

# Empathy and Big Five Personality Traits as Correlates of Affective Reactivity Index / Irritability

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## Abstract

Irritability is a lower threshold of stimulation necessary to elicit anger. It also acts as a red flag for psychopathology. The present study investigated personality traits and empathy as correlates of irritability. Earlier researches indicated that Empathy Exhaustion, Neuroticism and Openness to Experience have relationship with irritability. The study was conducted on 100 adolescents ((Males= 50, Females= 50, Mean Age= 15.36, S.D= 1.47). The Big Five Inventory by John & Srivastva, 1999, Toronto Empathy Questionnaire by Sperng, Mckinnon, Mar & Levine, 2009 and Affective Reactivity Index by Stringeris et al., 2012 were the tools used. Descriptive Statistics, t-test, correlation test were used for statistical analysis. Significant gender differences were found in Extraversion and Irritability scores. Empathy was found in significant relation with Conscientiousness and Agreeableness personality traits. Neuroticism and Irritability were found to be in significant relation with each other.

**Keywords:** Empathy, Personality Traits, Irritability

## Introduction

Feeling heard and understood is a human need. Everyone needs to feel understood. Empathy helps us to get in touch with our feelings and gives us an emotional understanding of ourselves and others. It is the ability to sense other people's emotions, coupled with the ability to imagine what someone else might be thinking or feeling. It encompasses broad range of emotional states, including caring for other people, and having a desire to help them, experiencing emotions and making less distinct the differences between the self and the other. "Martin Hoffman" is a psychologist who studied the development of empathy. According to Hoffman, everyone is born with the capability of feeling empathy.

Empathy is of two types – Affective Empathy & Cognitive Empathy. Affective empathy also called emotional empathy. Emotional empathy is the capacity to respond with an appropriate emotion to another's mental states. Our ability to empathize contagion: being affected by another's emotional for arousal state. Cognitive empathy is the capacity to understand another's mental state. Cognitive & Affective empathy are also independent from one another.

Personality could be an important variable that could modulate empathy. Personality is the combination of an individual thoughts, characteristics, behaviours, attitude, ideas & habits. It is the constant pattern of thinking, feeling, & acting. We use the term personality dimensions when referring to the constructs identified by the

BF. The Big Five Factor model (BF; Costa & McCrea, 1997), a prominent theory of personality dimension. The major personality dimensions in the BF are Neuroticism (or emotional instability), Extraversion (or energy), Conscientiousness, Agreeableness (or friendliness) & Openness to experience; each dimension is represented by six facets (McCrea & Costa, 1987, 1997; McCrea, Terracciano & Members of Personality Profiles of Cultures Project 2005). The character of a person is shown through his or her personality, that feelings of anxiety, worry, and irritability. Nowadays, people get irritated very easily due to their busy life. Irritability is a low threshold to experience anger in response to frustration. It is one of the most common symptoms in youth & is part of clinical presentation of several disorders including anxiety, depression & severe mood dysregulation. Irritability is a symptom of a number of both internalizing and externalizing paediatric psychiatric disorders (APA, 2013) and is known to independently predict suicide risk (Pickles et al., 2010) and internalizing disorders (Stringaris, Cohen, Pine & Leibenluft, 2009; Stringaris & Goodman, 2009) even after controlling for baseline psychopathology. Review of literature suggested that there exists relationship between empathy, personality traits with irritability. This study is an investigation of personality traits and empathy as correlates to irritability which in turn will help in identification of the personality traits prone to irritability and as per the module of training can be designed. The present study also takes into account the relation of emotional empathy with irritability. The earlier researches has contradiction on empathy as empathy on one hand is helpful in compassion and

understanding on the other hand the empathy exhaustion or say being over empathetic results in irritability. The paper investigates gender differences in irritability and empathy and figure out the correlates of irritability.

### Objectives

- O<sub>1</sub>.** To study the relationship of Openness to Experience and Irritability.
- O<sub>2</sub>.** To study the relationship of Conscientiousness and Irritability.
- O<sub>3</sub>.** To study the relationship of Extraversion and Irritability.
- O<sub>4</sub>.** To study the relationship of Agreeableness and Irritability.
- O<sub>5</sub>.** To study the relationship of Neuroticism and Irritability.
- O<sub>6</sub>.** To study the relationship of Empathy and Irritability.
- O<sub>7</sub>.** To study the gender differences in Irritability and Empathy.

### Hypothesis

- H<sub>1</sub>.** There will be no relationship between Openness to Experience and Irritability
- H<sub>2</sub>.** There will be no relationship between Conscientiousness and Irritability
- H<sub>3</sub>.** There will be no relationship between Extraversion and Irritability
- H<sub>4</sub>.** There will be no relationship between Agreeableness and Irritability
- H<sub>5</sub>.** There will be no relationship between Neuroticism and Irritability
- H<sub>6</sub>.** There will no gender differences in Irritability and Empathy

### Sample

The present study will be conducted on 100 adolescents of age range between

12-17 years comprising 50 girls and 50

Disagree	Disagree	Neither agree	Agree	Agree
Strongly	a little	nor disagree	a little	Strongly
1	2	3	4	5

boys. Purposive sampling would be done. Inclusion criterion will be that the participant must have knowledge of English language.

### Tools used

The Big Five Inventory (BFI) is a self-report inventory designed to measure the Big Five dimensions given by John and Srivastva (1999) It is quite brief for a multidimensional personality inventory (44 items total), and consists of short phrases with relatively accessible vocabulary. The Big Five are five broad factors (dimensions) of personality traits. They are:

- **Extraversion** (sometimes called Surgency). The broad dimension of Extraversion encompasses such more specific traits as talkative, energetic, and assertive.
- **Agreeableness**. Includes traits like sympathetic, kind, and affectionate.
- **Conscientiousness**. Includes traits like organized, thorough, and planful.
- **Neuroticism** (sometimes reversed and called Emotional Stability). Includes traits like tense, moody, and anxious.
- **Openness to Experience** (sometimes called Intellect or Intellect/Imagination).

Includes traits like having wide interests, and being imaginative and insightful.

**Instructions:** -Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

### Scoring:

BFI scale scoring ("R" denotes reverse-scored items):

**Extraversion:** 1, 6R, 11, 16, 21R, 26, 31R, 36

**Agreeableness:** 2R, 7, 12R, 17, 22, 27R, 32, 37R, 42

**Conscientiousness:** 3, 8R, 13, 18R, 23R, 28, 33, 38, 43R

**Neuroticism:** 4, 9R, 14, 19, 24R, 29, 34R, 39

**Openness:** 5, 10, 15, 20, 25, 30, 35R, 40, 41R, 44

**The Toronto Empathy Questionnaire (TEQ) by Spreng, Mckinnon, Mar & Levine, 2009)**

The scale consists of 16 items on a five point Likert scale. It is primarily a measure of emotional empathy. It a self report measure in which the subject has to respond to each statement carefully and tick on the options i.e. Never = 0, Rarely =1, Sometimes =2, Often = 3 and Always = 4. The reverse scoring items are 2, 4, 7,

10, 11, 12 & 15. High score indicates high empathy.

### **Affective Reactivity Index (Stringaris et al. 2012)**

It is a self report concise measure designed for busy clinicians and large studies to measure irritability. It is a seven item scale. The individuals items are scored on 0,1 & 2 and only the first six are summed to form the total score and seventh is an impairment item and is analyzed separately. The sum of first six item is divided by six by which a three point scale is obtained which is corresponding to a three level gradation of irritability severity.

For data collection, various schools of Sonipat, Haryana region were contacted and explained the purpose of the study. The students in the schools were contacted and cordial relationship was established. The personal and demographic information was recorded as per the purpose of the study. Big Five Inventory (BFI) was administered and after giving break Affective Reactivity Index(ARI) & Toranto Emapthy Questionnaire (TEQ) were administered on the participants was told that if they have any doubt, they are free to ask. Dependent measures were noted down after completion of the test. Scoring was done and results were recorded in the Excel Sheet.

### **Analysis and Results**

**Table 4.1- Table showing Mean and S.D. values of Empathy, Personality Traits and Irritability**

Variable	N	Mean	Standard Deviation (S.D)
Age	100	15.36	1.47
Empathy	100	36.51	6.79
Openness	100	35.60	4.73
Conscientiousness	100	34.22	5.57
Extraversion	100	27.81	4.71
Agreeableness	100	32.72	5.52
Neuroticism	100	23.96	4.55
Irritability	100	4.29	2.25

The table 4.1 depicts the following results as;

The mean age of the participants is  $M=15.36$ ,  $S.D = \pm 1.47$ . The mean empathy scores of the participants are  $M= 36.51$ ,  $S.D = \pm 6.79$ . The mean score of the participants on openness to experience personality trait dimension is  $M= 35.60$ ,  $S.D = \pm 4.73$ . The mean score of the participants on conscientiousness personality trait dimension is  $M= 34.22$ ,

$S.D= \pm 5.57$ . The mean score of the participants on extraversion personality trait dimension is  $M= 27.81$ ,  $S.D= \pm 4.71$ . The mean score of the participants on agreeableness personality trait dimension is  $M= 32.72$ ,  $S.D= \pm 5.52$ . The mean score of the participants on neuroticism personality trait dimension is  $M= 23.96$ ,  $S.D= \pm 4.55$ . The mean score of the participants on irritability personality trait dimension is  $M= 4.29$ ,  $S.D= \pm 2.25$ .

**Table 4.2 Table showing Inter-correlation of Empathy, Personality Traits and Irritability**

Variables	Empathy	Open-Ness	Conscientiousness	Extraversion	Agreeableness	Neuroticism	Irritability
<b>Empathy</b>	1	-0.137 .174	<b>.402**</b> .00	-0.09 0.375	<b>.215*</b> 0.032	0.1 0.324	-0.037 0.717
<b>Openness</b>		1	-0.016 0.876	<b>.370**</b> .00	0.081 0.423	0.113 0.265	0.162 0.107
<b>Conscientiousness</b>			1	0.029 0.772	0.165 0.102	-0.028 0.783	-0.105 0.3
<b>Extraversion</b>				1	-0.023 0.817	0.114 0.257	0.146 0.148
<b>Agreeableness</b>					1	-0.022 0.827	0.081 0.423
<b>Neuroticism</b>						1	<b>.230*</b> 0.021
<b>Irritability</b>							1

**\*\* Correlation is significant at the 0.01 level (2-tailed)**

**\*correlation is significant at 0.05 level (2-tailed)**

The result table 4.2 shows inter co-relation of Empathy, Personality Traits and Irritability. The correlation ( $r = -0.137$ ) for empathy and openness was not found to be significant. The correlation ( $r = .402^{**}$ ) for empathy and conscientiousness was found to be significant at 0.01 level. The correlation ( $r = -0.09$ ) for empathy and extraversion was not found to be significant. The correlation ( $r = .215^{*}$ ) for empathy and agreeableness was found to be significant at 0.05 level. The correlation ( $r = 0.1$ ) for empathy and neuroticism was not found to be significant. The correlation ( $r = -0.037$ ) for empathy and irritability was not found to be significant. The correlation ( $r = -0.016$ ) for openness and conscientiousness was not found to be significant. The correlation ( $r = .370^{**}$ ) for openness and extraversion was found to be significant at 0.01 level. The correlation ( $r = 0.081$ ) for openness and agreeableness

was not found to be significant. The correlation ( $r = 0.113$ ) for openness and neuroticism was not found to be significant. The correlation ( $r = 0.162$ ) for openness and irritability was not found to be significant. The correlation ( $r = 0.029$ ) for conscientiousness and extraversion was not found to be significant. The correlation ( $r = 0.165$ ) for conscientiousness and agreeableness was not found to be significant. The correlation ( $r = -0.028$ ) for conscientiousness and neuroticism was not found to be significant. The correlation ( $r = -0.105$ ) for conscientiousness and irritability was not found to be significant. The correlation ( $r = -0.023$ ) for extraversion and agreeableness was not found to be significant. The correlation ( $r = 0.114$ ) for extraversion and neuroticism was not found to be significant. The correlation ( $r = 0.146$ ) for extraversion and irritability was not found to be significant. The correlation ( $r = -0.022$ ) for agreeableness and neuroticism was not found to be significant. The correlation ( $r = 0.081$ ) for agreeableness and irritability

was not found to be significant. The correlation ( $r = 0.230^*$ ) for neuroticism and irritability was found to be significant at 0.05 level.

**Table 4.3- Table showing Mean and S.D. values of Empathy, Personality Traits and Irritability**

Variables	Gender grouping (1=Male) (2= Female)	N	Mean	S.D.	Std. Error Mean
<b>Empathy</b>	1	50	36.90	6.756	.955
	2	50	36.12	6.887	.972
<b>Openness</b>	1	50	34.98	4.41	.624
	2	50	36.22	5.00	.707
<b>Conscientiousness</b>	1	50	34.34	5.90	.835
	2	50	34.10	5.27	.746
<b>Extraversion</b>	1	50	<b>26.26</b>	3.54	.501
	2	50	<b>29.36</b>	5.24	.741
<b>Agreeableness</b>	1	50	31.54	4.87	.689
	2	50	33.90	5.93	.839
<b>Neuroticism</b>	1	50	23.22	3.70	.524
	2	50	24.70	5.19	.735
<b>Irritability</b>	1	50	<b>3.46</b>	1.82	.257
	2	50	<b>5.12</b>	2.36	.334

In table 4.3, 1 is used for male and 2 for female. Mean and Standard Deviation for Empathy ( $36.90 \pm 6.756$ ), Openness to Experience ( $34.98 \pm 4.41$ ),

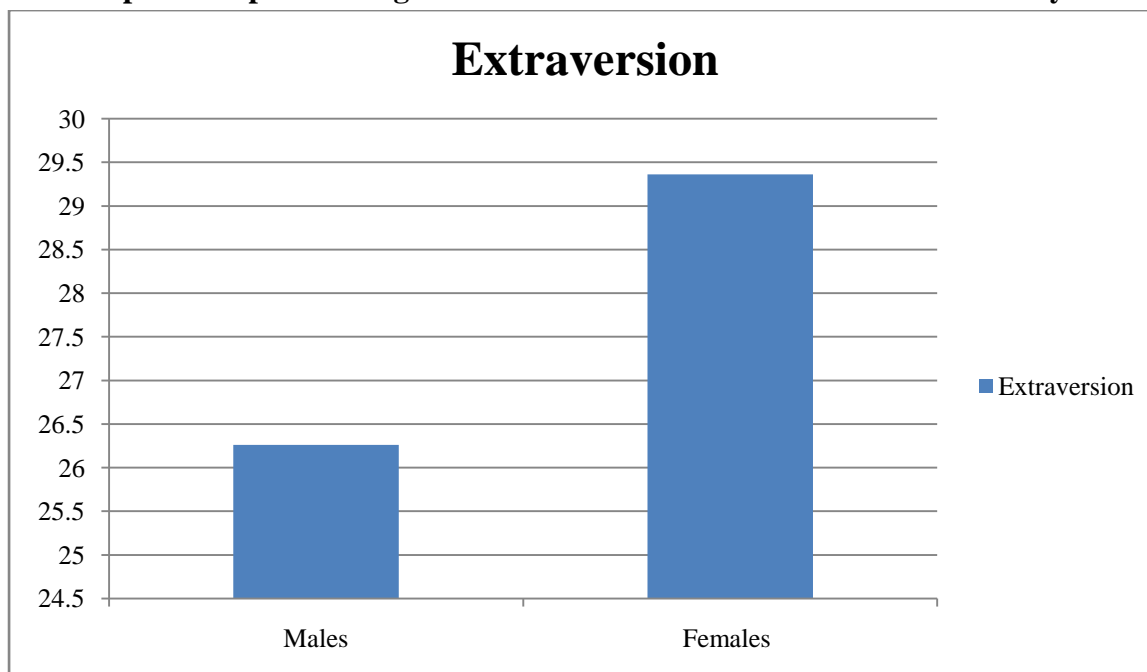
Conscientiousness ( $34.34 \pm 5.90$ ), Extraversion ( $26.26 \pm 3.54$ ), Agreeableness ( $31.54 \pm 4.87$ ), Neuroticism ( $23.22 \pm 3.70$ ), Irritability ( $3.46 \pm 1.82$ ).

**Table 4.4- Table showing t- values of Gender Differences in Empathy, Personality Traits and Irritability**

Variables	t-value	df	Sig. ( 2-tailed)
<b>Empathy</b>	0.572	98	0.568
<b>Openness</b>	-1.31	98	0.192
<b>Conscientiousness</b>	0.214	98	0.831
<b>Extraversion</b>	-3.46	98	0.001
<b>Agreeableness</b>	-2.17	98	0.032
<b>Neuroticism</b>	-1.63	98	0.104
<b>Irritability</b>	-3.93	98	0.001

The result table 4.4 depicts significant Gender Differences in Irritability and Extraversion.

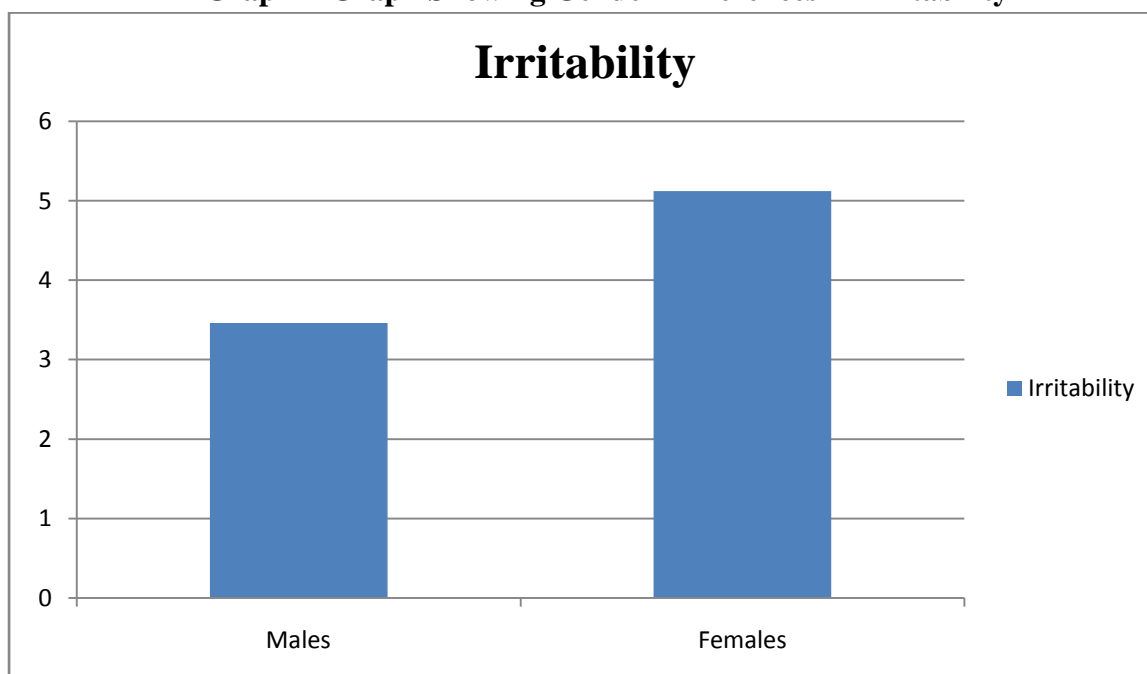
**Graph-1 Graph Showing Gender Differences in Extraversion Personality Trait**



Graph- 1 depicts Mean Scores of Males (M= 26.26) and Females (M= 29.36) on Extraversion showing gender differences.

This graph shows that Females are more extrovert than Males.

**Graph-2 Graph Showing Gender Differences in Irritability**



Graph 2 depicts Mean Scores of Males (M= 3.46) and Females (M= 5.12) on Irritability are showing gender differences.

This graph shows that Females are more irritable than Males.



## Conclusion

On the basis of the results, the first hypothesis is accepted as no significant correlation was found between Openness to Experience and Irritability.

The second hypothesis is accepted as no significant correlation was found between conscientiousness and irritability.

The third hypothesis is accepted as no significant correlation was found between extraversion and irritability.

The fourth hypothesis is accepted as no significant correlation was found between agreeableness and irritability.

The fifth hypothesis is rejected as a significant positive correlation was found between Neuroticism and Irritability. Farman, Somi, Sarami, & Farhang (2007) provided support for this study.

The sixth hypothesis is rejected for extraversion personality trait and irritability as significant gender differences were found.

## Limitations

The limitation of the study is sample size, social and cultural context which limits the generalization of the study. Although the study has included many variables but there are other mediating factors which could have affect the results like locality and gender and other demographic factors.

## Implication

The present study offered an insight of relationship between Empathy, Personality Traits and Irritability. The results provide the evidence in clinical, counseling and personality psychology.

## Suggestions

Human behavior is a function of personality traits and the present study uncovered the relationship of personality traits with irritability. Irritability is precursor of many psychological disorders.

The results indicated the relation neuroticism and extraversion traits of personality which indicates that personality traits needs to taken account of while proceeding in the therapies of disorders related to irritability.

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