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The Relationship between Belief in a Just World and Symptoms of Psychological Disorders in Burn Patients: The Intermediate Role of Coping Strategies

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The present research aims to investigate the relationship between belief in a just world (BJW) and the symptoms of psychological disorders given the intermediate role of coping strategies in burn patients. A total of 170 burn patients were selected from Rasht Burn Incident Center via random sampling and were introduced to the research. They filled the following psychological disorder questionnaires: Symptom Checklist-90 Revised (SCL-90-R), Belief in a Just World Scale (Sutton & Douglas, 2005) and Coping Inventory for Stressful Situations (CISS) (Endler & Parker, 1990). The methodology of the research was the examination of correlation, and the proposed model was analyzed by means of structural equation modeling (SEM). Bootstrap technique was adopted to test the mediating effects in the proposed model. The results showed that BJW has a negative significant effect on psychological disorder symptoms in burn patients. Moreover, BJW has a positive significant effect on problem-focused coping strategy; however, it has a negative significant effect on emotion-

focused and avoidance-focused coping strategies. The findings of the present study demonstrate the intermediate role of problem-, emotion- and avoidance-focused coping strategies in the relationship between BJW and symptoms of psychological disorders in burn patients.

Keywords: belief in a just world, psychological disorders, coping strategies

There is a strong tendency in humans to believe in the fairness of the world's events and incidents. People's outlook on the justness of the world, which plays an important and effective role in the way a person copes with problems as well as the person's mental health, involves logical and illogical beliefs about life. The basis of the belief in a just world (BJW) theory developed by [Lerner and Miller \(1978\)](#) may be summarized as follows: People need to believe that they live in a world in which they typically achieve what they deserve. The belief that the world is just enables people to cope with their physical and social environment as if they are unchanging and in good order. Without this belief, people cannot easily commit themselves to pursue long-term goals or even regulated social behaviors in everyday life ([Bavarsad, 2015](#)). A great number of studies have been conducted so far, in which it has been demonstrated that many indices of mental health such as positive affection, better sleep, lower levels of depression, self-esteem, hope for future and humanitarian behaviors, have a relationship with BJW ([Jiang, Chen & Wang, 2017](#); [Jiang, Chen & Wang, 2016](#); [Zheng, Zhang & Yuan, 2012](#); [Adoric, 2011](#); [Fox, Elder, Gater & Johnson, 2010](#); [Dalbert, 2009](#)). [McParland and Knussen \(2010\)](#) showed in a study that a strong BJW can bring about coping potential in patients with chronic pains, insofar as it allows the person to adapt to the acute pain and inability without great affliction and anguish using coping strategies.

A very important effect of BJW is that it enables people to assign meanings to the negative incidents of the social world. There is an adaptive aspect to this explanatory style because it protects people from a feeling of vulnerability against negative incidents (Scott, 2008). BJW can help in tolerating pressure and damage as a personal resource leading to people's mental health at different ages and situations as victims or non-victims (Dalbert & Donat, 2015). BJW results in meaningfulness and positive adaptation of people, especially in traumatic and damaging incidents. Burn is one of the most destructive traumatic incidents that seriously threaten people's life and health (WHO, 2008). Burn causes a level of damage to the body that makes patients to adapt to a changed appearance and bodily function (Abrams, Ogletree, Ratnapradipa & Neumeister, 2016). Burn patients experience horrifying events at the time of the incident. The experiences of painful treatment in hospitals also contribute to their fear. The patient and his family may experience intense feelings of anger, sin and frustration. Nightmares at night and recalling the incident are irritating, making any burn patient to tolerate different painful experiences (Leblebici et al., 2006). Research has shown that burn affects people's mental health, leading to feelings of rejection, anxiety, depression, social phobia and PTSD, in a way that even after several years after the burn incident, the resulting stress will still continue (Logsetty et al., 2016; Hobbs, 2015; Yabanglu, Yagmurdur, Taskintuna & Karakayali, 2012).

Burn patients exhibit different coping responses when facing painful burn experiences, which indicate their thinking content and style and their previous learning. Lazarus and Folkman (1984) defined coping strategies as behavioral and cognitive responses that aim to minimize the pressures of stressful situations. Initial approaches to the coping process are divided into three main coping strategies: Problem-focused coping strategy which is characterized by direct action to reduce

pressure or increase stress management skills; emotion-focused coping strategy which is characterized by cognitive strategies that postpone the resolution or elimination of the stressor by giving a new name and meaning; and avoidance-focused coping strategy which is mainly characterized by avoiding to encounter the stressor (Zeidner & Endler, 1996). As shown in studies, the coping strategy adopted by a person not only affects his mental health, but also influences his bodily well-being (Piko, 2001). Stress-oriented diseases and psychological disorders may be predominantly seen in the people who constantly employ emotion-focused or avoidance-focused coping strategies; however, problem-focused coping reduces symptoms of psychological diseases and disorders (Gustems-Carnicer & Calderon, 2012; Berkel, 2009; Ghazanfari & Kadampoor, 2008). Coping strategies are variables that have been extensively studied within the framework of health psychology. The greatest focus of research in this field involves the identification of effective coping strategies as a mediating variable in the stress-disease relationship (Somerfield & Mccrae, 2000). In this regard, the mediating effect of problem-, emotion- and avoidance-focused coping strategies has been confirmed in numerous studies (Sanjuan & Magallares, 2015; Ra & Trusty, 2015; Haghshenas, Nouri, Moradi & Sarami, 2014; Jafari, Omidimajd & Esfandiari, 2013; Fitzsimmons & Bardone-cone, 2010). Haffer and Olson (1998) showed in a research that people's BJW allows them to use effective coping strategies that can act as a protective shield to cope with stressful incidents and circumstances in their lives. Therefore, they reduce depression, anxiety and psychological disorders in people. It became clear that adopting coping strategies appropriately allows burn patients to return to the society more quickly (Safavibayat et al., 2010)

In spite of the negative consequences and psychological complications in burn patients, this research field has rarely received attention in Iran. The studies that have been conducted are defective and contradictions addressing the general effects of this damage on people's mental health (Lieber, 2008; Willberand, 2003). Thus, given the lack of psychological information in this field, the present research aims to take a step to promote the necessary knowledge on the psychological factors affecting the mental health of burn patients by investigating the effect of BJW on psychological disorders of burn patients via the mediation of coping strategies. This study aimed to test the following model.

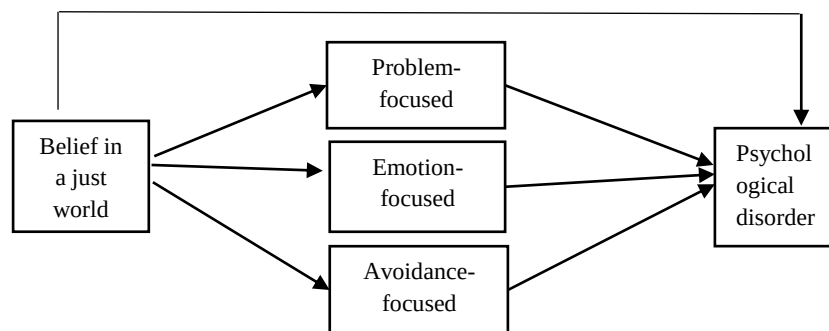


Figure. Proposed Model of the Present Study

Method

The methodology of the present research is the survey and correlation type. Structural equation modeling was adopted in the research plan using AMOS/18 software. The mediating relationships of the final model were also tested using bootstrap. The statistical population of the research consisted of 300 patients hospitalized in Velayat Burn Incident and Reparative Surgery Center of Rasht. According to Morgan's table, a total of 170 patients (82 female and 88 male) were selected via random

sampling with four months interval, from May to August 2015 and they were introduced to the study. All samples were in the 18-66 age range. Minimum and maximum education levels of the patients were elementary school and master's degree, respectively. The patients had no background of psychological disorders and they entered the research with satisfaction and awareness.

Instruments

Symptom Checklist-90-Revised (SCL-90-R)

This scale is a well-known test in psychopathological studies. The 90 questions of this test address different symptoms of psychological disorders including 9 subscales namely, bodily complaints, obsessive-compulsive, sensitivity in mutual relationships, depression, anxiety, aggression, fear, paranoid thoughts and psychosis. The responses provided for each part of the test were placed on a 5-degree scale: none, rarely, to some extent, greatly and intensely (minimum score is 0 and maximum score is 4). The reliability is .97 via retest method. This test has been used repeatedly in different Iranian populations to evaluate the degree of psychopathology. The investigation of the reliability and validity of this scale in Iran revealed that it enjoys acceptable reliability and validity, suggesting that it may be used as a screening or diagnostic tool for psychological disorders in Iran (Abdollahian et al., 2004). Derogatis, Rickels & Rock (1976) reported the concurrent validity coefficient of the nine-fold dimensions of this test to be in the range .36-.73 with MMPI, except for the obsessive-compulsive scale. They were all significant at the level of .01. In the present study, the reliability of the questionnaire was obtained as .88 by calculating the Cronbach's alpha.

Coping Inventory for Stressful Situations (CISS)

This scale was developed by Endler and Parker in 1990 to examine different coping strategies. It consists of 48 questions. Any question is responded to on a five-degree scale from never (1) to very much (5). The questions of this scale are divided into three subscales namely, problem-, emotion- and avoidance-focused coping strategies. The validity of this questionnaire is the construct validity type. The statements of the test's subscales were proven by calculating the correlation of each statement with the entire statements of the subscale. The correlation is explained as follows: problem-focused coping = .48, emotion-focused coping = .41, avoidance-focused coping = .45 (Cosway, Endler, Sadler & Deary, 2007). Jafarnejad (2005) achieved reliability for the three coping styles respectively as follows: .83, .80, and .72. The Cronbach's alpha in the present research was obtained as follows: .79 for problem-focused, .76 for emotion-focused and .82 for avoidance-focused coping strategies.

BJW Questionnaire

The BJW questionnaire for oneself and others was developed by Sutton and Douglas (2005). It was translated in Iran for the first time by Golparvar and Oreizi (2007) and its validity was investigated. The questionnaire consists of 16 questions scored on the basis of the Likert scale. The choices are completely agree, agree, agree to some extent, no comment, disagree to some extent, disagree and completely disagree with scores of 1-7, respectively. The reliability of this questionnaire was measured by Golparvar and Oreizi (2007) and the Cronbach's alpha was reportedly .72 and .84, respectively for beliefs in a just world for oneself and others. However, there is evidence regarding the concurrent and construct validity of this

questionnaire provided by Golparvar and Oreizi (2007). In the study conducted by Golparvar, Kamkar and Javadi (2007), the Cronbach's alpha of the BJW questionnaire was obtained as .78 and .84, respectively for oneself and others. In this study, Cronbach's alpha was obtained as .86.

Results

The descriptive findings pertaining to mean, standard deviation of the participants and correlation matrix regarding research variables are shown in Table1.

Table 1
Descriptive Statistics and Correlation Matrix of the Research Variables

Row	Variables	Mean	S.D.	1	2	3	4	5
1	BJW	40.65	9.83	-				
2	Problem-focused	24.08	2.23	.63**	-			
3	Emotion-focused	23.68	2.68	-.74**	-.43**	-		
4	Avoidance-focused	19.88	3.4	-.40**	-.44**	.40**	-	
5	Psychological Disorder	111.83	17.3	-.69**	-.47**	.57**	.04	-

P<.05* ,P<.01**

As shown in Table 1, the average and standard deviation of the research variables within the sample of patients were 40.65 and 9.83, 24.08 and 2.23, 23.68 and 2.68, 19.88 and 3.40 and 111.83 and 17.3, respectively, regarding the following variables: beliefs in a just world, problem-focused coping, emotion-focused coping, avoidance-focused coping and symptoms of psychological disorders.

From the results in Table 1, the correlation coefficients of all variables in the $p < .01$ is significant. However, the correlation coefficient between avoidance-focused coping and psychological disorder symptoms ($r = .04$, $p < .01$) was statistically insignificant.

The model proposed by the present study has a total of 5 variables, one of which is a predictive variable, another is a criterion variable, and three variables are mediating variables. The fitness of the proposed model was used on the basis of a combination of fitness measures to determine the adequacy of the fitness of the proposed model with the data. The fitness of the proposed model to the data is reported in Table 2 according to fitness indices including Chi-square as an absolute fitness index. The larger the Chi-square, the smaller the model fitness. The significant Chi-square shows a significant difference between the assumed and observed covariances. Moreover, other important indices such as goodness-of-fit (GFI), adjusted goodness-of-fit (AGFI), incremental fit index (IFI), Tucker-Lewis index (TLI), comparative fit index (CFI) and normed fit index (NFI) are also shown in Table 2. In these indices, the fitness of .9 and above is considered to be acceptable. Another suitable index is root-mean-square error of approximation (RMSEA), based on which values below .08 are acceptable. For very good models, the value of .5 and less is considered (Cadec & Brown, 1993, quoted from Bresó et al., 2007).

Table 2
Fitting the Proposed Model to the Data According to Fitness Indices

Model	χ^2	df	χ^2/df	GFI	AGFI	IFI	TLI	CFI	NFI	RMSEA
Proposed Model	15.89	3	5.30	.97	.83	.97	.91	.97	.97	.16
Final Model	2.34	2	1.17	.99	.96	.99	.99	.99	.99	.03

Initial results showed that even though the values of some fitness indices such as GFI, IFI, TLI, CFI and NFI indicated an acceptable fitting of the proposed model to the data, other fitness indices such as normed χ^2 measure, AGFI and RMSEA suggested that the model requires improvement. The next step was to enhance the proposed model by correlating path errors (problem-focused to emotion-focused coping strategy). According to the comments made by Shabrooc, 1990 quoted from [Arshadi, 2007](#)) it may be expected that the cases of disorder (error) for two variables are covariant when they have common grounds that has not been considered by the model ([Arshadi, 2007](#)). As shown in Table 2, the final model of the research enjoys a very good fitness.

Table 3 shows the structural model, paths and their standard coefficients in the present research model. As shown in the Table, all coefficients of direct paths are significant in the final model.

Table 3
Structural Model, Paths, and their Standard Coefficients

	Path	β	p
BJW	→ Problem-focused	.686	.001
BJW	→ Emotion-focused	-.725	.001
BJW	→ Avoidance-focused	-.401	.001
BJW	→ Psychological disorders	-.266	.001
Problem-focused	→ Psychological disorders	-.327	.001
Emotion-focused	→ Psychological disorders	.419	.001
Avoidance-focused	→ Psychological disorders	.257	.001

Figure 2 demonstrates the final model of the present research together with the standard coefficients of paths.

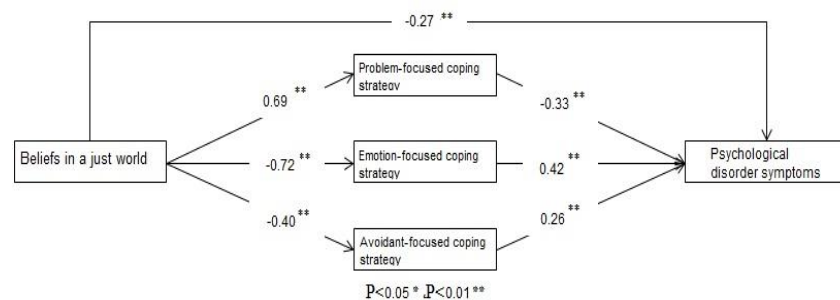


Figure 2. Proposed Model of the Present Study together with the Standard Coefficients of Paths

A fundamental assumption of the proposed model of the present research is the existence of multiple indirect or mediating paths. To determine the significance of each of the intermediate relationships and the indirect effect of the independent variable on dependent variables by mediating variables, bootstrap technique was used. Table 4 shows bootstrap results for intermediate paths of the proposed model of the present study.

Table 4
Bootstrap Results for Intermediate Paths of the Proposed Model

Variables	β	Min	Max	P
BJW → Problem-focused → Psychological disorders	-.291	-.381	-.211	.001
BJW → Emotion-focused → Psychological disorders	-.396	-.498	-.318	.001
BJW → Avoidance-focused → Psychological disorders	-.111	-.176	-.070	.001

As shown in Table 4, the value of beta coefficient for the problem-focused, emotion-focused and avoidance-focused coping are the intermediate variables between BJW and psychological disorder symptoms, which are statistically significant. Therefore, all intermediate paths are significant.

Discussion

According to the results obtained from this study, BJW have a negative significant effect on psychological disorder symptoms. This result agrees with those of a great number of studies ([Jiang, Yue, Lu & Zhu, 2016](#); [Zheng, Zhang & Yuan, 2012](#); [Adorick, 2011](#); [Fox et al., 2010](#); [Dalbert, 2009](#); [Golparvar & Khaksar, 2010](#); [Dalbert & Filke, 2007](#)).

To explain the negative relationship between BJW and psychological disorder symptoms in burn patients, it may be stated that a very important effect of BJW is that it enables people to assign meanings to the negative incidents of the world. There is an adaptive aspect of this explanatory style because it protects people from a feeling of vulnerability against negative

incidents in life ([Scott, 2008](#)). Personal resources can help people to cope when facing damaging events and incidents. Stronger resources provide people with better coping equipment. BJW, as a personal resource, can help people to tolerate pressure and stress ([Dalbert & Donat, 2015](#)). Consequently, the probability of depression and other pressures that lead to psychological disorders in patients and damaged people decreases and, on the other hand, the patients recover more quickly ([Golparvar et al., 2007](#)).

The results of the present research showed that BJW has a positive significant effect on the problem-focused coping of burn patients. The significant relationship between BJW and the effective coping methods has been confirmed in most studies ([Liang & Borders 2012](#); [Tomaca & Blascovitch 1994](#)). This finding does not agree with the results of the research conducted by [Nazari \(2012\)](#). To explain this finding, it may be stated that BJW makes negative events and incidents (such as burning) to have a meaning, making the world seem predictable and controllable. As a result, the patients encountered the difficult circumstances with greater optimism, effort and perseverance, and used active coping strategies that focus on problem solving. [Haffer and Olson \(1998\)](#) demonstrated in a study that BJW makes people to use effective coping strategies which can act as a protective shield to cope with stressful incidents and situations in their lives. People who believe in a fair world may plan their future with greater confidence and they expect their life to progress with greater order, harmony, meaningfulness and controllability. Regardless of being realistic or not, this outlook increases the power of problem solving in people.

Another finding of the present study is that BJW has a negative significant effect on emotion- and avoidant-focused

coping strategies in burn patients. This finding is in agreement with the findings of the research conducted by [Nazari \(2012\)](#). To explain this result, it may be said that belief in a just, mortal and fair world means that the person believes that people achieve what they want in the light of their merit and efforts. In other words, BJW is a fundamental belief on the basis of which, people plan for their goals and then pursue them hoping that the principle of fairness is in place ([Golparvar & Javadian, 2012](#)). As a result, when faced with the difficulties and hardships of life, they predominantly adopt active problem-focused coping rather than employing the less effective emotion-focused and avoidant-focused coping strategies.

Research results also showed that BJW has a negative significant effect on psychological disorder symptoms via problem-focused coping. The intermediate role of the problem-focused coping was also confirmed in reduced psychological disorder symptoms ([Sanjuan & Magallares, 2015](#); [Ra & Trusty, 2015](#); [Fitzsimon & Bardone-cone, 2010](#); [Haghshenas et al., 2014](#)). As stated earlier, BJW enhances the power of problem solving and problem-focused coping when faced with difficult situations, by increasing order, harmony and controllability. On the other hand, adopting problem-focused coping when encountering unpleasant circumstances such as burning, allows someone to be goal-oriented. The patient usually uses this coping strategy when the stressor is perceived as a controllable and tamable factor. As a result, the patient tends to self-care programs, reduced deprivation, reduced poor spirits, and increased participation by taking care of oneself ([Gray, 2000](#)). On this basis, the ways to cope with the problem are directly

examined and psychological satisfaction is normally achieved by finding appropriate solutions for the problem.

According to the findings, BJW have a negative significant effect on psychological disorder symptoms via emotion-focused and avoidant-focused coping strategies in burn patients. Previous research placed emphasis on the intermediate role of emotion-focused and avoidant-focused coping strategies in reduced mental health and increased psychological disorders (San Juan & Magallares, 2015; Jafari & Omidimajd, 2013; Shokri et al., 2006).

BJW shows the idea that if one performs well in tolerating hardships, the problems, difficulties, and stresses finally disappear (Golparvar et al., 2015). This outlook makes the patients to frequently adopt effective coping strategies rather than ineffective ones such as emotion-focused and avoidant-focused coping strategies when facing the difficulties of burning. The avoidant- and emotion-focused strategies add to mental turbulence, respectively, by avoiding facing the stressor and by concentrating on negative emotions and thoughts (such as emotional outburst and rumination) (Billings & Mose, 1984; Haghshenas et al., 2014). As a result, due to their concentration on negative emotions such as anger, anxiety, shame, hopelessness, impatience, etc. and failing to adopt effective coping styles such as participation in self-care, improving the spirit, etc., these patients increase the threat of psychological disorders (Haghshenas et al., 2014).

The present research had certain limitations, including the relatively lengthy questions of the tests and the fatigue resulting from answering them, which may have affected the motivation and accuracy of the participants. Because few studies had been conducted on this field in Iran and the whole world and there

were limitations to access these resources, it was difficult to find the necessary resources to compare the results of this research. According to the results, it is recommended that appropriate planning be done to train coping skills and stress management for burn patients. Meanwhile, conducting more studies on the psychological aspects of burn patients is recommended.

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