



Original Article

The relationship between self-regulation and personality traits with job stress in University of Isfahan employees

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Abstract

Introduction: The aim of the study was to investigate the relationship between self-regulation and personality traits (neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness) with job stress in University of Isfahan employees.

Materials and Methods: This study has a descriptive correlational design. The statistical population was employees (1217) working at university of Isfahan during 2015. 200 individuals were selected through multistage random sampling. Self-Regulation Questionnaire (Brown, Miller, Lawendowski, 1999), NEO Five-Factor Inventory (Costa and McCrae, 1990), and Job Stress Questionnaire (Davis, Robbins and McKay, 1991) were used to collect data. Pearson's correlation, simultaneous regression, and independent t-test were used to analyze data.

Results: The results showed that there was a significant negative relationship between job stress with self-regulation and four traits of personality (extraversion, openness to experience, agreeableness, and conscientiousness) ($P < 0.01$). There was also a significant positive relationship between job stress and neuroticism ($P < 0.01$). Self-regulation ($P < 0.01$), neuroticism ($P < 0.01$), and extraversion ($P < 0.05$) can predict job stress. In addition, there was no significant difference between males and females in terms of self-regulation, personality traits, and job stress.

Conclusion: Regarding the role of self-regulation, neuroticism, and extraversion in job stress; it may be advised to allocate jobs in accordance with these individual characteristics, so that we can reduce the level of job stress and increase the level of mental health.

Keywords: Job stress, Personality traits, Self-regulation

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Introduction

The present world, along with all of its scientific and industrial achievements and despite dominating most of natural events, is a world away from the peaceful life and increasing stress and mental pressure (1). But one of the main causes of stress in life is people's job which is called job stress (2). Because a large number of people, spend one-third of their boarding time at workplace and inevitably work environment and job activities can have a inevitably profound effect on health due to their specific characteristics (3).

Job stress as a common Phenomenon (4) occurs when there is no coordination (harmony) between the job demands at one side and abilities, capabilities,

and demands of people (5) and in the case of this disharmony, in addition to the impact on job performance of people at the other side, their mental and physical health is also endangered. But one of the solutions to reduce job stress and its negative consequences is identifying the factors affecting job stress that in this study, two factors are considered namely self-regulation (6,7) and personality traits (8,9).

Self-regulation is the process whereby a person can examine the thoughts, emotions and behavior, and control his/her goals according to his/her preference (10). Self-regulation is a complex structure, which is defined as the ability to start up and knock of activity according to exigencies of the situation and leave off working on the issue or desired goal and the ability to create behavior that is socially and in the absence of outside observers accredited by the man himself. According to the researchers' perspective, self-regulation practices are given as important skills for

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overcoming stress in connection with the self-regulation and job stress (12) and perhaps one of the reasons is the high level of communication and social skills in people who have higher rate of self-regulation (6). Also, self-regulation may play a crucial role in reducing stress through the creation of selective attention (13) and delaying gratification and doing purposeful and prospective actions (14), because in selective attention, information volume decreases, the possibility of provoking the people to do the right thing also reduces, and planning increases in doing purposeful actions which all of these factors can play a role in reducing stress. According to foreign researchers, there is a negative relationship between self-regulation and job stress (7,15,16) and self-regulation is a predictor of job stress (16), in fact, self-regulation leads to choose positive coping behaviors and thus job stress reduces and health and well-being increases (17). But inside the country, despite the importance of self-regulation, the relationship between self-regulation and job stress has received less attention in the view of researchers. So that researchers not only have been considered self-regulation as a variable, but considered it also as one of the components of emotional intelligence, and from this view (perspective), they paid attention to its relation with stress that the results also suggested a negative relationship between these two variables (18).

As a second factor influencing the self-regulation, personality is also a set of various characteristics such as neuroticism, extraversion, openness to experience, agreeableness and conscientiousness (19) which has been relatively stable, but sometimes changes depending on the environmental conditions and may not be directly visible (20). Regarding the personality traits and job stress, identifying the five mentioned characteristics to identify the level of stress is necessary, because the way people deal with stress depends on their personality traits (8). From the perspective of empirical research, in various internal and external studies, except one which its results had no significant relationship between the five personality traits with job stress (21), a positive relationship between neuroticism and job stress (22-27) and predictive role of neuroticism on job stress (18), a negative relationship between extraversion (23,25-27) openness to experience (23-26), and agreeableness (25,26) with job stress, has been confirmed.

In fact, according to researchers (29,30), neurotic persons do not have the ability to cope with stress, it may be due to factors such as having irrational thoughts, fragile emotions, and lack of impulse

control. Extroverts also because their familiarity with others do not blame yourself for minor mistakes, do not despair, are hardworking and courageous in their life and in critical situations decided correctly, are interested in their job and show more consistency in the face of job pressure, and experience less stress. Experienced people are also willing to accept new ideas and unconventional values and experience positive and negative emotions more and more of the non-flexible. As for the characteristics of responsibility, results have been inconsistent, so that in some research have been shown negative relationship between responsibility with stress (23,25,26) and in some researches, positive relationship between these two variables (24) have been shown. But overall, based on the perspective of researchers, responsible people have the ability to control impulses and desires and the ability to apply program in the treatment to achieve its goals (31) and it provides grounds to reduce stress for them.

Indeed, the relationship between self-regulation, personality traits and job stress may also be influenced by other factors, such as gender. For example, in some studies, results showed different levels of job stress among women and men (32) and in some others, results showed no difference between them in terms of job stress (8) but no researches have been done due to the role of gender in being different in self-regulation and personality traits.

Thus, according to the prevalence of job stress (4), its negative consequences and the need to reduce the consequences (1), the importance of identifying the factors influencing job stress, lack of investigation the relationship between self-regulation and personality traits and job stress among university staff (the sample in all research was different), the lack of direct review of self-regulation, as a basic component of job stress on internal research and the existence of contradictory findings on conscientiousness (the difference of research 23, 25, and 26 with 24) as one of the personality traits and job stress, the first aim of the researchers is the investigation of relationship between self-regulation, and five personality traits, namely neuroticism, extraversion, openness, agreeableness, conscientiousness with job stress. Also due to the fact that in relation to self-regulation and personality traits with job stress, almost all researchers (except research 16 and 28) simply have to check the relationship between these variables, they merely examine the relationship between these variables and have neglected the possible role of predictor of

self-regulation and personality traits in job stress. Also due to the possible role of gender in self-regulation, personality traits and job stress, the existence of contradictory findings on the role of gender and job stress (difference of the research 8 and 32) and the lack of a finding on the relationship between gender and self-regulation and personality traits, the third aim of researchers is the examination the differences or lack of differences between male and female employees in terms of three variables mentioned.

Materials and Methods

This research is an applied research and its nature is descriptive and correlational. In this study, self-regulation and personality traits (neuroticism, extraversion, openness, agreeableness and conscientiousness) are considered as the predictor variables and job stress is considered as dependent variables.

The population consisted of all employees of University of Isfahan (1217) who were working at the university in 1394. Out of this population, 200 were selected by multistage sampling. This means that among all faculties and office buildings of university, some were selected randomly some colleges and office building and then in each faculties and office buildings was also selected units and the list of personnel of these units were received and in terms of entry criteria (working in faculties or office building in relevant unit), 240 were randomly selected. Having got permission from the relevant departments and providing necessary explanations about the questionnaires, Ensuring the voluntary participation in research and the confidentiality of their personal information, questionnaires were distributed to the employees. Then, due to the removal of incomplete questionnaires (Exclusion criteria), the final number was reduced to 200.

In relation to the sample size, Tabachnick and Fidel formula was used. ($N > 50 + 8m$) (33). In this formula, m is the number of predictor variable. Accordingly, in this study, there are six predictor variables (self-regulation and five personality trait namely neuroticism, extraversion, openness, agreeableness and conscientiousness). The minimum number of 98 participants is required. But according to the experts for each predictive variable in multiple regression analysis, at least 10 to 30 participants have been suggested (34). Therefore, the sample size of 200 is appropriate. Six demographic characteristics (Educational status, of work experience, age, employment status, organizational level and gender) of the sample are

shown in table 1.

Table 1. Demographic characteristics of the sample group

Demographics	variables	Frequency	Percent
Educational status	Diploma	4	2
	Associate of science	10	5
	Bachelor of Science	94	47
	Master of Science	73	36.5
	P.H.D	19	9.5
Work experience	under 5 years	30	15
	5 - 10 years	92	46
	11 - 15 years	47	23.5
	More than 15 years	31	15.15
Age	20-25	12	6
	26-30	49	24.5
	31-35	51	25.5
	36-40	30	15
	41-45	33	16.5
Employment Status	46-50	25	12.5
	Promissory	25	12.5
	Contractual	115	57.5
Organizational level	Formal	60	30
	Management	31	15.5
Gender	Non-management	169	84.5
	Male	116	58
	Female	84	42

Research instruments

In this study, three questionnaires were used to collect data which are as follows:

- *Self-Regulation Questionnaire (SRQ)*: Self-Regulation Questionnaire was designed by Brown, Miller and Lawendowski (35) containing 63 questions. The answers in this questionnaire are calculated based on the Likert scale (1=strongly disagree to strongly agree=5). The reliability of the scale was reported 0.91 by Brown et al. Validation of this questionnaire also reported 0.71 in Iran. In this study, the reliability of the questionnaire was calculated 0.87.

- *NEO Five-Factor Inventory (NEO-FFI)*: NEO-FFI, was designed and validated by Costa and McCrae (29) with 60 questions and a response scale of 5-point Likert Scale (strongly agree=0 to strongly disagree=4). Five personality traits namely neuroticism, extraversion, openness, agreeableness and conscientiousness is measured in the questionnaire. This questionnaire has been validated and approved in Iran (31). In this study the reliability of personality traits was obtained 0.86, 0.73, 0.68 and 0.81 respectively.

- *Job Stress Questionnaire*: The questionnaire with 20 questions in five-degree scale (always= 4 to never =0) scored by Davis, Robbins, and McKay and to evaluate the symptoms of job stress have been made since 3 months ago until now. The reliability of the questionnaire in the study of Davis

et al. has been reported (37) 0.81 in a manner of Cronbach's alpha in Iran. In this study, the reliability of the questionnaire was obtained 0.90.

Data collected using Pearson correlation; regression analysis and independent t-test were analyzed. It should be noted that a preliminary analyses were used to ensure no violation of the assumptions of normality, linearity, and the same distribution and then the Pearson correlation, regression analysis and independent t-test was used. All of the calculated cases were conducted using the statistical software of Statistical Package for Social Sciences (SPSS) version 20.

Results

By performing three questionnaires showed that the average of job stress and self-regulation are 27.9 and 214.72 respectively. From the five personality traits, as well as conscientiousness was in the first rank with the highest average (35.41), and neurosis was in last rank with the lowest average (22.26). Agreeableness, openness and openness to experience and extraversion were 29.96, 29.74 and 28.76, respectively after the conscientiousness.

According to Table 2, there was also a significant negative relationship between self-regulation with job stress ($P<0.01$ and $r= -0.54$) and the personality traits of extraversion with job stress ($P<0.01$ and $r= -0.48$), the openness to experience with job stress ($P<0.01$ and $r= -0.20$), agreeableness with job stress ($P<0.01$ and $r= -0.46$), conscientiousness and job stress ($P<0.01$ and $r= -0.45$) and a significant negative relationship between neuroticism with stress ($P<0.01$ and $r= 0.60$).

Table 2. Correlation coefficient of self-regulation and the five personality traits with job stress

Variables	Job stress	
	r	Sig
Self-regulatory	-0.54**	0.001
Neuroticism	0.60**	0.001
Extraversion	-0.48**	0.001
Openness to experience	-0.20**	0.005
Agreeableness	-0.46**	0.001
Conscientiousness	-0.45**	0.001

** $P<0.01$ * $P<0.05$

According to table 3 due to statistic t and significance level can be judged that in the case of entering each of the six predictor variables, only three variables, including self-regulation, extraversion and neuroticism have the ability to predict job stress. To be more precise, self-regulation can predict job stress ($t= -4.36$, $P<0.01$). Beta coefficient of regression standard for self-regulation in job stress is -0.26, which means that one increasing unit in the scores of self-regulation creates 0.262 reduction units in job stress. Neuroticism has significantly the ability to predict job stress ($t= 5.97$, $P<0.01$). The beta coefficient of neurosis standard is 2.90, which means that one increasing unit in the scores of neuroticism creates 0.359 increasing unit in job stress. Extraversion also has significantly the ability to predict job stress ($t= -2.48$, $P<0.05$). The beta coefficient of extraversion Standard is -0.15, which means that one increasing unit in the scores of extraversion creates 0.15 reduction units in job stress.

Table 3. The results of multiple regression to predict job stress through self-regulation and personality traits

Model	R	R ²	Adjusted (R ²)	SE	F	Sig	Unstandardized coefficients		Standardized coefficients	t	Sig
							B	SE	Beta		
(Constant)							84.16	10.98	-	7.67	0.001
Self-regulation							-0.20	0.05	-0.26	-4.36**	0.001
Neuroticism							0.73	0.12	0.36	5.97**	0.001
Extraversion	0.73	0.53	0.51	10.37	35.72**	0.001	-0.37	0.15	0.15	-2.48*	0.014
Openness to experience							0.15	0.11	0.08	-1.43	0.15
Agreeableness							-0.29	0.16	-0.11	-1.83	0.07
Conscientiousness							-0.18	0.15	-0.08	-1.22	0.22

** $P<0.01$ * $P<0.05$

According to Table 4, regarding the regulation on variables, neuroticism, openness to experience, agreeableness, conscientiousness and job stress significance level of Levin test is larger than the 0.05 level, therefore, the results of the first row were used to examine the hypothesis and with regard that in extraversion variable significant level of Levine test is smaller than the 0.05 level. So the results of

the second row were used to examine the hypothesis. According to the table there is no significant difference between women and men employees in terms of self-regulation ($P=0.40$, $t=0.85$), neuroticism ($P=0.22$, $t=1.24$), extraversion ($P=0.48$, $t=0.71$), openness to experience ($P=0.17$, $t=1.40$), agreeableness ($P=0.28$, $t=1.09$), conscientiousness ($P=0.15$, $t=1.46$) and job stress

($P=0.13$, $t=1.53$).

Table 4. T-test results for differing between men and women in terms of self-regulation, personality traits and job stress

Variable	Women		Men		Levine's Test for Equality of Variances			t-test for Equality Means			
	Mean	SD	Mean	SD	Equality or Inequality of Variances	F	Sig	t	df	Sig	Mean Differences
Self-regulation	215.71	20.57	213.36	17.65	Equal Variances assumed	3.49	0.06	0.85	198	0.40	2.35
					Equal Variances not assumed			0.87	192.30	0.39	2.35
Neuroticism	22.80	7.75	21.51	6.50	Equal Variances assumed	2.10	0.15	1.24	198	0.22	1.29
					Equal Variances not assumed			1.28	193.71	0.20	1.29
Extraversion	28.53	6.49	29.10	4.80	Equal Variances assumed	7.21	0.008	-0.68	198	0.50	-0.57
					Equal Variances not assumed			-0.71	197.91	0.48	-0.57
Openness to experience	29.12	7.11	30.61	7.88	Equal Variances assumed	1.40	0.24	-1.39	198	0.17	-1.49
					Equal Variances not assumed			-1.37	167.73	0.17	-1.49
Agreeableness	30.33	5.57	29.45	5.60	Equal Variances assumed	0.001	0.97	1.09	198	0.28	0.88
					Equal Variances not assumed			1.09	178.43	0.28	0.88
Conscientiousness	35.99	6.78	34.62	6.08	Equal Variances assumed	0.24	0.62	1.46	198	0.15	1.37
					Equal Variances not assumed			1.49	190.14	0.14	1.37
Job stress	28.45	15.18	25.21	14.23	Equal Variances assumed	0.51	0.48	1.53	198	0.13	3.23
					Equal Variances not assumed			1.54	185.31	0.13	3.23

Discussion

The results of this study showed there is a significant negative relationship between self-regulation and job stress Table (2). The finding is consistent with the findings of external studies (7, 15, 16) that there is a negative relationship between self-regulation and job stress. It is also consistent with the results of an internal study (18), however, self-regulation has been considered as one of the components of emotional intelligence in internal study. In addition, according to the findings of this study, the predictive role of self-regulation was approved for job stress.

This finding is also consistent with the results of external studies in which self-regulation is a predictor of job stress (16). In defining the

relationship between self-regulation with job stress and its predictive role in job stress it should be noted that self-regulation is a skill (12) in which, by creating various capabilities in people makes (11) them pay more attention to their thoughts, emotions and behaviors to achieve their goals (10). To be more precise, the person who has self-regulation skills when performing a task because of the high level of communication and social skills (6), the creation of selective attention (13) and delaying gratification and performing purposeful and prospective actions (14) and choosing positive coping behaviors (16) will experience less stress.

According to the findings, there is a significant positive relationship between neuroticism and job stress. This finding is consistent with the results of

external and internal researches (22-27). But it is inconsistent with a study that its results showed no significant relationship between neuroticism and job stress (21). According to the research findings, neuroticism is a predictor of job stress that its result is also consistent with the findings of previous researches (28). In defining the relationship between neuroticism and job stress and its predictive role in job stress, it is clear that Neurotic persons having irrational thoughts, fragile emotions, and lack of impulse control, do not have the ability to deal with stress (29,30) and this factor will increase their job stress. There was a significant negative relationship between extraversion and job stress in this study that this finding is also consistent with the results of previous research in this area (23,25,27). But it is inconsistent with a study that its results showed no significant relationship between extraversion and job stress (22). Also according to the findings of the present study, extraversion is a predictor of job stress. In fact, the extrovert will less likely experience mental pressure due to getting intimate with others, not blaming themselves for minor mistakes, not getting disappointed, having enough efforts and courage to do things.

About openness, as well as another personality trait, it should be noted that there was a significant negative relationship between agreeableness and job stress according to the findings of this study. This finding is also consistent with the results of previous researches in this area (23-26). But it is inconsistent with a study that its results showed no significant relationship between openness to experience and job stress (21). Of course, the extent of this relation is not so much that can be said openness is predictor of job stress. To the openness, it is less likely to experiencing job stress due to willingness to accept new ideas, because some stresses caused because of facing new conditions and responsibilities.

Maybe because in any research, this factor is not considered as one of the main causes of stress, this could be a reason for the inability to predict openness to experience. Agreeableness had a significant negative relationship with job stress in this study. This finding is also consistent with the results of previous researches in this area (25,26). But it is inconsistent with a study that its results showed no significant relationship between agreeableness and job stress (21). However, like openness to experience, the extent of this relation is not so much that can be said agreeableness is a predictor of job stress. Regarding to the relationship between these two variables, it should be mentioned that according to the researcher's perspective (8) the

method of exposure to stress depends on their personality traits and because of being agreeableness as a personality traits, so this relationship is significant. But in regard to the relationship, according to the researchers' perspective, coping with mental pressure (29,30) will reduce it and compatibility that is also the main feature of the agreeableness people. But why instead of this relationship, the predictive role of agreeableness has not been confirmed, is needed further investigation. Regarding to conscientiousness, results showed there is a significant negative relationship between this variable with job stress. This finding is also consistent with some studies suggesting a negative relationship between these two variables (23,25,26). But it is inconsistent with some of the research suggesting a lack of communication between conscientiousness and job stress (21) and a positive relationship between conscientiousness and job stress (24). Of course, the extent of relationship was not so much between job stress and the conscientiousness that it could be said conscientiousness is predictor of job stress. Accountable people, it should be said, suffer less from job stress because of having the ability to control impulses using plans in their behavior regarding the relationship between conscientiousness and job stress (31). Indeed, perhaps it is possible that great conscientiousness put the people at the risk of job stress, especially when this is followed by the reduction of extraversion, openness, and agreeableness and growth of neuroticism which can undermine the predictive power of conscientiousness.

In this study, in addition to differences between men and women in terms of self-regulation, five other personality traits (neuroticism, extraversion, openness, agreeableness and conscientiousness) and job stress were investigated. The results here indicated no significant difference between male and female employees in these variables. In the field of job stress, this finding was consistent with some previous studies (8) and was inconsistent with some of them (32). Perhaps one of the reasons for differences between men and women in the field of job stress can be caused by this issue that the workplace has the same expectations from both men and women and this can be a precursor to job stress among women and men alike. But in the case of self-regulation variable and personality traits ones there is no way of comparing variables due to the lack of research in this field.

At the end, it should be mentioned as a limitation

the results of this study are limited to employees of university of Isfahan, therefore, it is recommended to the other researchers to investigate this scale in other cities, universities and organizations in order to make sure of the result. Due to the fact that self-regulation skills is expandable and learnable and can be trained, as a practical recommendation also, it is recommended that organizations take steps to strengthen the self-regulation skills of employees (staff), by holding training courses, seminars and psychological conferences. It should be said about personality that, it is also recommended to organizations that in order to have better efficiency of them and their manpower, they consider the personality traits of people to reduce the job stress at the time of assigning jobs.

Conclusion

Given the importance of self-regulation and personality traits in job stress, implementation of educational programs in the field of self-regulation

and delegating appropriate tasks according to personality traits can lead to improved organizational performance (such as job productivity) and individual performance (including mental health).

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Ethical approval

The results were communicated to the Department of Research and Technology of the University of Isfahan.

Conflict of interest

This article is derived from an M.A thesis on psychology of Azad Islamic university of Yazd and there is no conflict of interest between the authors.

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