

## Comparison of Rescue Workers in the Kermanshah Earthquake and Non-rescuers in the Red Crescent Society in Terms of Self-efficacy, Quality of Work Life, and Self-confidence

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### Original Article

#### Abstract

**INTRODUCTION:** Various studies have demonstrated that rescuers enjoy higher levels of self-efficacy and quality of life, as compared to ordinary people. Moreover, the constant and sometimes prolonged presence of Red Crescent Society rescuers at the scene of disasters makes them more prone to the emotional impact of crises, in comparison with ordinary rescuers.

**METHODS:** The present study was conducted based on a causal-comparative (ex-post facto) design. The statistical population included 200 cases, and the sample size was equal to 120 (60 rescuers and 60 non-rescuers who were selected via the random sampling method). Scherrer self-efficacy questionnaire (1983), quality of work life questionnaire (1973), and Coopersmith self-confidence questionnaire (1967) were used to collect data, and data analysis was performed by analysis of variance.

**FINDINGS:** As evidenced by the obtained results, the highest and lowest percentages of rescuers were in the age group of 20-30 (51.92%) and under 20 years (5.77%), respectively. In terms of education, the highest and lowest percentages of rescuers had a bachelor's degree (61.7%) and high school education (1.7%). Furthermore, the highest and lowest percentages of non-rescuers were permanent (63.73%) and contract employees (1.7%), respectively.

**CONCLUSION:** The results pointed out that rescuers enjoyed higher levels of self-confidence, quality of work life, and self-efficacy, as compared to non-rescuers.

**Keywords:** Quality of Work Life; Self-confidence; Self-efficacy.

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#### Introduction

Work as an essential part of daily life can be a major source of stress. Due to the competitive nature of the work environment, most people in the world devote a significant portion of their time to their work-related goals; therefore, the stress and tensions of personal and professional life cannot be ignored. People are usually very worried about their job consequences. Emergency workers and rescuers experience extreme stress, as well as physical, emotional, and social changes (1). Various studies have demonstrated that relief is a stressful activity due to a combination of factors in times of crisis.

A review of the literature suggests that

rescuers may experience some symptoms, such as irritability, fatigue, and a decrease in work abilities, adaptation, and coping abilities, as a result of relief activities in disaster situations (2). These tensions can sometimes be so severe that they lead to formal diagnoses of mental disorders, including post-traumatic stress disorder, anxiety, and depression.

The aforementioned conditions highlight the necessity of individual, group, and social assistance activities in the crisis, and the most appropriate method in the first step is crisis prevention. The second step is the full preparedness of aid headquarters, as well as the coordination of facilities and resources through

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careful planning and equipping of efficient forces. In the third step, dealing with the crisis at a speed commensurate with the crisis situation, it is important to prevent or lessen the damage a crisis can inflict on the community. The fourth step is to obstruct prevent the crisis from remaining and its effects, and finally, the fifth step, the normalization of the situation, aims to return daily life activities back to normal in the affected area (3).

One of the issues that deserve the special attention of society is the cultivation of self-confidence and enhancement of morale among individuals. Self-confidence can be defined as "doing something bravely without pride and arrogance" which is different from self-confidence, which is "your overall sense of personal value and self-worth". Self-confidence is different from pathological selfishness, pride, and superiority (4).

The concept of quality of life dates back to the time of Aristotle in 385 BC when he referred to "good life" or "doing good things as happiness. Nonetheless, at the same time, he elucidated the difference among people in their conception of happiness and mentioned that health can bring the sick deep happiness, while for the poor; wealth can be the only path to happiness. He explicitly stated that happiness has a different meaning to each person; moreover, it does not mean the same for the same person in different circumstances. At that time, however, living happily was considered equivalent to what is now called quality of life; nonetheless, the term "quality of life" was not used until the twentieth century.

Later, over time, researchers realized that quality of life could be one of the most important outcomes in health assessments (5). Quality of work life which has become very popular in recent years leads to the realization of participatory decision-making, job security, improvement of working conditions and environment, sense of ownership and self-governance, development of opportunities for career advancement, as well as the satisfaction of the self-fulfilling needs of employees and their encouragement to stay with the organization (6). Although there is little agreement on the meaning of this term, at least two common definitions have been suggested in this regard. Firstly, quality of work life refers to a set of outcomes for employees, such as job satisfaction, growth

opportunities, psychological issues, job security, and employer-employee relationships. Secondly, quality of work life refers to a set of organizational tasks or functions such as participatory management, job enrichment, and secure working conditions. In this regard, quality of work life programs may be considered a human resource management strategy, encompassing quality of work life performances, the improvement of quality of work life programs, as well as the enhancement of organizational efficiency and productivity (7).

Karami (2015) conducted a study entitled "Relationship between mental health and job satisfaction in relief workers and non-relief workers". The results of the stated research pointed to a significant relationship between the two variables of mental health and job satisfaction. Moreover, the test results indicated that there was no statistically significant difference between the two groups in means of mental health and job satisfaction. Only in the dimension of workplace satisfaction, a significant difference was observed between the two groups, and non-rescuers enjoyed higher levels of satisfaction, as compared to active road rescuers (8).

In the same context, Khademi (2013) performed a study entitled "Social factors affecting the quality of work life among employees of the Ministry of Labor Cooperation and Social Welfare with an emphasis on social capital". The results of the referred study suggested that employees were not very satisfied with the quality of their work; however, there were differences in some aspects due to the nature of different organizations or the characteristics of their employees (7).

Mastoff, Trompanars, Vanhick, Hodiament, and Durays (2017) in their study entitled "The relationship between personality traits and quality of life", found that neurotic personality traits were negatively correlated with quality of life, while extraversion, empiricism, responsibility, and conscientiousness were positively related to the quality of life (9).

## Methods

The present study was conducted based on a causal-comparative (ex-post facto) design. The statistical population included all the rescuers (200) who helped in the Kermanshah earthquake

**Table 1.** Average, standard deviation, as well as minimum and maximum education, of study participants

Variable	Average	Standard deviation	Maximum	Minimum
Total education	3.86	0.919	1	5
Rescuers group	3.72	0.921	1	5
Non-rescuers group	4	0.903	1	5

and non-rescuers were selected via the random sampling method. Finally, the sample size was estimated at 120 cases (60 rescuers and 60 non-rescuers). Scherrer self-efficacy questionnaire (1983), quality of work life questionnaire (1973), and Coopersmith self-confidence questionnaire (1967) were used to collect data. For statistical analysis, descriptive statistics, including frequency, frequency percentage, mean, and standard deviation, as well as related graphs and inferential statistics, were used. All hypotheses were analyzed at the level of 0.05. Variance analysis was also used to compare the groups.

### Self-efficacy questionnaire

This 17-item test which was developed by Scherer and Adams in 1983 measures two components of general self-efficacy and social self-efficacy. The subject responds to each item on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Therefore, the lowest and highest self-efficacy scores in this questionnaire are 17 and 85, respectively (Scherer et al., 1982). Scherer reported the Cronbach's alpha coefficient of 0.76 for general self-efficacy, the validity of this scale was obtained through construct validity. To obtain construct validity, Barati (1997) performed this test, along with self-esteem test, in a group of 100 people and reported a correlation of 0.61, which was significant at the level of 0.05. He also used the split-half method to check the reliability of the test. The reliability coefficients of the test were reported as 0.76 and 0.79 using equal Length Spearman-Brown and Unequal Length Spearman-Brown methods, respectively (2).

### Quality of work life questionnaire

Walton Quality of Work Life Questionnaire (1973) consists of 27 items and eight components: fair and adequate payment, safe and healthy work environment, providing opportunities for continuous growth and security, legalism in the work organization, social dependence of work life, the general atmosphere of life, integrity, and social cohesion, and development of human capabilities.

**Table 2.** Frequency distribution of work experience of rescuers

Work experience	Frequency	Percentage
Less than 10 years	12	20
10 to 20 years	14	23.3
>= 20	3	5
No answer	31	51.7
Total	60	100

### Coopersmith Confidence Questionnaire (1967)

This scale has 58 items, out of which 8 items (6-13-20-27-34-41-48-55) are lie detectors. A total of 50 items are divided into 4 subscales of general self-esteem, social self-esteem (peers), family self-esteem (parents), and academic self-esteem (school). The validity of this test has been confirmed by several studies. The Concurrent validity of this questionnaire and Eysenck's Personality Inventory was reported as 0.79, and there was a common variance of about 63% between the raw scores of these two scales. Factor analysis of this questionnaire showed that it is saturated with five factors. These factors explain 555.8% of the total variance. To determine the content validity, the list was presented to 10 professors of psychology and they confirmed that the list measures the self-esteem construct.

Tables 2 and 3 show Descriptive findings of the job category of rescuers and non-rescuers and Descriptive findings of the job category of rescuers and non-rescuers.

**Table 3.** Frequency distribution of work experience of rescuers

Work experience	Frequency (n)	Percentage
Less than 10 years	12	20
10 to 20 years	14	3.3
>= 20	3	5
No answer	31	51.7
Total	60	100

### Findings

Descriptive findings indicated that the highest and lowest percentages of rescuers were in the age group of 20-30 years (51.92%) and under 20 years (5.77%), respectively. On the other hand, among the non-rescuers, the highest

and lowest percentages pertained to cases aged above 40 years (59.09%) and 20-30 years (40.91%), respectively. The mean age score of participants was  $2.99 \pm 0.864$  years and the mean gender of all participants was  $1.28 \pm 0.45$ . In terms of education, the highest and lowest percentages of rescuers had a bachelor's degree

(%61.7) and high school education (1.7%), respectively.

Regarding the work experience of non-rescuers, the highest (50%) and lowest (5%) percentages of rescuers had 10-20 and less than 10 years of work experience, respectively.

Moreover, the mean work experience of all

**Table 4.** Kruskal-Wallis test results for quality of life subscales

	Test statistics							
	Fair and adequate payment	Safe and healthy work environment	Provision of opportunities for continuous growth and security	Law abiding in the work organization	Social dependence of work life	General atmosphere of life	Integrity and social cohesion	Development of human capabilities
Kruskal-Wallis test	1.124	0.003	5.274	0.65	0.047	1.595	0.596	2.671
Degrees of freedom	1	1	1	1	1	1	1	1
Significance level	0.289	0.955	0.022	0.42	0.829	0.207	0.44	0.102

**Table 5.** Mann-Whitney test results for the self-efficacy variable

Test statistics	Efficacy
Mann-Whitney statistics	1355.5
Z	-2.484
Significance level	0.013

participants was  $2.12 \pm 0.684$  years. In terms of employment status, the highest and lowest percentages of non-rescuers were permanent (63.73%) and contract employees (1.7%), respectively. In addition, the mean employment status of all participants was  $1.47 \pm 0.646$ . Kruskal-Wallis test was used to test the research hypotheses.

The first sub-hypothesis of the research: A comparison was made between Kermanshah earthquake rescuers and non-rescuers in terms of the subscales of quality of working life using the non-parametric Kruskal-Wallis test. The results are displayed in Table 4.

As illustrated in Table 4, there is no difference between rescuers and non-rescuers in the subscales of quality of life since for all subscales, the significance level was  $>0.05$ .

The second sub-hypothesis of the research: A comparison was made between Kermanshah earthquake rescuers and non-rescuers in terms of self-efficacy using the Mann-Whitney test, and the results are presented in Table 5.

According to Table 5, rescuers and non-rescuers differed in self-efficacy since the significance level was  $<0.05$ .

The third sub-hypothesis of the research: A comparison was made between Kermanshah earthquake rescuers and non-rescuers in terms of self-confidence subscales (Table 6).

As illustrated in Table 6, only the general subscale of self-esteem was different in rescuers and non-rescuers since the significance level was  $<0.05$ .

The main hypothesis of the research: A comparison was made between Kermanshah earthquake rescuers and non-rescuers in terms of self-efficacy, quality of work life, and self-confidence. Table 7 shows the average rankings of rescuers and non-rescuers for the three variables of quality of life, self-efficacy, and self-esteem.

Considering that the level of significance in

**Table 6.** Comparison of self-confidence subscales in rescuers with non-rescuers

	Test statistics				
	False scale	Educational scale	General scale	Social scale	Family scale
Kruskal-Wallis statistics	0.059	0.0181	4.146	0.34	0.321
Degrees of freedom		1	1	1	1
Significance level	0.807	0.671	0.042	0.56	0.571

**Table 7.** Average ranks of rescuers and non-rescuers

Total	Average ratings	Number		
107	52.61	47	Rescuer	Quality of Life
	55.09	60	Non-rescuer	
120	67.91	60	Rescuer	Self-efficacy
	53.09	60	Non-rescuer	
120	53.67	60	Rescuer	Self-esteem
	63.33	60	Non-rescuer	

**Table 8.** Kruskal-Wallis test results

	Quality of Life	self-efficacy	self-esteem
<b>Kruskal-Wallis statistics</b>	0.168	6.168	1.133
<b>Degree of freedom (df)</b>	1	1	1
<b>Significance level</b>	0.666	0.013	0.287

the variables of quality of life and self-esteem was more than 0.05, it can be concluded that the variables of self-esteem and self-efficacy were the same in rescuers and non-rescuers. Nonetheless, since the significance level for self-efficacy was less than 0.05, it can be concluded that self-efficacy is not the same in rescuers and non-rescuers. Moreover, the average rankings for self-efficacy showed that self-efficacy was higher in rescuers, as compared to that in non-rescuers.

These tests are used due to the non-normality of the data, and according to Table 9, since the significance level is  $<0.05$ , the assumption that errors (model residuals) are normally distributed is not accepted. Since the most important assumption of parametric tests was not established, we used non-parametric tests. In order to compare Kermanshah earthquake rescuers and non-rescuers in the quality of work life subscales, we used the non-parametric Kruskal-Wallis test as illustrated in Table 4, which shows that there is no difference between rescuers and non-rescuers in the subscales of quality of life.

Since for all subscales, the significance level was  $>0.05$ , in order to compare Kermanshah earthquake rescuers and non-rescuers in the self-efficacy variable, the Mann-Whitney analysis test was used, as depicted in Table 5, which demonstrates that self-efficacy was not the same between rescuers and non-rescuers since the significance level was  $<0.05$ . To compare Kermanshah earthquake rescuers and non-rescuers in the subscales of self-confidence, Table 6 displays that only the general subscale of self-esteem was different in rescuers and non-rescuers since this variable was significantly less than 0.05. Table 7 also shows the comparison of rescuers

and non-rescuers in the three variables quality of life, self-efficacy, and self-esteem.

Considering that the level of significance in the variables of quality of life and self-esteem is more than 0.05, it can be concluded that these variables are higher in rescuers than non-rescuers. However, since the significance level for the self-efficacy variable is less than 0.05, it can be concluded that the self-efficacy variable is lower in rescuers than in non-rescuers.

**Table 9.** Results of Kolmogorov-Smirnov test

	Significance level (sig)	Value of test statistics
<b>Self-efficacy</b>	0.265	0.00
<b>Quality of work life</b>	0.173	0.00
<b>Self-esteem</b>	0.233	0.00

## Discussion and Conclusion

The comparison made between Kermanshah earthquake rescuers and non-rescuers in self-efficacy, quality of work life, and self-confidence demonstrated that only self-efficacy was significantly different between rescuers and non-rescuers. Job self-efficacy affects and is influenced by motivation and behavior; moreover, the high levels of this trait enhance employees' active involvement in organizational responsibilities.

Research in non-educational occupations pointed out that job self-efficacy is a major predictor of job exploration, job maturity, stability in job patterns, job satisfaction and commitment, and job effectiveness, affecting job performance through these constructs. Self-confidence is the foundation of a happy personality and makes a person aware of his/her abilities and limitations.



Moreover, self-confident people come to sensible compromise and tranquility by establishing full control over their thoughts and feelings. The results of the Kruskal-Wallis test suggested that all dimensions of quality of work life were not different between rescuers and non-rescuers.

According to Werther, one of the most common methods used to increase the quality of work life (QWL) programs is the employee participation approach. This method consists of several sub-systematic methods in which employees can intervene in decisions that affect them and their relationship with the organization. Employees' sense of responsibility is enhanced by using this method, and sometimes they may even feel that they are involved in their own decision-making. According to William Werther, to be successful in QWL projects, one must look at it as more than a few systematic techniques. Therefore, QWL should be part of the organizational culture. Many organizations in the United States have incorporated this philosophy into their organizational structure to increase their employees' satisfaction.

Harold Kentz believes that one of the most interesting ways to motivate employees is through the quality of work life program. This program represents a systematic approach to job design and a promising breakthrough in the broad realm of career development that is rooted in the attitude of socio-technical systems in management. Quality of work life is not only a broad approach to career development but also an interdisciplinary field of research and practice that combines psychology and organizational development, the theory of motivation and leadership, as well as industrial relations.

The results of the present study were not consistent with those obtained by Hosseini (2014) who reported that active rescuers had a better quality of work life, as compared to inactive rescuers in disasters. Quality of work life is a process by which all members of the organization are somehow involved in decisions that affect their jobs in particular and their work environment in general. Consequently, we will witness a marked increase in their job satisfaction and participation, as well as a decrease in work-related stress.

The results of the current study are in agreement with those suggested by Mehraban (2017) who reported that self-efficacy was

higher in firefighters who were more physically active. Although crucial importance and priority are given to rescuers in earthquake-stricken areas, stress and lack of self-confidence can disrupt their relief activities. Moreover, work-related anxiety can negatively affect their self-esteem and job performance. Therefore, it is necessary to increase self-efficacy and self-confidence in these people.

Furthermore, the quality of work life program is among the strategies and measures taken to improve employee empowerment, as well as organizational efficiency, productivity, and effectiveness. Therefore, according to the results of this study, special attention should be paid to the self-efficacy of rescuers. There was no difference between rescuers and non-rescuers in all components of quality of work life. Regarding the second sub-hypothesis of the research (comparing self-efficacy between Kermanshah earthquake rescuers and non-rescuers), the results of the Mann-Whitney test pointed to a significant difference between rescuers and non-rescuers in terms of self-efficacy ( $P < 0.05$ ).

Finally, it should be noted that the quality of life and motivation of the operational and non-operational staff of the Red Crescent Society, designing a model for developing the human capabilities of Red Crescent Society rescuers by increasing their psychological capabilities, and investigating the effect of quality of work life exert a significant impact on the dynamics of Red Crescent staff and deserve special attention.

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### Conflict of Interests

The authors declare that there is no conflict of interest in this study.

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