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Personality Traits, Empathy, and Family Structure: A Comparative Study of Indian Adults Raised in Joint and Nuclear Families

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Abstract

This study investigated the influence of family structure on empathy and Big Five personality traits among Indian adults, and examined whether these traits relate to empathy across individuals raised in joint versus nuclear families. A total of 120 participants (60 from joint families and 60 from nuclear families) were recruited using random sampling. Data were collected via digital forms using the 60-item NEO Five-Factor Inventory (Costa & McCrae, 1992) and the 22-item Empathy Quotient (Wakabayashi et al.). Statistical analyses included Mann-Whitney U tests and Spearman's rank correlation test conducted on non-normally distributed data.

Results revealed that individuals from joint families scored significantly higher on Extraversion, Conscientiousness, and Empathy, whereas those from nuclear families scored significantly higher on Openness to Experience. No significant group differences were found for Agreeableness or Neuroticism. Empathy was positively correlated with Extraversion, Openness, Conscientiousness, and Agreeableness. However, no significant correlation was found between Neuroticism and Empathy.

Keywords: Empathy, Big Five Traits, Joint Family, Nuclear Family, Family Structure

Introduction

Empathy, the capacity to understand and share another person's thoughts and emotions and respond to them in a suitable manner (Baron-Cohen & Wheelwright, 2004), has emerged as a pivotal construct in psychological research over the past few decades. Its significance spans across various domains, including interpersonal relationships, prosocial behavior, mental health, and even professional success (Abramson, 2021; Batson, 2009; Decety & Cowell, 2014). Thus, systematic studies exploring its various facets, predictors, and outcomes are the need of the hour. Studying empathy as a psychological concept is vital because it provides insights into the fundamental mechanisms that underpin social connection, altruism, and moral reasoning (Abramson, 2021; Batson, 2009; Decety & Cowell, 2014). It helps us understand why individuals respond differently to the needs and emotions of others and offers a foundation for developing interventions to promote more empathetic and compassionate behavior in various contexts (Abramson, 2021; Batson, 2009; Riess, 2017).

Empathy is not a monolithic entity but rather a multifaceted construct encompassing both cognitive and emotional dimensions (Baron-Cohen & Wheelwright, 2004; Davis, 1983). Cognitive empathy, also known as perspective-taking or empathic accuracy, refers to the ability to understand another person's thoughts, feelings, and experiences from their point of view (Baron-Cohen & Wheelwright, 2004; Gladstein, 1983).

It involves a conscious effort to mentally step into someone else's shoes and comprehend their internal state (Batson, 2009). Emotional empathy, on the other hand, involves the capacity to experience and share the feelings of another person (Baron-Cohen & Wheelwright, 2004; Gladstein, 1983). This can range from feeling a similar emotion to experiencing empathic concern, which involves feelings of warmth, compassion, and care for someone in distress (Davis, 1983). Understanding both these facets of empathy is crucial as they contribute differently to social behavior. Cognitive empathy allows for a better understanding of others' intentions and motivations, while emotional empathy provides the affective drive for prosocial actions (Batson, 2009; De Waal, 2008).

A significant body of research has established personality traits—as categorised by the Big Five framework of Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism—as reliable predictors of individual differences in empathy (Abe et al., 2018; Airagnes et al., 2021; Barrio et al., 2004; Davis, 1983; Guilera et. al, 2019; Lourinho & Severo, 2013; Magalhães et al., 2012; Melcher's et al., 2016; Song & Shi, 2017; Wan et al., 2019). Research consistently demonstrates a positive association between Agreeableness, that is, an individual's propensity for interpersonal cooperation and social harmony, and various facets of empathy (Abe et al., 2018; Costa & McCrae, 1999; Lourinho & Severo, 2013; Magalhães et al., 2012; Melcher's et al., 2016; Song & Shi, 2017; Wan et al., 2019). Openness to Experience, which involves traits like imagination, curiosity, and intellectual engagement, has also been found to be positively related to empathy, particularly the cognitive aspect, as it facilitates the ability to understand and appreciate diverse perspectives (Barrio et al., 2004; Costa & McCrae, 1999; Guilera et. al, 2019; Lourinho & Severo, 2013; Magalhães et al., 2012; Melcher's et al., 2016). Extraversion, characterized by sociability and assertiveness, shows a more nuanced relationship with empathy, with some studies indicating a positive correlation, possibly due to the increased social interaction and emotional engagement of extraverts (Abe et al., 2018; Airagnes et al., 2021; Costa & McCrae, 1999; Lourinho & Severo, 2013), while others find weaker or non-significant associations. Conscientiousness, marked by organization and responsibility, generally shows a positive relationship with empathy (Abe et al., 2018; Airagnes et al., 2021; Barrio et al., 2004; Costa & McCrae, 1999; Lourinho & Severo, 2013; Melcher's et al., 2016; Wan et al., 2019). Neuroticism, characterized by negative emotions and emotional instability, is often found to be negatively correlated with empathy, as individuals high in neuroticism may be more focused on their own distress, potentially hindering their ability to attend to and share the feelings of others (Airagnes et al., 2021; Guilera et. al, 2019; Lourinho & Severo, 2013; Melcher's et al., 2016; Wan et al., 2019; Song & Shi, 2017). These findings underscore the significant role that underlying personality characteristics play in shaping an individual's capacity for empathy.

While there is considerable evidence studying the relationship between empathy and personality, sparse research on how family dynamics influence empathy exists. Family environment as a whole has been shown to impact various aspects of child development, including social skills, emotional regulation, cognitive abilities, and personality (Ma. Betty P, 2023; Nakao et al., 2000; Yang et al., 2021; Wu, 2024). In the Indian context, further nuance is added by the presence of different family structures. Two family structures are often observed in the country: the nuclear family, consisting typically of a couple and their children, and the joint family, which involves multiple generations living together under one roof, often including grandparents, parents, and their children, along with other relatives (Desai, 1964). These family structures are not merely demographic arrangements but represent distinct social environments that may offer unique developmental experiences. The joint family system, by its very nature, provides children

with a wider network of social interactions from a young age (Kakar, 1978). Living in close proximity with multiple family members can offer more frequent opportunities for observing and participating in a diverse range of social dynamics, potentially fostering the development of social skills and the ability to understand different perspectives – key components of empathy. Children in joint families may have more opportunities to witness and learn from the emotional responses of various family members to different situations, potentially enhancing their emotional literacy and empathic concern. Conversely, nuclear families, while offering a more focused and potentially less complex immediate social environment, may provide fewer consistent opportunities for such broad and varied social interactions during the formative years. The more limited social sphere in nuclear families might influence the frequency and intensity of experiences that contribute to the development of certain personality traits and empathic abilities. Given the unique cultural and psychological characteristics associated with nuclear and joint family structures in India, it is imperative to investigate their specific impact on the development of personality and empathy within this context.

Therefore, this work explores the intricate relationship between family structures (joint versus nuclear families), the Big Five personality traits, and empathy among adults in the Indian context. By examining how these factors interrelate, this research seeks to contribute to a deeper understanding of the socio-cultural influences on personality development and empathic capacity. Specifically, it will investigate whether the type of family structure an individual grows up in is associated with differences in their Big Five personality traits and their levels of cognitive and emotional empathy. Furthermore, this study will examine the role of family structures in the relationship between Big Five Personality Traits and empathy, aiming to elucidate whether family structure might amplify or attenuate the influence of personality on an individual's empathic abilities. The findings of this research are expected to provide valuable insights into the psychological impact of different family structures in the Indian context and contribute to the broader understanding of the factors that shape personality and empathy, with potential implications for interventions aimed at fostering prosocial behavior and well-being within families and communities.

Rationale

Empathy plays a crucial role in shaping prosocial behavior and maintaining interpersonal relationships, and its development is deeply intertwined with both personality and early social environments. While extensive research has established links between the Big Five personality traits and empathy, there is limited understanding of how contextual factors like family structure influence these relationships. In the Indian sociocultural context, family environments differ significantly between joint and nuclear families, offering distinct interpersonal dynamics that may shape both personality development and empathic capacity. Joint families, with their multigenerational setup, potentially offer richer and more diverse social interactions compared to nuclear families, thereby fostering higher levels of social skills and emotional attunement.

This study seeks to investigate whether adults from joint families exhibit significantly different levels of empathy and Big Five personality traits compared to those from nuclear families. Additionally, it examines how these traits relate to empathy and whether family structure influences this relationship. By integrating personality psychology with family systems and cultural context, this research aims to contribute nuanced insights into the developmental pathways of empathy. The findings are expected to inform culturally grounded interventions that promote emotional and social development in varied familial settings.

Review of Literature

Agarwal and Bahadur (2023) aimed to investigate how family structure influences adoloscent mental health, considering joint and nuclear family setups. The study included 400 subjects aged 13–18 years from various schools in Lucknow, India, selected through random sampling. Participants completed Jagdish and Srivastava's (1983) Mental Health Inventory along with a personal data sheet assessing family structure. Results revealed significant differences in mental health based on family structure: adolescents from joint families showed higher mental health scores compared to those from nuclear families. The authors concluded that joint family structures may provide greater emotional support and opportunities for catharsis, thereby contributing positively to adolescent mental well-being.

Airagnes et al. (2021) investigated how personality traits relate to cognitive empathy among medical students and whether these traits moderate the impact of an empathy-enhancing intervention. A cohort of 311 fourth-year medical students was assessed using the Short Big Five Inventory and the Jefferson Scale of Empathy–Student version (JSE-S). Participants were randomized into two groups: one attended Balint groups and the other received no intervention. Results showed that baseline cognitive empathy was positively correlated with extraversion and conscientiousness and negatively correlated with neuroticism. However, personality did not predict changes in empathy or moderate the intervention's effect. The findings support universal empathy interventions in medical education.

Guilera et al. (2019) examined the relationship between empathy and personality in medical students, considering the influence of gender and speciality preference. The sample included 110 medical students who completed the JSE, IRI, EQ and the Big Five personality inventory. Results showed weak to moderate correlations between empathy and personality traits, with the strongest associations found between IRI-Fantasy and Openness, and IRI-Personal Distress and Neuroticism. Gender and speciality preference were found to influence these relationships. Significant differences were also observed between groups with high and low Empathy Quotient scores.

Lupu (2019) assessed and compared emotional intelligence among 75 Romanian high school students from varying family structures. Participants, aged 16 to 18, were randomly selected from high schools in Bucharest. Emotional intelligence was measured using the GEIS and a nonverbal test featuring 20 photographs depicting different facial expressions was employed to assess emotion perception. While overall emotional intelligence did not differ significantly based on family structure, students from different family backgrounds showed notable variation in their ability to perceive emotions. These findings suggest that while general emotional functioning may remain consistent, specific emotional skills like emotion perception may be shaped by family environment.

Wan et al. (2019) investigated how personality traits relate to empathy among nurses, aiming to understand how empathy levels might be enhanced through trait-based approaches. The study involved 471 nurses and examined associations between empathy and personality traits. Findings indicated that empathy was positively correlated with agreeableness and conscientiousness, and negatively correlated with neuroticism. Collectively, personality traits explained 37.5% variance in empathy levels, with agreeableness and conscientiousness being the most significant predictors. Personality plays a key role in shaping nurses' empathic capacities, which has important implications for patient care and empathy training programs.

Abe et al. (2018) explored how empathy, emotional intelligence (EI), and personality traits relate among first-year medical students, with particular attention to gender differences. The study involved 357 students from a Japanese medical school who completed the JSPE, TEIQue-SF, and NEO-FFI. Results

indicated that empathy had weak positive correlations with agreeableness and extraversion, while EI was strongly negatively associated with neuroticism and positively with extraversion and conscientiousness. Though females showed higher neuroticism, agreeableness, and empathy, regression analyses revealed gender had no significant influence once personality was controlled. The findings suggest that personality traits, particularly neuroticism, are more predictive of EI and empathy than gender.
Bobade and Khalane (2018) aimed to examine emotional maturity among children from joint and nuclear families. The study included 80 children from Aurangabad, Maharashtra (40 from joint families and 40 from nuclear families). The Emotional Maturity Scale by Singh and Bhargav was used. The results showed that children from nuclear families had significantly higher emotional maturity compared to joint families.
Song and Shi (2017) examined how Big Five personality traits predict cognitive and affective empathy among Chinese medical students. In a study involving 530 students from a medical university in Northeast China, participants completed the IRI and the Big Five Inventory. Hierarchical regression analyses showed that personality traits accounted for 19.4%, 18.1%, and 30.2% of the variance in perspective taking, empathic concern, and personal distress, respectively. Agreeableness emerged as a strong predictor of empathic concern and perspective taking, while neuroticism was strongly linked to personal distress. The findings underscore the value of personality-informed interventions in empathy training.
Ahangar and Khan (2017) investigated differences in emotional intelligence among adolescents from nuclear and joint families. The sample comprised 600 adolescents, evenly divided between the two family types. Emotional intelligence was assessed using the Emotional Intelligence Scale developed by Hyde et al. (2001), and the data were analyzed using mean scores, standard deviations, and t-tests. The findings revealed significant differences between the two groups across various dimensions of emotional intelligence, including self-awareness, empathy, emotional stability, and altruistic behavior, as well as overall emotional intelligence scores.
Sims (2017) examined whether Big Five personality traits could predict two key communication competencies: active-empathic listening (AEL) and assertiveness. 245 adults from varied age groups completed self-report measures assessing both personality and communication styles. The findings revealed that Agreeableness and Openness predicted AEL, while Extraversion most strongly influenced assertiveness, though it did not significantly account for differences in AEL. Conscientiousness and Neuroticism showed minor associations with assertiveness. The study highlights the nuanced role personality traits play in shaping communication abilities and suggests future research on how specific personality facets influence these interpersonal skills.
Melchers et al. (2016) investigated the relationship between the Big Five personality traits and empathy using the Empathy Quotient (EQ) and the Interpersonal Reactivity Index (IRI) across four culturally diverse samples from China, Germany, Spain, and the United States. The study found medium-strength associations between personality traits and empathy, with agreeableness and conscientiousness emerging as key predictors of both affective and cognitive empathy. Openness was most closely linked to empathy in fictional contexts, while neuroticism was strongly related to personal distress. No consistent cultural differences were observed, supporting the structural consistency of empathy–personality associations across different cultural contexts.
Walęcka-Matyja (2015) explored whether empathy levels differ between male and female university students from complete, incomplete, and reconstructed families. The study included 314 participants from the University of Łódź, with a nearly equal gender distribution and an average age of 21.2 years. Data were collected using a survey and SW by Kaźmierczak et al. (2007). While no statistically significant

differences emerged in overall empathy dimensions across all groups, notable gender-based differences appeared in Empathic Concern and Personal Distress among those from different family structures. The findings emphasize how early family experiences may shape an individual's empathic capacities later in life.

Suthar (2014) examined the impact of family structure on emotional competence among adolescents in Vadodara district, India. The study involved 80 adolescents from joint and nuclear families, using the Emotional Competence Scale by Sharma and Bhardwaj (2007) along with a personal datasheet. Data were analyzed using *t*-tests. Findings revealed that adolescents from joint families demonstrated significantly higher emotional competence compared to those from nuclear families. However, no significant differences were observed based on gender or urban–rural background. The results underscore the influence of family environment on adolescents' emotional capacities, with joint families potentially offering greater emotional support.

Lourinho and Severo (2013) investigated the relationship between empathy and personality traits in a sample of 65 first-year medical students during the 2012–2013 academic year. Participants completed the 28-item IRI which assesses empathy across four subscales alongside the 60-item NEO Five Factor Inventory. Significant positive correlations were found between total empathy scores and both agreeableness ($r = 0.628$, $p < .001$) and openness to experience ($r = 0.522$, $p < .001$). Logistic regression revealed that personality traits strongly predicted higher empathy levels, with an area under the ROC curve of 0.824. Further analysis of subscales showed that personal distress was positively correlated with neuroticism, empathic concern with extraversion, and perspective-taking with conscientiousness. These findings suggest that personality assessments may effectively predict empathy.

Magalhães et al. (2012) explored how personality traits are associated with empathy among 350 medical students. Participants completed the Portuguese version of the NEO Five-Factor Inventory to assess the Big Five traits. Empathy was measured using the Portuguese version of the JSE. Statistical analyses included correlation analysis, multivariate analysis of covariance, and logistic regression. The findings revealed positive correlations between empathy and the traits of agreeableness and openness. Contrary to the researchers' expectations, neuroticism was not negatively associated with empathy. The authors concluded that personality traits should be considered in designing educational strategies aimed at promoting empathy.

Barrio et al. (2004) explored how empathy relates to the Big Five personality traits among 832 Spanish adolescents. The study revealed a strong positive correlation between empathy and Friendliness. While weaker positive associations were also found with Conscientiousness, Energy, and Openness, regression analyses indicated these relationships were not substantial. Unexpectedly, empathy showed no correlation with Emotional Stability. This overall pattern held consistent across both male and female participants. The findings suggest that among adolescents, Friendliness is the most reliable personality predictor of empathic ability, while other traits contribute minimally to explaining individual differences in empathy.

Roccas et al. (2002) investigated how Big Five personality traits relate to basic personal values, aiming to clarify how traits and values may interact in influencing behavior. The study involved 246 student participants and explored associations between each of the five personality traits and Schwartz's value dimensions. Results showed that Agreeableness was most strongly associated with benevolence and tradition values, while Openness correlated positively with self-direction and universalism. Extroversion was linked to achievement and stimulation values, and Conscientiousness related to both achievement and conformity values.

Methodology

Aim

To study the relationship between family structures, Big Five personality traits, and empathy.

Objectives

1. Compare levels of the Big Five personality traits and empathy between individuals from joint and nuclear family structures.
2. Examine the relationship between the Big Five personality traits and empathy across the overall sample.
3. Based on the above associations, assess whether family structure significantly impacts empathy and personality traits and if predictive research is warranted.

Hypothesis

1. Extraversion trait will be significantly higher in the joint family group.
2. Conscientiousness trait will be significantly higher in the joint family group.
3. Agreeableness trait will be significantly higher in the joint family group.
4. Neuroticism trait will be significantly higher in the nuclear family group.
5. Openness trait will be significantly lower in the joint family group.
6. Empathy will be significantly higher in the joint family group.
7. Extraversion will have a significant positive correlation with empathy.
8. Openness will have a significantly positive relationship with empathy.
9. Conscientiousness will have a significantly positive association with empathy.
10. Agreeableness will have a significantly positive relationship with empathy.
11. Neuroticism will have a significantly negative correlation with empathy.

Operational Definitions

- Openness to Experience (O): Openness to Experience is defined as the degree to which an individual is imaginative, curious, open to new ideas, and appreciative of art and novel experiences. Higher scores on Openness reflect greater intellectual curiosity, aesthetic sensitivity, and preference for variety and novelty.
- Agreeableness (A): Agreeableness describes an individual's inclination to be kind, collaborative, trusting, and understanding of other people's feelings. Individuals high in Agreeableness are more likely to value getting along with others and show concern for their well-being.
- Conscientiousness (C): Conscientiousness is the trait that reflects self-discipline, responsibility, organization, and goal-directed behavior. Individuals scoring high on Conscientiousness tend to be thorough, reliable, and efficient in their actions and decisions.
- Extraversion (E): Extraversion is defined as the extent to which a person is outgoing, energetic, sociable, and assertive. Extraversion indicates a tendency to experience positive emotions and engage actively with the external world.
- Neuroticism (E): Neuroticism reflects emotional instability and the tendency to experience negative emotions such as anxiety, anger, and depression. Individuals scoring high on Neuroticism are more likely to be emotionally reactive and vulnerable to stress.

- Empathy (E): Empathy is the ability to understand, experience, and respond appropriately to the emotions and thoughts of others.
- Cognitive Empathy (CE): Cognitive empathy refers to the capacity to recognize and understand another person's mental state, perspective, or thoughts. This involves accurately interpreting the intentions and feelings of others through perspective-taking.
- Emotional Empathy (EE): Emotional empathy is to share and feel the emotions that others are experiencing. This dimension is the affective response of compassion, emotional resonance, or concern triggered by observing others' emotional states.
- Social Skills (SK): Social skills refer to the practical application of empathy in social interactions, including ease in communication, sensitivity to social cues, and appropriateness of response. This dimension reflects an individual's ability to manage and navigate social relationships effectively.

Research Design

This study employed a quantitative, cross-sectional, correlational, and comparative research design.

Research Approach and Type

The research followed a quantitative approach, utilizing psychometrically validated self-report instruments. It is both correlational and comparative in nature: correlational in assessing the relationships between personality traits and empathy, and comparative in examining differences across family structures.

Participants and Sampling

The sample consisted of 120 Indian citizens, aged between 18 and 35 years, with 60 individuals each from joint and nuclear family structures. Participants were selected through random sampling. To control for early environmental influences that may differ markedly from typical family life, individuals who had attended boarding school prior to grade 10 were excluded. Participants self-identified as either growing up in a joint or nuclear family based on the family structure that best described their environment for the majority of their years until the age of 18.

Instruments

- NEO Five-Factor Inventory (NEO-FFI-60): This 60-item scale, developed by Costa and McCrae (1992), was used to assess the Big Five personality traits: Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. Each of the five traits is measured using 12 items. Responses are recorded on a 5-point Likert scale ranging from 0 (Strongly Disagree) to 4 (Strongly Agree).
- Empathy Quotient (Short Version): The 22-item version of the Empathy Quotient developed by Wakabayashi et al. (2006) was used to measure participants' empathy. The scale includes 12 items measuring cognitive empathy, 7 items for emotional empathy, and 3 items assessing social skills. The responses are scored on an asymmetric Likert-type scale ranging from 0 to 2.

Data Collection Procedure

Data were collected using digital forms, with informed consent obtained from all participants prior to their participation. Participants were provided with clear instructions and completed the questionnaire at their own pace.

Variables

- Independent Variable: Family structure (Joint Family vs. Nuclear Family)

- Dependent Variables: Extraversion, Neuroticism, Openness to Experience, Agreeableness, Conscientiousness, and Empathy

Data Analysis

Data were analyzed using Jamovi software. Initial steps included screening for missing data and checking assumptions of normality. The following tests were used:

- Mann-Whitney U Test was employed to examine differences in Big Five traits and empathy between the joint and nuclear family groups.
- Spearman's Rank-Order Correlation was conducted to assess the relationships between empathy and each of the Big Five personality traits, both across the entire sample and within each family structure group.

Ethical Considerations

Ethical procedures included informed consent, the right to withdraw, and the assurance of anonymity and confidentiality of participant data.

This research design ensured methodological rigour while accommodating the specific cultural and contextual features relevant to the Indian sample, thereby enhancing the validity and relevance of the findings.

Results

Descriptive Analysis

Descriptives for Entire Data Set

Table 1

Means, Medians, Standard Deviations, and Normality Statistics for Big Five Traits and Empathy Measures

				Shapiro-Wilk	
	Mean	Median	SD	W	p
Neuroticism	25.79	26.00	7.84	0.989	0.418
Extraversion	27.26	27.00	6.19	0.978	0.043
Openness	29.24	28.00	6.92	0.982	0.118
Agreeableness	27.58	28.00	5.09	0.981	0.085
Conscientiousness	31.55	32.00	7.00	0.986	0.266
Empathy	23.73	24.00	8.20	0.979	0.058
Cognitive Empathy	13.32	13.00	4.93	0.978	0.043
Emotional Empathy	7.91	8.00	2.88	0.977	0.035
Social Skills	2.51	2.00	1.69	0.935	<.001

p<W indicates that assumptions of normality are defied

As presented in Table 1, The Shapiro-Wilk test showed that the p value was less than the W value for all variables--Neuroticism (W=.989, P=.418), Extraversion (W=.978, P=.043), Openness (W=.982, P=.118),

Agreeableness (W=.981, P=.085), Conscientiousness (W=.986, P=.266), Empathy (W=.979, P=.058), Cognitive Empathy (W=.978, P=.043), Emotional Empathy (W=.977, P=.035), Social Skills (W=.935, P=<0.001). Furthermore, as shown in Figures 1, 2, 3, 4, 5, 6, 7, 8, the Big 5 Traits and Empathy are not bell shaped curves. Thus, the data is not normally distributed.

Figure 1

Neuroticism

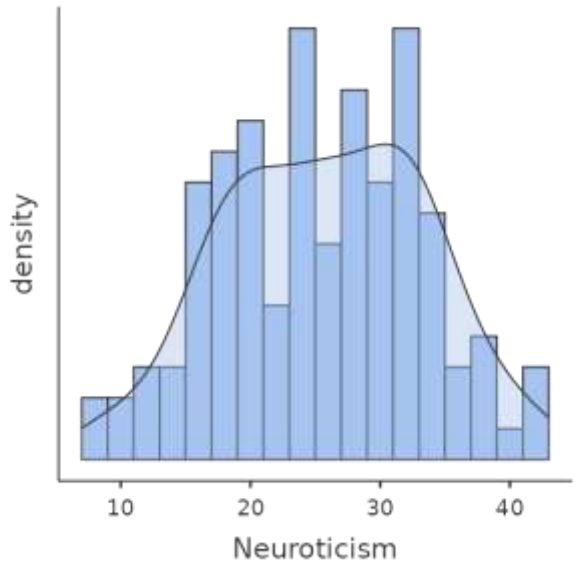


Figure 2

Extraversion

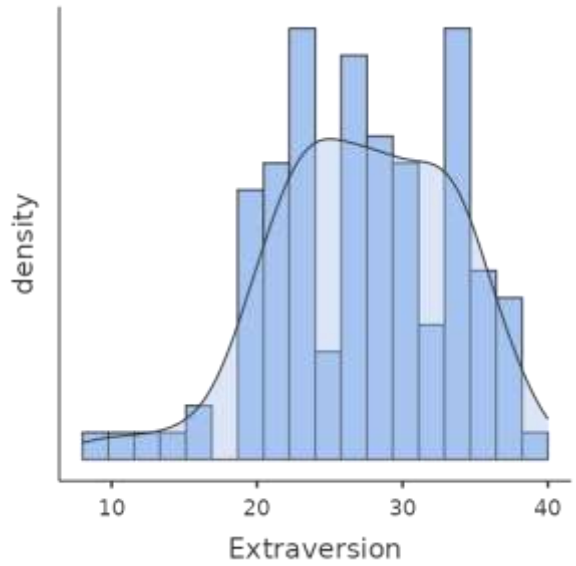


Figure 2

Openness

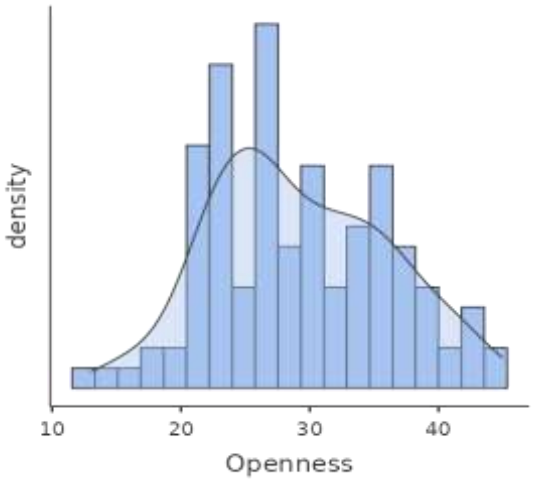


Figure 3

Agreeableness

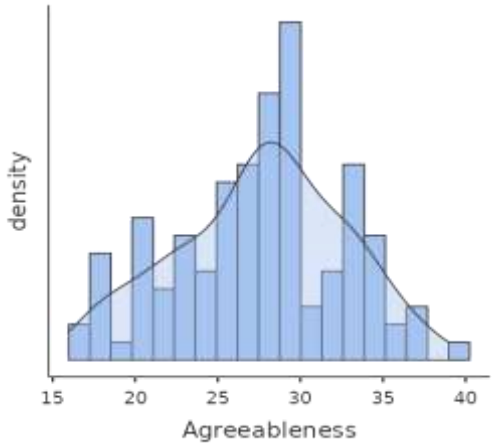


Figure 4

Conscientiousness

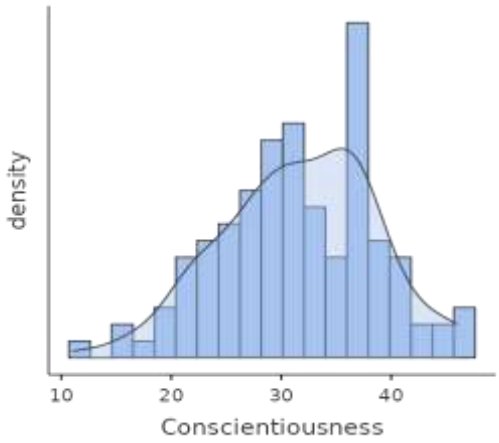


Figure 5
Empathy

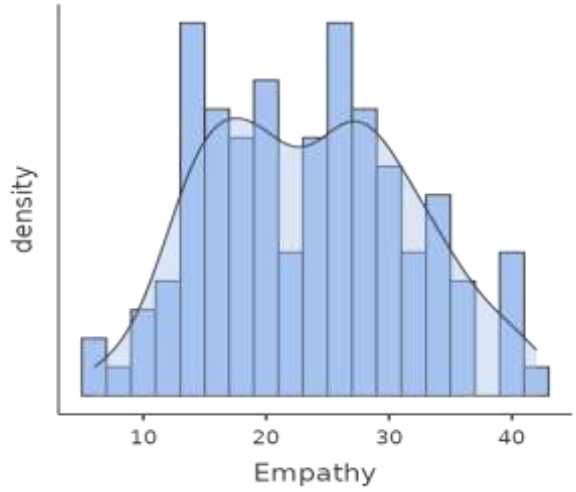


Figure 6
Cognitive Empathy

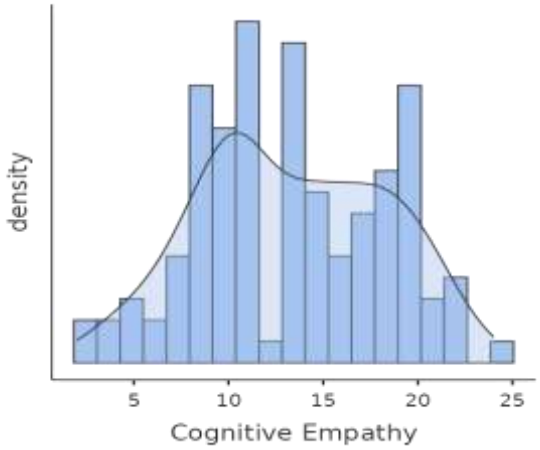


Figure 7
Emotional Empathy

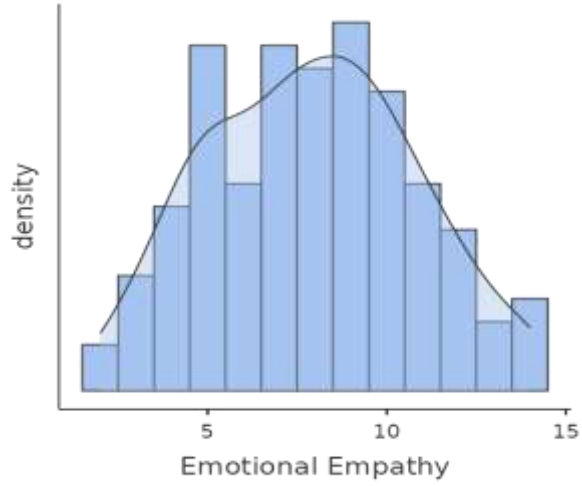
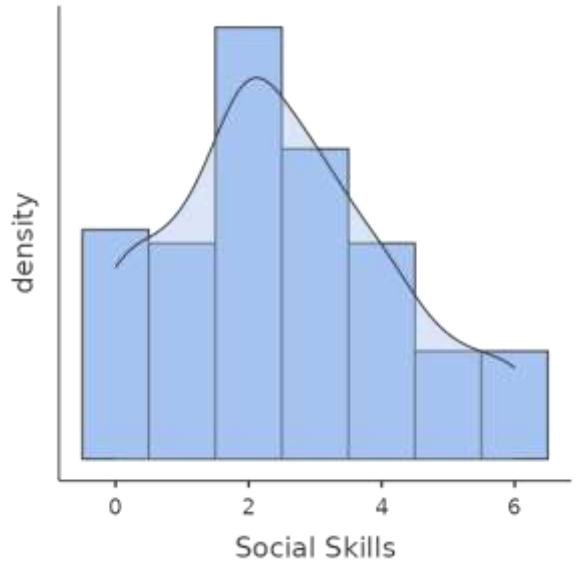


Figure 8

Social Skills



Descriptives for Joint Family and Nuclear Family Respectively

Table 2

Means, Medians, Standard Deviations, and Normality Statistics for Big Five Traits and Empathy Measures for Joint Family (JF) and Nuclear Family (NF) Groups

					Shapiro-Wilk	
	Family Structure	Mean	Median	SD	W	p
Neuroticism	NF	26.65	27.50	8.29	0.984	0.629
	JF	24.93	25.00	7.33	0.980	0.435
Extraversion	NF	26.27	25.50	6.41	0.966	0.089
	JF	28.25	29.00	5.84	0.986	0.709
Openness	NF	30.48	29.50	6.07	0.977	0.312
	JF	28.00	26.00	7.53	0.965	0.085
Agreeableness	NF	27.25	28.00	5.39	0.956	0.028
	JF	27.92	28.00	4.80	0.983	0.566
Conscientiousness	NF	30.27	30.00	7.37	0.984	0.609
	JF	32.83	33.50	6.40	0.970	0.141
Empathy	NF	22.33	22.00	8.03	0.977	0.321
	JF	25.13	25.50	8.19	0.968	0.117

Cognitive Empathy	NF	12.63	11.50	4.89	0.977	0.305
	JF	14.00	14.00	4.93	0.966	0.088
Emotional Empathy	NF	7.45	7.50	2.84	0.971	0.157
	JF	8.37	8.00	2.88	0.971	0.157
Social Skills	NF	2.25	2.00	1.59	0.933	0.003
	JF	2.77	3.00	1.76	0.938	0.004

Table 2 presents the means, medians, standard deviations, and Shapiro-Wilk normality statistics for Big Five personality traits and empathy measures across Nuclear Family (NF) and Joint Family (JF) groups. While both groups showed similar levels of Neuroticism, the JF group reported slightly lower mean scores (M = 24.93) compared to the NF group (M = 26.65). In contrast, individuals from joint families scored higher on Extraversion (M = 28.25) than those from nuclear families (M = 26.27). NF participants scored higher on average (M = 30.48) than JF participants (M = 28.00) on Openness. For Agreeableness, NF participants had a very slightly lower mean score (M = 27.25) than JF participants (M = 27.92). For Conscientiousness, the JF group (M = 32.83) scored higher than the NF group (M = 30.27). Empathy-related measures also revealed consistently higher scores in the JF group across Empathy (M = 25.13), Cognitive Empathy (M = 14.00), and Emotional Empathy (M = 8.37), compared to NF participants. Social Skills followed the same trend, with the JF group reporting a higher mean (M = 2.77) than the NF group (M = 2.25). None of the variables showed normal distribution in either of the groups with p<W for all Big Five traits and empathy and its subscales.

Mann-Whitney U Test

Table 3

Results for Mann-Whitney U Test for Big Five Traits and Empathy and its subscales comparing Joint Family and Nuclear Family groups

	Statistic	p	Rank biserial correlation Effect Size
Extraversion	1487	0.050	0.1742
Agreeableness	1744	0.384	0.0314
Conscientiousness	1405	0.019	0.2194
Empathy	1462	0.038	0.1878
Cognitive Empathy	1552	0.096	0.1378
Emotional Empathy	1497	0.055	0.1686
Social Skills	1501	0.055	0.1661

Note. H_a $\mu_{NF} < \mu_{JF}$

Table 4

Results of Mann-Whitney U Test for Neuroticism and Openness between Joint Family and Nuclear Family groups

	Statistic	p	Rank biserial correlation Effect Size
Neuroticism	1569	0.113	-0.128
Openness	1376	0.013	-0.236

Note. H_a $\mu_{NF} > \mu_{JF}$

Table 3 presents the results of the Mann-Whitney U test comparing Joint Family and Nuclear Family groups on Extraversion, Agreeableness, Conscientiousness, and Empathy and its subscales. The analysis revealed that even though the effect size is small, the Nuclear Family group is significantly lower in Extraversion ($r_{(r}b_{)}$ = 0.17, p=0.05), Conscientiousness ($r_{(r}b_{)}$ = 0.22, p=0.019), and Empathy ($r_{(r}b_{)}$ = 0.19, p=0.038). While, as indicated in Table 4, the Nuclear Family group, albeit a small effect size, is significantly higher in Openness ($r_{(r}b_{)}$ = -.24, p=0.013). Agreeableness (p=0.38), Neuroticism (p=0.38), Cognitive Empathy (p=0.96), Emotional Empathy (p=0.55), and Social Skills (p=0.55) were not significantly different.

Spearman's Rank Correlation

Table 5

Results Spearman's Rank Correlation Between Neuroticism and Empathy

		Neuroticism	Empathy
Neuroticism	rho	—	
	df	—	
	p-value	—	
Empathy	rho	-0.080	—
	df	118	—
	p-value	0.192	—

Note. H_a is negative correlation

Note. * p < .05, ** p < .01, *** p < .001, one-tailed

Table 6

Results Spearman's Rank Correlation Between Extraversion and Empathy

		Extraversion	Empathy
Extraversion	rho	—	

	df	—	
	p-value	—	
Empathy	rho	0.349***	—
	df	118	—
	p-value	<.001	—

Note. H_a is positive correlation

Note. * p < .05, ** p < .01, *** p < .001, one-tailed

Table 7

Results Spearman's Rank Correlation Between Openness and Empathy

		Openness	Empathy
Openness	rho	—	
	df	—	
	p-value	—	
Empathy	rho	0.279***	—
	df	118	—
	p-value	<.001	—

Note. H_a is positive correlation

Note. * p < .05, ** p < .01, *** p < .001, one-tailed

Table 8

Results Spearman's Rank Correlation Between Agreeableness and Empathy

		Agreeableness	Empathy
Agreeableness	rho	—	
	df	—	
	p-value	—	
Empathy	rho	0.265**	—
	df	118	—

	p-value	0.002	—

Note. H_a is positive correlation

Note. * p < .05, ** p < .01, *** p < .001, one-tailed

Table 9

Results Spearman's Rank Correlation Between Conscientiousness and Empathy

		Conscientiousness	Empathy
Conscientiousness	rho	—	
	df	—	
	p-value	—	
Empathy	rho	0.278**	—
	df	118	—
	p-value	0.001	—

Note. H_a is positive correlation

Note. * p < .05, ** p < .01, *** p < .001, one-tailed

Table 6 shows Spearman's rank correlation between Extraversion and Empathy, indicating a significant, weak positive correlation (rho=0.349, p=<0.001). Table 7 shows Spearman's rank correlation between Openness and Empathy, indicating a significant, weak positive correlation (rho=0.279, p=<0.001). Table 8 shows Spearman's rank correlation between Agreeableness and Empathy, indicating a significant, weak positive correlation (rho= 0.265, p=0.002). Table 9 shows Spearman's rank correlation between Extraversion and Empathy, indicating a significant, weak positive correlation (rho=0.278, p=0.001). No significant negative correlation was found between Neuroticism and Empathy, as shown in Table 5 (rho=0.080p=0.192).

Discussion

The present study explored how family structure influences empathy and personality traits in Indian adults, and whether these traits relate to empathy across individuals from joint and nuclear family backgrounds. In doing so, it tested a series of hypotheses that examined group differences and associations between empathy and the Big Five personality traits.

Group Differences in Personality Traits

Consistent with the first hypothesis, individuals from joint families scored significantly higher on Extraversion, though the effect size was small. This aligns with the fact that joint families require higher

interpersonal engagement from formative years itself owing to the high number of family members present in one's environment.

The hypothesis that Conscientiousness would be higher in the joint family group was also supported. Participants from joint families scored significantly higher on Conscientiousness, a trait associated with responsibility and discipline. This can be explained by the fact that joint families have well defined roles and responsibilities built into their structure (Desai, 1964) and thus individuals grow up with a stronger sense of conscience.

Openness to Experience was significantly higher in nuclear families, supporting the initial hypothesis. This reflects the more individualistic, less socially constraining environments of nuclear families, which may encourage imaginative thinking and openness as opposed to joint families which are often more conservative in their value systems.

Although Agreeableness was marginally higher in the joint family group, the difference was not statistically significant. Neuroticism scores also did not differ significantly between family types, contradicting the hypothesis. It may be that Neuroticism is more strongly influenced by factors such as individual temperament, life stressors, or mental health status than by family structure alone.

Group Differences in Empathy

As hypothesized, individuals from joint families reported significantly higher levels of Empathy, though the effect size was small. This is consistent with previous research (Ahangar & Khan, 2017; Suthar, 2014) suggesting that the richer interpersonal exposure in joint families provides more opportunities to develop emotional attunement. However, the sub-dimensions of empathy—Cognitive Empathy, Emotional Empathy, and Social Skills—did not show significant group differences, suggesting that while general empathy may vary by family structure, specific components of empathy may be shaped by more nuanced or long-term social influences.

Correlational Relationships Between Personality Traits and Empathy

Correlation analyses revealed significant, albeit weak, positive correlations between Empathy and Extraversion, Openness, Conscientiousness, and Agreeableness. These results are broadly consistent with findings by Melchers et al. (2016), Guilera et al. (2019), and Song and Shi (2017), reinforcing the idea that these traits support both cognitive and emotional components of empathy.

In contrast, Neuroticism did not correlate significantly with Empathy, rejecting the initial hypothesis and contradicting findings from Airagnes et al. (2021) and Wan et al. (2019), who reported a negative relationship. The current finding may reflect that neurotic tendencies in this sample did not interfere with empathic engagement, or that other unmeasured factors moderated this relationship.

Conclusion

Overall, family structure plays a role in shaping empathy and certain personality traits. While joint family environments were associated with higher empathy, extraversion, and conscientiousness, nuclear families fostered greater openness.

These results align with previous research linking personality traits to empathy, while extending the literature by situating these findings within the Indian cultural context of joint and nuclear family systems. It paves the way for understanding how indigenous family stuctures may impact traits which are otherwise considered universal. The study underscores the importance of considering both stable personality traits

and early family environments when understanding the development of empathy.

Limitations of the Study

- **Cross-Sectional Design**

The study's design prevents conclusions about causality; observed differences in traits or empathy cannot be definitively attributed to family structure.

- **Self-Report Measures**

Reliance on self-report instruments may have introduced social desirability bias or inaccuracies in self-perception, particularly when assessing personality and empathy.

- **Limited Control of Confounding Variables**

Factors such as education level, socioeconomic status, mental health history, or urban–rural background were not controlled, though they may influence both personality and empathy development.

- **Narrow Age Range and Context:**

The sample consisted solely of Indian adults aged 18–35, limiting the applicability of the findings to older or younger populations or to cultural contexts outside India.

- **Small Effect Sizes:**

While some group differences were statistically significant, the effect sizes were small, suggesting that other, unmeasured variables may play a more substantial role in shaping empathy and personality.

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