

## To Explore the Associations between Different Personality Patterns and Empathy among Adults

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### ABSTRACT

This study aimed to identify the association between the Big Five personality traits, the Three Dark Triad traits and Empathy. **Objective of the Study:** 1. To understand the relationship between the Big Five personality and Empathy. 2. To understand the relationship between Three Dark triads and Empathy. 3. To understand the relationship between demographic variables and Empathy. **Significance:** This study is essential in bringing out the nature of personality and the effects of different demographic variables on empathy behavior in different social contexts. With the help of different psychological tools, this research pointed out different personality aspects necessary for healthy and empathetic relationships among human beings. Furthermore, this study tried to reveal how to measure individual differences in empathic processing optimally. This present study was designed to establish a relationship between Big Five Personality, Short Dark Triads, and Empathy among random students from the Indian Subcontinent. We found that agreeableness and openness are the most important predictors of Empathy (measured by EQ). This study's result supported the hypothesis that agreeableness, openness, extroversion, conscientiousness, and emotional stability positively correlate with Empathy; dark triad traits are negatively correlated with Empathy, and females are more empathetic than males. **Tools Used:** Ten Item Personality Inventory (TIPI) by S. D. Gosling, P. J. Rentfrow, and W. B. Swann Jr., Short Dark Triad Personality Inventory by Atkinson Baughman, Veselka, and Vernon, Empathy Quotient by Baron and Cohen.

**Keywords:** *Empathy, Big Five Personality, Short Dark Triad traits, Demographic Details*

Empathy is a vital tool for making moral judgments, moral motivation, and moral development. It's the ability to understand another person's thoughts and feelings in a situation from their point of view rather than your own. It differs from sympathy, where the thoughts and feelings of another move one but maintain an emotional distance. To be empathetic would mean, to some extent, seeing another perspective and understanding that perspective. In general, 'sympathy' is when you share the feelings of another; 'empathy' is when you know the feelings of another but do not necessarily share them. This article aims to explore the range of current conceptualizations of Empathy, present a discussion outlining similarities supported in the literature, and formulate a new conceptual summary of Empathy that future researchers/practitioners can use. Previous researchers have identified

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three components of Empathy: Cognitive, Emotional, and Compassion-ate. We will briefly discuss them below. Cognitive Empathy is knowing how the other person feels and what they might think. Sometimes, it is called perspective-taking. If you imagine yourself in your friend's shoes, you know she will likely feel sad and anxious because she relies on that income to pay her student loans. However, having only cognitive Empathy keeps you at a distance from your friend. To truly connect with your friend, you need to share their feelings. This is where emotional Empathy comes in. Emotional Empathy is when you feel physically along with the other person, as though their emotions are contagious. This Empathy can also extend to physical sensations, which is why we cringe when someone stubs their toe. In this case, you would look inward to identify a situation where you were similarly anxious about the future. The situation itself need not be identical, as each individual is different. What's important is that the emotions resulting from the situation are the same. In compassionate Empathy, we understand a person's predicament, feel for them, and spontaneously move to help if needed. The balance between cognitive and affective Empathy enables us to act without being overcome by feelings or jumping straight into a problem-solving process. Some researchers describe Empathy as a trait, and some as a state. The trait view implies that some individuals are more empathic than others, with this ability being stable over time. Anatomical differences, as well as both genetic and developmental factors, account for some variability in empathic abilities. Further support emerges from studies into the deficits found in autistic and psychopathic individuals. Other effects of dispositional factors such as gender and education has been reported. Apart from the many standard personality traits, some traits are unpleasant for others. Three specific personality traits can come together to cause particular difficulties. These traits are narcissism, psychopathy, and a trait referred to as Machiavellianism. The idea of this theory is that all three traits share a personality trait called antagonism, which we could conceptualize as low agreeableness on the five-factor model. Narcissism, as it relates to the dark triad, has two different types: grandiose and vulnerable. With grandiose narcissism, we see traits like being dominant, arrogant, exploiting other people, and exhibitionism. With vulnerable narcissism, we see characteristics like being shy, distrusting other people, having mood lability, and being self-critical. Most of the research on the dark triad is really referring to grandiose narcissism and not vulnerable narcissism. With psychopathy, we see characteristics like violating social norms, being callous, having a lack of Empathy, being impulsive, irresponsible, having superficial charm, being manipulative, and having shallow effects. When we look at the research that studies psychopathy related to the dark triad, we're talking about a continuum where there can be subclinical psychopathy all the way up to clinical psychopathy. The last trait in the dark triad is Machiavellianism. We don't really see this mentioned in the clinical literature very much. This is something we see more in literature related to careers. With Machiavellianism, we see characteristics like being manipulative, callous, being goal-oriented, having a satisfactory to a good level of impulse control, and tend to be related to white-collar crime or at least white-collar antisocial behavior. An important point with Machiavellianism is that this particular trait has no clinical impairment. These are linked to individual differences in Empathy, but what we know about these connections is limited to unidimensional or bidimensional conceptualizations of Empathy. In a unique sample, we found more details about how the Dark Triad traits are linked to individual differences in Empathy in a unique sample. We found how gender differences in the Dark Triad traits might be, in part, a function of individual differences in Empathy and how the links between the Dark Triad traits and empathy scores might differ between the different genders. Reliably, men score higher on the Dark Triad traits (Jonason et al., 2009; Jonason, Lyons, et al., 2013; Jonason Webster, 2010) are lower on Empathy (Davis, 1980) than women. We can say that these dark traits

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are more characteristic for male than females, but It is insufficient to say the gender differs without asking the follow-up questions of how and why they differ. A male can benefit more (in evolutionary terms) from engaging in casual sex (Buss Schmitt, 1993). From an evolutionary perspective, Males see themselves (compared to females) as natural and dominant leaders; They are less tolerable than females. We expect the quality and quantity of the correlations to be different in women than in men. We already know that females are characteristically more empathetic than men (Davis, 1983). In concert with other work (Jonason Krause, 2013; Jonason, Lyons, et al., 2013), we assess the links between the Dark Triad Traits, Big Five Personality, and Empathy from a Perspective (Buss, 2009). Based on the previous findings concerning the Empathy – personality relationship, the current study followed two primary aims: first, to address whether (and how) the Big Five personality model is associated with Empathy. We investigated the effect of demographic details (age, gender) on the association between personality and Empathy by using similar measurement tools (set of questionnaires) across samples (Probably in North India). This approach's design might help explain the inconsistent results reported in previous studies, and may also shed light on general differences concerning questionnaire responses across cultures. For the measurement of Empathy, we selected EQ (Empathy Quotient by Jacob Cohen). The EQ measured all empathy components in one score. We measured the Big Five using the short NEO-FFI scale, called TIPI (Ten Item Personality Inventory). We examined dark triad traits using short dark triad trait inventory (Jones, D. N., Paulhus, D. L., 2014). Based on prior studies demonstrating associations between the Big Five and Empathy, we predict to observe positive associations between empathy measures (EQ) and agreeableness, conscientiousness, openness, emotional stability, and extraversion, and we examine negative associations between Empathy and Machiavellianism, psychopathy, and narcissism. In terms of culture, we do not predict significant differences in Empathy across cultures.

## **METHODOLOGY**

### *Participants*

We obtained data [N = 200; M(age) = 23.54; n = 125 women] using a self-constructed online questionnaire based on the Psytoolkit.org platform. The questionnaire was designed so that participants could not send back incomplete data. All given responses were anonymous and confidential. All data was collected within a password-protected file. Participants (mainly students in India) were invited to participate via online advertisement and social platforms. Participants received no monetary compensation for their participation. Written informed consent to participate was obtained before testing. Participation in the study was voluntary. Any adult over 18 who could provide consent on their behalf was eligible to participate in the study.

### *Measurements*

In this study, self-reported Empathy was measured with the EQ (Baron-Cohen and Wheelwright, 2004). This was the most common and reliable questionnaire used in studies on Empathy. The EQ consisted of 40 items. The range of scores was from 0 to 80. It measured cognitive and affective Empathy in adults. EQ allowed classification into four categories, which facilitated the comparison between groups. The cut-off for each level was from 0 to 32 scores low Empathy (the average score in Asperger Syndrome is 20), from 33 to 52 scores average Empathy (average in men 42, average in women 47), from 53 to 63 scores: above average, from 64 to 80 scores high Empathy. The version used was obtained from <http://www.psytoolkit.org/survey-library/empathy-arc.html>. We had the author's consent to use the EQ questionnaire. The Ten Item Personality Inventory (TIPI) is a short version of the Big Five Personality Inventory. NEO-FFI Big Five questionnaire (Costa and

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McCrae, 1992) is one of the most common multidimensional inventories assessing the five most essential personality domains: extraversion, neuroticism, openness to experience, conscientiousness, and agreeableness according to the linguistic approach to personality. These domains were measured at interval scaling. In this Ten Item Personality Inventory (S. D. Gosling, P. J. Rentfrow, and W. B. Swann Jr., 2003) had shown good reliability and validity (Samuel D. Gosling, Peter J. Rentfrow, and William B. Swann Jr, 2003). It consisted of 10 questions, summarized in the ten facets. The reliability of the TIPI was indicated by the internal consistencies of the five scales, which have a Cronbach alpha between  $\alpha = 0.72$  and  $\alpha = 0.87$ . The Retest Reliabilities with a temporal difference of 5 years were between  $r = 0.72$  and  $r = 0.80$ . Concerning the validity of the inventory, factor analyses alone and paired with other personality questionnaires show good construct validity ( $r = .54$  to  $r = .82$ ) (Rentfrow Gosling, 2003). The version used was obtained from <http://www.psytoolkit.org/survey-library/big5-tipi.html>. We had the author's consent to use this TIPI questionnaire. The short dark triad personality inventory (SD3) is a self-inventory for measuring the dark triad. This inventory consists of 27 items. Scales can range from 1 to 5. The triad (i.e., group of three) consists of Machiavellianism, psychopathy, and narcissism. Alpha reliabilities for the SD3 subscales were 0.71, 0.77, and 0.80 for narcissism, Machiavellianism, and psychopathy respectively. This SD3 questionnaire has already drawn support from other research groups (e.g., Arvan, 2011; Ashton-James Levordashka, 2013; Baughman, Dearing, Giammarco, Vernon, 2011; Giammarco, Atkinson, Baughman, Veselka, Vernon, 2013; Holtzman, 2011; Lee et al., 2013). The version used was obtained from <http://www.psytoolkit.org/survey-library/short-dark-triad.html>. We also used demographic details of the participants, but we didn't add any sensitive questions. We added many of these questions: "Prefer not to answer." We made sure we did not exclude or offend anyone. We make you participants feel comfortable with the questions. The version used was obtained from <http://www.psytoolkit.org/survey-library/demographics.html>. We have the author's consent to use the questionnaire.

### *Data Analysis*

First, we described the raw data. Descriptive data concerning sample size, standard deviation, and mean are presented in Table 1. Now, we applied Pearson's correlations between general score of Empathy, gender, Big Five Personality, and short dark triad traits. Table 2 depicts the correlations between Empathy, gender, the short dark triad, and five prominent personalities in the sample. Here, agreeableness was the personality dimension demonstrating the highest correlation with the EQ, and narcissism showed a negative correlation with the EQ. The evaluation of the normal distribution was performed using a Kolmogorow-Smirnow test. Next, we used linear regression to investigate the regression analysis between personality (Big Five) and Empathy. Regression calculation aimed to identify the most important predictors for general Empathy and account for multicollinearity between the five dimensions of the Big Five Personality. Table 3 shows the step-wise regression coefficients predicting the EQ by personality. We see that agreeableness contributes the most among the prominent five personalities. A 0.05 significance level was assumed for all tests. Table 4 represents the model summary about Regression. All kinds of analyses were done using SPSS Statistics for Windows Version 25.0.

## **RESULT**

The response rate was low. 275 Questionnaires were initiated for filling up, but not all questionnaires were completed. Therefore,  $N = 200$  could be taken for calculation, and the mean age of the participants was 23.54 years (range 19–49), and the gender distribution was relatively equal (male/female = 37.50:62.50 Percent) (Table 1). Analyses of the associations

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between gender, big five personality, short dark triad, and Empathy revealed the following results: gender was positively correlated to Empathy ( $r = 0.323$ ,  $p = 0.01$ ); emotional stability ( $r = 0.516$ ,  $p = 0.01$ ), openness ( $r = 0.537$ ,  $p = 0.01$ ), conscientiousness ( $r = 0.371$ ,  $p = 0.01$ ), extroversion ( $r = 0.470$ ,  $p = 0.01$ ) and agreeableness ( $r = 0.691$ ,  $p = 0.01$ ); Machiavellianism ( $r = -0.202$ ,  $p = 0.05$ ), narcissism ( $r = -0.283$ ,  $p = 0.05$ ) and psychopathy ( $r = -0.232$ ,  $p = 0.05$ ) (Table 2). By the Linear regression, we found that agreeableness (and, in the case of the EQ, to a lesser extent, conscientiousness) is the most important personality dimension to predict the classical empathy dimensions. Agreeableness contributes 41.90 Percent to Empathy (Tables 3 and 4).

**Table 1: Descriptive Analysis of Sample**

Characteristics	N=200
Age	19-49 yrs. Mean =23.54 SD=3.602
Gender	62.5 Percent Female, 37.5 Percent Male
Empathy Quotient (EQ)	44.61 (SD=9.239)
Personality: Openness	5.07 (SD=1.45)
Conscientiousness	4.79 (1.52)
Extroversion	4.97 (1.43)
Agreeableness	4.76 (1.01)
Emotional Stability (Opposite of Neuroticism)	4.85 (1.26)
Machiavellianism	2.78 (0.91)
Psychopathy	2.58 (0.89)
Narcissism	2.28 (0.79)

**Table 2: Correlational Analysis of Sample**

	Personality: Openness	Conscientiousness	Extroversion	Agreeableness	Emotional Stability	Machiavellianism	Psychopathy	Narcissism
Empathy Quotient (EQ)	0.537	0.371	0.470	0.691	0.516	-0.202	-0.232	-0.283

**Table 3: Regression Analysis of Sample: Coefficients**

Model	Unstandardized (B)	Standard Error	Standardized Coefficients (Beta)	Significance Level
Constant	-0.962	2.772		
Agreeableness	4.321	0.730	0.419	0.000
Extroversion	1.312	0.421	0.177	0.002
Openness	1.892	0.486	0.253	0.000
Emotional Stability	1.410	0.530	0.167	0.009
Conscientiousness	0.230	0.424	0.033	0.588

**Table 4: Regression Analysis of Sample: Model Summary (\* All domain of personality)**

Model	R	R Square	Adjusted R Square	Standard Error	R Square Change	F Change	Significance F change
1	0.835*	0.697	0.685	6.737	0.697	57.023	0.000

## DISCUSSION

In this study, we examined the correlation between the short dark triad, gender, Big Five model of personality and commonly used measures of empathic processing across samples.

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Based on previous studies, we hypothesized positive correlations between central measures of Empathy and agreeableness, openness, and extraversion; we hypothesized negative correlations between central measures of Empathy and narcissism, Machiavellianism, and psychopathy. Furthermore, we also hypothesized that gender differences are essential to empathetic behavior. Females showed more Empathy than males. Also, we observed that males show more characteristics of Machiavellianism, narcissism, and psychopathy than females. However, we could not establish the real cause of these gender differences by showing empathetic behavior. For the cross-culture analyses, we expected no significant differences between cultures. The observed associations between Empathy and personality for the total sample matched our expectations. We found that agreeableness explains Empathy at around 50.2 percent. For the Emotional Quotient (EQ) and conscientiousness were also significant (8.4 percent). Therefore, our results suggested that agreeableness might be the cause of Empathy. We found agreeableness to be the best predictor for Empathy because it is primarily a dimension of interpersonal behavior and represents the quality of social interaction (Costa et al., 2001). Furthermore, agreeableness could predict prosocial as well as aggressive behavior (Graziano and Eisenberg, 1997). Graziano et al. (2007) even offered a mechanism explaining the association. According to them, humans low in agreeableness did not report less Empathy because they showed Empathy affect or prosocial motivation. From a demographic perspective, this study found gender differences; for example, females have been shown to score higher in agreeableness and Empathy than males. Males scored high in the short dark triads and relatively lower in Empathy than females. To our knowledge, no comparable detailed study deals with other demographic differences in responding to empathy questionnaires. Therefore, future research with many cultures/countries or other demographic differences will show whether the predictive value of agreeableness for Empathy on an individual level is also reflected in differences in empathy scores. In our data, both significant differences in empathy scores involve lower scores in males compared to the other samples. Therefore, one would expect positive correlations between Empathy for femininity and negative associations with masculinity. On the other hand, feminine cultures could report more Empathy because it is a significant value, although no differences exist in empathic abilities compared to masculine cultures. A similar difference between self-report and behavior/ability has been reported for general gender differences in Empathy (Derntl et al., 2010). Next to agreeableness, openness was the second personality dimension with a more significant predictive value for Empathy. Concerning the scales of the dark triad, we found narcissism to be essential in explaining personal distress and grandiosity. Narcissistic people lack personal social interaction and have personal distress (Melchers., 2015). Furthermore, openness includes Creativity also played an essential role in generation and sensitivity to fictional environments. Machiavellianism fits perfectly as a candidate for association because personal distress measures the attitude toward, and feelings evoked by negative social interactions. These feelings, in turn, should be strongly influenced by the fundamental attitude to social interactions, which is firmly related to neuroticism (Emotional instability). The following picture emerges: Agreeableness and openness are the most critical personality factors to explain Empathy responding, openness predicts fantasy and neuroticism personal distress. We found that the Big Five can explain up to 62.1 percent of the variance in empathy questionnaire responses. Our results may have important implications for understanding empathy and personality traits. A related argument concerns the gender distribution in these samples. Our sample contains more female than male participants. We, therefore, controlled age, gender, educational qualifications, and other details. We don't think the differences distorted results concerning the relationship between personality and Empathy because we found no significant gender-related differences in the correlations of Empathy and the Big

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Five (compare results). Besides, our data were collected in a university setting, leading to age range restrictions and education degrees. For future studies, it would be helpful to collect large samples from other countries, which include an even more representative assortment of participants who represent the four descriptive dimensions of cultural differences by Hofstede. Furthermore, it would make sense to consider other measures for Empathy and their interaction with the cultures under investigation, as in our case results seem in part to depend on the utilized measure.

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### ***Conflict of Interest***

The author(s) declared no conflict of interest.

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