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The Relationship between Personality Structures and Moral Development: Mediating Role of Mind Reading in the Students of Farhangian University of Kerman

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ABSTRACT

Objective: The present investigation was conducted with the objective of exploring the relationship between personality structures, as conceptualized by the neo-approach, and moral development, taking into consideration the mediating role of mind reading.

Methods: The research design employed a correlational method. The target population consisted of students enrolled at Farhangian University of Kerman in 2023. A sample size of 350 students was randomly selected using the random sampling technique. The research instruments employed in this study included the NEO-SF questionnaire, Cognitive Emotion Regulation Questionnaire and Lotfabadi's Moral Development Scale. Data analysis was performed using SPSS-19 and AMOS software.

Results: The findings derived from path analysis demonstrated that the modified model, after the exclusion of non-significant paths, exhibited a satisfactory fit. Furthermore, the results indicated that the dimensions of mind reading ability significantly mediated the relationship between personality traits and moral development.

Conclusions: Based on the outcomes of this investigation, it is recommended to incorporate the teaching of emotional understanding and mind reading skills as a means of enhancing moral development.

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Introduction

Ethics pertains to a set of principles that facilitate individuals coexisting as a collective. It delineates what societies deem as "appropriate" and "permissible" (Killen & Smetana, 2015). The ethical conduct adhered to by individuals within a society, stemming from moral development rather than mere compliance, contributes to societal well-being (Farhan et al., 2015; Narvaez et al., 2019). The overarching definition of ethics underscores how ethical actions not only serve the individual but also others, averting potential harm. Determining what constitutes moral versus immoral behavior hinges on whether actions lead to harm or aid for oneself or others. Lawrence Kohlberg, akin to Piaget, posits that moral development evolves from moral reasoning cultivated across distinct stages, spanning from childhood through adolescence (Paxton, 2007). Personality embodies enduring traits and features shaping the psychological behaviors (cognition, affect, and conduct) of individuals, impervious to transient societal or biological influences. As Franić et al. (2014) observed, advancements in personality theories and measurement techniques have culminated in the influential Big Five personality factor model. This model, enjoying considerable attention from psychologists, delineates personality traits under the headings of narcissism, extroversion, conscientiousness, agreeableness, and openness to experience. The extensive scientific examination of the Big Five personality factors as pivotal variables in various studies, alongside the exploration of their interplay with other psychological constructs, underscores the enduring allure of the personality-emotion nexus for researchers. In line with Darwin's theory (Rushton et al., 2008), narcissism appears linked to maladaptive emotion regulation strategies, while extroversion, openness, agreeableness, and conscientiousness are associated with adaptive and beneficial emotion regulation tactics. Notably, moral development emerges as a trait interconnected with personality structure, signifying a substantive association between the two domains.

Moral development pertains to the cognitive, dispositional, and intentional progression of individuals, culminating in the enhancement of their personal, social, and spiritual well-being (Kohlberg & Hersh, 1977). Psychologists delineate moral advancement into cognitive, affective, and behavioral dimensions, with each perspective highlighting a distinct facet. Acquiring and consolidating convictions underlie moral conviction. An individual discerning right from wrong is not compelled to act upon this knowledge unless underpinned by profound faith and genuine

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conviction. The ethical conduct and morality of individuals entail the regulation of emotions in a constructive manner, propelling them towards positive and altruistic actions. A notable inverse correlation is evident between the personality trait of neuroticism and cognitive maturation.

Conversely, recent research in the realms of neuroscience and cognitive underpinnings has brought forth an intriguing hypothesis regarding the plausible correlation between personality traits and theory of mind (Ding et al., 2015; Ferguson & Austin, 2010; Koelkebeck et al., 2010). The concept of theory of mind, denoting humans' distinctive capacity to interpret and foresee their own and others' behaviors by referencing mental states, was initially introduced by Premack and Woodruff (1978) and has since become a focal point within psychological science, drawing attention from evolutionary psychologists (Carlson et al., 2013). The ability to grasp that individuals possess mental states (thoughts, inclinations, beliefs) divergent from one's own or the objective reality is termed "theory of mind." Skills intrinsically linked to theory of mind encompass moral progression, discerning between appearance and actuality, and utilizing cues indicative of mental states (Liang et al., 2021). While investigations directly exploring the nexus between personality traits, moral evolution, and theory of mind remain scarce, certain neurocognitive inquiries have probed the neural foundations of personality traits, proposing that said traits might equip individuals with predispositions to infer others' mental states from personal attributes.

In both the realm of research conducted on the correlation between variables associated with theory of mind and the domain of moral development, the emphasis has predominantly been on conducting separate analyses of the variables, rather than exploring the internal relationship among these variables in conjunction with theory of mind development and adaptation or formation of maladaptive behaviors have been observed. While previous studies in these two areas have indeed acknowledged the presence of internal connections among variables in isolation, the current study aims to construct and validate a predictive model for growth that is rooted in personality traits and the capacity for mindreading.

Materials and Methods

The current research is correlational research. The statistical population of this research is all the students of Farhangian University of Kerman branch in the academic year of 2022. Statistical

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sample based on the number of predictive variables (7 variables) was considered 50 people for each variable, which was a total of 350 students who were selected by cluster random sampling. In this way, 5 courses were randomly selected from among the available courses and at different levels, and 1 class was randomly selected from among the designated courses. In connection with the examination of ethical dimensions within the present investigation, all components and resources have been employed to conform to the principle of credibility. Specifically, the amplification and avoidance of distorting positive outcomes, equity, nonmaleficence, and regard for the participants were duly considered. The scholars placed particular emphasis on several factors: Obtaining written consent from the participants, abstaining from imposing the researcher's perspectives on the participants, and making it clear to the participants that their continuous engagement in the research is completely voluntary and they retain the choice to terminate participation at any stage.

Instruments

Reading the Mind in the Eyes Test: This test is a neuropsychological test related to mind reading that was created by Baron-Cohen et al. (2001). This test includes images of the eyes of actors and actresses in 36 different modes. For each image, four descriptive words of mental states that have similar emotional capacity are presented. The respondent should choose the option that best describes the mental state of the person in the image only through the visual information in the image. is to choose from four options. The maximum score that can be obtained for choosing the correct words in this test is 36 and the lowest score is zero. In most of the studies conducted to investigate the mind reading ability of healthy and sick people, therefore, the neuropsychological test has been used (Vellante et al., 2013). Nazari et al. (2021) in a study reported the alpha coefficient of this test as 0.72 and its retest reliability coefficient as 0.61 in a sample of 30 students in a period of two weeks.

Neo Personality Characteristics Questionnaire: This questionnaire also has a short form called (NEO-FFI), which is a 60-question questionnaire and is used to evaluate 5 main factors of personality. On the other hand, the implementation of this test is affordable in terms of cost and time, its scales have high reliability and the correlation between the scales is high, and most importantly, unlike other personality tests, this test has less criticisms (Garousi Farshi et al., 2007). The answer sheet of this questionnaire is based on the Likert scale (completely disagree, disagree,

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indifferent, agree and completely agree). The scoring of the short form of this questionnaire, i.e. NEO-FFI, is not the same in all materials. This means that in the scoring of some items of the short form of the questionnaire, a score of 4 is given to completely disagree, 3 to disagree, 2 to indifferent, 1 to agree, and 0 to completely agree. While some other materials of this short form are graded as the opposite of the said state. The long-term validity of this questionnaire has also been evaluated. A 6-yearlong study on the scales of temperamental irritability, extroversion and openness to experience has shown reliability coefficients of 0.68 to 0.83 in personal reports as well as in couples' reports. The reliability coefficient of the two factors of adaptability and conscientiousness was 0.79 and 0.63, respectively (DA COSTA, 1983). In the standardization of the NEO test, which was carried out by Grossi-Farshi (2010) on a sample of 2000 students from the universities of Tabriz, Shiraz and universities of medical sciences in these two cities, the correlation coefficient of the 5 main dimensions was between 0.56 and 87. 0 has reported. Cronbach's alpha coefficients in each of the main factors of irritability, extroversion, openness, agreeableness and conscientiousness are respectively 0.86. , 0.73, 0.56, 0.68 and 0.87 were obtained. In order to check the content validity of this test, the correlation between two personal report forms (S) and observer evaluation form (R) was used, the maximum correlation was 0.66 in the extroversion factor and the minimum was 0.45 in the extraversion factor (Grosi Farshi, 2010). In Bayat et al. (2021) using internal consistency method, Cronbach's alpha coefficient for each of 5 traits: irritability, extroversion, openness, adaptability and conscientiousness were 0.74, 0.55, 0.27 respectively. , 0.38 and 0.77 were obtained.

Moral development questionnaire: The questions of this test are designed in six moral categories, and three narrative questions for each category. These six ethical categories are: environmental ethics, self-care ethics or personal ethics, ethics in family relationships, social ethics, human ethics, and Minoan (or transcendental) ethics. Each of the eighteen test questions has been assessed with one or more six-point scales of moral judgment. Each of the eighteen test questions has been assessed with one or more six-point scales of moral judgment. To measure the score of each dimension, add the total scores of that dimension together. The validity of the questionnaire has been well evaluated and confirmed using the opinions of supervisors and advisors. Also, its reliability was calculated using Cronbach's alpha test. The alpha of this

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questionnaire was obtained above 0.70, which indicates the acceptable reliability of this questionnaire.

AMOS software was used to check and test the research model and fit the model with the maximum likelihood estimation method. Also, the indirect and mediating effects in the predictive model were also investigated with Preacher-Hays method.

Results

Table 1 shows the correlation of the investigated variables in the sample.

Table 1. Correlation of the investigated variables

Variables	1	2	3	4	5	6
Neuroticism	1					
Extroversion	-0.57**	1				
Openness to experience	-0.49**	0.58**	1			
Agreeableness	-0.52**	0.19*	0.60**	1		
Conscientiousness	-0.48**	0.64**	0.54**	0.49**	1	
Mind reading	-0.29**	0.34**	0.34**	0.27**	0.18*	1
Moral development	-0.39**	-0.25**	-0.17*	-0.30**	0.28**	0.42**

* p < 0.05, ** p < 0.01

Examining the statistics of skewness, Kurtosis and Non-collinearity are common criteria to check the statistical assumptions of path analysis. In Table 2, the values of skewness, Kurtosis, tolerance and variance inflation have been calculated for the research data.

Table 2. Statistical indices, Skewness, Kurtosis, Tolerance and Variance inflation of the research variables

Variables	Skewness	Std. error	Kurtosis	Std. Error	Tolerance	VIF
Neuroticism	0.58	0.17	0.42	0.34	0.55	1.44
Extroversion	0.47	0.17	0.32	0.34	0.64	2.10
Openness to experience	0.37	0.17	0.16	0.34	0.47	1.82
Agreeableness	0.26	0.17	0.14	0.34	0.52	1.60
Conscientiousness	0.58	0.17	0.41	0.34	0.79	1.54
Mind reading	0.42	0.17	0.47	0.34	0.68	1.52
Moral development	0.97	0.17	0.65	0.34	-	-

Table 2 shows that the skewness and skewness values of none of the variables are out of the range between +2 and -2. This result shows that the distribution of data related to the variables of the research has no obvious deviation from the univariate normality. Also, the results of the table 2 show that the problem of collinearity among the predictor variables of the research did not occur.

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Because the tolerance coefficient values are less than 0.1 and the variance inflation factor values are not higher than 10 for each predictor variable.

To test the proposed model of the relationship between research variables, the path analysis method was used. The fit of the proposed model was used based on a combination of fit metrics including chi-square, absolute fit indices, GFI, AGFI, IFI, TLI, CFI, and NFI to determine the adequacy of the fit of the proposed model with the data. The result obtained is shown in table 3.

Table 3. The fit indices of model

Indices	χ^2	DF	χ^2/DF	GFI	AGFI	IFI	TLI	CFI	NFI	RMSEA
Model	1.95	2	2.88	0.99	0.98	0.98	0.97	0.99	0.98	0.01

According to the fit indices of the model; it can be said that the proposed model has a good fit with the data. One of the main goals in examining structural models is to investigate the mediating role between variables. In the model proposed in the present study, the mind reading was considered as a mediator between personality traits and moral development, which was investigated with the bootstrap statistical method. Table 4 shows the result of the Preacher-Hayes test to investigate the mediating role of the mentioned variable.

Table 4. The results of Preacher-Hayes test

Path	Path coefficient	Std. error	High limit	Low limit
Neuroticism with moral development through mind reading	-0.02	0.004	-0.01	-0.03
Extraversion with moral development through mind reading	0.12	0.017	0.16	0.08
Openness with moral development through mind reading	0.14	0.019	0.18	0.11
Agreeableness with moral development through mind reading	0.12	0.015	0.15	0.09
Conscientiousness with moral development through mind reading	0.16	0.017	0.20	0.13

According to Table 4, the range obtained in the mediation analysis for the mediating paths of mind reading with the personality components of neuroticism (-0.02), extraversion (0.12), openness (0.14), agreeableness (0.142) and conscientiousness (0.16) does not contain zero, which means that the mediating role is significant.

Discussion

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There have always been scientific investigations at the global level to prevent destructive behavior and its bad consequences as part of social harms, and sociologists and psychologists have studied it from various dimensions in order to identify the causes and factors, background and its consequences and as a result formulate solutions and ways to deal with these disorders. In sociological researches, several causal factors have been identified in the field of incompatible behaviors, which have played a significant role in explaining behaviors against social ethics. The physical structure of the family such as the socio-economic status, emotional factors within the family, age and personality and emotional characteristics are the main variables that are used in the researches to explain moral development and adaptation (Ambrose et al., 2008; Amini & Hanifi, 2021; Kumar & Singh, 2013; Reid & Hresko, 1980).

Also, in explaining the findings of the present research, it can be said that people are intuitively and internally aware of their mental states and do not need any inferences, conceptual structures or theorizing to understand their mental states. A person's understanding of the mind is more of a phenomenological experience than a theory through which the child intuitively understands his phenomenological experiences. In this approach, it is believed that a person predicts the mental states of others and their behavior by using the working pattern of his mind. In this flow, first the person recognizes his own mental states in real or visual states, and then based on similarity or analogy, he infers that the other person experiences similar mental states. In other words, a person becomes aware of his desires, beliefs and feelings through introversion, and then by putting another in his position, he predicts what state of mind and behavior the other will have. Harris (2012) believes that in explaining and predicting the behavior of others, a person engages in a complex process of mental simulation. Therefore, an increase in such ability can lead to the recognition and regulation of desirable social behaviors. As a result, it can be said that knowing emotional states is an internal and external process that is responsible for controlling, evaluating and changing a person's emotional reactions on the way to realizing his goals, and any problems and defects in the regulation of emotions can vulnerable to mental disorders such as anxiety and depression.

The ability to deal with emotions enables a person to recognize emotions in himself and others, to know how emotions affect behavior, and to be able to react appropriately to his emotions. Researchers emphasize the significance of assessing an individual's cognitive system in response

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to adverse events. The mental well-being of individuals is influenced by a reciprocal relationship between the application of specific cognitive emotion regulation techniques and the accurate interpretation of stressful circumstances. Similar to prior investigations, the current study is constrained in its ability to extrapolate findings due to reliance on self-reported data and the imposition of an age restriction on the sample of undergraduate participants.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by ethics committee of Islamic Azad University.

Author contributions

All authors contributed to the study conception and design, material preparation, data collection and analysis. The author contributed to the article and approved the submitted version.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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