

A study on effect of big five personality traits on emotional intelligence

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ABSTRACT

This paper presents a study to investigate the effects of big five personal traits on emotional intelligence on some Iranian firms located in city of Tehran, Iran. The proposed study uses two questionnaires, one, which is originally developed by McCare and Costa (1992) [McCrae, R. R., & Costa, P. T., Jr. (1992). Discriminant validity of NEO-PI-R facet scales. *Educational and Psychological Measurement*, 52, 229-237.] for measuring personality traits and the other, which is used for measuring emotional intelligence. The first questionnaire consists of five personal categories including extraversion, agreeableness, conscientiousness, emotional stability versus neuroticism, and openness. Using structural equation modeling and stepwise regression model, the study has detected a positive and meaningful relationship between four components namely, extraversion, agreeableness, conscientiousness as well as openness and emotional intelligence. In addition, the study detects a negative and meaningful relationship between neuroticism and emotional intelligence.

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1. Introduction and literature review

Personality is an abstract concept and different experts have provided various definitions for it. Most scholars emphasize that personality is a combination of thoughts, emotions and motivation of individuals. In a comprehensive definition, personality is an interpersonal dynamic structure, which includes physical and psychological systems and the component provides individuals' thoughts and behaviors characteristic (Allport, 1961). Personality normally deals with individual differences among people in behavior patterns, cognition and emotion. Different personality theorists present their own definitions and description of the word based on their theoretical positions. Personality is usually divided into various components called the Big Five; namely openness to experience, conscientiousness, extroversion, agreeableness, and neuroticism (or emotionality). These components are stable over time and seem to be attributable to a person's genetics rather than the impacts of one's

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environment. There are some investigations on whether the relationship between happiness and extraversion seen in adults could also be observed among children. These achievements help identify children that are more likely to experience episodes of depression and develop various kinds of treatment that such children would likely to respond to. In both children and adults, many studies indicate that genetics, as opposed to environmental factors, exert a bigger impact on happiness levels. According to McLarnon and Carswell (2013), stability in the measurement of personality plays essential role on its construct and predictive validity. The personality differentiation implies that intelligence could be a threat to the measurement of personality. McLarnon and Carswell (2013) constructed on existing literature by applying multi-group confirmatory factor analytic measurement invariance methods to the item-level responses of a commonly applied personality inventory. In contrast to recently published findings, their results recommend that the measurement of personality is not the same across intelligence levels. These results have important implications for the implementation of personality in research and practice. They maintained that personality measures are still important predictors of key criteria.

Laverdière et al. (2013) evaluated the factor structure and the measurement invariance of the Mini-International Personality Item Pool (Mini-IPIP), which was a brief instrument evaluating personality traits based on the Big Five models. Two samples were gathered comprising nearly 800 participants and using confirmatory factor reported that a five-factor solution were consistent with the Big Five model.

Schell and Oswald (2013) presented a study investigating the effect of item order in personality measurement on reliability, measurement equivalence and scale-level correlations. In their survey, a big sample of university students filled one of three forms of the International Personality Item Pool version of the Big Five personality inventory: items sorted at random, items sorted by factor, and items cycled through factors. Their findings indicated that the underlying measurement model and the internal consistency of the IPIP-Big Five scale was not impacted by differences in item order. In addition, most of the scale-level correlations among factors were not substantially different across forms.

Recent studies have found that some personality disorders (PDs) increase the persistence of several Axis I disorders. Vergés et al. (2013) aimed to extend published analyses to the case of anxiety disorders and to detect the robustness of the associations in order to investigate examining time-of-measurement effects. They reported a robust pattern of higher odds ratios for post-diction among PDs assessed at baseline, and lower odds ratios for post-diction among PDs evaluated at follow-up, recommending a time of measurement artifact.

Dobewall et al. (2014) performed an investigation in order to find out whether we can judge other people's values precisely, or values are too subjective for evaluation. They compared self-other agreement in personal values with agreement in the Big Five personality traits. The results recommended that people could evaluate values of others whom they know well with remarkable accuracy. Therefore, other-ratings of personal values can be applied to validate and complement self-report value measures.

2. The proposed study

This paper presents a study to investigate the effects of key personal characteristics on emotional intelligence on some Iranian firms located in city of Tehran, Iran. The proposed study uses the questionnaire developed by McCare and Costa (1992). The questionnaire consists of five personal categories including extraversion, agreeableness, conscientiousness, emotional stability versus neuroticism, and openness on emotional intelligence. Fig. 1 demonstrates the structure of the proposed study

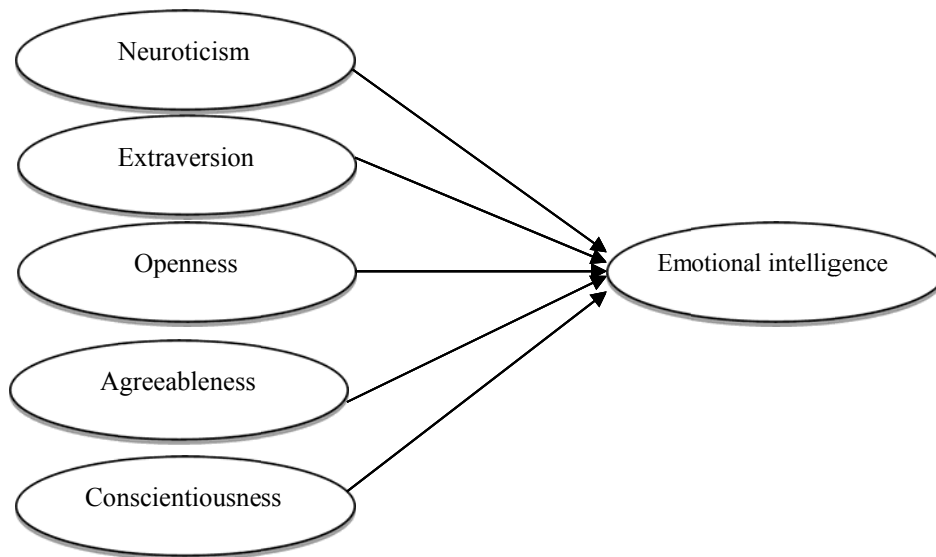


Fig. 1. The proposed study

Based on the Fig. 1, the following five hypotheses are considered,

1. Neuroticism influences negatively on emotional intelligence.
2. Extraversion influences positively on emotional intelligence.
3. Openness influences positively on emotional intelligence.
4. Agreeableness influences positively on emotional intelligence.
5. Conscientiousness influences positively on emotional intelligence.

To measure the effects of emotional intelligence, we use a questionnaire developed by Bradberry and Greaves (2006). In addition, to measure personality traits we use the questionnaire developed by McCare and Costa (1992). The population of the survey covers all people who live in city of Tehran, Iran and work for different types of organizations such as hospitals, post office, etc. Therefore, we have,

$$N = Z_{\alpha/2}^2 \frac{p \times q}{e^2}, \tag{1}$$

where N is the sample size, $p = 1 - q$ represents the probability, $z_{\alpha/2}$ is CDF of normal distribution and finally ε is the error term. For our study we assume $p = 0.5$, $z_{\alpha/2} = 1.96$ and $e = 0.05$, the number of sample size is calculated as $N = 384$. We have distributed 415 questionnaires and managed to collect 384 properly filled ones. In our survey, 289 participants were male and 97 of them were female. Fig. 1 shows other personal characteristics of the participants.

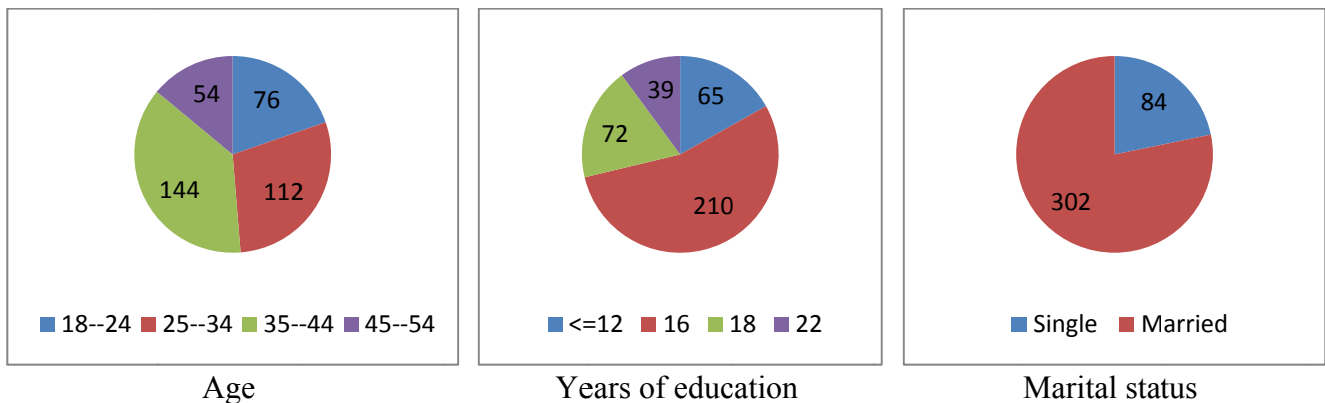


Fig. 1. Personal characteristics of the participants

As we can observe from the results of Fig. 1, most participants were married and highly educated. Table 1 shows some basic statistics associated with the proposed study of this paper.

Table 1
The summary of Cronbach alpha and AVE

Item	Variable	Cronbach alpha	AVE	Mean factor loading
1	Neuroticism	0.85	0.56	0.62
2	Extraversion	0.74	0.63	0.65
3	Openness	0.71	0.55	0.63
4	Agreeableness	0.75	0.72	0.58
5	Conscientiousness	0.73	0.51	0.62
6	Emotional intelligence	0.88	0.54	0.66
Total		0.77		

Table 2 demonstrates the results of some basic statistics associated with structural equation modeling (SEM).

Table 2
The summary of some basic statistics associated with the SEM implementation

Statistics	χ^2/df	GFI	RMSEA	CFI	AGFI	NFI	NNFI
Value	2.116	0.93	0.093	0.95	0.84	0.96	0.98
Limit	<3	>0.9	<0.1	>0.9	>0.8	>0.9	>0.9

Based on the results of Table 2, all statistics are within desirable levels and we may use the results of structural equation modeling to examine the hypotheses of the survey. The implementation of Kolmogorov–Smirnov test indicates that all data are normally distributed and we may use Pearson correlation test to verify the relationships between various components.

3. The results

In this section, we present details of our findings on testing various hypotheses of the survey. We first present details of our Pearson test to verify the relationships between various components and they are shown in Table 3 as follows,

Table 3
The summary of Pearson correlation test between emotional intelligence and personality traits

Variable	Extraversion	Agreeableness	Conscientiousness	Neuroticism	Openness
Pearson correlation	0.629**	0.582**	0.531**	-0.534**	0.559
Sig.	0.000	0.016	0.000	0.018	0.044

**Sig. < 0.01

The results of Pearson correlation test indicate that there were some positive and meaningful relationships between Extraversion, Agreeableness, Conscientiousness as well as Openness with emotional intelligence. In addition, there is a negative and meaningful relationship between Neuroticism and emotional intelligence when the level of significance is five percent. We have also performed stepwise regression method to study the effects of various factors on emotional intelligence and Table 4 demonstrates the results of our survey.

Table 4
The results of stepwise regression analysis (Dependent variable: Emotional intelligence)

Variable	Coefficient (β)	t-value	Sig.	Result
Extraversion	0.448	10.034	0.000	Confirmed
Agreeableness	0.286	4.638	0.000	Confirmed
Conscientiousness	0.235	5.29	0.000	Confirmed
Neuroticism	-0.165	2.453	0.014	Confirmed
Openness	0.137	2.285	0.016	Confirmed

R-Square = 0.738

As we can observe from the results of Table 4, four independent variables influence on emotional intelligence, positively and one influences on emotional intelligence negatively. Therefore, we can confirm all hypotheses of the survey.

4. Discussion and conclusion

In this paper, we have performed an empirical investigation to study the effects of different factors; namely Extraversion, Agreeableness, Conscientiousness, Emotional Stability versus Neuroticism, and Openness on emotional intelligence. The study has accomplished among people who were employed with various industries in city of Tehran, Iran. The results have indicated that being extraversion is the most important factor on development of emotional intelligence followed by being agreeableness. The results of the survey are consistent with findings of Petrides and Furnham (2001), Dawda and Hart (2000), Diener and Lucas (1999), Rusting and Larsen (1997), Saklofske et al. (2003), Schutte et al. (1998) and Watson, D. (2000).

Correlation between extraversion as well as neuroticism and emotional intelligence, respectively, in terms of specificity and regulation is justified by setting a positive mood, negative mood. Extraversion and Neuroticism represent the tendency to experience positive and negative emotions. These two tendencies, which can result to two positive and negative attitudes is correlated with emotional intelligence. In addition, the correlation between experience and flexibility, compatibility and conscientiousness and emotional intelligence can be adjusted depending on the overlap between the components of emotional intelligence involves feelings and emotions, implementation and evaluation of the efficiency of the emotions and passions and traits related sub-taking experienced. The results showed that the dimensions of extraversion and neuroticism could change the order of emotional intelligence both positively and negatively. Extroversion increases the willingness to experience pleasurable events. Extraversion also predisposes individuals to experience positive emotions. This preparation can help a person appear to be more efficient, especially in the area of personal and social relationships.

In terms of the main components of emotional intelligence, these competencies can operate in three dimensions. In terms of emotion and excitement of extroversion, it can underlie the increased experience events and emotions towards enjoyable and positive actions, which could contribute to emotional intelligence. In the application and efficiency of the emotions, extroversion and emotional intelligence by strengthening mechanisms allowing the person to be to improve and develop social relationships and emotions. Obviously, this doubles the efficiency by making a positive impact on both sides of the equation governing the relationships benefit. After evaluating emotions, extroversion through increased positive feelings and enjoyable experiences, the conditions are more relaxed and more optimistic to assess their emotions. On the other hand, neuroticism increases people's tendencies towards having more stressful events and increases people's talent for having negative events. Therefore, the people will become more vulnerable against people's daily activities. Other characteristics including a tendency to experience anxiety, tension, hostility, low top, irrational thoughts, depression and low self-esteem can also be a part of one's abilities to have a negative impact on social relationships and emotions.

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