves with increased levels of stress, up to a determined range. At some point, stress becomes dysfunctional and reduced efficiency is experienced. Both too little, and too much stress has had a detrimental efficacy on performance (9). There are different definitions, models, and theories of the effects of stress on people in the workplace (10, 11). After conducting a comprehensive review on the available data, Cox defined stress as the complex, psychological conditions derived from cognitive power of the person in accordance with the requirements of the job environment (12).

According to the study performed by Sharit and Salvendy, stress can be categorized into physiological, psychological, and social stresses (13). Based on these categories, it can be concluded that people can experience stress if the demands of the workplace exceed their abilities and if their abilities exceed the demands of the workplace (13-15). Cooper and Marshall stated that managers suffer from a wide variety of psychological symptoms related to job stress. Disorders of heart, the coronary arteries, and stomach, as well as duodenal ulcers, the misuse of drugs, and anxiety, may be due to the physical and psychological effects of stress, ultimately causing adverse effects on the quality of life of the affected people and their families (7). The physical and mental effects of stress make people vulnerable and cause their employers to incur significant costs. To date, organizations have failed to note these costs in economic terms, although they have always been concerned with how they affected the performance of their workers. From their viewpoint, job stress is not viewed as being as important as other problems they have to deal with (5).

Human factors cause 60-70 percents of accidents. Everything related to human, which is involved in and interacting with the system, is considered a human factor. These factors can be psychological, biological, or social, and all of them can affect the drivers' behavior. Therefore, negative and unfavorable effect of these factors can cause accidents. According to previous researches, raise in the job stresses increases the incidence of car accidents. Stress causes drivers not to observe the rules and consequently not to notice the alarming signs (16). By measuring the job stress among drivers and also its adverse effects, this research aims at providing an appropriate managerial solution to reduce these problems.

2. Material and Methods

This was a descriptive-analytical study. The sample consisted of 250 people who were selected and investigated among drivers from different cities. Following the drivers' referrals to the medical clinics where they work, information concerning their state of health and past health-related issues was obtained, and their blood pressures were measured. Then, the drivers completed general and job-stress questionnaires, and psychological tests were performed. Finally, the data were extracted, and SPSS 11.5 statistical software was used to analyze the data and report the results.

The job-stress questionnaire was used as the means for collecting data. Health conditions were assessed by referring to clinical documents of the drivers. Accident data taken from related documents were included in the study. Two hundred and fifty drivers from Ilam, Iran were analyzed in this study. This research is a cross-sectional study that was performed based on dossiers and personal memoirs. Data were analyzed by SPSS16 and the chi-squared test.

3. Results

The average age of the drivers participating in this study were 36.4 ± 7.69 years, with ages ranging from 21 to 63 years. The average number of hours the drivers worked daily was 12.73 ± 2.56 hours. The low-stress group consisted of 1.6% of people in the study, while the low-to-medium stress group consisted of 26.8% of the people, 68% in medium-to-high stress group, and 3.6% in the high stress group.

Table 1. Distribution of the degree of job stress among drivers

Degree of job stress	Frequency	Percentage
Low	4	1.6
Medium	67	26.8
Medium to high	170	68
High	9	3.6
Total	250	100

Table 2. Distribution of the effectiveness of job stresses among drivers

Degree of job stress	Low	Medium	Medium to high	High
	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
Work load	23(9.2%)	79 (31.6)	119 (47.6)	29 (11.6)
Ambiguity of duty	38(15.2%)	107 (42.8)	97 (38.8)	18 (7.2)
Lack of duty	62(24.8%)	118 (47.2)	53 (21.2)	17 (6.8)
Conflict of duty	18(7.2%)	88 (35.2)	105 (42)	39 (15.6)
Responsibility	19(7.6%)	96 (38.4)	108 (43.2)	27 (10.8)
Physical environment	10(0.4%)	18 (7.2)	63 (25.2)	159 (63.6)

According to the Table 1, most of the drivers have had medium to high degrees of stress. As observed in Table 2, the main factors that cause stress in the medium-to-high level were physical environment and workload. Table 3 illustrates the relationship between the record of cardiac diseases, digestive diseases, and sleep disorders and the degree of stress. As observed in Table 4, the incidence and also the severity of accidents increase with stress.

Table 3. Relationship between the record of cardiac diseases, digestive diseases, and sleep disorders with the degree of stress

Degree of stress	Cardiac diseases (%)	Digestive diseases (%)	Sleep disorders (%)
Low-medium	1(%16.67)	14 (%26.4)	19(%18.6)
Medium-high	5 (%83.33)	39 (%73.6)	83 (%81.4)
Total	6	53	102

Table 4. Relationship between accident, injury-prone accident, and deadly accident with the degree of depression

Degree of stress	Accident (%)	Injury-prone accident (%)	Deadly accident (%)
Low-medium	51 (27.4%)	10(%31.2)	1(25%)
Medium-high	135(54%)	22 (%68.8)	3 (%75)
Total	186	32	4

4. Discussion

Results of this study showed that the most important stress-causing factors that have caused medium-to-high and/or high degrees of stress (Table 2) are workload, ambiguity of duties, responsibility, and physical environment. Hence, we can consider these factors as important factors that effectively induce job stress in the drivers. Results similar to this study have been reported in a study performed by Yao and Fan (17).

One of the issues investigated in this research was the relationship between the frequencies of accidents and the degree of job stress. As observed in Table 3, the incidences of non-injury accidents, injury-producing accidents, and deadly accidents increased as the degree of stress increased. So, it can be deduced that the degree of stress has a

direct relationship with the frequency of accidents. Similarly, the results of Simon's studies showed that increase in job stresses causes increases in the rate of car accidents (16). In this study, previous records of cardiac diseases, digestive diseases, and sleep disorders were assessed to determine if they had any relationship with the degree of stress (Table 4). As observed in the table, the degree of stress has a direct relationship with having a previous record of being afflicted with these diseases. Evaluation of the effect of job stresses on cardiovascular performance was performed by Yao et al. They selected 839 people from four different jobs and measured their stress-causing factors, blood pressure, blood sugar, and blood triglycerides. The results showed that blood pressure was higher among older persons and those who stand up for long periods of time (17). Similar results also were obtained by Yu et al. (2003) (18).

5. Conclusion

Our findings show that stress is severe in the beginning years of employment and in drivers with a low record of employment. After several years of successful employment, the workers' stress levels decline. The main causes of stress among the drivers in Ilam City were physical environment, workload and ambiguity of duties, responsibility.

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Conflict of Interest:

There is no conflict of interest to be declared.

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