

## Original Article

# Path analysis of the effect of resilience on psychological well-being through the mediating role of hope and positive affect in the students

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### Abstract

This study aimed to investigate the path of resilience on students' psychological well-being during the Coronavirus epidemic regarding the role of hope and positive affect. The research method is correlational using path analysis. The population of this research included all undergraduate students of Islamic Azad University, Rasht branch, in 2020-21. According to the epidemic conditions of Coronavirus, a sample of 210 students was selected by the availability sampling. They completed the Conner & Davidson, Resilience Scale, Reef Psychological Well-Being Questionnaire, the Schneider Hope Scale, and the Watson et al. Positive/Negative Emotion Scale. The data was analyzed by path analysis through LISREL v8.80 software. The results showed that the direct effects of the resilience on the well-being, hope positive affect were significant ( $p < 0.05$ ). Also, the indirect effects of resilience on the psychological well-being of individuals due to hope were significant ( $p < 0.01$ ). The indirect effects of resilience on psychological well-being through positive emotion were also significant. The findings showed that resilience, increasing hope, and positive emotions can improve psychological well-being. These results also have practical implications for clinical and health psychologists.

### Keywords

Resilience  
Psychological well-being  
Hope  
Positive affect

Received: 2022/11/07

Accepted: 2024/07/26

Available Online: 2024/08/15

## Introduction

The well-being of students in higher education is under attention. Students' age in full time higher education generally ranges between 17–24 years. This is also the critical age for the onset of psychological problems (Lipson & Eisenberg, 2018). Well-being is the psychological component of quality of life. It is defined as people's understanding of their own lives regarding emotional behaviors, psychological functions, and mental health dimensions, and it has two components. The first component is a cognitive judgment about how people are progressing in their lives, while the second one includes the level of pleasant experiences (Roothman, 2003). In general, mental well-being includes six elements: Autonomy (a sense of competence and ability to manage the environment around the person and choose or create appropriate personal relationships), personal growth (feeling continuous growth, being receptive to new experiences, being efficient), positive relationships with others (having warm and satisfying relationships with

confidence, ability to empathize, intimacy, and kindness), purpose in life (having a goal in life, a person feels that his past life has meaning), self-acceptance (having a positive attitude towards yourself, accepting different aspects of yourself, having a positive feeling towards your past life) (Ryff, 1989). People with high resilience do not have self-defeating behaviors; they are emotionally calm and can deal with unfortunate and unpleasant situations. They are optimistic and capable of organizing daily responsibilities (Friborg et al., 2006). The studies by Niromandi et al. (2020), Li et al. (2021), De Vries et al. (2021), and Kim et al. (2021) indicated the relationship between resilience and well-being. But in Makvandi's (2021) research, the role of resilience in predicting the well-being of people with bereavement experience was not significant. A review of the conducted research shows that hope can play a mediating role in the relationship between resilience and psychological well-being. In recent years, psychologists have looked at hope as a psychological strength and believe this can help cultivate and create mental health. Hope makes a person

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try hard and brings her closer to a high level of mental and behavioral functions. Hope has two cognitive and emotional components. Emotional components can predict the occurrence of positive events in the future and, as a result, increase mental health. Hope is term that is very close to optimism and refers to being purposeful in life (Garavand, 2022). Evidence shows that high level of hope positively predicts life satisfaction (Rezapour-Mirsaleh et al, 2023). People with high hope can create more ways to achieve their goals and be effectively motivated to reach the desired end. Gens and Arslan's research (2021) showed that optimism and hope improved students' psychological well-being during the Covid-19 pandemic. Another structure that seems to affect the relationship between resilience and psychological well-being is positive emotions. Positive emotions include pleasure, interest, trust, and awareness. These emotions are part of the behavioral facilitation system that directs the organism toward pleasurable stimuli (Wason, 1989). Positive emotion is related to activity, social satisfaction, and frequency of pleasant events. Positive emotions play a critical role in people's recovery from mental stress. Some researchers believe that positive emotion is an essential psychological resource that helps a person to use effective coping methods against mental pressure. Therefore, people who experience positive emotions to a greater extent are probably more resistant to complex events (Sharifi Bastani, 2015). Positive emotions play a role in psychological well-being (Sadeghi & Hasampour, 2017). Mohammadzadeh and Jahandari (2018) reported that the relationship between resilience and emotional regulation with life expectancy is meaningful. The role of resilience was significant in predicting hope (Moradi et al, 2016). Niroomandi et al. (2020) also reported the mediating role of resilience in the relationship between positivity and meaningful mental well-being. Gens and Arslan (2021) found the mediating role of optimism and hope in the relationship between Corona stress and mental well-being. According to the research results regarding the relationship between resilience and coping strategies with mental well-being, as well as the relationship between hope and positive affect with psychological well-being. This model can effectively explain students' psychological well-being.

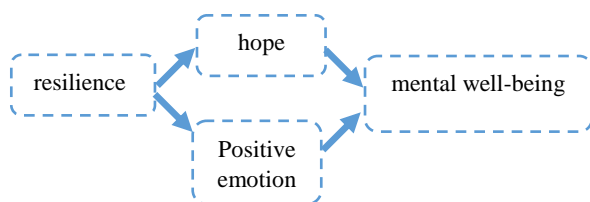


Figure 1. Conceptual model of research

Students are one of the main assets of the higher education system, and checking their health and well-being is very important. Students should have the psychological abilities to perform optimally in critical and stressful situations, and identifying these variables and finally improving their psychological health can be

vital. Therefore, the current research was conducted to evaluate the path analysis of resilience with the psychological well-being of the student population through hope and positive emotion.

## Method

### Participants

The current research is applied in terms of purpose and descriptive in terms of method, and it is of the type of correlation with the path analysis. The population of this research includes all undergraduate students of Islamic Azad University, Rasht branch. They were studying in the second semester of the academic year 2020-2021, from which a sample of 210 students was selected. Due to the coronavirus epidemic, not reopening the university and holding virtual classes, the sampling method was available and implemented online. The criteria for entering the research are being an undergraduate student, having an age range from 18 to 40 years old (youth stage), having no history of psychological disorders, and having no use of psychiatric drugs based on the students' statements. Exclusion criteria included incomplete completion of questionnaires. regarding the sample's demographic characteristics, it should be noted that 175 (83.33%) of the samples were female students, and 35 (16.67%) were male students. The average age of the participants was 21.9 years. 77% of the participants in the research belonged to the middle socio-economic class.

### Instrument

#### Well-being scale:

The 18-question short form of Riff (1989) was used to measure psychological well-being, and the scoring of this scale is based on a 7-point Likert scale from completely disagree to completely agree. Riff and Cronbach's alpha method reported the internal consistency of this test as 0.65. The evidence of convergent validity of this test indicates that six psychological well-being factors have a positive relationship with the scales of life satisfaction and self-esteem and a negative relationship with depression, belief in luck, and external sources of control (Riff, 1989). Norouzi and Asadi Mejjareh (2017) reported the reliability of this questionnaire using Cronbach's alpha method for the total psychological well-being score of 0.76. In the current study, the internal consistency of the scale was 0.83.

#### Connor-Davidson Resilience scale questionnaire (CD-RISC):

The resilience questionnaire was prepared by Connor and Davidson (2003) by reviewing the research sources of 1979-1991 in the field of resilience. The questionnaire has 25 statements, scored on a five-point Likert scale from 0 (completely false) to 4 (always true). The test scores are between 1 and 100. Connor and

Davidson (2003) reported the reliability of instruments with Cronbach's alpha of 0.89. The convergent validity of the questionnaire was reported at the 0.01 level, and its reliability was reported as 0.83 using Cronbach's alpha method. In Iran, Eyvazi et al (2019) reported the reliability of instruments using Cronbach's alpha method of 0.95. The reliability of instruments in the current study was also 0.88.

**Schneider's hope scale:**

This scale was created by Snyder (1991) to measure hope. The questionnaire with 12 statements is implemented as a self-assessment. The scoring of this questionnaire is based on completely correct 4, partially correct 3, partially incorrect 2, and completely incorrect 1. The internal consistency of the entire test is 0.74; the internal consistency of the factor subscale is 0.71 to 0.76, and the strategic subscale is 0.63 to 0.80. This questionnaire correlates 0.50 to 0.60 with questionnaires such as optimism, the expectation of goal achievement, and self-esteem. The correlation of this questionnaire with Beck's hopelessness questionnaire is -0.51 and with Beck's depression questionnaire is -0.42, which indicates the criterion validity of this questionnaire (Snyder et al, 2006). In a research conducted by Golzari (2006) on 660 female students in Tehran, Cronbach's alpha was 0.89. The hope scale showed a negative

correlation (-0.51 to -0.42) with Shier and Carver optimism scale and with the scores of the Beck Depression Inventory (Berjis et al, 2013). The instrument reliability using Cronbach's alpha method was obtained in this research as 0.84.

**Positive and Negative Affect Scale:**

The Positive and Negative Affect Scale is a 20-item instrument designed in 1989 by Watson et al. This scale has two subscales, 10 questions related to positive emotion and 10 questions related to negative emotion. Options are graded on a Likert scale from 1 to 5. A positive effect subscale was used in this research. Watson et al. (1989) estimated Cronbach's alpha coefficient of the positive component to be 0.88. Test-retest reliability with an interval of 8 weeks for the positive affect subscale was 0.68. In various domestic research, Cronbach's alpha coefficient of the positive emotion scale was obtained from 0.83 to 0.91 (Besharat et al., 2012). In the present study, the homogeneity of the instrument was obtained using Cronbach's alpha method for a positive effect of 0.8.

**Results**

The descriptive indices of the research variables are presented in Table 1.

**Table 1.** Descriptive indices of research variables

Average research variables	Average	Standard deviation	Min Score	Max Score	Kolmogorov-Smirnov	
					Test statistic	Sig
Resilience	90.85	16.12	30	125	1.2	0.22
Hope	43.63	5.16	24	58	1.3	0.17
positive emotion	11.54	4.25	5	25	1.76	0.11
Psychological well-being	85.75	10.46	25	106	1.29	0.17

**Table 2.** Correlation coefficient between research variables

Variables	1	2	3	4
1-Positive affect	-			
2-resilience	0.75**	-		
3-hope	0.41**	0.49**	-	
4-well-being	0.53**	0.64**	0.48**	-

**Table 3.** Results of direct and indirect relationships and total effects of predictor and criterion variables

Predictive variables	Type of effect		
	Direct	Indirect	Total
Hope	0.19	-	0.19
positive emotion	0.26	-	0.26
Resilience	0.38	0.23	0.61

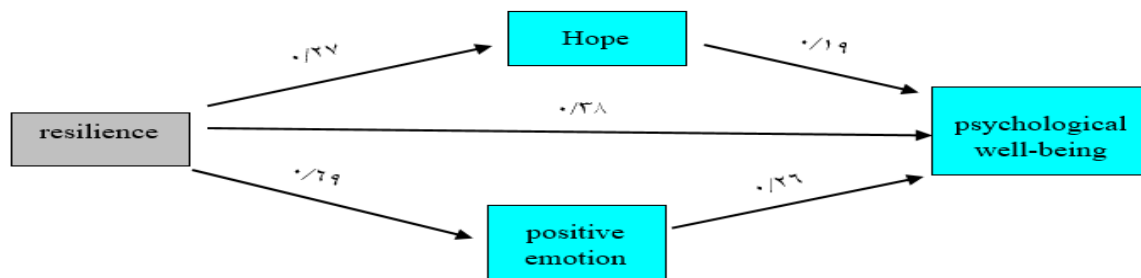
Criterion variable: psychological well-being Based on the obtained and calculated coefficients and effects (Table 3), the model diagram of the values (coefficients)

of the standardized direct and indirect path of the relationships between the variables was drawn (Figure 2).

**Table 4.** The fit indices of the structural mode

indices	X2/df	P-Value	RMSEA
Observed range	1.32	<0.001	0.041

Acceptable range, RMSEA (<0. 08), (X2/df (<3)



**Figure 2.** The experimental model of factors affecting psychological well-being

As can be seen from the results (Table 3 and Figure 2), the standardized values of the variables' direct effects show that the resilience variable has the greatest impact on people's psychological well-being among the predictive variables. After that, positive affect and hope impact people's psychological well-being most. The results of the indirect relationships of variables (Table 3 and Chart 2) also show that resilience indirectly affects people's psychological well-being. The results of the overall effects (direct and indirect) of the predictor variables (hope, positive affect, resilience) on the criterion variable (psychological well-being) show that the resilience variable with a path coefficient of 0.61 has the greatest overall effect on the psychological well-being of people. And therefore, it is considered the most important factor in explaining the changes in the criterion variable. Also, variables of positive affect with a path coefficient of -0.26, hope with a path coefficient of 0.19, and hope with a path coefficient of 0.21 have had the greatest subsequent effects on people's psychological well-being, respectively. In general, the results and relationships obtained from the path analysis and the obtained coefficients indicate that the higher the resilience, hope, and positive affect, the greater their impact on people's psychological well-being.

## Discussion

The present study evaluated the path analysis of resilience with psychological well-being through the mediation of hope and positive affect in students. The research findings showed that the direct effect of hope on students' psychological well-being is significant, which is in line with the results of the study by Gens and Arslan (2021) and Counted et al. (2020). Hope predicts positive attitudes and tendencies to plan for improvement, search for information, and reconstruct bad situations in terms of their most positive aspects. On the other hand, when people face problems and adversities, they experience various emotions ranging from excitement and passion to anger, anxiety, and depression, among which optimists expect positive results, and this confidence is mixed. It brings relatively positive emotions and makes hopeful people avoid negative emotions such as anxiety, anger, and sadness and enjoy better health (Hassani et al., 2020). Hope is an emotional force that guides the imagination toward positive efforts. Hope energizes the people and equips them to prepare for their tasks and activities. It gives

people flexibility, vitality, and a unique ability to deal with the blows that life imposes on them and increases their life satisfaction. Also, it is a positive motivational state considering some vivid goals for their life. In hope, on the one hand, there is the motivation to want to move towards the goals and to examine the appropriate ways to achieve the goals. Therefore, the function of hope in life is like a supportive mechanism and increases the growth and development of the quality of human life (Khorosh & Shabani, 2021). Hope makes people believe that their goals are achievable. It is synonymous with anticipation, cherishing, and trust and is the opposite of fear, doubt, and despair (Karababa, 2020).

The direct effect of positive affect on students' psychological well-being was also significant, which was in line with the results of Sadoughi's study (2017). People with high positive emotions are usually hopeful and use different solutions when facing challenges to achieve their goals. When faced with a crisis, these people look at the challenges with an optimistic attitude. Instead of despairing, they try to solve the problems appropriately; therefore, positive emotions are associated with psychological well-being. The main finding of the research showed that the indirect effect of resilience on psychological well-being is through meaningful hope, which is consistent with the results of Niroumandi et al. (2019). Hassani et al. (2019) reported that resilience's direct and indirect effects, considering the mediating role of self-compassion and hope on women's psychological well-being with M.S. Resilience promotes mental well-being by promoting mental well-being by creating an optimistic attitude (Niroumandi et al., 2019). Resilience is a promising concept that can be considered and used in programs to prevent various harmful factors. Skills and attitudes are necessary to achieve resilience, including hard work and control. It helps people to turn difficulties into profitable opportunities in facing stressful changes. A person's adaptation methods and family characteristics help him to master the pressures and adverse conditions of life. The purpose of control is that a person has faith in his abilities to influence the results of events, which in turn leads to a person's well-being (Hassani et al., 2020). Another important finding of his research showed that the indirect effect of resilience on mental well-being through positive affect is significant, consistent with Moradi et al. (2016). In explaining this finding, it can be acknowledged that resilient people report more positive

meanings during negative emotional experiences. For example, resilient people use humor, creative exploration, relaxation techniques, and optimistic thoughts as methods of compromise (Moradi et al., 2016). Therefore, resilience is associated with an increase in the experience of positive emotions and a decrease in negative emotions, which leads to an increase in the level of cheerfulness and satisfaction, keeps a person away from helplessness, anger, fear, and other negative emotions, and promotes well-being. According to Ryff and Singer (2003), resilient people perform better in maintaining their physical and psychological health, which gives them more power to recover more easily and quickly from stressful situations and plays an important role in psychological health.

High levels of resilience help a person use positive emotions to overcome adverse experiences and return to a favorable situation (Carle & Chassin, 2004). It can be said that resilient people in life always try to be positive and understand the positive aspects of the situation, even when faced with difficult living conditions. Resilient people look at problems creatively and flexibly, plan and solve them, and have enough resources to deal with them, which causes a person to suffer health problems. Have high mental and psychological well-being.

## Conclusion

The findings showed that resilience, increasing hope, and positive emotions can improve psychological well-being. These results also have practical implications for clinical and health psychologists.

Some of the limitations of the research are: First, since the sampling was done in a non-random way, there are limitations in the generalization of the findings. Secondly, the lack of control of demographic variables is another suggested limitation in future research. In future research, doing these measures can reveal new patterns of correlations. The research findings suggest organizing workshops on resilience skills to improve students' mental well-being.

## Conflict of Interest

No potential conflict of interest was reported by the authors.

## Acknowledgment

We would like to thank all the students of Islamic Azad University in Rasht branch for their participation in the research.

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