Doi: 10.61186/jorar.16.3.140

The Relationship between Self-Efficacy and Resilience with Psychological Preparation and Mediating Role of Stress Coping Styles in RCS Rapid Response Teams in Iran

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Date of submission: 19 Feb.2024 ***Date of acceptance: 09Jun.2024***

Original Article

Abstract

INTRODUCTION: The aim of the present study was to investigate the relationship between self-efficacy and resilience with psychological preparation with the mediating role of stress coping styles in RCS Rapid Response Teams in Iran.

METHODS: In this descriptive-correlational study, the statistical population was people working in RCS Rapid Response Teams in Iran in 2023. A total of 338 people were selected based on Kleine's model and available sampling method. Data collected with Sherer's General Self-Efficacy Scale (GSES); Connor-Davidson Resilience Scale (CD-RISC) and the Coping Inventory for Stressful Situations (CISS) and analyzed using SPSS-28 and AMOS software.

FINDINGS: According to the findings, resilience had a direct and significant effect with both psychological preparation and stress coping styles which were able to play a meaningful mediating role in the relationship between self-efficacy and resilience with psychological preparation. Also, the results of the fit indices look good and acceptable. (RMSEA=0.032 and $p<0.05$).

CONCLUSION: The results show that considering the significant mediating role of stress coping styles, it is possible to improve the level of psychological preparation in RCS Rapid Response Teams by applying effective interventions such as stress coping styles and resilience training.

Keywords: Psychological preparation; Resilience; Self-efficacy; Stress coping styles.

How to cite this article: Vaghri E, Sotodehasl N, Roozafzoon D, Afrakhteh S. **Examining the Relationship between Self-Efficacy and Resilience with Psychological Preparation and Mediating Role of Stress Coping Styles in RCS Rapid Response Teams**. Sci J Rescue Relief 2024; 16(3): 140-147.

Introduction

United Nations Office for Disaster Risk Reduction (UNDRR) defines disaster as "a serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts". (1) Natural disasters with rapid onset have two forms: *geophysical events* (earthquakes, landslides, volcanic eruptions and tsunamis) and *weather-related events* (hurricanes, tornadoes, floods and forest fires). These natural disasters often occur with little warning, resulting in significant damages to human capital and health including death, injury, and traumatic stress, and according to observations, the number of weather-related disasters and incidents and the resulting damages have increased globally due to the effects of climate change. (2)

In such a situation, rapid response teams play an important role in helping the injured. These teams are composed of professionals and trained people of the health system who have the necessary skills, education and qualifications and are completely self-reliant. These teams can be sent to the affected area with full capability when disasters occur. For fast, timely and effective response in disasters, in addition to proper equipment, rapid response teams must also have

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psychological preparation for proper and timely response. Therefore, when accidents occur, people and organizations should not only be prepared for support, but also psychologically prepared. (3)

Psychological preparation can help people to cope with the stress caused by critical, emergency and danger situations, feel safe, have more control and make better decisions (4). In addition, psychological preparedness in the face of disasters can help reduce the adverse psychological effects of disasters by protecting them from psychological distress and mental health problems that may arise from the trauma of being involved in disasters (5&6). However, psychological preparation before a crisis may help rapid response teams to anticipate, recognize, and control their emotions, leading to better coping. Therefore, effective recognition of psychological preparation in rapid response teams can be important. According to the research background, one of the effective factors on psychological preparation can be the self-efficacy of people. (7)

According to Bandura's social-cognitive theory, self-efficacy is defined as people's belief in their ability to control their functioning and events that affect their lives (8), potentials and capacities to organize and successfully perform a specific behavior to achieve specific achievements (9). In other words, self-efficacy is described as the perceived beliefs in the capacity or ability of a person to perform a specific task correctly. (10)

Self-efficacy has a special importance in people's lives, and has been defined as a person's belief in his abilities to successfully perform a specific behavior to achieve a certain result (11 & 12). One of the concepts raised in examining the job effectiveness of the RCS employees is professional self-efficacy, which refers to the level of skill of people in facing job challenges also team cooperation is considered as an essential component related to the self-efficacy of RCS team members which can improve the health outcomes of the injured as well as the quality of effective and safe services to the people in need. (13)

Based on the research done, there is a significant relationship between resilience and self-efficacy; in such a way that self-efficacy in RCS staff as aid workers in times of crisis causes them to show higher resilience. (14)

Psychological resilience is multidimensional and can be defined in different ways; for example, a new research agenda has presented definitions of resilience under the title of capacity (or trait), a process (or adaptation to a stressful/traumatic event), and an outcome. (15)

Since trait resilience can be interpreted as a more distant and stable characteristic, state resilience is interpreted as more recent and responsive to life events. (16) Resilience helps rapid response teams to have the necessary endurance and resistance and ability to provide assistance in crisis and emergency situations.

According to what was said, in the current research stress coping styles are emphasized as a mediating variable. Coping styles refer to certain actions aimed at modulating the stimulus that causes stress, as well as controlling the emotions caused by it. (17)

Traditionally, these styles are divided into two categories: a) problem-oriented, i.e. actions with the aim of eliminating or reducing the effect of the stressful factor (active coping, planning and acceptance); b) emotion-oriented, i.e. actions with the aim of preventing or reducing discomfort or emotional distress caused by a stressful situation (instrumental support, emotional support, self-blame, venting, and religion). Some also suggest a third category called avoidance coping styles, which includes actions aimed at avoiding stressful situations through distraction techniques (denial, drug use, distraction, and humor). (18)

In fact, the spread of disasters in Iran is inevitable and every year we witness the occurrence of accidents, incidents and natural disasters. This situation makes the logistical and psychological preparation of rapid response teams very important, which can be influenced by the psychological, emotional and personality characteristics of these teams; Therefore, the efficient use of rapid response teams requires knowing the factors affecting their psychological preparation. However, examining the role of mediating variables involved in the relationship between self-efficacy and resilience with psychological preparation will create a new insight in the etiology and contribute to the greater capability of these teams. So this research aims to answer the question whether stress coping styles can play a mediating role in the relationship between self-efficacy and resilience with psychological preparation.

Methods

The research method is a correlational and quantitative description. The statistical population

[DOI: 10.61186/jorar.16.3.140]

was all the rapid response teams of the IRCS in 2023. Based on Kleine's rule (19) and taking into account the possibility of dropout and in order to generalize the results of the sample size, 400 people were selected. After examining the data, 62 questionnaires were identified as outliers and were excluded from the analysis and the final sample size of the research reached 338 people. Informed consent and at least 6 months of activity in rapid response teams were the criteria for entering the current research.

The ethical principles observed in this research were as follows: respecting the dignity and rights of individuals, preserving secrets and privacy, freedom of rapid response teams, explaining research objectives, obtaining informed consent, optionality of research, the right to withdraw from the study and answer questions, and providing the results on request. The data were analyzed at two descriptive and inferential levels; at the descriptive level, the mean and standard deviation were used to measure the research variables and the data were analyzed with SPSS-28 and AMOS software.

Research tools

A) Psychological Preparation Scale (PPS)

This scale was compiled by McLean et al (2020) and includes 18 questions and 2 subscales of knowledge and awareness which measures anticipation, awareness and management. The factorial validity of psychological preparation questions was examined by McLean et al (2020) and the ratio values of chi-square to degrees of freedom(X2/d), Comparative Fit Index (CFI) and Root Mean Square Error of Approximation (RMSEA) were obtained as 1226.696, 0.930 and 0.081, respectively. (1) In the present study, Cronbach's alpha coefficient was 0.92.

B) General Self-Efficacy Scale (GSES):

This scale was compiled by Sherer et al (1982)(20) and measures 17 questions and three subscales as follows: initiating behavior (effort), the desire to extend the effort to complete the task (perseverance) and different in facing obstacles (initiative). (21) The minimum and maximum scores were 17 and 85; also a higher score indicates greater self-efficacy in the respondent. The creators of the scale examined its psychometric properties and its criterion (simultaneous) validity with Rosenberg's Self-Esteem Scale (RSEs) (22), Pearson's correlation coefficient (0.51) and significant at the 0/01 level (20). And its criterion (simultaneous) validity was investigated with the Rosenberg Self-Esteem Scale (RSEs). (22) Pearson correlation coefficient was 0.51 and a significance level of 0.01 was obtained. (20) In the present study, Cronbach's alpha coefficient was 0.86.

C) Resilience Scale (RISC)

This scale was developed by Connor and Davidson in 2003, includes 25 questions and 5 subscales which measures the ability to deal with stress in the face of danger or adversity as follows: perception of individual competence; tolerance of negative emotion; positive acceptance of change and secure relationships with questions; control; spiritual influence. (23) The grading scale is a five-point Likert scale, the minimum and the maximum scores was 0 and 100, and a higher score indicates more resilience. The makers of the differential validity scale have checked its differential validity with the Arizona Sexual Experiences Scale (ASEX) by McGahuey et al. (24) and reported a non-significant correlation coefficient (-0.34) Also, to check the validity of the construct, factor analysis was used and the ratio values of chi-square to degrees of freedom (X2/d), Comparative Fit Index (CFI) and Root Mean Square Error of Approximation (RMSEA) were obtained as 1.563, 0.903 and 0.053, respectively, which indicate the factorial validity of psychological preparation questions (1). Cronbach's alpha was used to measure reliability (0.82) and for the subscales in the range of 0.72 to 0.75, as well as the retest coefficient after 2 weeks, the coefficient was 0.40 and significant at the 0.01 level. (25) In the present study, Cronbach's alpha was calculated to check the reliability (0.90).

D) Coping Inventory for Stressful Situations (CISS):

This inventory was compiled by Endler and Parker (1990), which includes 21 questions and three sub-scales as problem-oriented; emotion-oriented; avoidance-oriented. (18) The questions were graded on a 5-point Likert scale and Cronbach's alpha was (0.75) (26). The construct validity and Pearson correlation coefficient between the total score and its dimensions were 0.64 to 0.75 and significant at the 0.01 level. (27) The coefficients for problem-oriented, emotion-oriented, and avoidance-oriented were 0.81, 0.80

[DOI: 10.61186/jorar.16.3.140]

and 0.88 respectively. (28) In the current study, the Cronbach's alpha coefficient was 0.81.

Findings

According to the results, the highest frequency was for 25 to 35 and the lowest frequency was for 47 years old and above. The average age of people was 34.99 and the standard deviation of age was 9.075. A total of 71 people (21%) and 167 ones (79%) were women and men respectively. In addition, 140 people (41.4%) were single, 190 people (56.2%) were married and 8 people (2.4%) had lost their spouses. Moreover, 38 of the respondents (11.2%) have diploma or high school no degree, 43 people (12.7%) have associate degree, 185 people (54.7%) have bachelor's degree, 64 people (18.9%) have master and 8 (2.4%) had PhD.

Table 1 shows the descriptive indices and normality of the research variables. The standardized elongation Mardia coefficient and the critical ratio were used in order to check the multivariate normality of the data. The Mardia coefficient and critical ratio should be less than 5. In this study, "Mardia coefficient" was 2.06 and the value of critical ratio was 3.46, which indicates the assumption of normality of the multivariate distribution of scores in this research (19). Based on the results, the value of skewness and elongation of the research variables is in the range of -2 to 2 which shows the distribution of all research variables is normal. (Table 2)

In addition, there is a negative and significant correlation between emotion-oriented coping ($p<0.01$, $r= -0.270$) and avoidance-oriented coping ($p<0.01$, $r=-0.259$) with psychological preparation between self-efficacy ($p>0.01$, $r=0.433$), resilience ($p>0.01$, $r=0.543$) and problem-oriented coping ($p>0.01$, $r=0.352$) with psychological preparation has a positive and significant correlation.

According to Table 3, the path of self-efficacy to psychological preparation has been removed due to its lack of significance and the model has been modified.

Table 1. Descriptive indices and normality of research variables

Research variables	Mean	Standard deviation	Skewness	Elongation
Knowledge	32/47	5/077	-0/276	-0/850
Forecast	25/59	4/199	-0/153	-0/810
Total psychological preparation score	58/06	8/240	-0/096	-0/877
Initiation	25/10	2/998	-0/359	-0/040
Effort	19/90	2/698	-0/165	-0/217
Resistance	25/88	2/857	-0/302	-0/577
Total self-efficacy scores	70/68	7/418	-0/179	-0/368
Competency	24/95	3/949	-0/094	-0/407
Tolerance	20/24	3/136	0/246	0/104
Reception	15/88	2/129	0/035	-0/343
Control	9/56	1/430	0/043	-0/290
Spirituality	5/57	1/315	-0/258	-0/080
Total resilience score	76/20	9/281	0/186	0/082
Problem-oriented coping	26/65	3/876	-0/142	-0/448
Emotion-oriented coping	18/56	4/522	0/051	-0/320
avoidance-oriented coping	17/72	5/305	0/240	-0/224
Multivariate normality	Mardia's coefficient: 2.06 Critical ratio: 3/46			

Table 2. Correlation matrix between research variables

Research variables	1	2	3	4	5	6
Psychological preparation	1					
Efficacy	0/433**	1				
Resilience	0/543**	0/624**	1			
Problem-oriented coping	0/352**	0/482**	0/447**	1		
Emotion-oriented coping	-0/270**	-0/342**	-0/258**	-0/408**	1	
Avoidance-oriented coping	-0/259**	-0/205**	-0/263**	-0/345**	0/257**	1

** Significant at the 0.01 level

[DOI: 10.61186/jorar.16.3.140]

Table 3. Direct and standard coefficients of the modified model of self-efficacy, resilience and coping styles with psychological preparation

Straight paths	Standard coefficient	Non-standard coefficients			
	β coefficient	Coefficient b	standard error	T	Sig
Self-efficacy → psychological preparation	–	–	–	–	–
Resilience → psychological preparation	0/51	0/94	0/97	4/05	0/001
Problem-oriented coping → psychological preparation	0/30	0/17	0/05	3/46	0/001
Emotion-oriented coping → psychological preparation	-0/25	-0/18	0/04	-4/45	0/001
Avoidance-oriented coping→ psychological preparation	-0/53	-0/54	0/03	-3/24	0/009

Table 4. Bootstrap results of self-efficacy and resilience with the mediating role of coping styles on psychological preparation

Indirect path	Bootstrap approximation		Sig.
	Lower limit	Upper limit	
Self-efficacy → problem-oriented coping style → psychological preparation	0/047	0/052	0/001
Self-efficacy → emotion-oriented coping style → psychological preparation	-0/232	-0/235	0/001
Self-efficacy → avoidance-oriented coping style → psychological preparation	-0/062	-0/082	0/001
Resilience → problem-oriented coping style → psychological preparation	0/272	0/281	0/001
Resilience → emotion-oriented coping style → psychological preparation	-0/110	-0/215	0/001
Resilience → avoidance-oriented coping → psychological preparation	-0/093	-0/110	0/001

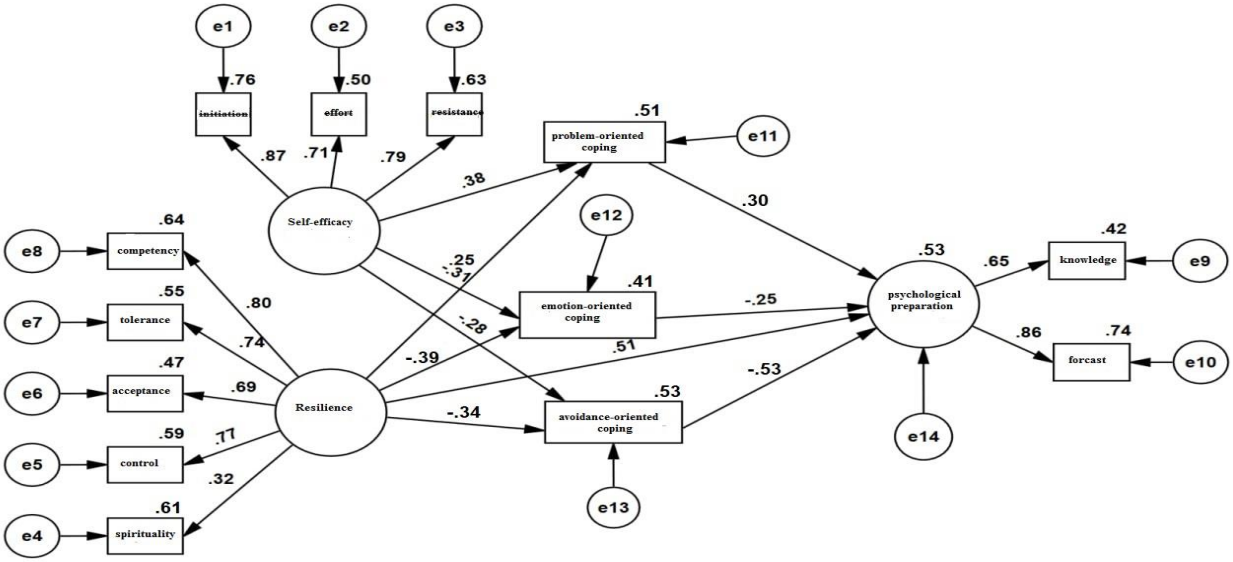

Figure 1. Modified research model

Table 5. Indexes of the modified research model

Index type	Indicators	The amount obtained	Acceptable value
Absolute indices	Normalized Chi-Square (CMIN)	99/52	–
	Degrees of Freedom	58	-
	CMIN/Df	1/72	Less than 3
	Significance Level	0/001	-
	Root Mean Square Error of Approximation (RMSEA)	0/032	Less than 0.08
	Proximity Index (PCLOSE)	0/001	-
Relative indicators	Comparative Fit Index (CFI)	0/96	More than 0.90
	Adjusted Goodness-of-Fit Index (AGFI)	0/92	More than 0.90
	Parsimonious Fit Index (PCFI)	0/65	More than 0.60
	Parsimony Normed Fit Index (PNFI)	0/73	More than 0.60
	Incremental Fit Index (IFI)	0/94	More than 0.90
	Tucker-Lewis Index (TLI)	0/93	More than 0.90
	Goodness Of Fit Index (GFI)	0/91	More than 0.90
	Normalized Fit Index (NFI)	0/97	More than 0.90

[DOI: 10.61186/jorar.16.3.140]

According to Table 4, the upper and lower limits of the test obtained by the Bootstrap method are positive and zero is not between these two limits, which indicate that the indirect causal paths are significant.

Kleine's suggested that (19) the most important fit indicators are: Chi-Square, Smoothed Fit Index (NFI), Goodness of Fit Index (GFI), Incremental Fit Index (IFI), Tucker-Lewis Index (TLI), Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA). For the present study, the results of the fit indices of the modified look good and quite acceptable.

Figure 1 shows the modified research model (eliminating the direct path of self-efficacy to psychological preparation due to not being meaningful), based on that, 53% of psychological preparation is explained. In other words, self-efficacy and resilience can explain 53% of the variance of psychological preparation with the mediating role of coping styles which means self-efficacy does not directly explain psychological preparation, but with the help of the mediating role of coping styles, it is able to forecast and explain psychological preparation.

Discussion and Conclusion

The present study was conducted with the aim of investigating the mediating role of stress coping styles in the relationship between self-efficacy and resilience with psychological preparation in RCS Rapid Response Teams. According to the results, stress coping styles play a mediating role in the relationship between self-efficacy and psychological preparation in rapid response teams.

In the meantime, no research was found to show that stress coping styles play a mediating role in the relationship between self-efficacy and psychological preparation in rapid response teams, hence, the alignment and non-alignment of this result obtained with the results of previous researches is not clear. In explaining this result, it can be said that self-efficacy has a positive effect on people's ability and performance, and as a motivational factor, it increases performance. This is how rapid response teams believe in their ability and effective performance when they are put into an operational situation and when they face stress and work challenges in the operation, they use more problem-oriented stress coping styles, which help them to work in a way face the stress caused by the operation more effectively and efficiently, which affects their psychological preparation. On the other hand, it can be said that the important principle of Bandura's social-cognitive theory is that self-efficacy (that is, belief in one's ability) leads to voluntary behavior; that is, the feeling that they can successfully perform a behavior removes them from the fear of facing fearful situations due to failure, and as a result, they are motivated to perform the behavior. (29)

Therefore, people with less self-efficacy have less faith in their ability to successfully complete their mission during the operation, that's why when faced with stressful work and operational events, some may turn to more maladaptive stress coping styles such as emotion-oriented and avoidance-oriented. These styles affect their level of psychological preparation. Therefore, it is reasonable to say that coping styles play a mediating role in the relationship between self-efficacy and psychological preparation.

The results showed that stress coping styles play a mediating role in the relationship between resilience and psychological preparation in rapid response teams. In fact, no research was found to show that stress coping styles play a mediating role in the relationship between resilience and psychological preparation in rapid response teams. Therefore, the alignment and non-alignment of this result obtained with the results of previous researches is not clear. In explaining this result, it can be said that resilience can be described as a protective factor against psychological problems and as a dynamic process to adapt to changes in life conditions. (30)

From a positive psychology perspective, positive growth or adaptation after bio-psychological homeostatic break periods is a focus on strengths that allow individuals to survive and grow not only in the simple mechanism or process of recovery from a stressful situation but also in the face of adversity.

According to the perspective of psychopathology, resilience is a multidimensional characteristic that varies depending on the cultural origin, context, personal circumstances, time, age and gender of the individual. (23) Therefore, this personality trait helps the rapid response teams to be more resistant to their work challenges and to benefit more from problem-oriented styles when experiencing stress during their missions.

In fact, people with a problem-oriented coping style adapt better to existing conditions and stresses and are more psychologically prepared

[DOI: 10.61186/jorar.16.3.140]

when crises and disasters occur. However, people with less resilience have a significantly lower ability to maintain their mental health and do not have the strength to face stress and adversity. Therefore, they are captured by incompatible stress coping styles, such as emotion-oriented and avoidance-oriented, which causes their psychological preparation to face and cope with stress to be negatively affected by these conditions. So it is reasonable to say that coping styles play a mediating role in the relationship between self-efficacy and psychological preparation.

This study showed that self-efficacy and resilience are key factors for predicting psychological preparation and helps to strengthen and intervene in the psychological preparation of the RCS rapid response teams. Moreover, it can be concluded that due to the significant mediating role of stress coping styles, it is possible to improve the level of psychological preparation of RCS Rapid Response Teams by applying effective interventions such as resilience training and stress coping styles.

Acknowledgments

The authors would like to express their gratitude to all the participants (IRCS Rapid Response Teams) who helped in conducting this research.

Conflict of Interests

The authors declare no conflict of interest.

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[DOI: 10.61186/jorar.16.3.140]