



Research Paper: Mediating Role of Stress-Coping Responses in the Association of Resiliency and Hardiness With the Life Satisfaction of Married People



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ABSTRACT

Background: Higher levels of resiliency and hardiness are associated with greater life satisfaction. However, there is limited information on the mediating role of married people responses to stressful life situations.

Objectives: This study was carried out to determine the mediating role of stress-coping strategies in the association of resiliency and hardiness with the life satisfaction of married people.

Materials & Methods: In this cross-sectional study, the statistical population included all married students of the Islamic Azad University of Rasht City (north of Iran) in the 2018-2019 academic year. They were selected using a purposive sampling method. A total of 282 students were selected as a sample. To measure the variables, Billings and Moos's coping responses inventory, the satisfaction with life scale, the Connor-Davidson resilience scale, and Ahvaz hardiness inventory were used. SPSS AMOS software, 24 full version was used for data processing.

Results: According to the results of path analysis, resiliency has a significant effect on life satisfaction only through problem-focused and cognitive reappraisal-based coping responses ($P < 0.01$) and it can explain 11% of the variance. Also, the indirect effect of hardiness on life satisfaction was not significant and this variable was deleted from the path, and the modified model was re-fitted.

Conclusion: In dealing with stressful situations in life, the resilient actions of people who use problem-focused and cognitive reappraisal-based strategies lead to life satisfaction with more confidence.

Keywords: Stress; Psychological; Resilience; Psychological; Personal satisfaction

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Highlights

- Resilient actions of people who use problem-focused and cognitive reappraisal-based strategies lead to life satisfaction.
- It is recommended that psychologists improve the life satisfaction of the individuals, with training cognitive appraisal-based and problem-focused strategies.

Introduction

Life Satisfaction (LS) along with positive and negative emotions are considered the dimensions of happiness, which are mostly defined practically in the context of Subjective Well-Being (SWB) [1]. Two dimensions are introduced by different studies for SWB. The first dimension is considered as a cognitive dimension which refers to the component of LS. The second dimension is considered as an emotional dimension and includes positive and negative emotions [2]. LS can be defined as a judgmental process in which people measure their quality of life based on a unique set of criteria [3]. Life satisfaction refers to the judgment of people about their quality of life, including the assessment of a person of his or her personal and working relationships [4].

Consistent with cognitive theories, LS refers to a kind of cognitive judgment made by individuals on the extent to which the current living conditions match the mental standards [5]. Also, having an optimistic and hopeful outlook is very effective in LS [6]. Although there are strong and close relationships between the constructs of quality of life, happiness, subjective well-being, and LS [7], nowadays, increasing LS among citizens is considered one of the goals of the developing states [8].

Many resources can affect LS. Resilience is one of the factors that can be helpful in this regard [9] because social norms, cultural factors, and personality traits have a significant effect on LS [10]. Research has shown that resilience training helps people to achieve LS by adjusting adaptive cognitions [11].

Resilience refers to the positive adoption of individuals in the face of stresses and harms. Also, resiliency can be defined as maintaining positive functions after exposure to stressful experiences. People can recover after stressful events and related disorders with the help of continuing education of biopsychosocial components of resilience [12]. In this regard, evidence shows that train-

ing of coping strategies [13], cognitive flexibility [14], and optimism [15] can predict resilience.

Also, resilience may be defined as an individual's capacity to cope with stressful events and maintain relative stability, levels of psychological health, and physical functions, as well as the individual's capacity for productive experiences and positive emotions [16]. Shetty during a study concluded that there was a direct relationship between resiliency, LS, and hope [17]. Yildirim and Sönmez found a significant relationship between resiliency and its subscales and LS. That is, LS increases with increasing resiliency [18]. Rani and Midha during a study found a positive correlation between these two variables [19]. Naemi during a study found that resilience education to women who head households increases their LS, optimism, and mental health [20]. Gholipour et al. showed that resilience plays as a mediator between personality types and happiness [21]. It means that there is a significant relationship between the personality traits of neuroticism, conscientiousness, openness to experience, and extraversion through resiliency with happiness in a student population.

Hardiness is considered another factor that can improve LS. Life does not always go according to the individuals' ideals, and people are expected to show hardiness in the face of unpleasant and unexpected conditions. Hamid during a study found a direct and significant relationship between hardiness and LS and hope [22]. Kobasa defined psychological hardiness as "a combination of beliefs about self and the world, consisting of three components of challenge, commitment, and control" [23]. Hardiness through improving the individuals' resistance level, protects them from stressful situations and acts as a potential source of coping with stress [24]. A person with a high level of commitment believes that he or she should resist against stressful events and should not depart from people, no matter what stressful events will happen. A person with a high level of control component wants to influence the events around, regardless of how difficult they are.

A person with a high level of challenge considers stressful events as a natural part of life and an opportunity to

learn, develop, and grow in wisdom [23]. Psychological hardiness is considered one of the belief systems that play an important role in the quality of human life and is responsible to balance different dimensions of life. Psychological hardiness is a personality trait that facilitates effective coping with stress and prevents aggravation of mental disorders and physical problems [24].

Shirmohammadi et al. during a study found a direct relationship between the dimensions of hardiness and LS [25]. Taheri et al. showed that the components of hardiness and social support can predict LS in patients with breast cancer [26]. Also, Mahdavi et al. reported that hardiness has a direct correlation with job satisfaction and predicts it among nurses [27].

Many factors can moderate the relationship between resiliency and hardiness with LS, one of which is the type of exposure of people with the stresses of their daily lives. Nowadays, stress is considered as a part of human life, and dealing with it is inevitable, especially in the population of married people and marital life-related responsibilities. Therefore, it is necessary to use effective coping strategies in reducing stressful daily consequences [28]. In this regard, Raak et al. during a study concluded that the use of effective coping strategies could improve the satisfaction of life in patients with fibromyalgia [29]. Research has shown that LS and quality of life are significantly predicted by problem-oriented coping strategies [30, 31].

Jamal conducted a study on workers and concluded that coping strategies could mediate between stress and hardiness [32]. Lee and Wachholtz showed in their research that cognitive evaluation had a mediating role in the relationship between perceived stress and LS [33]. Problem-oriented coping with stress is a function of individuals' cognitive perspectives, including optimism and pessimism [34]. Momeni and Alikhani in their research showed a relationship between problem solving and resilience with stress [35]. Sarani et al. also found a direct correlation between positive and spiritual coping strategies with hardiness among pregnant women [36].

Stress has a significant effect on all aspects of the health of individuals. Therefore, each individual copes with it in its way. Some people find it difficult to cope with stress, so they retreat. While others believe that stress is a challenge and an opportunity that makes people work more. Some coping strategies can be destructive and some constructive [37]. People rarely act passively in the face of what happens to them, and if they can change something, they will look for possible ways to do it. If they cannot

change something, they will use cognitive coping methods and try to change the meaning of the situation [38].

According to the studies conducted in this field, individuals use different strategies when dealing with stressful events, including active coping strategies, cognitive-religious strategies, planning, and accepting stress and coping with it [39]. There are two basic concepts in any stress-related theory: appraisal and coping. In appraisal, people will examine how the upcoming event will affect their health. In coping, individuals make their best efforts to manage the event using a cognitive reappraisal or practical method [40]. Abel during a study concluded that humorist people use more cognitive and more problem-focused strategies because they believe that stressful situations as less threatening [41].

Given a significant relationship between stress-coping strategies with resiliency, hardiness, and LS [36, 42-45], this factor can mediate the relationship between the variables of resiliency and hardiness with LS. As mentioned earlier, the present study was carried out to answer the question of whether stress-coping responses play a mediating role in the relationship between resiliency, psychological hardiness with LS.

Materials and Methods

Study participants

The research was a cross-sectional correlational study. The statistical population included all married people studying at the Islamic Azad University of the city of Rasht (north of Iran) (N = 2013), during the 2018-2019 academic year. The purposeful sampling method was used to select these students. Kline [46] recommendation based on this issue that "there are 10 samples for each parameter in the model" was used to determine the optimal sample size in the path analysis. As shown in Figure 1, there are 22 free parameters in the model, so 220 people are required to test the fitness of the path model. However, the sample size increased to 275 people to cope with outlier, missing data, and possible lack of cooperation of some samples, taking into account the dropout of 25%. A total of 57 males (20.2%) and 225 females (79.8%) aged 19 to 58 years with a Mean±SD age of 31.41±7.03 participated in this study.

Research method

To collect data, after obtaining a letter of permission from the university, one of the researchers (A.S) who received the necessary training on how to complete the

questionnaires, attended in the classes held at Islamic Azad University, Rasht, within a month (available at <http://iaurasht.ac.ir/en>) and selected a sample of married people using a purposive sampling method. To focus on holding education courses for adults in master's degrees, the university allowed researchers to easily access older students who are more likely to be married. After entering the classes, the general objectives of the study and how to complete the questionnaires were described for married students and they were assured that their information would remain confidential and the information of the questionnaires would be published as a general answer of the group.

Study instruments

Satisfaction with Life Scale (SWLS)

Current satisfaction and the overall level of satisfaction and the individual's well-being can be measured using this 5-point scale. This scale was developed by Diener, Emmons, Larsen, and Griffin [5]. The participants report how much they are satisfied with their lives or how close they are to their ideal lives. The responses of participants are scored on a Likert scale from 7: "I completely agree" to 1: "I completely disagree". Diener et al. [5] reported the internal consistency reliability of this scale as 0.87 and the reliability coefficient of its retest after two months as 0.82. Evaluation of the validity of this scale was also done by the correlation of its scores with the scores obtained from the subjective well-being tools and personality traits that were found desirable. This scale was translated by Bayani, Koochehy, and Goodarzi [47] into Persian, and the reliability of its internal consistency and retest was reported as 0.83 and 0.69, respectively. A good correlation was observed in the scores of this scale in the expected directions with the Oxford Happiness Inventory (OHI), the Beck Depression Inventory (BDI), and its validity was confirmed.

Billings and Moos's Coping Responses Inventory (CRI)

This 32-item questionnaire was scored on a 4-point Likert scale (from 0 "not at all" to 3 "fairly often") to achieve a valid method for evaluating coping responses [48]. The questionnaire consisted of 5 subscales of problem-focused coping (11 items), cognitive reappraisal-based coping (5 items), emotion-based coping (4 items), somatic inhibition-based coping (9 items), and seeking guidance and support-based coping (4 items). In Iran, according to Hosayni-Ghadamgahi, et al. [49], the reliability coefficient of the CRI Persian version was 0.79. Also,

the Cronbach alpha coefficients were calculated separately for the following subscales: problem-solving subscale, 0.90; emotion-based coping, 0.65; cognitive reappraisal-based coping, 0.68; cognitive reappraisal-based coping, and somatic inhibition-based coping, 0.90; and seeking guidance and support-based coping, 90% [50].

Connor-Davidson Resilience Scale (CD-RISC)

In 2003, Connor and Davidson developed this scale. This scale can be used for people over the age of 15, which is scored on a literal scale between 0: Absolutely false; and 4: Always true. The minimum and maximum scores on this scale are 0 and 100, respectively. According to the results of the discriminant validity of this test, resilient and non-resilient people can be easily differentiated [51]. During a study on a sample of Spanish entrepreneurs, the validity of this test was confirmed by factor analysis, and the internal consistency of this test was calculated using the Cronbach alpha, which was equal to 0.75 [52]. In Iran, the psychometric properties of CD-RISC have been confirmed and its internal consistency has been calculated by the Cronbach alpha, which was 0.89 and its retest reliability was $r=0.73$ [53].

Ahvaz Psychological Hardiness Questionnaire

In the present study, 27-item Ahvaz psychological hardiness scale, developed by Kiamarsi, Najarian, and Mehrabizadeh Honarmand [54], was utilized to measure psychological hardiness. It consists of 27 items and the answers are rated on a 4-point Likert scale 0: Never; 1. Rarely; 2. Sometimes; and 3. Most often. The high score in this questionnaire indicates high psychological hardiness in a person. This questionnaire was developed through a factor analysis technique in a sample of 523 students of Ahvaz Azad University (Iran). Its reliability coefficients were calculated by these researchers using both re-test and the Cronbach alpha methods; they were equal to 0.84 and 0.76, respectively.

Statistical analyses

The Pearson product-moment correlation was used to test the hypotheses due to the nature of the research in SPSS V. 24. The Structural Equation Modeling (SEM) technique with AMOS-24 software was used to evaluate the fitting of the proposed model, and the maximum likelihood method was used to estimate the model parameters. In this study, the four-step approach developed by Baron and Kenny [55] was used for mediation testing to evaluate the mediation analysis. These four steps are 1. The predictor variable must be correlated with

the criterion; 2. The predictor must be correlated with the assumed mediator; 3. The mediator must be correlated with the criterion; and 4. To ensure that the mediator fully mediates the relationship between the predictor and the criterion. The effect of the predictor on the criterion with mediating control should be significantly less than or equal to zero [56].

Results

Table 1 presents the descriptive indices of variables, including mean, standard deviation, skewness, and kurtosis. According to Kline [46], the distribution of variables should be normal in the model test. Based on Table 1, the

significant level of the Kolmogorov-Smirnov statistics of all variables is greater than 0.05. Hence, the default of univariate normality to test the path analysis model is true for all variables.

Table 2 presents the correlation matrix of the research variables. According to this Table, the relationship between the problem-focused (0.296), cognitive reappraisal-based (0.332), and seeking guidance and support-based (0.188) variables, with LS is significant at the level of $P < 0.01$. No significant relationship was observed between other variables and LS. Also, it was reported that the relationship between resiliency and LS was positive

Table 1. Descriptive indices of study variables (n=282)

Variables	Mean±SD	The Kolmogorov-Smirnov	P
Life satisfaction	15.85±3.24	0.984	0.203
Resiliency	60.15±12.78	0.982	0.242
Hardiness	49.14±7.15	0.962	0.184
Problem-focused coping	4.86±1.15	0.933	0.693
Cognitive reappraisal	9.47±2	0.970	0.116
Emotion-focused coping	11.23±3.88	0.868	0.405
Seeking guidance and support	10.61±2.46	0.903	0.273
Somatic inhibition	5.66±3.4	0.879	0.288

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Table 2. Correlation matrix of the research variables (n=282)

Variables	1	2	3	4	5	6	7	8
Life satisfaction	1							
Resiliency	0.419**	1						
Hardiness	0.316**	0.633**	1					
Problem-focused coping	0.296**	0.454**	0.292**	1				
Cognitive Reappraisal	0.322**	0.620**	0.463**	0.557**	1			
Emotion-focused coping	-0.048	-0.102	-0.276**	-0.028	-0.20	1		
Seeking Guidance and Support	0.188**	0.253**	0.126*	0.319**	0.410**	0.067	1	
Somatic inhibition	-0.112	-0.254**	-0.332**	-0.088	-0.227**	0.558**	-0.040	1

* $P < 0.05$, ** $P < 0.001$

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Table 3. Goodness of fit indices of the primary tested model and modified model

Modification Indices	Primary Model	Improved Model
χ^2/df	2.55	1.76
Goodness of fit index	0.937	0.952
Adjusted goodness of fit index	0.810	0.812
Comparative fit index	0.977	0.978
Parsimonious normed fit index	0.688	0.702
Root mean square error of approximation	0.05	0.043

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Table 4. Direct, indirect, and total effects, and explained variance of variables

Variables		Direct Effect	Indirect Effect	Total Effect	Explained Variance (%)
On life satisfaction from	Resiliency	--	0.057**	0.057**	11
	Hardiness	--	0.008	0.008	
On problem-focused coping from	Resiliency	0.45**	--	0.45**	20
	Hardiness	0.001	--	0.001	
On cognitive reappraisal from	Resiliency	0.59**	--	0.59**	0.40
	Hardiness	0.08	--	0.08	
On emotion-focused coping from	Resiliency	0.16*	--	0.16*	0.08
	Hardiness	-0.35**	--	-0.35**	
On seeking guidance and support from	Resiliency	0.30**	--	0.30**	0.07
	Hardiness	-0.10	--	-0.10	
On somatic inhibition from	Resiliency	-0.08	--	-0.08	0.10
	Hardiness	-0.26**	--	-0.26**	
On life satisfaction from	Problem-focused coping	0.14*	--	0.14*	0.11
	Cognitive reappraisal	0.23**	--	0.23**	
	Emotion-focused coping	0.06	--	0.06	
	Seeking guidance and support	0.04	--	0.04	
	Somatic inhibition	-0.10	--	-0.10	

*P<0.05, **P<0.01



and significant (P<0.05). The relationship between hardiness and LS was obtained at the level of P<0.01.

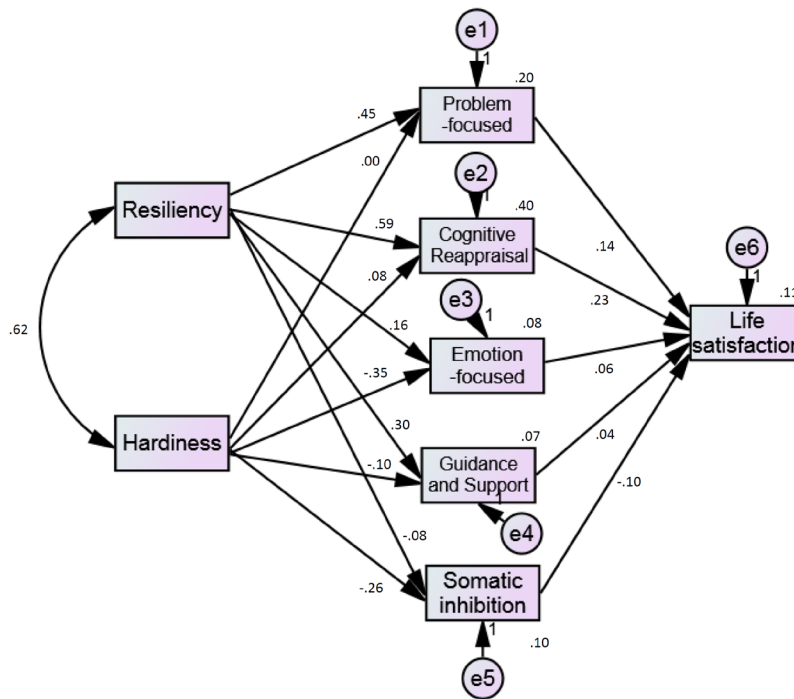
In the following, the path analysis technique was used to test the mediating model of coping responses in the relationship between resiliency and hardiness with LS and its fit with the data collected. The assumptions of path analysis were first studied. The Mahalanobis index was used to evaluate multivariate outliers. The values of the Mahalanobis distance are calculated by the AMOS software for each sample. According to the results of this analysis, a significant difference was observed between the scores of 11 samples with the responses of other respondents.

Therefore, these 11 samples were deleted from the data file, and analyses were performed based on the remaining samples (n = 271). Multivariate data normalization was used using the path analysis technique. Mardia's normalized multivariate kurtosis value was used in the present study to check multivariate normalization. Its value in this study was equal to 9.45, which is less than 80, this number is calculated by the formula $p(p + 2)$. In

this formula, p is equal to the number of variables observed which is equal to 8 in this study [55].

In the present study, the Kaiser-Meyer-Olkin (KMO) test was used to calculate the statistical power and to confirm the sample size adequacy and its value was above 0.70 [57]. The KMO value was 0.81 for LS is, 0.88 for resiliency is, 0.86 for hardiness, and 0.74 for all subscales of coping responses. According to these results, the sample size is adequate.

The indicators proposed by Gefen, Straub, and Boudreau [57] were used to investigate the fitting of the path model in the present study (Figure 1). These indicators include χ^2/df (the value less than 3 is acceptable), the Goodness of Fit Index (GFI), the Comparative Fit Index (CFI) (the value greater than 0.9 indicates an appropriate fit for the model), the Adjusted Goodness of Fit Index (AGFI) (the values greater than 0.8 are acceptable), the Parsimony Fit Index (PNFI) (the values more than 0.6 indicates an appropriate fit for the model), and the Root Mean Square Error Of Approximation (RMSEA) (the values less than 0.08 indicates an appropriate fit for the



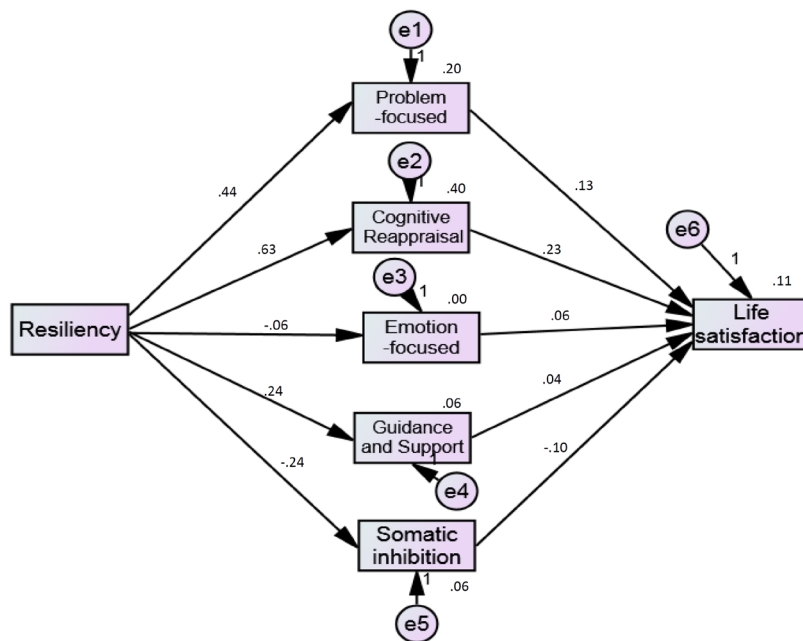
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Figure 1. The path model on the effects of resiliency and hardiness on the life satisfaction of married people with the mediating role of coping responses

model). These indices before and after modification of the mediational model are reported in Table 3.

As shown in Table 3, the CFI, AGFI, GFI, and PNFI indices are greater than the values provided by Geffen and

associates [57]. The value of RMSEA is less than 0.08 and χ^2/df is less than 3. The fitting indices of the modified model are better than the first model; therefore, the modified model has a better fit. Table 4 presents the direct



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Figure 2. The modified path model of the effects of resiliency on the life satisfaction of married people with the mediating role of coping responses

and indirect effects and the total effects and explained the variance of the variables entered in the path analysis.

As shown in the Table 4, the direct effect of problem-focused responses on life satisfaction (0.14) is positive and significant at the level of 0.05. The direct effect of cognitive reappraisal-based responses on life satisfaction (0.23) is positive and significant at the level of 0.01. But other coping responses do not have any significant effects on life satisfaction. The variable of resiliency had a direct and significant effect on the variables problem-solving (0.45), cognitive reappraisal-based (0.59), emotion-based (0.16), and guidance and support-based (0.30). The variable of hardiness had a direct, negative, and significant effect on emotional-based responses (-0.35) and somatic inhibition-based responses (-0.26) at a significant level of 0.01.

Resiliency has an indirect impact on LS (0.057) which was significant at the level of 0.05. Given that resiliency has a significant effect through problem-focused and cognitive reappraisal variables on LS, it can be concluded that recent variables play a mediating role in the relationship between resiliency and LS. The indirect effect of hardiness on LS is not significant.

Modified path model

According to the results of the primary model, no significant and indirect effect of hardiness was obtained on LS. For this purpose, this variable was deleted from the path model and the modified model was re-fitted. The tested pattern is presented in Figure 2. The fitting indices of the modified model are reported in Table 3.

Discussion

The present study was carried out to determine the mediating role of stress coping responses in the association of resiliency and hardiness with LS of married students at Islamic Azad University of Rasht (North of Iran). According to the results of path analysis, only the problem-focused, cognitive reappraisal-based subscales among stress-coping responses subscales have a mediating role in the relationship between resilience and LS. Given that the indirect effect of hardiness on LS was not significant, this variable was deleted from the path analysis, and the modified model was re-fitted. The results of this study were consistent with the results of Momeni, Alikhani, Tran and Chantagul, Odacı and Çikrikçi, Kord and Ansari, Gandom Kar, Naderi, Savari and Lee, Kim, and Wachholtz [13, 33, 35, 44, 45].

Problem-focused skill is a cognitive-reappraisal skill that a person taking into account the situation can perform a more accurate and distinct reappraisal of his emotions and he or she can act more realistically. Although these effective coping methods are used, the symptoms of physical, anxiety, lack of pleasure feeling decrease, and the life satisfaction will increase, and people will have a higher level of well-being and positive affection [28].

The problem-focused coping style refers to behaviors and cognitions to change the situation or stressful factors. This coping style has two components, the first component is "preparing," which is related to information seeking and planning. The second component is "action" which is related to problem-solving and active coping and includes strategies such as collecting, organizing, and interpreting information [31]. Therefore, tolerance to stressful factors increases using problem-solving strategies, and physical and mental health and, consequently, LS will increase. In this regard, Gandom Kar, Naderi, and Savari during a study concluded that training coping strategies increase resiliency [13]. Also, there is a significant relationship between problem solving and resiliency and stress [35]. Momeni and Shahbazirad during a study concluded that higher levels of problem-focused coping strategies are associated with a higher quality of life in married women [31].

Cognitive skills are used to solve the problem in the coping process. A person uses cognitive skills to solve a problem and to cope with the challenge using an efficient problem-focused coping style. Accordingly, it is possible to examine the ways to deal with the problem directly, and psychological satisfaction is usually achieved by finding the right solution for the problem. On the other hand, discipline and intellectual coherence will be achieved and emotional disturbance will be reduced. It is possible to identify stress sources in a better way in the light of intellectual coherence and emotional relaxation and may be evaluated and interpreted as a controllable phenomenon. Recognizing the source of stress on the one hand and evaluating it as a controllable phenomenon, on the other hand, helps to increase the resilience [13].

The results reported by Lee, Kim, and Wachholtz were consistent with the results of this study [33]. They found that secondary cognitive appraisal has a mediating role in the relationship between an early cognitive appraisal (perceived stress) and life satisfaction. It can be interpreted that the cognitive ability of individuals helps problem-focused strategies, and the resilience of individuals can be improved by increasing the capacity for problem-solving. Taghizadeh and Farmani during a study concluded

that resiliency can be predicted by cognitive flexibility [14]. According to the results of studies conducted in this field, having a positive and optimistic view of the future will lead to better coping with current stressful situations.

The research studies showed that having an optimistic and hopeful view is very useful to measure the construct of LS [6]. Nasir and Naderi during a study found a direct relationship between optimism (as a cognitive construct) and resiliency [15]. On the other hand, Samani, Jokar, and Sahragard concluded that resiliency is associated with increasing LS [9]. Scheier, Weintraub, and Carver during a study reported a direct correlation between optimism and problem-focused strategies, receiving social support, and the emphasis on positive aspects of stressful situations, and a significant relationship was observed between pessimistic and denial of the problem and the distance from it [34]. Hoseini Beheshtian, and Mirzazadeh during a study concluded that resilience training helps individuals to reach LS by adaptive cognitions regulation [11]. Looking at the above, we can conclude that there is a significant relationship between the ability to focus on problem-solving with the positive psychological constructs-which we did not examine in this study- and it can play a helping role to succeed the resilient actions for achieving life satisfaction.

Based on the definitions of LS, this variable has a cognitive infrastructure. Life satisfaction refers to a judgment given by people about their quality of life and includes individual evaluations of their personal and working relationships [4]. Given this point, it is recommended that psychologists improve the LS of individuals, especially married people by training cognitive appraisal-based and problem-focused strategies.

Given that this study has been conducted in northern Iran, caution should be taken in generalizing the results. Causality cannot be inferred from the path analysis. Also, caution should be taken in generalizing the results to other groups and communities, because this study has been carried out on married individuals at a university. Given that the present study was carried out on a group with a higher level of literacy (i.e. graduate-level), the results obtained in this model may be strongly affected by the high level of literacy.

Conclusion

In dealing with the stressful situations of life, people who use problem-focused and cognitive appraisal strategies will achieve a higher level of life satisfaction by their resilient behavior. These individuals use their cog-

nitive and behavioral abilities to solve the problem by considering the position and realism desirably and they can achieve a relatively desirable result.

Ethical Considerations

Compliance with ethical guidelines

All ethical principles were considered in this article. The participants were informed about the purpose of the research and its implementation stages; they were also assured about the confidentiality of their information. Moreover, they were allowed to leave the study whenever they wish, and if desired, the results of the research would be available to them.

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Authors contributions

Conceptualization, methodology, and supervision: Sajjad Rezaei; Resources and funding acquisition: Akram Seifzade; Investigation: Amir Qorbanpoor Lafmejani and Akram Seifzade; Writing the original draft: Amir Qorbanpoor Lafmejani; Writing, review, and editing: All authors.

Conflict of interest

The authors have declared no competing interests.

References

- [1] Gallagher EN, Vella-Brodrick DA. Social support and emotional intelligence as predictors of subjective well-being. *Pers Individ Dif*. 2008; 44(7):1551-61. [DOI:10.1016/j.paid.2008.01.011]
- [2] Pavot W, Diener E. Review of the satisfaction with life scale. In: Diener E. (ed) *Assessing Well-Being*. Social Indicators Research Series. Dordrecht: Springer; 2009. [DOI:10.1007/978-90-481-2354-4_5]
- [3] Shin DC, Johnson DM. Avowed happiness as an overall assessment of the quality of life. *Soc Indic Res*. 1978;5(1-4):475-92. [DOI:10.1007/BF00352944]
- [4] Ngamaba KH. Happiness and life satisfaction in Rwanda. *J Psychol Afr*. 2016; 26(5):407-14. [DOI:10.1080/14330237.2016.1208930]

- [5] Diener ED, Emmons RA, Larsen RJ, Griffin S. The satisfaction with life scale. *J Pers Assess.* 1985; 49(1):71-5. [DOI:10.1207/s15327752jpa4901_13] [PMID]
- [6] Ghaderi-Najafabadi M, Soleimani-Najafabadi R, Moradi-Soroush M, et al. [The effectiveness of mindfulness techniques training on life orientation, life satisfaction, and acceptance and action in addicted women undergoing rehabilitation (Persian)]. *J Res Behav Sci.* 2016; 1(14):41-9. <http://rbs.muia.ac.ir/article-1-447-fa.html>
- [7] Medvedev ON, Landhuis CE. Exploring constructs of well-being, happiness and quality of life. *Peer J.* 2018; 6:e4903. [DOI:10.7717/peerj.4903] [PMID] [PMCID]
- [8] Miret M, Caballero FF, Chatterji S, Olaya B, Tobiasz-Adamczyk B, Koskinen S, et al. Health and happiness: Cross-sectional household surveys in Finland, Poland and Spain. *Bull World Health Organ.* 2014; 92:716-25. [DOI:10.2471/BLT.13.129254] [PMID] [PMCID]
- [9] Samani S, Jokar B, Sahragard N. [Effects of resilience on mental health and life satisfaction (Persian)]. *Iran J Psychiatry Clin Psychol.* 2007; 13(3):290-5. <http://yafte.lums.ac.ir/article-1-712-fa.pdf>
- [10] Sujoodi A, Masoomi Rad R, Avardide S, Abdi F. [Examining social factors affecting life satisfaction (case study students Payame Noor University unit of the shaft) (Persian)]. *Rooyesh-e-Ravanshenasi J.* 2015; 4(3):19-30. <http://frooyesh.ir/article-1-107-fa.html>
- [11] Hoseini Beheshtian SM, Mirzazadeh R. [Effectiveness of resilience training on emotion regulation strategies and life satisfaction among women-headed households (Persian)]. *Cult Sociol.* 2016; 7(3): 21-41. http://socialstudy.ihs.ac.ir/article_2342.html
- [12] Campbell-Sills L, Stein MB. Psychometric analysis and refinement of the Connor-Davidson Resilience Scale (CD-RISC): Validation of a 10-item measure of resilience. *J Trauma Stress* 2007; 20(6):1019-28. [DOI:10.1002/jts.20271] [PMID]
- [13] Gandom Kar P, Naderi F, Savari K. [The effectiveness of coping strategies on flexibility of action and health of female students (Persian)]. *J Thought Behavior Clin Psychol.* 2013; 8:57-66. https://jtbcp.riau.ac.ir/article_23.html
- [14] Taghizadeh M, Farmani A. [A study of the role of cognitive flexibility in predicting hopelessness and resilience among university students (Persian)]. *J Cogn Psychol* 2014; 1(2):67-75. <http://jcp.khu.ac.ir/article-1-1737-fa.html>
- [15] Nasir M, Naderi F. [The relationship of religious beliefs, and resilience with optimism in female high school students (Persian)]. *J Woman Cult.* 2014; 6(19):47-59. http://jwc.iauahh.vaz.ac.ir/article_524501.html
- [16] Scali J, Gandubert C, Ritchie K, Soulier M, Ancelin ML, Chaudieu I. Measuring resilience in adult women using the 10-items Connor-Davidson Resilience Scale (CD-RISC). Role of trauma exposure and anxiety disorders. *PLoS one.* 2012; 7(6):e39879. [DOI:10.1371/journal.pone.0039879] [PMID] [PMCID]
- [17] Shetty V. Resiliency, hope, and life satisfaction in midlife. *IOSR J Humanit Soc Sci.* 2015; 20(6):29-32. <https://www.semanticscholar.org/>
- [18] Yildirim G, Sönmez S. The Relation between Resilience and Life Satisfaction in Pre-Service Preschool Teachers in Turkey. *I-Manager's J Educ Psychol.* 2017; 11(1):5. [DOI:10.26634/jpsy.11.1.13647]
- [19] Rani R, Midha P. Does resilience enhance life satisfaction among teenagers. *Int J Humanit Soc Sci.* 2014; 19(6):16-9. [DOI:10.9790/0837-19671619]
- [20] Naemi AM. [The effect of resiliency training on mental health, optimism and life satisfaction of female-headed households (Persian)]. *Posit Psychol Res.* 2014; 1(3):33-44. http://ppls.ui.ac.ir/article_20707.html
- [21] Gholipour Z, Marashi SA, Mehrabzadeh Honarmand M, et al. [Resilience as a mediator between big five-factor personality trait and happiness (Persian)]. *Educ Psychol.* 2016; 12(39):135-55. [DOI:10.22054/JEP.2016.4121]
- [22] Hamid N. [Relationship between psychological hardiness, life satisfaction and hope with academic performance of pre-university female students (Persian)]. *J Appl Psychol.* 2011; 4(16):101-16. <http://apsy.sbu.ac.ir/article/view/2963>
- [23] Maddi SR. Hardiness: The courage to grow from stresses. *J Posit Psychol.* 2006; 1(3):160-8. [DOI:10.1080/17439760600619609]
- [24] Taimory S, Khakpor M, Momeni Mahmoudi H. [The relationship between hardiness and self-efficacy and personal control in cancer patients (Persian)]. *J Torbat Heydariyeh UniMed Sci.* 2015; 3(1):35-42. http://jms.thums.ac.ir/browse.php?a_id=212&sid=1&slc_lang=en
- [25] Shirmohammadi L, Mikaeli Manee F, Zaree H. [Relationship between hardiness, life satisfaction, and hope with academic performance in university students (Persian)]. *Q J Psychol.* 2011; 5(20): 125-47.
- [26] Taheri A, Ahadi H, Kashani FL, Kermani RA. Mental hardiness and social support in life satisfaction of breast cancer patients. *Procedia Soc Behav Sci.* 2014; 159:406-9. [DOI:10.1016/j.sbspro.2014.12.397]
- [27] Mahdavi A, Nikmanesh E, Aghaei M, Kamran F, Tavakoli ZZ, Seddigh FK. Predicting the level of job satisfaction based on hardiness and its components among nurses with tension headache. *J Med Life.* 2015; 8:93-6. [PMCID] [PMID]
- [28] Mousavi-Nasab S, Hossein M, Shams odini Lori L. [The mediating role of life satisfaction in the relationship between coping strategies for stress and attitude towards addiction (Persian)]. *Res Addict.* 2015; 9(33):41-55. <http://etiadpajohi.ir/article-۱-۵۳۴-fa.html>
- [29] Raak R, Hurtig I, Wahren LK. Coping strategies and life satisfaction in subgrouped fibromyalgia patients. *Biol Res Nurs.* 2003; 4(3):193-202. [DOI:10.1177/1099800402239622] [PMID]
- [30] Kord Tamini B, Ansari A. Relationship of stress coping strategies and life satisfaction among students. *Int J Psychol.* 2014; 8(1):156-65. http://www.ijpb.ir/article_55572.html
- [31] Momeni K, Shahbazi Rad A. [Relationship of spirituality, resiliency, and coping strategies with quality of life in university students (Persian)]. *J Behav Sci.* 2012; 6(2):97-103. http://www.behavsci.ir/article_67780.html
- [32] Jamal Y. Coping Strategies as a mediator of hardiness and stress among rescue workers. *Stud Ethno Med.* 2017; 11(3):201-8. [DOI:10.1080/09735070.2017.1356033]

- [33] Lee J, Kim E, Wachholtz A. The effect of perceived stress on life satisfaction: The mediating effect of self-efficacy. *Chongsomyonhak Yonngu*. 2016; 23(10):29-47. [DOI:10.21509/KJYS.2016.10.23.10.29] [PMID] [PMCID]
- [34] Scheier MF, Weintraub JK, Carver CS. Coping with stress: Divergent strategies of optimists and pessimists. *J Pers Soc Psychol*. 1986; 51(6):1257-64. [DOI:10.1037/0022-3514.51.6.1257] [PMID]
- [35] Momeni KM, Alikhani M. [The relationship between family functioning, differentiation of self and resiliency with stress, anxiety and depression in the married women Kermanshah city (Persian)]. *Q Couns Psychother Fam*. 2013; 3(2):297-329. http://fcp.uok.ac.ir/article_9629.html
- [36] Sarani A, Azhari S, Mazlom SR, Aghamohammadian Sherbaf H. The relationship between psychological hardiness and coping strategies during pregnancy. *J Midwifery Reprod Health*. 2015; 3(3):408-17. http://jmrh.mums.ac.ir/article_4432.html
- [37] Shaikh B, Kahloon A, Kazmi M, Khalid H, Nawaz K, Khan N, Khan S. Students, stress and coping strategies: A case of Pakistani medical school. *Educ Health*. 2004; 17(3):346-53. [DOI:10.1080/13576280400002585] [PMID]
- [38] Lazarus RS, DeLongis A. Psychological stress and coping in aging. *Am Psychol*. 1983; 38(3):245-54. [DOI:10.1037/0003-066X.38.3.245]
- [39] Al-Dubai SA, Al-Naggar RA, Alshagga MA, Rampal KG. Stress and coping strategies of students in a medical faculty in Malaysia. *Malays J Med Sci*. 2011; 18(3):57-64. [PMCID] [PMID]
- [40] Krohne HW. Stress and coping theories. *Inte Encyclopedia Social Behav Sce*. 2002; 22:15163-70. [DOI:10.1016/B0-08-043076-7/03817-1]
- [41] Abel MH. Humor, stress, and coping strategies. *Humor*. 2002; 15(4):365-81. [DOI:10.1515/humr.15.4.365]
- [42] Chen KJ, Yang CC, Chiang HH. Model of coping strategies, resilience, psychological well-being, and perceived health among military personnel. *J Med Sci*. 2018; 38(2):73-80. [DOI:10.4103/jmedsci.jmedsci_60_17]
- [43] Jamal Y, Zahra ST, Yaseen F, Nasreen M. Coping Strategies and Hardiness as Predictors of Stress among Rescue Workers. *Pakistan J Psychol Res*. 2017; 32(1):141-54.
- [44] Tran VA, Chantagul N. Influence of coping style on life satisfaction among vietnamese undergraduates of psychology, mediated by stress, anxiety, and depression. *Scholar: Human Sci*. 2018; 10(2):174-87. <http://www.assumptionjournal.au.edu/index.php/Scholar/article/view/2600>
- [45] Odacı H, Çikrikçi Ö. University students' ways of coping with stress, life satisfaction and subjective well-being. *Online J Couns Educ*. 2012;1(3):117-30. https://www.researchgate.net/profile/Ozkan_Cikrikci/publication/259642504_
- [46] Kline RB. Data preparation and psychometrics review. Principles and practice of structural equation modeling. 4th ed. New York, NY: Guilford. 2016.
- [47] Bayani AA, Koocheky AM, Goodarzi H. [The reliability and validity of the satisfaction with life scale (Persian)]. *J Iran Psychol*. 2007; 3(11):259-60.
- [48] Billings AG, Moos RH. Coping, stress, and social resources among adults with unipolar depression. *J Pers Soc Psychol*. 1984; 46(4):877-91. [DOI:10.1037/0022-3514.46.4.877]
- [49] Hosseini Ghadamgahi J, Dejkam M, bayanzadeh SA, Phaze A. The quality of relationship, stress and coping strategy in patients with coronary heart disease. *Iran J Psychiatr Clin Psychol*. 1998; 4(1):14-25. <http://ijpcp.iuims.ac.ir/article-1-1719-en.html>
- [50] Khoosfi H, Monirpoor N, Birashk B, Peighambari MM. [A comparative study of personality factors, stressful life events, and social support in coronary heart patients and non-patients (Persian)]. *Contemp Psychol, Biannual J Iran Psychol Assoc*. 2007; 2(1):41-8. http://bjcp.ir/browse.php?a_id=961&sid=1&slc_lang=en
- [51] Connor KM, Davidson JR. Development of a new resilience scale: The Connor-Davidson Resilience Scale (CD-RISC). *Depress Anxiety*. 2003; 18(2):76-82. [DOI:10.1002/da.10113] [PMID]
- [52] Manzano-García G, Calvo JC. Psychometric properties of Connor-Davidson Resilience Scale in a Spanish sample of entrepreneurs. *Psicothema* 2013; 25(2):245-51. [DOI:10.1037/t71949-000] [PMCID]
- [53] Mohammadi M. [Factors affecting the resilience of people at risk of substance abuse (Persian)]. [MA. Thesis]. Tabriz: Tabriz University of Social Welfare and Rehabilitation, 2006.
- [54] Kiamarsi A, Najarian B, Mehrabizadeh Honarmand M. [Constructing and validating psychological hardiness assessment scale (Persian)]. *J Educ Psycholof Shahid Chamran Ahvaz*. 1998; 5(3-4):271-85. <https://www.sid.ir/Fa/Journal/ViewPaper.aspx?ID=74971>
- [55] Baron RM, Kenny DA. The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *J Pers Soc Psychol*. 1986; 51(6):1173-82. [DOI:10.1037/0022-3514.51.6.1173]
- [56] Teo T, Noyes J. Explaining the intention to use technology among pre-service teachers: A multi-group analysis of the unified theory of acceptance and use of technology. *Interact Learn Environ*. 2014; 22(1):51-66. [DOI:10.1080/10494820.2011.641674]
- [57] Gefen D, Straub D, Boudreau MC. Structural equation modeling and regression: Guidelines for research practice. *Commun Assoc Inf Syst*. 2000; 4(1):7. [DOI:10.17705/1CAIS.00407]