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STUDY OF THE RELATIONSHIP BETWEEN PSYCHOLOGICAL HARDINESS AND CREATIVITY WITH JOB STRESS IN PERSONNEL OF EMERGENCY SOCIAL SERVICES OF GOLESTAN PROVINCE

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ABSTRACT

The main purpose of the present project is the study of the relationship between the psychological hardiness and creativity with the job stress. The research method was descriptive correlational one. The chosen population for the study was all the personnel of Emergency Social Services of Golestan Province, Iran. Due to the limited size of this community, the sample size was considered equal to the total population. For the collection of the data, Health and Safety Executive Job Stress (HSE), abridged Hardiness Scale Kobasa, Abedi Creativity questionnaires were used. Data Analysis was carried out using statistical measures like Pearson's Correlation Coefficient and Stepwise Multiple Regression. These analyses were performed via Statistical Package for the Social Sciences (SPSS) software. The results indicate a negative and significant relationship between the hardiness and creativity with job stress. Hardiness and creativity are both predictive of job stress, but hardiness is a stronger predictor. There is a negative and significant relationship between components of hardiness, i.e. challenge, control, and commitment, with the components of creativity, i.e. flexibility, originality, fluency, and elaboration. Multiple Regression analysis indicated that control, fluency and elaboration were the best predictors of job stress.

Keywords: Creativity, Job Stress, Psychological Hardiness

INTRODUCTION

Stress is an integral part of human life. Some experts believe that every demand for adjustment to new conditions causes stress (Poltavsky, 2003). Job stress is a kind of stress produced by a job. It is the result of the interaction between the work conditions and personality traits of an individual. Whenever the demands of workplace and its pressures are beyond the individual's capacity, the person would experience job stress (Ros & Altmaier, 2009). According to the UN reports, stress is affirming itself more strongly as the main murderer of human being in the 21st century (Forghani, 2011). The emergence of job transition in the recent decades has complicated the issues related to job and human relationships in workplaces. Job stress has been one of the main consequences of such a complication (Biener, 1984). That is why nowadays job stress is considered to be one of the most important and noteworthy issues in workplaces.

World Health Organization (WHO) reported more than 13.5 million work days between 2007 and 2009 as well as 4 billion pound loss due to the damages done by stress on body and soul of the working people (Fouladian *et al.,* 2014).

Some people have certain personal characteristics that increase their internal resistance against stress and protect them against stress-related diseases. Psychological hardiness is one of these personality traits that may moderate people's ways of dealing with stressful situations and help them successfully analyze such conditions. According to Kobasa, hardiness is a combination of one's beliefs about himself and his way of looking at world. He believes that hardiness is made up of three factors of commitment, control, and challenge. The person who has a higher level of commitment believes in the significance of who he is and what he does. Those who show higher levels of control believe in the predictability and controllability of life events; they think they can affect what happens around them through their efforts. People who have

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higher levels of challenge look at the negative or positive situations who demand adjustment as a chance for learning and growth rather than a threat against their safety and comfort (Kobasa, 1979; Maddi, 1990). According to Kobasa (1979) and other researchers, Maddi (1990), Wiebe (1991), Klag and Bradley (2004), psychological hardiness is a source of internal resistance that reduces the harmful effects of stress on health. Thus, people with higher levels of hardiness experience lower levels of job stress (Atefvahid *et al.,* 2001).

Researches done by Kobasa (1979) indicated that facing the life problems, people with lower levels of hardiness show stronger emotional reactions and in the long run receive the greatest share of suffering from the psychological pressures while those with higher levels of hardiness stay healthy dealing with the same pathogenic conditions.

According to Antonovsky (1979) people with higher levels of psychological hardiness have high levels of curiosity and as a result one can see higher levels of creativity in them (Antonovsky, 1979). Torrance (1973) defines creativity as the sensitivity to the problems, deficiencies, and errors in the knowledge, guessing and forming hypotheses about those deficiencies, evaluation and testing of those formed hypotheses and probably correcting and re-examining them until reaching the results. He believes creativity is made up of four main factors of fluency, flexibility, originality, and elaboration. Fluency is defined as the ability to create many ideas, answers and solutions as a hypothesis or picture in a particular area. Elaboration is considered to be the ability of the individual to refer to the details. Creativity is the ability of the individual to create new ideas and finding unique, unusual, and clever solutions for a problem while flexibility is the ability of the individual to create different ideas if the problem changes into different form (Ramezani, 2010).

In a research carried out by Ghahraman *et al.,* (2006), it is observed that organizations can help their employees to develop their creativity through agreement on organizational values and beliefs, adjustments and modifications, caring about the individuals, coordination at work and alignment of personal and organizational goals (Ghahremantabrizi *et al.,* 2006). Zare *et al.,* (2011) believe that an insecure and stressful environment has a destructive effect on people's creativity; on the other hand, life in a peaceful environment can result in the flourishing of people's creativity (Zare *et al.,* 2011). Ahmadi *et al.,* (2012), in a work titled Study of the Relationship between Organizational Creativity and Job Satisfaction with Job Stress in Jahad-e-Keshavarzi Organization of Fars Province, concluded that there is a significant and negative relationship between organizational creativity and job stress; higher the level of creativity lower the level of job stress was and vice versa (Ahmadi *et al.,* 2012).

Considering the mentioned material and the role personality traits play on the creation of job stress and the ways of dealing with it, the current study tries to answer this question that if there is any relationship between the psychological hardiness and creativity with job stress.

MATERİALS AND METHODS
Research Methodology
This study is a descriptive research of correlational type. The statistical population chosen for this research was the all the personnel of the Emergency Social Services of Golestan Province who were working there in 2014 including 105 people (38 men and 67 women). Due to the limited size of this community, the sample size was considered equal to the total population. For the collection of the data, Health and Safety Executive Job Stress (HSE), abridged Hardiness Scale of Kobasa, Maddi and Kahn's, and Abedi Creativity questionnaires were used.
Research Tools
HSE Job Stress Questionnaire
This questionnaire of 35 questions was created by Health and Safety Executive of United Kingdom of Britain in 1990 to measure English employees' job stress in seven fields. These seven fields included demands, control, managerial support, peer support, relationships, role, and job changes. The questionnaire contains a Likert-scale of 5 options: Never, Rarely, Sometimes, Often, and Always. The minimum point for every question in this questionnaire is 1 and the maximum is 5. Soltanali *et al.,* (2011)

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reported the correlation of this questionnaire with the other two questionnaires, Steinmeyer and Osipow 0.7, and its reliability through estimation of Cronbach's alpha coefficient 0.88.

Abedi Creativity Questionnaire

This questionnaire is the abridged and standardized version of Torrance's Creativity Questionnaire. It includes 60 questions that evaluate fluency, elaboration, originality, and flexibility, four consisting factors of creativity, with 22, 11, 16, and 11 questions respectively. Each question has three different answers of A, B, and C (qualitative) with values that could be translated into scalar quantity of 0, 1, and 2. Rafieyan (2013) reported the resulted Cronbach's alpha equal to 0.82. Sohrabi and Sohrabi (2003), Kefayat (1995), Haghighat (1999) and several other researchers also confirmed validity and reliability of this test through Cronbach's alpha, test-retest, and factor analysis methods.

Abridged Kobasa Scale Hardiness Questionnaire

This questionnaire contains 20 questions and evaluates three factors of psychological hardiness, that is, commitment, control, and challenge via 9, 7, and 4 questions respectively in a way that the questions 1-9 test the commitment factor, 10-16 control factor, and 17-20 challenge factor. Every question has a Likert-scale of 4 options (Never, Rarely, Sometimes, and Often) with values translatable into scalar quantity ranging from 0-3. Reliability of this test was reported by Kobasa and colleagues (1982) Cronbach's alpha 0.81 and by Esmailkhani and his colleagues (2010) through test-retest for female test subjects 0.85 and for male subjects 0.84 (Yusofipur & Asghariyebrahimabadi, 2014).

RESULTS AND DISCUSSION

Results

In order to present a more transparent picture of the conditions of the variables, the mean and standard deviation of the variables were reported in table 1.

Table 1: Descriptive Statistics

Std.	Mean	N	
19.92	132.10	105	Job stress
5.69	17.90	105	Commitment
5.40	15.50	105	Control
2.67	7.72	105	Challenge
11.88	41.10	105	Hardiness
5.30	2.47	105	Fluency
5.13	13.47	105	Elaboration
5.32	19.65	105	Originality
4.62	15.28	105	Flexibility
18.47	77.50	105	Creativity

The mean and standard deviation for each variable of the research respectively were job stress 132.10 and 19.92, psychological hardiness 41.10 and 11.88, creativity 77.50 and 18.47. Among the hardiness factors, commitment, and among the creativity factors fluency had the highest mean.

To test the assumption of the normality of the data resulted from the research, which is one of the prerequisites of application of parametrical tests like Pearson's Correlation Coefficient, Kolmogorov-Smirnov test was used (Table 2).

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Table 2: One- Sample Kolmogorov- Smirnov Test

Asymp. Sig. (2- tailed)	Kolmogorov- Smirnov Z	N	
.163	.119	105	Job stress
.144	1,130	105	Commitment
.065	1.309	105	Control
.176	1.101	105	Challenge
.134	1.141	105	Hardiness
.554	.794	105	Fluency
.279	.992	105	Elaboration
.197	1.076	105	Originality
.085	1.258	105	Flexibility
.612	.759	105	Creativity

Table 3: Correlation between Psychological Hardiness factors and Job Stress

Relationship	Sig. (2- Tailed)	Pearson Correlation	
Significant- Negative	*.000*	*-.531*	Commitment
Significant- Negative	*.000*	*-.680*	Control
Significant- Negative	*.000*	*-.485*	Challenge
Significant- Negative	*.000*	*-.681*	Hardiness

Based on Pearson's Correlation Test (Table 3) and with 95 percent of probability a significant and negative relationship could be assumed between job stress and commitment (r = -0.531), control (r = -0.680), and challenge (r = -0.485); the psychological hardiness (r = -0.681) may also have a significant and negative relationship with job stress.

Stepwise Multiple Regression is used to predict the effect of commitment, control, and challenge on job stress; the results could be observed in table 4.

Table 4: Analysis of Variance Table for Examining the Relationship between Hardiness Factors and Job Stress

Sig.	F	Adjusted R Square	R Square	
.000	87.720	.458	.463	Control

Based on table 4, the statistic of F and the corresponding *P-value* confirm the significance of the regression model of our case (Value of the *P-value* is less than 0.05), and the coefficient of determination of control is 0.463; thus, it could be told that almost 46.3 percent of the changes or the distribution of job stress is indicated by control.

Table 5: Estimated Regression Coefficients of Model 1 for Examining the Relationship between Psychological Hardiness and Job Stress

Sig.	t	Beta	β_i	
.000	21.337	--	93.224	Constant
.000	9.419	-.680	-2.509	Control

Table 5 indicates the significance of regression coefficients for the given variables in the model using the statistic t and *P-value. P-value* for regression coefficient of control and constant is less than 0.05. Thus, for examining the relationship between commitment, control, and challenge with job stress, regression model 1 could be presented as follows:

Regression Model 1

Job Stress= 93.224 – 2.509 control

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Considering the above model and assuming that the other variables to be fixed, it could be told that every one unit increase in control can cause 2.509 unit decrease in job stress. Based on this regression model, it could be concluded that the strongest and most important factor of psychological hardiness to predict job stress, in this research, is control; for the other two factors, commitment and challenge, no significant relationship was found.

Table 6: Correlation between Creativity Factors and Job Stress

Relationship	Sig. (2- Tailed)	Pearson Correlation	
Significant- Negative	.000	-.479	Fluency
Significant- Negative	.000	-.443	Elaboration
Significant- Negative	.001	-.323	Originality
Significant- Negative	.000	-.378	Flexibility
Significant- Negative	.000	-.517	Creativity

The results of correlation test between creativity (fluency, flexibility, originality, and elaboration) and job stress were depicted in table 5. There is a significant and negative relationship between job stress with fluency (r = -0.479), elaboration (r = -0.443), originality (r = -0.323), and flexibility (r = -0.378); the creativity itself (r = -0.517) has a significant and negative relationship with job stress. Regarding the results of correlation test (table. 6), the current hypothesis was proved with 95 percent probability.

Table 7: Analysis of Variance Table for Examining the Relationship between Creativity and Job Stress factors

Sig.	F	Adjusted R Square	R Square	
.000	30.748	.222	.230	Fluency
.000	20.657	.274	.288	Fluency, Elaboration

Table 7 shows that a two-step model for the study has been fitted. In the first step, the variable of fluency has been entered into the equation while the variable of elaboration has been entered in step two. Variables of originality and flexibility have been omitted due to the lack of relationship.

As it could be observed in the ANOVA table (7), F statistic and the corresponding *P-value* confirm the significance of the given steps (*P-value* is less than 05.0). According to table 7, fluency predicted 23 percent of job stress changes in step one, and in step two, fluency and elaboration acted as the second predictor could explain 28.8 percent of the job stress variance.

Table 8: The Estimated Regression Coefficients of Step 1 for Examining the Relationship between Creativity and Job Stress Factors

Sig.	t	Beta	β_i	
.000	13.064	--	93.550	Constant
.000	5.545	-.479	-1.308	Fluency

Table 8 confirms the significance of the regression coefficients of step 1for the entered variable using statistic t and corresponding *P-value*. *P-value* is less than 0.05 for the regression coefficient of fluency and constant (Table 8). Thus, the regression model of step 1 could be presented as such:
Job Stress= 93.555 – 1.308 Fluency

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Table 9: The Estimated Regression Coefficients of Step 2 for Examining the Relationship between Creativity and Job Stress Factors

Sig.	t	Beta	β_i	
.000	12.769	--	89.842	Constant
.000	3.629	-.346	-.945	Fluency
.005	2.892	-.276	-1.071	Elaboration

Table 9 confirms the significance of the regression coefficients of step 2 for the entered variables in the model by using statistic t and *P-value*. *P-value* related to regression coefficient of fluency, elaboration, and the constant is less than 0.05. Thus, the regression model for step 2 could be presented as follows:

Job Stress= 89.842 - .945 Fluency – 1.071 Elaboration

Based on this model, there is a significant and negative relationship between fluency and elaboration with job stress; due to the negativity of their coefficients, job stress decreases by increase in fluency and elaboration. The variables of originality and flexibility were omitted due to the lack of relationship.

In order to determine the relative importance of predicting variables, references to Beta values (standardized β_i) were made (table 9). The variable of fluency has a higher coefficient compared to the variable of elaboration; hence, it has a greater effect on job stress. The other predicting variables in the model did not have any relationship with the criterion variable.

To examine and determine the level of prediction for each predicting variable of creativity and psychological hardiness on job stress, the stepwise multiple regression analysis was used.

Table 10: Analysis of Variance Table for Examining the Relationship between Hardiness and Creativity with Job Stress

Sig.	F	Adjusted R Square	R Square	
.000	89.227	.459	.464	Hardiness
.000	49.290	.482	.491	Creativity

As it could be observed in ANOVA table (table 10), statistic F and corresponding *P-value* confirm the significance of the given regression models (*P-value* is less than 0.05). Coefficient of determination and adjusted coefficient of determination values indicate some percentage of the changes in the result variable which could be explained by the given explanatory variables. Therefore, hardiness and creativity could be taken as the predictors of 46 and 49 percents of changes or distribution of job stress respectively.

Table 11: The Estimated Regression Coefficients of Model 1, Examining the Relationship between Hardiness and Creativity with Job Stress

Sig.	t	Beta	β_i	
.000	16.458	--	85.141	β_0
.000	9.446	-.681	-1.143	β_1

Table 11 confirms the significance of regression coefficients of step 1 for entered variables in the model, using statistic t and *P-value*. *P-value* of the regression coefficient of variable of psychological hardiness and constant are less than 0.05; therefore, the regression model 1 for examining the relationship between hardiness and job stress could be presented as follows:

Regression Model 1:

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Job Stress= 85.141 – 1.143 Psychological Hardiness

Table 12: The Estimated Regression Coefficients of Model 2, for Examining the Relationship between Hardiness and Creativity with Job Stress

Sig.	t	Beta	β_i	
.000	11.983	--	76.155	β_0
.000	6.710	-.570	-.957	β_1
.021	2.340	-.199	-.214	β_2

Table 12 confirms the significance of the regression coefficients of model 2 for the entered variables in the model, using statistic t and corresponding *P-value*. The value of *P-value* for the regression coefficient of psychological hardiness, creativity variable, and constant are less than 0.05; therefore, regression model 2 for examining the relationship between psychological hardiness and creativity with job stress could be presented as follows:

Regression Model 2:

Job Stress= 76.155 - .957 Psychological Hardiness - .214 Creativity

In order to determine the relative importance of predicting variable, it is referred to values of coefficient β_i (table 12). Psychological hardiness (-0.957) shows a higher coefficient compared to creativity (-0.214); hence, it has a greater effect on the criterion variable. Therefore, assuming that the other variables to be fixed, each unit increase in hardiness may cause 0.975 decrease in job stress.

Discussion of the Results

Examining the relationship between psychological hardiness and job stress indicated a significant and negative relationship between them. Accordingly, it could be concluded that the increase in hardiness can result in decrease in job stress. This conclusion is in concord with the study results of Veisi and colleagues (1379), Ghamari (2008), Emadi *et al.,* (2009), Sarvghad and Mostaghni (2013), Kobasa (1997), Wiebe (1991), Sansone *et al.,* (1999), Blamey *et al.,* (2002).

The results of examining the relationship between hardiness and job stress factors show that there is a significant and negative relationship between the factors of commitment, control, and challenge with job stress. This result is in concord with the results and findings of Nowak and Hamson (1983), Tofpt (1898), Schmitz and Neumann (2003), Maslach *et al.,* (2001) (as cited by Sarvghad & Mostaghni, 2011).

To explain this finding, the protective role of hardiness against stress which is shown in different studies could be applied. To Kobasa, three general characteristics could be detected in a person with hardiness: A. belief in their ability to control the events and affect on them; the person who enjoys hardiness is the one who believes he can change the psychological stressors; B. the ability to relate to what he does and feel a deep commitment to it; C. thinking of change as a challenge or exciting phase toward further growth; indeed, he thinks of change as a normal and integral part of life. Here, the protective role of hardiness against job stress seems important.

In line with the findings of multiple regression analysis, it is found that the control factor can predict job stress. This result is in concord with results of Shekarshekan (1995) which believed in the control as a preventing factor against the effects of job stress.

The results from the examining the relationship between creativity and job stress also indicated that there was a significant and negative relationship between these two. Thus, it could be said that there is a significant and inverse relationship between these two variables so that the increase in creativity level results in decrease in job stress and the decrease in creativity level causes increase in job stress. The result is in concord with the result of researches done by Ahmadi *et al.,* (2012), Golparvar and Vaseghi (2012), Hajilou *et al.,* (2013), and against the results of studies carried out by Zarei (1996) and Hajizadeh (2014). This result may be explained in this way that seemingly the personality traits of creative people like their autonomy and independence in action, risk tolerance, emotional stability, flexibility, abundant curiosity (Soltaniamrabadi *et al.,* 2008), risk-taking, high level of tolerance, internal motivation and interest in hard

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work, perseverance, self-confidence, self-discipline, high level of focus and mental dynamics (Barron & Harrington, 1981, as cited by Sanatizadeh, 2011) can immune them from the stressors and moderate the negative effects of stress on them.

One of the ways to succeed in causing higher levels of innovation and creativity for organizations is their greater investment for improving the ability of employees to be more creative. The organization that solely works based on certain fixed behavioral plans and patterns is a vulnerable social system. This routine raises job stress which is not a pleasant factor for an organization who aspires to progress (Ahmadi *et al.,* 2012).

Study of fluency, elaboration, originality, and flexibility with job stress indicated that these factors had a significant and negative relation with job stress. The results of multiple regression analysis also showed that fluency and elaboration could predict job stress, elaboration being the strongest predictor. These results accord with the research results of Ahmadi and colleagues (2011).

Multiple regression analysis also indicated that both psychological hardiness and creativity could predict job stress, hardiness being a stronger predictor. This finding is in concord with findings of Sharifi (2002), Azad *et al.,* (2012), Maddi and Kahn (1982), Chusmir and Kobberg (1987), Maddi and colleagues (2006), and Nayak (2008).

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