

# Resiliency Prediction Based on Emotion Levels in Nurses Who Work in Hospitals of Tehran

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## Abstract

The present research aims to predict resiliency based on emotions' level in nurses who working in hospitals in Tehran. This is applied research in terms of the goal and is correlational in terms of execution method. The research population included all nurses working in the hospitals of Tehran in 2018 (2200 individuals). To select samples, 300 nurses (181 females and 119 males) were selected by a random simple sampling method and based on Morgan's table. Research tools included the resiliency questionnaire (2005) and the Positive and Negative Affect Schedule of Watson et al (1988) which have validity and reliability. The data of the research was analyzed by multiple regressions and SPSS software. The results showed that predictor variables include emotion levels that have 72% common variance with criterion variable (resiliency). The multiple correlation coefficient between variables was 0.70 and the determination's adjusted coefficient was 0.70. According to the research results, the negative emotion is a significant predictor for the variable of resiliency and has predicted nurses' resiliency as negative with a significance level of 0.01 and a  $\beta$  coefficient of -0.21. The positive emotion was also a significant predictor for the variable of resiliency and has predicted nurses' resiliency as positive with a significance level of 0.01 and a  $\beta$  coefficient of 0.71. According to the  $\beta$  coefficients' results, the positive emotion with the  $\beta$  coefficient of 0.71 has the highest prediction for the variable of resiliency.

**Keywords:** Resiliency, Emotion levels, Nurses

## INTRODUCTION

Nowadays, one of the superior standards for hospitals is the rate of their personnel's accountability and responsibility against visitors of these centers <sup>[1]</sup>. The resiliency has been recognized as an effective variable on the accountability approach, nurse' tolerance about job hardness, and a structure of reviewing service quality <sup>[2]</sup>. Resiliency is defined as a method to measure individual ability to face stress maker factors and those treating mental health <sup>[3]</sup>. Resilient people have no self-destructive behavior, they are emotionally calm and are able to face unhappy situations <sup>[4]</sup>.

The researchers recognized tenacity, self-enhancement, resisting repressiveness, and having a positive mood and emotions as the ways to reach resiliency <sup>[5]</sup>. On this basis, resiliency is defined as a power or an ability to return to primary life and start a new situation through decreasing stress or altering it as well as replacing it with happiness <sup>[6]</sup>. So, resiliency is a proper skill to pass over life troubles even if there are unfavorable and hard situations <sup>[7]</sup>. Resiliency is called human ability to successfully pass/adapt unfavorable situations, and in spite of fighting life issues, achieve educational, emotional, and social capability <sup>[8]</sup>.

Previous literature mentioned different variables that engaged resiliency and in this research, emotion level was used to predict resiliency. Emotion means general, severe, and short reactions of an organism to an unexpected situation together with a pleasant or unpleasant empathetic mode. Studying emotion has been one of the most important scientific approaches recently so that some experts know emotional settings as a major factor affecting depression as emotional reactions provide important information about

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individual experiments in connecting others [9].

Emotion could be categorized into two types: positive and negative. Emotions such as love, happiness, laughter, and tears of joy are called positive emotions and anxiety, depression, anger, jealousy, fear, feeling guilty, disappointment, and sadness are called negative emotions. On the other words, positive emotion exposes a pleasure amusement and is consciousness vs boring feelings and exists in the shape of flowing pleasure, eagerness, and progress toward the goal. Negative emotion explains mental sadness and unpleasantness, i.e. up to which rate the person feels unpleasant [10]. Therefore, the main question of this research is how the resiliency could be predicted based on emotion levels in nurses working in the hospitals of Tehran?

### METHODOLOGY

This research is a descriptive one and is a verification applied research in terms of the goal. It is quantitative research in terms of data. The statistical population and samples included all nurses who working in hospitals of district four of Tehran city in 2018 (2200 individuals), so 300 nurses of those hospitals were selected (181 females and 119 males) by using simple random sampling and based on Morgan's table. Including standards were consciousness satisfaction for participating in this research, working as a nurse for more than a year, having no chronic, and contagious illness. Research tools included the resiliency questionnaire (2005) and the Positive and Negative Affect Schedule of Watson et al (1988) which have reliable validity and reliability. The aim of the resiliency test is measuring resiliency rate in people. This scale includes 25 items that each has 5 points (always, often, sometimes, rarely and never) which are made by Mohammadi (2005) to be used in Iran and its reliability was determined 0.88 by using Cronbach's coefficient and its validity was determined 0.81 by using factor analysis. In Samani et al. (2007) research, Cronbach's coefficient was reached 0.87. The results of the factor analysis test on this scale also showed a public factor in this test which demonstrates the test's validity. Also, Cronbach's coefficient method was used in this research to review the test's reliability and the results showed that the Cronbach's coefficient for this scale is 0.71. Positive and negative affect scale was prepared and offered by Watson et al. (1988). This scale has 20 items that express 20 feelings (10 positive feelings and 10 negative feelings) and is prepared in words. The complementary opinion about these feelings is assessed in four dimensions of past, now, future and in general on a 5-point scale. The validity and reliability of this scale are confirmed in different researches. Cronbach's coefficient of this scale was 0.85 in the research of Sohrabi and Hosseini (2002) which shows its internal stability. Abolghasemi (2003) reported the intraclass coefficient of correlation to be between 0.74 and 0.94 for items and the whole scale which were totally significant and showed the validity of this scale. In this research, the reliability of the scale was calculated 0.71 and 0.83 for

positive and negative effects, respectively by Cronbach's coefficient. Simultaneous multiple regression analysis and Pearson correlation coefficient were performed using SPSS software.

### FINDINGS

The average and standard deviation of resiliency points have been reported as the criteria variable and predictor variable in the emotion level of nurses who work in hospitals of Tehran in table 1.

**Table 1: Average and Standard Deviation**

Variable	Qty	Average	Standard Deviation
Resiliency	300	78.84	10.03
Emotion level	Positive emotion	300	33.58
	Negative emotion	300	31.22

According to table 1, average and standard deviation points in variables of resiliency, positive emotion, and negative emotion are (78.84, 10.03), (33.58, 5.52) and (31.22, 6.73), respectively. These averages showed a high resiliency of the participants and their average positive and negative emotions. It should be noted that the participants had higher positive emotions vs negative ones. Before analyzing, it is necessary to assess the test's assumptions. On this basis, firstly the assumption of normality of single variable distribution was verified through kurtosis and Skewness rates which are reported in table 2.

**Table 2: Kurtosis and Skewness of research variables**

	Skewness	Kurtosis
Resiliency	1.846	1.149
Positive Emotion	1.079	1.038
Negative Emotion	0.206	0.793

As we can see in the table, Skewness of the variables is between +2 and -2, so it could be concluded that all variables have a normal distribution.

The results of table 3 showed that the normality is defaulted by virtue of significance, so with the high probability of distribution normality (more than 5%), parametric tests could be used.

**Table 3: Normality Test Results**

Variable	Kolmogorov–Smirnov test			Shapiro–Wilk test		
	Statistic	Df	Significance	Statistic	Df	Significance
Resiliency	0.162	300	0.200	0.957	150	0.754

<b>Positive Emotion</b>	0.757	300	0.157	0.923	150	0.520
<b>Negative Emotion</b>	0.264	300	0.200	0.940	300	0.630

The Durbin-Watson test was used to verify errors independently. The results showed that the assumption of independence is confirmed (DW=2.12). The simultaneous regression analysis was used to confirm assumptions.

**Table 4:** Summary of Simultaneous Regression.

<b>Multiple Correlation Coefficient</b>	<b>Coefficient of Determination</b>	<b>Adjusted Coefficient of Determination</b>	<b>Standard Error of the Estimation</b>
<b>0.706</b>	0.842	0.708	9.77041

The results of table 4 showed that multiple correlation coefficient between the variables was 0.70 and the adjusted coefficient of determination was 0.70. It means the emotion levels had 70% common variance with the criterion variable (Resiliency). On this basis, emotion levels totally explained 70% of the resiliency variance.

**Table 5:** Summary of Variance Analysis Test Results

	<b>Sum Square</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
<b>Regression</b>	68867.044	2	34433.522	360.708	0.0001
<b>Balance</b>	25351.903	297	95.461		
<b>Total</b>	98218.947	299			

The results of table 5 showed that the emotion level is a significant predictor for the criterion variable (resiliency). The results of the beta coefficient are shown in table 6.

**Table 6:** The Results of Multi-Variables Regression Coefficient.

<b>Variables</b>	<b>Unstandardize d Coefficient</b>		<b>Standardized Coefficient</b>		<b>Significance Level</b>
	<b>B</b>	<b>SE</b>	<b>B</b>	<b>T</b>	
<b>Fixed</b>	28.612	5.190		5.512	0.0001
<b>Positive Emotion</b>	1.969	0.099	0.713	19.802	0.0001
<b>Negative Emotion</b>	0.509	0.084	0.218	6.068	0.0001

According to the results of table 6, among predictor variables, the negative emotion is a significant predictor for resiliency variable, with a significance level of 0.01 and a beta coefficient of -0.21; it has negatively predicted nurses' resiliency. Furthermore, according to the results of table 6, among predictor variables, the positive emotion is a

significant predictor for resiliency variable with a significance level of 0.01 and a beta coefficient of 0.71; it has positively predicted nurses' resiliency. The beta coefficient also showed that the positive emotion variable with a beta coefficient of 0.71 has a higher prediction intensity for the resiliency variable.

### CONCLUSION

According to the results of statistical analysis, the negative emotion has negatively predicted nurses' resiliency and also the positive emotion has positively predicted nurses' resiliency. This finding confirms the results of previous researches. Mohammadkhani et al. (2014) reviewed the relationship between emotional schema and resiliency rate in HIV infected patients [11]. The results showed that four emotional schemas significantly predict 38% of resiliency rate, i.e. obsessive rumination, needing to confirm by the others, simplification sight, and accepting emotions. Also, according to correlation analysis, there is a significant positive relationship between positive emotion schemas such as acclamation, receiving confirmation from the others, simplification sight, higher values, emotional agreement and acceptance, and resiliency and a negative relationship between negative emotion schemas such as obsessive rumination and resiliency. Hashemi and Jokar (2013) tried to determine the intermediate role of emotional arrangement and confrontational strategies in terms of parents' and peers' attachment with emotional resiliency [12]. The results showed that confrontational strategies and the cognitive arrangement could play an intermediate role in the relation of all kinds of attachments and emotional resiliency so that parents' and peers' attachment could be the positive predictor of emotional resiliency through active confrontational strategies and be the negative predictor of emotional resiliency through avoidance strategies. The research of Mahmoudi et al., (2011) with the aim of reviewing the role of positive emotion, negative emotion and optimism in predicting resiliency showed that positive emotion, negative emotion, and optimism have a significant relationship with resiliency and could explain its changes [13]. This research demonstrates the matter of positive emotion and optimism in enhancing the ability of people to face life's difficult situations.

Different researches have recognized different factors as resiliency predictor which are categorized into 4 groups: 1) cultural-social environment; 2) interpersonal factors; 3) psychological-behavioral factors; 4) biological-genetic factors. Resiliency is defined as a method to measure individual ability to face stress maker factors and those treating mental health. Resilient people has no self-destructive behavior, they are emotionally calm and are able to face unhappy situations which explain positive connection with positive emotion and negative connection with negative emotion as well as primary incompatible schemas. On the other hand, researches know tenacity, self-enhancement, resisting repressiveness, and having a positive

mood and emotions as the ways to reach resiliency. On this basis, resiliency is defined as a power or an ability to return to primary life and start a new situation through decreasing stress or altering it as well as replacing with happiness. The positive resiliency exposes a pleasure amusement and is consciousness vs boring feelings and exists in the form of flowing pleasure, eagerness, and progress toward the goal. Negative emotion explains mental sadness and unpleasantness, i.e. up to which rate the person feels unpleasant. According to the literature, high negative emotions exist as an unpleasant feeling, excitability, and anger.

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