EMPATHY, ALTRUISM AND ITS RELATIONSHIP WITH BIG FIVE PERSONALITY CHARACTERISTICS AMONG UNDERGRADUATES STUDENTS OF KHYBER PAKHTUNKHWA

Wajeeha Hussain[1], Salma Andleeb[2*], Bibi Shafia[3], Gulshan Ibraheem[4]

[1]Lecturer, Kohat University of Science and Technology Pakistan,
[2*]Assistant Professor, Department of Psychology, Islamia College Peshawar, Pakistan
[3]Lecturer, Kohat University of Science and Technology Pakistan,
[4]Student, Islamia College Peshawar Pakistan

*Corresponding Author: Dr.Salma Andleeb
*Assistant Professor, Department of Psychology, Islamia College Peshawar, Pakistan

Abstract
The current study aimed to examine the effect of empathy on altruism. Further the study investigated relationship of big five personality traits with altruism and empathy and predictors of altruism and empathy among undergraduate students of Peshawar KP. The sample consisted of (N=300) students in the age range between 20 to 25 years (M=23.07, SD=4.51).The sample was selected through the Convenient Sampling Technique from different universities of Khyber Pakhtunkhwa. The Adapted Self-report Altruism Scale (ASRAS), the Toronto Empathy Questionnaire (TEQ) and the Big Five Inventory (BFI) along with demographic sheet were administered with the whole sample. The results indicate a positive relationship between empathy and altruism, show that high level of empathy increases altruistic tendencies. The findings also reveal significant association of altruism and empathy with certain personality traits. A positive correlation between agreeableness and altruism suggests that individuals with high level of agreeableness are more prone to altruistic behaviors, while a negative relationship between neuroticism and altruism shows that individuals with low level of neuroticism are more inclined to engage in altruistic acts. In addition, a significant positive relationship of empathy, with agreeableness, conscientiousness, and openness reveals that individuals with elevated scores in these personality traits tend to exhibit high level of empathy. The findings of the study have important implications by suggesting an utmost need on part of the policy makers to develop altruistic behavior in people of general population by modifying certain personality traits in them which in turn will positively contribute to the welfare of the society.

Key Words: Empathy Altruism Big Five Personality Characteristics

Empathy generally refers to the ability to take on other's perspective, to understand, feel, and possibly share and respond to their experience. (Bellet & Maloney, 1991). Definitions of empathy are sometimes conflicting that include social, cognitive, and emotional processes but are not limited to these concepts, and primarily are concerned with understanding others (Read, 2019). Since empathy involves understanding the emotional states of other people, the way it is characterized derives from the way emotions are characterized. For example, if emotions are expressed by bodily feelings, then understanding the bodily feelings of another will be considered central to empathy.

On the other hand, if emotions are characterized by a combination of beliefs and desires, then understanding those beliefs and desires will be more essential to empathy. Thus, the ability to imagine oneself as another person is a sophisticated process. However, the basic capacity to recognize emotions in others may be innate (Hall, Schwartz, Duong, 2021). An individual exhibits empathy when he/she accurately recognize the significance of another individual's ongoing intentional actions, associated emotional states and personal characteristics in a manner that seems accurate to the recognized person. In this perspective empathy assists in the understanding of complex human emotions and interactions. It is not all-or-nothing, rather, an individual can be more or less empathetic toward another (Hakansson, Montgomery, 2003).

Altruism is described as the act of showing concern for the well-being of others without expecting anything in return (Kraut & Richard (2020). As a social behavior altruism is carried out to benefit others at the expense of oneself foster social relationship (Okasha, & Samir (2022). Activities designed to help others having no significant cost to the individual and little prospect of returns are referred to as altruistic behavior. As a mindset altruism genuinely concerned for the welfare of others a serves as the true catalyst for cooperation and compromise relationship (Weiss-Sidi, Merav; Riemer,& Hila, 2023).

According to the empathy-altruism hypothesis (Batson, Lishner, & Stocks, 2015) individuals with feelings of empathy for another person have altruistic motivation try to enhance welfare of that person. In view of empathy-altruism hypothesis, the term empathy refers to feelings of compassion, sympathy, tenderness, and the like. It involves not only recognizing another person's emotional state but also being able to connect with them on a deeper level by sharing in their feelings and has been found to have a significant impact on the individual's behavior in social situations, often resulting in display of helping behavior (Toi, & Batson, 1982).

Altruism, in view of empathy-altruism hypothesis, on the other hand, refers to a motivational state with the goal to increase another person's welfare as an end in itself. Altruistic acts are usually called good deeds as the purpose behind helping is to benefits others. Contrary to that altruistic behavior becomes egoistic when help is provided at the cost of helper's own motivation to get happiness or security (Batson, Donald, 2011).The definition of altruism in the empathy-altruism hypothesis differ considerably than the psychological concept of altruism which usually refers to helping others for personal cost to the helper.

The empathy-altruism hypothesis (Batson, et al.,1991) suggests that empathy plays a crucial role in motivating altruistic behavior towards others. However, relationship between empathy and altruism is complex and may be influenced by a variety of contextual factors such as social distance or if person in need is perceived as a competitor, then people are less likely to provide assistance even if they feel empathy (Latane, & Darley, 1970). Negative stereotypes also reduce the effect of empathy on positive attitudes and inclination to help (Eisenberg, Fabes, Murphy, Karbon, Maszk, Smith, O"Boyle,... 1994).

Numerous studies report empathy as a strong predictor of altruistic motivation than egoistic concerns such as personal distress or desire for reward (Cialdini, Brown, Lewis, Luce, & Neuberg, 1997., Cialdini, Schaller, Houlihan, Arps, Fultz, & Beaman, 1987). Cialdini, Schaller, Houlihan, Arps, Fultz, & Beaman, (1987) found that children who were high in empathy were more likely to share resources with others, even when it meant sacrificing their own rewards. However, some research report that relationship between empathy and altruism may be moderated by situational factors (Eisenberg, Fabes, Miller, Shell, Shea, & May-Plumlee, (1990). For instance, (Eisenberg, Fabes, Miller, Shell, Shea, & May-Plumlee, 1990) on the basis of their research found that participants were less likely to help others when they perceived them as members of an out-group or were geographically distant. Other repot, that subjects were less likely to help if they perceive the situation as high-risk taking or if they fear personal harm (Eisenberg, 2009).

Research report that personality traits have a positive impact on altruistic behavior (Afolabi, 2013., Kaushik, Chawla, & Vig, 2021). Hilbig, Glockner, and Zettler, 2014, Brown & Taylor, 2015). For

example, Thielmann, Spadaro, and Balliet, (2020) found altruistic behavior positively correlated with a number of personality traits, including extraversion, conscientiousness, agreeableness, and openness.

In their study Pradeep et al., (2022) investigated relationship between personality traits and altruistic behavior in 117 psychology 111 non psychology student in 18 to 25 years of age by administering the Ten Items Personality Inventory and the Adopted Self Report Altruism. The results showed a significant relationship of altruism with personality traits namely, openness, conscientiousness and extraversion.

Moving along these line Oda et., al (2014) examined relationship between the Big-Five personality traits and frequency of altruistic behaviors toward various recipients that is, family members, friends or acquaintances and strangers in daily life by administering the Self-Report Altruism Scale. The results showed that except the extraversion, which commonly correlated with altruistic behavior toward all three types of recipients, the relationship of particular traits to altruism, differed according to recipient. Trait conscientiousness contributed to altruism only toward family members, agreeableness contributed to altruism only toward friends/acquaintances and openness contributed to altruism only toward strangers.

King, George, and Heble (2005) tested a theoretical argument for expecting conscientiousness to interact with interpersonal dimensions of personality in predicting helping behaviors among 374 women. The responses of women and their supervisors revealed a significant interactions between conscientiousness and agreeableness, extraversion, and emotional stability in predicting helping behaviors which clarified relationship between personality and helping. The findings suggest that impact of conscientiousness in a social context depends on a positive interpersonal orientation.

In order to examine effect of the quality of relationship physicians establish with their patients de Aguiar., Formiga, and Cantinilo (2017) investigated relationship between empathy and personality traits among 197 medical students. The study specifically focused on whether empathy constructs can predict personality traits among medical students. The Davis's Interpersonal Reactivity Index (IRI) was used to assess empathy through its four constructs namely, empathic concern, personal distress, fantasy and perspective taking and the Big Five Inventory (BFI) was used to investigate personality traits neuroticism, extraversion, openness, agreeableness, and conscientiousness. The results showed that extraversion positively predicted empathic concern and negatively predicted personal distress. Agreeableness had positive relation with empathic concern and perspective taking, while neuroticism was negatively related to perspective taking. Openness had a positive relation with perspective taking but no relation was found for conscientiousness. Further a positive association was found between empathy and the female gender.

Some research tried to advance the way the Big Five personality model can be used to measure empathy. They designed their study to investigate the relationship between the Big Five personality and two commonly used measures for empathy the Empathy Quotient (EQ), and the Interpersonal Reactivity Index (IRI)] in four samples from China, Germany, Spain, and the United States of America. The objective was to advance the way the Big Five personality model can be used to measure empathy. The results showed associations between personality and empathy, with agreeableness and conscientiousness as the most important predictors of affective and cognitive empathy as measured by subscales of the IRI and for a one-dimensional empathy score measured by the EQ. Empathy was most closely related to openness to experience while personal distress was related to neuroticism. In terms of culture, findings did not reveal any distinct pattern concerning cultural differences. These results support the cross-cultural applicability of the EQ and the IRI and indicate structurally similar associations between personality and empathy across cultures (Melchers, Li, Hass, Reuter, Bischoff ˙ Montag, 2016).

Numerous researches examined relationship between empathy and the Big Five personality and found a positive relationship between them. Studies have demonstrated that personality traits have a positive impact on altruistic behavior (Brown & Taylor, 2015). For instance, Del Barrio, Aluja, and García (2004) explored the relationships between empathy and the Big Five personality model in a

sample of 832 Spanish adolescents. The result showed that empathy was strongly correlated with friendliness. Further results revealed a positive correlation of empathy with conscientiousness, energy and openness. Afolabi (2013) investigated personality traits and pro-social behavior in 358 Nigerian undergraduate students. The results found a positive relationship between pro-social behavior and certain personality traits specifically trait conscientiousness had a high correlation with altruistic behavior..

In another study Song and Shi (2017) studied relationship of empathy with Big Five personality traits in Chinese medical students. Results showed that participants having high level of agreeableness, openness and conscientiousness were more likely to demonstrate high level of empathy than those with low scorers on the same traits. Similarly, Melchers, Li, Haas, and Reuter (2016) in their study found that those who exhibited high score on openness, conscientiousness, and agreeableness were more likely to exhibit empathy than those with low score on these traits. Karmakar, Chatterjee, and Dogra (2017) also report that agreeableness increases a person's feeling of empathy. Costa, Alves, Neto, Marvao, Portela, and Costa, (2014) reported similar findings in college students' enhancing empathy. However, certain personality traits have been found to be negatively correlated with altruistic behavior (Kumar et al., (2019). Keeping in view the significance of empathy and altruism for the welfare of society and role of personality traits in influencing empathy and altruistic behavior the present study was conducted on sample taken from Pakistani population.

Objectives
Following were major objectives of the study.
1. To study the effect of empathy on altruism among undergraduates.
2. To investigate the relationship between altruism and big five personality traits.
3. To determine the relationship between Empathy and big five personality traits.

Hypotheses
Following hypotheses were formulated.
H1: Participants having high level of empathy would be more altruistic than those with low level of empathy.
H2; Empathy would positively predict altruism in participants
H3: Participants having high score on agreeableness subscale of the Big Five Inventory would exhibit high level of altruism than those with low score on the said sub-scale.
H4: Agreeableness would positively predict altruism.
H5: The level of altruism would be high in participants with low level of neuroticism than with high level of neuroticism.
H6: Neuroticism would negatively predict altruism.
H7: Personality traits namely agreeableness, conscientiousness and openness would positively predict empathy.

Method
Participants
The sample of the current study consisted of (N=300) students in the age range between 20 to 25 years (M=23.07, SD=4.51). The participants belonged to different areas of Peshawar and maximum belonged to middle socioeconomic status. The participants were selected by using the Convenience Sampling Technique from two universities, namely Islamia College Peshawar and University of Peshawar.

Instruments

Demographic Information Sheet

The demographic information sheet was used to get demographic information of the participants such as age, education and socioeconomic status.

Adapted Self Report Altruism Scale (ASRAS)

The Adapted Self-Report Altruism Scale is the adapted version of the Self-report Altruism Scale (Rushton, 1981) developed by Witt and Boleman in 2009. It comprises of 14 items and assesses individuals' altruistic tendencies by evaluating the frequency with which they engage in altruistic acts directed towards strangers. It is a five-point Likert type scale, ranging from 1 never to 5 very often. Total score on the scale reflects an individual's self-reported altruistic tendency. High score on the scale indicates greater frequency of engaging in altruistic acts. The reliability of the scale determined by the author is 0.79.

Toronto Empathy Questionnaire (TEQ)

The Toronto Empathy Questionnaire (TEQ) was developed by Spreng et al., (2009). It is a self-report measure designed to evaluate individuals' levels of empathy. Consisting of 16 items, the TEQ assesses both affective and cognitive components of empathy. The questionnaire includes eight positive statements (items 1, 3, 5, 6, 8, 9, 13, & 16) and eight reverse-coded items (items 2, 4, 7, 10, 11, 12, 14, & 15). Participants rate each item based on their agreement or disagreement using a Likert type scale. The reliability of the TEQ determined by the author is 0.89.

The Big Five Inventory (BFI)

The Big Five Inventory (BFI) is a widely used self-report questionnaire developed by John and Srivastava (1999) to measure five broad dimensions of personality namely, extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. The BFI consists of 44 items. Participants rate each item on a 5-point Likert type scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The reliability of BFI calculated by the author is 0.73.

Procedure

The participants of the study were approached individually in their respective universities. Informed consent was obtained from them. All the scales were administered individually. Brief instructions were given on how to complete the scales accurately and were requested to give information honestly. Further they were assured that the information provided will be kept confidential to ensure their privacy and anonymity. After completion of required data participants were thanked for their co-operation

Results

Table 1 *Demographic Characteristics of the Sample (N=300)*

Variables	N	%
AGE		
20-22	234	78
23-25	66	22
Gender		
150	150	50
150	150	50
Education		
Undergraduates	300	100

Table 1 shows demographic characteristics of the sample.

Table 2 *Psychometric Properties of the ASRAS, TEQ and BFI*

Scales	No of items	M	SD	Cronbach's Alpha
ASRAS	14	44.34	9.32	0.78
TEQ	16	39.79	7.85	0.81
BFI	44	14.14	12.71	0.93

Note: ASRAS= Adapted Self Report Altruism Scale, TEQ= Toronto Empathy Questionnaire, BFI= Big Five Inventory

Table 2 shows psychometric properties of the scales employed in the current study. The reliability of the scales is within acceptable range.

Table 3 *Mean Standard Deviation and t-Value Showing Difference Between High and Low Empathy Scorers on ASRAS*

Scale	Low Empathy n=150		High Empathy n=50				95%CL		Cohen's d
	M	SD	M	SD	t-Value	P	LL	UL	
ASRAS	39.13	5.68	63.38	9.31	14.71	.000	28.79 21.81		

Note: ASRAS= Adapted Self Report Altruism Scale, CL= Confidence Interval, LL=Lower Limits, UL=Upper limits

Results in table 3 show that those students who scored high on the Toronto Empathy Questionnaire also obtained high score on the Adapted Self Report Altruism Scale. These results support first hypothesis of the study which assumed that participants having high level of empathy would be more altruistic than those with low level of empathy.

Table 4 *Regression Analysis for Empathy Predicting Altruism*

Variable	B	B	SE
Constant	25.24***		2.55
TEQ	0.48***	0.45	0.06
R^2	0.21		

Note: TEQ= Toronto Empathy Questionnaire The empathy would positively predict altruism in participants. ***p<.001.

Table 4 shows a significant positive relationship between empathy and altruism. The *B* value of 0.21 reveals that the predictor variable explained 0.21% variance in the outcome variable with $F_{(1, 298)} = 58.23$, *p*<.001. The findings suggests that empathy positively predict altruism (β=.45, *p*<.001).This implies that an increase in empathy corresponds to a heightened inclination in altruistic actions. These findings support second hypothesis of the study which states that empathy would positively predict altruism.

Table 5 *Mean, Standard Deviation and t-Value Showing Difference Between High and Low Agreeableness Scorers on the ASRAS*

Sub Scales of BFI	Low Scorers on Agreeableness n=10		High Scorers on Agreeableness n=150		T	P	95%CL		Cohen, s d
	M	SD	M	SD	T	P	LL	UL	
ASRAS	24.78	4.11	29.21	4.41	6.88	.00	2.94	5.37	

Note: ASRAS= Adapted Self Report Altruism Scale, CL= Confidence Interval, LL=Lower Limits, UL=Upper limits

Results presented in the above table reveal that participants who achieved high score on the agreeableness sub-scale of the BFI achieved high score on the ASRAS as well. These findings support third hypothesis of the study which states that participants having score high on the agreeableness subscale of the Big Five Inventory would exhibit high level of altruism than those with score low on the said sub-scale.

Table 6 *Regression Coefficient for Agreeableness Predicting Altruism*

Variable	B	B	SE
Constant	1.22***		0.22
AGR	0.58***	0.53	0.06
R^2	0.28		

Note: AGR= Agreeableness (Subscale of BFI) Agreeableness would positively predict altruism. ***p<.001

The result in the above table reveals a significant relationship between agreeableness and altruism. The *B* value of 0.28 reveals that the predictor variable explains 0.28% variance in the outcome variable with $F(1, 298) = 83.59$, p<.001. These results clearly indicate that agreeableness positively predict altruism (β=0.53, p<.001) and thus is in support of fourth hypothesis.

Table 7 *Mean, Standard Deviation and t-Value Showing Difference between High and Low Neuroticism Scorers on ASRAS*

Sub Scales of BFI	Low Scorers on Neuroticism n=10		High Scorers on Neuroticism n=150				95%CL	Cohen,s d
	M	SD	M	SD	T	P	LL UL	
ASRAS	13.81	4.6	19.7	5.49	8.04	.000	7.4.52	31

*Note***:** ASRAS= Adapted Self Report Altruism Scale, CL= Confidence Interval, LL=Lower Limits, UL=Upper limits

Results in table 7 present that participants having low score on the neuroticism sub-scale of the BFI scored high on the ASRAS than those with low score on the said scale and thus support fifth hypothesis of the study.

Table 8 *Regression Coefficient of Neuroticism Predicting Altruism*

Variable	B	B	SE
Constant	30.36***		1.41
NEU	-.09***	-.28	.01
R^2	.11		

Note: NEU= Neuroticism subscale of BFI ***p<.001.

Result in table 8 shows a significant negative correlation between neuroticism and altruism. The B value of 0.11 reveals that the predictor variable explained 0.11% variance in the outcome variable with $F(1, 298) = 24.85$, p<.001. The findings revealed that neuroticism negatively predicts altruism (β=-.28, p<.001) and support sixth hypothesis of the current study. This implies that individuals with elevated neurotic tendencies are less likely to exhibit altruistic actions than with non-neurotics tendencies.

Table 9 *Regression Coefficient of Agreeableness, Conscientiousness, Openness (Subscales of BFI) Predicting Empathy. (N=300)*

Variable	B	β	SE
Constant	-26.61***		17.35
AGR	0.08***	0.51	0.07
CON	0.48***	0.35	0.08
OPN	3.36***	0.51	0.28
R^2	0.66		

Note: AGR=Agreeableness, CON=Conscientiousness, OPN=Openness,***p<.001

Results in the above table reveal a significant correlation of three personality traits namely, agreeableness, conscientiousness and openness with empathy. Further regression analyses show that agreeableness (AGR) having β=0.51, conscientiousness with β=0.35, though has smaller effect than agreeableness and openness with β=0.51 predict empathy among the participants. The R^2 value of 0.66 reveals that the predictor variables explained 0.66% variance in the outcome variable with F (3, 298) = 129.49, p<.001. Overall, the results suggest that individuals with high level of agreeableness, conscientiousness, and openness are more likely to exhibit high level of empathy, supporting seventh hypothesis of the study, which states that above mentioned personality traits would positively predict empathy.

Discussion

In Pakistan limited research is available on empathy and altruism in young adolescents and only few studied have been conducted to examine relationship between empathy and altruism and effect of personality characteristics on these variable, and these have been conducted in clinical setting (e.g.,Khan, Ihsan, Farooq, Iqbal, & Rubab, 2022., Tariq, Rasheed,& Tawakol, 2017) therefore, limited knowledge is available on these variables. Keeping in view of its significance for the welfare of the society and ultimately for the whole human being in term of reducing prejudice and discrimination, providing support to sufferers which in turn mitigate their harms, and developing social relationship, it was felt deemed to study its relation with altruism and the Big Five personality traits in adolescents.

The results in table no 3 show that participants who scored high on the empathy scale also scored high on the altruism scale. These findings suggest that individuals having high level of empathy are more prone to exhibit altruistic behavior than with low level of empathy. The findings in table 4 also reveal empathy as predictor of altruism. These results are in line with previous studies which found a significant positive correlation between empathy and altruism (Batson, Batson, Slingsby, Harrell, Peekna, & Todd, 1991., Batson, Duncan, Ackerman, Buckley, & Birch, 1981., Batson, Dyck, Brandt, Batson, Powell, McMaster & Griffitt, 1988). Numerous researches examined association between empathy and altruism and found a positive association between them. For example, Batson and colleagues (1987) studied association between empathy and altruism. Results showed that participants who experienced high level of empathy towards a person in need were more likely to offer help, even when there was no perceived benefit to them.

Empathy the capacity to feel what another is feeling, such as the sadness felt when tragedy strikes a friend or the pleasure experienced in relation to another's joy is the sharing of an important emotional experience not restricted to any particular emotion. The term most commonly refers to the emotional concern aroused by the suffering of another living being. Having many functions it is viewed as essential to all social interaction and relationship as it informs us about inner world of the other person (Meade 1934). It has been suggested by Dymond as early as in 1945 critical to the process of insight, for one sees oneself through the eyes of the other via empathy while other report that empathy acts as a motivator in eliciting altruistic and pro-social behavior and inhibiting aggressive ones (Hoffman 1976). Some view empathy as a critical condition of effective therapeutic intervention in psychotherapy (e.g, Rogers 1957).

Many researches have examined this aspects of empathy and altruism. For example, Yoo and Han (2024) in a more recent study investigated the mediating role of altruistic behavior, relationship between cognitive and emotional empathy and their effect on psychological well-being among 282 adolescents in the age range of 16 to 18 years both male and female. Results revealed a positive correlation between emotional empathy and altruism, between cognitive empathy and altruism and between altruistic behavior and psychological well-being. Cognitive empathy and emotional empathy influenced psychological well-being through altruistic behavior. Findings conclude that adolescents' cognitive and emotional empathy affect psychological well-being through altruistic behavior and both cognitive and emotional empathy are not only helpful to others, but also play an important role in one's own psychological adaptation and well-being. In view of these findings it is suggested that paying attention to others' feelings improves one' own happiness as well. Thus efforts to understand and sympathize others enhances happiness of the ordinary adolescents in public education sites where competition is overheated and happiness is reduced.

Other research examined relationship between empathy and altruism and predictive power of emotional empathy for altruism in 200 health care professionals in 24 to 35 years of age taken from different government, private hospitals and health institutes. Results showed a strong positive correlation between empathy and altruism. Further after controlling age, gender, level of education and marital status, emotional empathy emerged as a strong predictor for altruistic behavior among these health care professional (Khan, Ihsan Farooq, Iqbal, Rubab, 2022). Similar findings have been reported by others (Hoffman, 1976, FeldmanHall, Dalgleish, Evans, & Mobbs, 2015). .

To investigate the effectiveness of empathy in psychological intervention Rogers (1957) in an early study examined the impact of a 4-day empathy training program on eliminating maladjustment symptoms such as depression and irritation among 319 health care trainees, out of which intervention group consisted of 147 and control group of 72 participants. The objective was to enhance empathic behavior in emotionally tense situations by strengthening self-other differentiation and emotional self-acceptance. Longitudinal follow-up data of measure of emotional competence and maladjustment symptoms were collected before and three months after the training. Results showed significant change in emotional self-acceptance, resilience, emotional self-perception, self-other-differentiation, irritation, and psycho-social maladjustment symptoms in the intervention group compared with the control group. Self-other differentiation was found to be a small yet significant mediator.

Numerous researches report that altruistic behavior has been found to be influenced by a number of personality factors, including extraversion, neuroticism, conscientiousness, agreeableness, and openness (Thielmann, Spadaro, & Balliet, 2020.,Pisheh et al., 2014). McMahon et al., (2013) in their study found that low level of altruism in young people enhanced their tendencies toward aggression and violence which in turn, might possibly serve as a sign of potential criminal behavior. Therefore, in present study an effort was made to examine which personality trait serve to develop and/ or modify altruism. The results in table 5 demonstrate that participants with high score on agreeableness sub-scale of the BFI were high in their level of altruism than with low scorers. Further findings in table 6 reveal agreeableness as a predictor of altruism. These results are in accordance with numerous previous researches which revealed that individuals having high score on the agreeableness had a high level of altruism (Kinjari, Gopal, & Mathew, 2019., Karmakar, Chatterjee, & Dogra, 2017).

Research has consistently reported that high scorers on the personality trait agreeableness were more prone to engage in altruistic behavior, including acts of kindness, volunteering, and charitable donations (Kumar, Rakhi & Rathee, 2019). Agreeable individuals are thought to be more empathic, compassionate, and cooperative, which may explain their heightened tendency to engage in altruistic behavior. Conversely, individual who score low on agreeableness, particularly those who are high in trait of anger or hostility, may be less likely to engage in altruistic behavior. However other personality factors, such as openness to experience and extraversion, have also been shown to be modestly related to altruistic behavior (Kaushik, Chawla & Vig, 2021).

Results of the present study are in accordance with the findings of the study conducted by Hilbig, Glockner, and Zettler (2014) which revealed that individuals with elevated level of agreeableness were more inclined towards altruistic behavior and were more likely to assist others than those having low level of the said trait.

Results of the current study are also supported by the findings of Kline, Bankert, Levitan, and Kraft' (2019) research. These researchers in their study found that openness and agreeableness were positively correlated with altruistic behavior. Individuals who were agreeable tended to had positive relationships with others and were highly motivated to help them in critical time. Other research report agreeableness and conscientiousness as concurrently linked to pro-social behavior during adolescence (Pursell, Laursen, Rubin, Booth-LaForce, & Rose-Krasnor, 2008; Shiner, 2000). However, certain personality traits have been found to be negatively correlated with altruistic behavior (Kumar et al., (2019) and findings of the current study have supported it as well.

Results in table 7 reveal that participants who scored high on the neuroticism sub-scale of the BFI obtained low score on the altruism scale while in table 8 result shows that neuroticism negatively predicts altruism. These findings get support by multiple researches. For instance, Guo, Sun, and Li (2018) found that neuroticism was negatively correlated to altruistic behavior, potentially due to low level of empathy among neurotic individuals. Another study by Shen, Qu, Ge, Sun, and Zhang (2018) examined relationship between personality and self report positive driving behavior in Chinese sample. The results showed that helping behavior i.e. altruism was negatively associated with neuroticism and positively with extraversion, agreeableness, conscientiousness and openness to experience.

Rakhi and Rathee (2019) in a sample of 100 students studied association between personality traits and altruism by administering the NEO-FFI and the Altruism Test. Findings revealed a negative correlation between neuroticism and altruism and positive correlation of agreeableness, conscientiousness and extraversion with altruism. Similar findings were reported by others (Kinjari, Gopal, & Mathew, 2019).

Further results in table 9 demonstrate that traits agreeableness, conscientiousness, and openness predicted empathy. Multiple previous research support this findings. Abdullah, Hamsan, & Ma'rof, (2020) examined relationships between empathy, pro-social behavior, and personality traits in 394 Saudi undergraduate students. The findings indicated a positive correlation between personality traits such as extraversion, agreeableness, openness, and conscientiousness and empathy. Further empathy mediated relationship between pro-social behavior and agreeableness.

Conclusion

The available findings of the current research clearly support all the research hypotheses and conclude that empathy positively predict altruism. Further altruism is positively correlated with agreeableness and negatively with neuroticism and that traits agreeableness, conscientiousness, and openness predicted empathy.

Implications

The findings of the study have important implications by suggesting an utmost need to develop and modify personality traits which in turn will enhance empathy and altruism.

Limitations Suggestions

Data was collected from only district Peshawar, and was small in size. Future researchers need to conduct studies by taking large sample and from other cities as well. In present study gender differences were not studied. Future research need to take into account gender difference.

References

1. Abdullah, A. A., Hamsan, H. H., & Ma'rof, A. A. (2020). How do Personality Factors Associate with Pro-social Behavior? The Mediating Role of Empathy. *International Journal of*

Academic Research in Business and Social Sciences, 10(16), 206–219 DOI:10.6007/IJARBSS/v10-i16/830

2. Afolabi, O. A. (2013). Roles of personality types, emotional intelligence and gender differences on prosocial behavior. *Psychological thought*, 6(1).

3. Aguiar,C.S., Formiga ,N.S., Cantinilo, A. (2017). Personality traits and empathetic abilities: a predictive study on medical students. *Bol-Acad. P.aul. Psicol,* Vol,37 no 92

4. Batson, C. D. (1987). Pro-social motivation: Is it ever truly altruistic. *Experimental social psychology* Vol. 20, pp. 65-122

5. Batson, C. D. (1991). *The altruism question: Towards a social-psychological answer*. Hillsdale, NJ: Erlbaum.

6. Batson, C. D., & Shaw, L. L. (1991). Evidence for altruism: Toward a pluralism of prosocial motives. *Psychological Inquiry*, 2, 107-122.

7. Batson, C. D., Batson, J. G., Slingsby, J. K., Harrell, K. L., Peekna, H. M., & Todd, R. M. (1991). Empathic joy and the empathy-altruism hypothesis. *Journal of personality and social psychology,* 61(3), 413.

8. Batson, C. D., Duncan, B. D., Ackerman, P., Buckley, T., & Birch, K. (1981). Is empathic emotion a source of altruistic motivation?. *Journal of personality and Social Psychology*, 40(2), 290.

9. Batson, C. D., Dyck, J. L., Brandt, J. Bellet, P.S, & Maloney, M. J. (1991). The importance of empathy as an interviewing skill in medicine. *JAMA*. 266 (13): 1831–2. doi:10.1001/jama.1991.03470130111039. PMID 1909761.

10. Batson, C. D., Dyck, J. L., Brandt, J. R., Batson, J. G., Powell, A. L., McMaster, M. R., & Griffitt, C. (1988). Five studies testing two new egoistic alternatives to the empathy-altruism hypothesis. *Journal of personality and social psychology,* 55(1), 52.

11. Batson, C. D., Lishner, D. A., & Stocks, E. L. (2015). *The empathy—Altruism hypothesis.* In D. A. Schroeder & W. G. Graziano (Eds.), The Oxford handbook of prosocial behavior (pp. 259–281). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780195399813.013.023

12. Batson, C. Donald. (2011). *Altruism in Humans*, New York: Oxford University Press.

13. Bellet, P.S, Maloney, M.J.(1991). "The importance of empathy as an interviewing skill in medicine". *JAMA*. 266 (13): 1831–2. doi:10.1001/jama.1991.03470130111039. PMID 1909761.

14. Brodie, R.J., Hollbeek,, L.D., Juric ,B. (2011). Customer engagement:Conceptual domain, fundamental propositions, and implications for research. *Journal ofService Research* 17(3):1-20

15. Cialdini, R. B., Brown, S. L., Lewis, B. P., Luce, C., & Neuberg, S. L. (1997). Reinterpreting the empathy-altruism relationship: When one into one equals oneness. *Journal of Personality and Social Psychology, 73*, 481-494. doi: 10.1037/0022-3514.73.3.481

16. Cialdini, R. B., Schaller, M., Houlihan, D., Arps, K., Fultz, J., & Beaman, A. L. (1987).

17. de Aguiar, C.S., Formiga,N.S., Cantinilo, A.(2017). Personality traits and empathic abilities: a predictive study on medical students. *Bol. - Acad. Paul. Psicol.* [online]. 2017, vol.37, n.92, pp.129-138. ISSN 1415-711X.

18. Decety, J. (2011). *The neuro evolution of empathy*. Annals of the New York Academy of Sciences, 1231(1), 35-45.

19. Del Barrio, V., Aluja, A., & García, L. F. (2004). Relationship between empathy and the Big Five personality traits in a sample of Spanish adolescents. *Social Behavior and Personality*, 32(7), 677-681. doi:10.2224/sbp.2004.32.7.677

20. Dymond, R.F. (1945). A preliminary investigation of the relation of insight and empathy. *Journal of Consulting Psychology* 12(4):228-33.

21. Eisenberg, N. (2009). Values, Sympathy, and Individual Differences: Toward a Pluralism of Factors Influencing Altruism and Empathy https://doi.org/10.1207/s15327965pli0202_5 ages 128-131 | Published online: 10 Dec 2009

22. Eisenberg, N., & Miller, P. A. (1987). The relation of empathy to prosocial and related behaviors. *Psychological Bulletin*, 101(1), 91.

23. Eisenberg, N., Fabes, R.A., Miller, P.A., Shell, R., Shea, C. & May-Plumlee, T. (1990). Preschoolers" vicarious emotional responding and their situational and dispositional prosocial behavior. *Merrill-Palmer Quarterly,* 36, 507-529.

24. Eisenberg, N., Fabes, R.A., Murphy, B., Karbon, M., Maszk, P. Smith, M., O"Boyle, C. & Suh, K. (1994). The relations of emotionality and regulation to dispositional and situational empathy-related responding. *Journal of Personality and Social Psychology,* 66, 776-797. doi: 10.1037/0022-3514.66.4.776

25. Empathy-based helping: Is it selflessly or selfishly motivated? Journal of Personalityand Social Psychology, 52, 749-758. doi: 10.1037/0022-3514.52.4.749 Eisenberg, N., Fabes, R.A., Murphy, B., Karbon, M., Maszk, P. Smith, M., O"Boyle, C. & Suh,K. (1994). The relations of emotionality and regulation to dispositional and situational empathy-related responding. *Journal of Personality and Social Psychology,* 66, 776-797. doi: 10.1037/0022-3514.66.

26. Feldman, Hull, O., Dalgleish, T., Evans, D., & Mobbs, D. (2015). Empathic concern drives costly altruism. *Neuroimaging,* 105, 347-356.

27. Guo, Q., Sun, P., & Li, L. (2018). Why neurotic individuals are less prosocial? A multiple mediation analysis regarding related mechanisms. *Personality and Individual Differences*, 128, 55-61.

28. Hakansson, J, & Montgomery, H. (2003). "Empathy as an Interpersonal Phenomenon". *Journal of Social and Personal Relationships.* **20** (3): 267–284. doi:10.1177/0265407503020003001. ISSN 0265-4075.

29. Hall, J.A, Schwartz, R, & Duong, F. (2021). "How do laypeople define empathy?". *The Journal of Social Psychology*. 161 (1): 5–24. doi:10.1080/00224545.2020.1796567. ISSN 0022-4545. PMID 32870130.

30. Hoffman, M.L. (1976). *Empathy, role-taking, guilt, and the development of altruistic motives*. In Likona, T. ed. Moral development and behavior. New York: Holt, Rinehart, and Wi nst

31. John, O. P., & Srivastava, S. (1999). *The Big-Five trait taxonomy: History, measurement, and theoretical perspectives.*

32. Karmakar, A., Chatterjee, P., & Dogra, A. K. (2017). Does the relationship between agreeableness and empathy vary considering other personality factors? An empirical study. *Indian Journal of Health and Wellbeing*, 8(8), 826-831.

33. Kaushik, P., Chawla, A., & Vig, D. (2021). Relationship of altruism with empathy among adolescents: A gender study. *Indian Journal of Positive Psychology,* 12(1), 91-95.

34. Khan, S., Ihsan M., Farooq,, S., Iqbal,M.M., Rubab,.M.M. (2022). Emotional Empathy and Altruism among Health Professionals. *ASEAN Journal of Psychiatry,* Vol. 23(2) February, 2022; 1-6. DOI: 10.54615/2231-7805.47242

35. King, E. B., George, J. M., & Hebi, M. R. (2005). Linking personality to helping behaviors at work: An interactional perspective. *Journal of Personality*, 73(3), 585-608. doi:10.1111/j.1467-6494.2005.00322.x

36. Kinjari, K., Gopal, C. N., & Mathew, A. L. (2019). Relationship between altruism and personality among young adults. *IAHRW International Journal of Social Sciences Review,* 7.

37. Kraut, & Richard (2020), "Altruism", in Zalta, Edward N. (ed.), *The Stanford Encyclopedia of Philosophy* (Fall 2020 ed.), Metaphysics Research Lab, Stanford University, retrieved 5 May 2024

38. Kumar, S., Rakhi, & Rathee, R. (2019). Personality traits in relation to altruism: yes or no. *Research Review International Journal of Multidisciplinary*. Vol, 4 Issue-4 www.rrjounal .com

39. Latane, B., & Darley, J. M. (1970). *The unresponsive bystander*: Why doesn't he help? New York: Appleton-Century-Crofts.

40. Meade, G.H. 1934. Mind, self, and society. Chicago: University of Chicago Press
41. Melchers,M..C., Li, M., Haas,B.W., Reuter, M., Bischoff ‚‚ L., Montag,C. (2016). Similar Personality Patterns Are Associated with Empathy in Four Different Countries. *Frontiers in Psychology,* Vol-7 00290 http://dx.doi.org/10.3389/fpsyg.2016.00290
42. Oda, R., Machii, W., Takagi, S., Kato, Y., Takeda, M.,Kiyonari, T., Fukukawa, Y., & Hiraishi, K. (2014). Personality and altruism in daily life. *Personality and Individual Differences,* 56, 206-209. https://doi.org/10.1016/j.paid.2013.09.017
43. Okasha ,& Samir (2020), "Biological Altruism", in Zalta, Edward N. (ed.), *The Stanford Encyclopedia of Philosophy* (Summer 2020 ed.), Metaphysics Research Lab, Stanford University, retrieved 5 May 2024
44. Pradeep, P, Abraham,T, Abraham, A.A,Mathew, E, Jacob, F.G, Nandana, V.S. (2022). Personaity and altruism among psychological and non-psychological students. *International Journal of Research Publication and Review*, Vol,3 No, 12,pp 2833-2836.
45. Pursell, G. R., Laursen, B., Rubin, K. H., Booth-LaForce, C., & Rose-Krasnor, L. (2008). Gender differences in patterns of association between prosocial behavior, personality, and externalizing problems. *Journal of Research in Personality*, 42(2), 472-481.
46. Read, H. (2019). *A typology of empathy and its many moral forms*". Philosophy Compass. 14 (10). doi:10.1111/phc3.12623. S2CID 202396600.
47. Rogers, C. R. (1957). The Necessary and Sufficient Conditions of Therapeutic Personality Change. *Journal of Consulting Psychology*, 21, 95-103. http://dx.doi.org/10.1037/h0045357
48. Shen, B., Qu, W., Ge, Y., Sun, X., & Zhang, K. (2018). The relationship between personalities and self-report positive driving behavior in a Chinese sample. *PLoS one,* 13(1), e0190746.
49. Shiner, R. L. (2000). Linking childhood personality with adaptation: Evidence for continuity and change across time into late adolescents. *Journal of Personality and Social Psychology,* 78(2), 310-325. doi:10.1037/0022-3514.78.2.310
50. Song, Y., & Shi, M. (2017). Associations between empathy and big five personality traits among Chinese undergraduate medical students. *PloS one*, 12(2), e0171665.
51. Spreng, R. N., McKinnon, M. C., Mar, R. A., & Levine, B. (2009). The Toronto Empathy Questionnaire: Scale development and initial validation of a factor-analytic solution to multiple empathy measures. *Journal of personality assessment,* 91(1), 62-71.
52. Tariq, N., Rasheed,.T., Tawakol, .M. (2017).A Quantitative Study of Empathy in Pakistani Medical Students: A Multicentered Approach . *Journal of Primary Care & Community Health,* 8 (10) DOI:10.1177/2150131917716233
53. Thielmann, I., Spadaro, G., & Balliet, D. (2020). Personality and prosocial behavior: A theoretical framework and meta-analysis. *Psychological Bulletin,* 146(1), 30.
54. Toi, M., & Batson, C. D. (1982). More evidence that empathy is a source of altruistic motivation. *Journal of Personality and Social Psychology*, 43(2), 281–292. doi:10.1037/0022-3514.43.2.281
55. Weiss-Sidi, Merav; Riemer, Hila (23 June 2023). "Help others—be happy? The effect of altruistic behavior on happiness across cultures". *Frontiers in Psychology.* doi:10.3389/fpsyg.2023.1156661. ISSN 1664-1078. PMC 10326385. PMID 37425146.
56. Witt, P., & Boleman, C. (2009). *Adapted self-report altruism scale*. Youth Development.
57. Yoo, D., Han, Y. S. (2024). Effect of adolescents' cognitive and emotional empathy and altruistic behavior on psychological well-being *Korean Journal of Child Studies* 45(1):1-13 DOI:10.5723/kjcs.2024.45.1.1