



Original Article

Predicting moral behavior based on moral intelligence and personality traits: The mediating role of the structure self-transcendence

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Abstract

Introduction: This study was conducted to predict moral behavior based on moral intelligence and personality traits with the mediating role of the structure self-transcendence.

Materials and Methods: The statistical population of this descriptive-correlational study included all students of Bu-Ali Sina University, Hamadan in the academic year of 2020-2021. The total sample size included 285 in this study and filled out Moral Behavior Scale, Moral intelligence Scale and The HEXACO Personality Traits Scale. To analyze the data, path analysis with LISREL software were used.

Results: The results indicated that the proposed model fitted the experimental data (GFI=0.94, IFI= 0.93, CFI= 0.95). Results of regression coefficient analysis in structural equation modeling indicated that the effects of moral intelligence ($\beta= 0.41$, $P < 0.01$), honesty-humility ($\beta= 0.27$, $P < 0.01$), conscientiousness ($\beta= 0.30$, $P < 0.01$), and Openness to experience ($\beta= 0.24$, $P < 0.01$) on self-transcendence, and the effects of moral intelligence ($\beta= 0.49$, $P < 0.01$), honesty-humility ($\beta= 0.25$, $P < 0.01$), conscientiousness ($\beta= 0.23$, $P < 0.01$), and openness to experience ($\beta= 0.21$, $P < 0.01$), and self-transcendence ($\beta= 0.43$, $P < 0.01$) on moral behavior were positive and significant. The results of Sobel's test (z) indicated that Self-transcendence variable have a significant mediating role in the relationship between moral intelligence ($Z= 7.30$, $P < 0.01$), honesty-humility ($Z= 5.29$, $P < 0.01$), conscientiousness ($Z= 4.61$, $P < 0.01$), openness to experience ($Z= 4.16$, $P < 0.01$) with moral behavior.

Conclusion: It seems that self-transcendence have a mediating role in the relationship between moral intelligence and personality traits with moral behavior. In general, the results of the present study provide new implications in field of moral behavior in different situations.

Keywords: Moral behavior, Moral intelligence, Personality traits, Self-transcendence

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Introduction

Morality often involves judging or evaluating a moral system, decision, or action — a judgment based on social, cultural, or religious norms (1). Morality is the belief in the existence of justice and ethics (2) and refers to socially acceptable standards of behavior that aim to prevent behaviors beneficial to the individual and harmful to others (3). Accordingly, moral principles show the things that are correct/good, fair, and moral for human behavior (4). Thus, moral behavior refers to a wide range of behaviors that encompass accepted moral norms of behavior within the larger social context. For example, ethical behaviors include being honest and following the rules (5). In addition, moral behavior is a reaction consistent with what society and individuals consider valuable (6). In other words, moral behavior is a behavioral component of morality (7) which consists of two parts; 1- Engaging in social behaviors or helping behaviors, 2- Resisting or preventing anti-social behaviors such as theft (8). Given the importance of moral behavior in various life situations and the positive consequences that it brings, this study explains moral behavior based on the following structures, which are as follows:

Moral Intelligence. One of the factors that may affect moral behavior is the moral intelligence structure. Moral intelligence refers to the ability to control and apply fundamental moral values, where judgment and analysis of possible consequences precede behavior and action (9). In other words, moral intelligence refers to an individual's mental capacity to understand and discern the world's principles, values, goals, and daily human actions (10). According to Martin and Sloan (11), moral intelligence is, in fact, a deep belief in the teachings and values that guide and direct all thoughts and activities of the individual. Borba (12) introduces seven dimensions for moral intelligence: 1- Empathy: the capacity to identify people's problems, 2- Conscience: identifying the right way to do something (13), 3. Self-control: The ability to control and adjust oneself to tempting choices that may eventually lead to unfortunate consequences, 4- Respect: valuing others and behaving in a respectful and considerate manner, 5- Kindness: having a genuine interest in the welfare and well-being of others, 6- Tolerance:

Respecting the rights of all people, even those whose beliefs and behavior are different from ours, 7- Fairness: to behave reasonably and rationally, to act honestly and impartially. Khaleghi and Chenari's (14) research findings showed a significant relationship between the components of moral intelligence and students' altruism. They also showed that moral intelligence also deals with values, that those with high moral intelligence also have desirable social behaviors, including altruism. Auvinen et al. (15) stated in a study that nursing students who had encountered practical moral problems in teaching professional ethics had better moral judgment than students who did not face these challenges. In a study (16) students' moral character ranked: politeness, generosity, honesty, unity, cleanliness, discipline, diligence, and thrift. Also, an Iranian study (17) showed a significant relationship between moral intelligence, professional value, and resilience and that people with high moral intelligence and high professional value have high resilience. Accordingly, professional value and moral intelligence are predictors of resilience.

Personality traits. Personality traits are another factor that can predict the behavior and mental states of individuals and affect the likelihood of their moral behavior in various situations. Researchers' perspective on human personality is that: "Each of us human beings is a special personality and a unique person, and each of us has a special shape that separates us from other human beings." Therefore, there has never been and will never be a character like us (18). In order to establish the optimal structural model for personality traits, personality psychologists considered five dimensions for personality, which became known as the five big personality traits (19). These five dimensions are extraversion, neuroticism, adaptability, conscientiousness, and openness to experience. In recent years, researchers have analyzed the results obtained from self-report or peer reports and surprisingly found that the results obtained are consistent with six factors. In 2004, Ashton and Lee named these dimensions of the extracted character HEXACO, which include; Honesty-humility, emotionality, extraversion, adaptability, conscientiousness, and openness to experience (20). Furthermore, in a study, Yablovi

et al. (21) showed a significant relationship between moral components with personality traits, including success, power-seeking, and the need for belonging. Also, regression analysis results showed that moral components could significantly predict personality traits.

Self-transcendence. Wisdom is an ancient concept closely related to fundamental goals, meanings, and the solution of human problems (22). Wisdom is often associated with emotional, cognitive, and reflective aspects in the research literature, such as self-transcendence, love (23), a contemplative attitude, and awareness of piety or public good, which is used for the well-being of oneself and others (24). One of the characteristics of wise people is neglecting oneself and connecting with a larger whole, that is, self-transcendence (25). Koehlberg (26) has defined transcendence as self-decentralization. A kind of awareness that oneself is no longer central and goes beyond one's interests and prejudices. Levinson et al. (27) define self-transcendence as a reduction in reliance on social definitions of self, increased internalization, and a strong sense of connection to past and future generations. In a study entitled "Wisdom and its Relationship to Moral Attitudes in Organizations," Eden, Ardelt, and Rupel (28) found that wisdom is positively associated with moral attitudes and rejection of suspicious business behaviors that are harmful to others and the environment. Azadmanesh, Abolmaali, Mohammadi (29), in a study entitled "Structural relations between wisdom and moral behavior: the mediating role of self-control," showed that wisdom has a positive effect on moral behavior and wisdom through self-control mediation has a positive effect on two dimensions of moral behavior, namely people-centered and task-oriented. The research of Desi and Rodnando (30), which was conducted to investigate the relationship between conscience, self-control, and wisdom with moral virtues such as empathy, kindness, tolerance, justice, respect, showed that the general level of wisdom is moderate among respondents, and there is a weak and significant correlation coefficient between self-control and conscience with wisdom.

Given the theoretical foundations and research findings presented above, and the fact that morals and ethics are part of the way of life and cannot be separated from other aspects of life

experiences (31), research on ethical behavior in various dimensions is important. Because moral behavior is important for society, parents, teachers, and other caregivers in general (32), and on the other hand, ethics in maintaining social order has been recognized by researchers in various fields (33). Since moral behavior is important for society, parents, teachers, and other caregivers in general (32), and on the other hand, the role of morality in maintaining social order has been recognized by researchers in various fields (33). Hence, the primary purpose of this research is whether the model of predicting moral behavior based on moral intelligence, personality traits with self-transcendence mediation is appropriate?

Materials and Methods

The method of this research was descriptive-correlational. The statistical population included all students of Bu-Ali Sina University in the academic year 1399-1400. Since the structural equation modeling methodology is very similar to some aspects of multivariate regression, one can use the sample size determination principles in multivariate regression analysis to determine the sample size in structural equation modeling. In multivariate regression analysis, the sample number (observations) ratio to independent variables should not be less than 5. Otherwise, the regression equation results will not be very generalizable (34). A more conservative ratio of 10 observations per independent variable has been suggested by Halinsky and Floret (35) and Miller and Kans (35). According to James Stevens and Klein, considering 15 observations for each predictor variable in the multiple regression analysis with the standard minimum square method is a good rule of thumb. It is also always emphasized that the minimum sample should not be less than 200 people (35). According to the above explanations, 285 people completed the scales, and the data were analyzed by structural equation modeling using LISREL software.

Procedure. In this study, due to the prevalence of new coronavirus (Covid 19) in the world, in order to access university students, the scales of moral behavior, moral intelligence, hexagonal personality traits, and the micro-scale of self-transcendence were designed and prepared

virtually. Then, an electronic link to answer the scales was placed in the virtual group of students of Bu-Ali Sina University (all students of the faculties of economics and social sciences, basic sciences, engineering, literature, agriculture, and art). It took a month to respond to the scales via the electronic link. Every day in the virtual group of students of Bu-Ali Sina University, a reminder message was placed to respond.

Inclusion criteria: Students studying at Bu-Ali Sina University were willing to participate in the research.

Research instruments

A) Moral Behavior Scale: This scale is made by Rashid and Delfan Biranvand, containing 43 items. Each item on this scale has a 5-point Likert scale (almost always = 5, most times = 4, sometimes = 3, rarely = 2, never = 1). The Moral Behavior Scale has three subscales (positive community-centered, negative community-centered, person-centered). The internal consistency of this scale was obtained by Cronbach's alpha coefficient method. For the whole scale, 0.956 was achieved, and for the sub-components of positive community-centered, negative community-centered, and person-centered, 0.993, 0.857, and 0.826 were obtained, respectively. In the present study, the general scale of moral behavior is considered. The internal consistency for the whole scale in the present study was obtained 0.963 using Cronbach's alpha coefficient method.

B) Moral Intelligence Scale: The scale was developed by Lennick and Kiel in 2005 (36) and contained 40 items. This scale is based on the Likert scale (never, 1; rarely, 2; sometimes 3; in most cases, 4; in all cases, 5), rated from 1 to 5. Components of scale include acting based on principles, values, and beliefs (1, 11, 21, 31), honesty (2, 12, 22, 32), perseverance, and insistence on the right or standing up for the truth (3, 13, 23, 33), and fulfillment of the covenant (4, 14, 24, 34), responsibility for personal decisions (5, 15, 25, 35), admitting mistakes and failures (6, 16, 26, 36), accepting responsibility to serve others (7, 17, 27, 37), actively being interested in others or spontaneously caring about others (8, 18, 28, 38), ability to forgive one's own mistakes (9, 19, 29, 39) and ability to forgive the mistakes of others (10, 20, 30, 40). On this scale, each

respondent gets a total score between a minimum of 40 and a maximum of 200, divided by 2 points, and his/her moral intelligence will be a score between 20 and 100. Finally, a score of 90 to 100 is excellent, a score of 80 to 89 is a perfect score, a score of 70 to 79 is a good score, and a score of 69 or less is poor. The validity and reliability of this scale have been validated in Iran by Arasteh, Azizi Shamami, Jafari Rad, and Mohammadi Jozani (37), and the Cronbach's alpha of moral intelligence was reported to be 0.85. Also, in Bahrami, Asemi, Fatehpanah, Dehghani Tafti, Ahmadi Tehrani (38) research, the original version of the scale was translated into Persian by one of the researchers and then translated into English by an English literature expert and compared with the original version. The experts confirmed the face and content validity of the scale. Also, the reliability of this translated questionnaire with a retest in a sample of 16 people from the research community and calculation of Cronbach's alpha coefficient 0.894 were confirmed. The internal consistency for the whole scale in the present study was obtained 0.929 using Cronbach's alpha coefficient method.

C) HEXACO Personality Scale: This scale is a 60-item model of personality factor dimensions developed in 2000 by Ashton and Lee (39) and includes six dimensions: honesty-humility (including four levels of sincerity, fairness, greed avoidance, and modesty), emotionality (including four levels: sentimentality, fearfulness, dependence, and anxiety), extraversion (including four levels: social self-esteem and social boldness, sociability, and liveliness), agreeableness (including four levels: forgiveness, gentleness, flexibility, and patience), conscientiousness (including four levels: organization, diligence, perfectionism, and prudence) and openness to experience (including four levels: aesthetic appreciation, inquisitiveness, creativity, and unconventionality). Each dimension has ten questions. The scoring of this scale is in the Likert scale form of 5 points {Strongly Agree 5, Agree 4, Disagree (Neither Agree nor Disagree) 3, Disagree two and Strongly Disagree 1, so that the range of scores is between 1 and 5. Also, several questions on this scale are scored in reverse. Lee and Ashton used Cronbach's alpha, and the following results were obtained: honesty-

humility (0.92), emotionality (0.90), extraversion (0.92), agreeableness (0.89), conscientiousness (0.89), and openness to experience (0.90) (Bashiri, 2010). The internal consistency of these six factors with Cronbach's alpha method in a sample of students had been reported from 0.77 Up to 0.80 (Ashton, Lee, 2009). In the Iranian sample, Ghalehnei, Abolghasemi, and Rostami (40) reported the reliability of this scale from 0.66 to 0.88. Aghababaei (41) confirmed the 6-factor structure of the HEXACO Farley Hexaco-60 version. Internal consistency of the factors of this questionnaire was obtained from 0.60 to 0.75. Also, the convergence validity of the Persian version of Hexaco-60 has been confirmed by five major personality factors (41). Internal consistency of this scale in the present study, using Cronbach's alpha coefficient method for the subscales of honesty-humility (0.70), emotionality (0.71), extraversion (0.753), adaptation (0.70), conscientiousness (0.70), and openness to experience (0.70) were obtained.

D) Adult Self-Transcendence Scale (ASTI): The designers of this scale define wisdom as self-transcendence, which means reducing reliance on social definitions of self, increasing internalization, and having a strong sense of connection to past and future generations (25). The scale has 14 items, and each item includes a 4-point Likert scale from "strongly disagree" to "strongly agree". Lawson et al. (25) reported 0.75 Cronbach's alpha for this scale. ASTI scores showed a positive correlation with openness to experience, extraversion, meditation exercises, and egalitarianism, and a negative correlation with neuroticism, individualism, and immature love (25). Kordnoghahi et al. (42) reported Cronbach's alpha 0.781 for this scale and considered its convergent and divergent validity appropriate. The internal consistency for the whole scale in the present study was obtained 0.784 using Cronbach's alpha coefficient method.

Ethical considerations considered in this study included informed consent and voluntary participation of subjects, the right to withdraw from the study, non-disclosure of information, and respect for privacy (confidentiality). To analyze the data from the structural equation model, the Sobel test, and the fit indices for the developed model, such as the root mean square error of approximation (RMSEA), the

incremental fit index (IFI), confirmatory factor analysis (CFI), Goodness-of-fit index (GFI), TLI and fit index X^2/df were used.

Results

In the present study, 285 people (234 women and 51 men) participated. The mean and standard deviation of age were 31.93, 72 8.72 for men and 29.51 95 7.95 for women (Table 1). Pearson correlation and structural equation analysis were used to analyze the data. Before performing the analysis, the assumptions of structural equations, including distribution normality, error independence, and multiple alignments, were checked. To assume that the research variables are normal, the skewness and elongation of the distribution of scores were used, which showed that the distribution of scores of all variables is normal (range of distribution between +1 and -1). The camera-Watson test was used to check the independence of the errors, which showed no correlation between the errors ($D = 1.96$, range between 1.5 to 2.5 is acceptable). Finally, variance Inflation Factor (VIF) and tolerance were used to examine the multiple alignments between the predictor variables. The results showed no alignment between the variables (VIF amplitude was less than five and tolerance was higher than 0.1). Another assumption is establishing a linear relationship between independent and dependent variables, which was examined by Pearson correlation, the results of which are reported along with the mean and standard deviation of the variables in Table 2.

The results of Table 2 show that there is a positive and significant relationship between moral intelligence with self-transcendence ($r = 0.48$ and $P < 0.01$) and moral behavior ($r = 0.63$ and $P < 0.01$). There is a positive and significant relationship between personality trait of honesty-humility with self-transcendence ($r = 0.34$ and $P < 0.01$) and moral behavior ($r = 0.31$ and $P < 0.01$). There is a positive and significant relationship between conscientious personality trait with self-transcendence ($r = 0.28$ and $P < 0.01$) and moral behavior ($r = 0.23$ and $P < 0.01$). There is a positive and significant relationship between openness to experience personality trait with self-transcendence ($r = 0.26$ and $P < 0.01$) and moral behavior ($r = 0.32$ and $P < 0.01$). There is a positive and significant relationship between self-

transcendence and moral behavior ($r = 0.45$ and $P < 0.01$). The model fitting was examined to test the relationships between the research variables. Therefore, a structural equation model was used to evaluate the proposed model. Because the personality traits of honesty-humility, openness to experience, and conscientiousness were correlated with self-transcendence and moral behavior. They were entered into the model, and

personality traits of emotionality, extraversion, and agreeableness were also correlated also correlated due to lack of correlation with Self-transcendence and moral behavior were excluded. In the first stage, to investigate the relationships of latent variables, the overall fitting of the model, and then the regression weights of the measurement models and coefficients related to structural relationships were analyzed.

Table 1. Descriptive indicators of the sample group based on gender, age, marital status, education level, the field of study (University)

Statistical indicators	Groups	Frequency	Frequency percentage
Gender	Male	234	82.1
	Female	50	17.5
Age (Year)	16-26	88	30.9
	27-37	135	45.4
	38-48	19	6.7
	49-59	9	3.2
	60 and older	2	0.7
Marital status	Single	203	71.2
	Married	82	28.8
Education level	Undergraduate	121	42.5
	Postgraduate	81	28.4
	Ph.D.	83	29.1
University departments	Literature	61	21.4
	Basic sciences	65	22.8
	Economics and social sciences	69	24.2
	Engineering	36	12.6
	Art and architecture	22	7.7
	Agriculture	32	11.2

Table 2. Mean, standard deviation and correlation between research variables

Variable	Mean	SD	1	2	3	4	5	6	7	8	9
Moral intelligence	88.02	11.17	-								
Honesty-humility	28.49	4.90	**0.29	-							
Emotionality	27.40	3.83	0.11	**0.35	-						
Extraversion	29.03	3.42	0.10	0.23**	**0.39	-					
Adaptation	29.42	4.12	0.08	**0.27	0.13	**0.23	-				
Conscientiousness	28.13	5.35	*0.13	0.44**	**0.26	0.18*	**0.21	-			
Openness to experience	26.95	4.59	**0.20	**0.39	*0.19	*0.14	*0.16	**0.46	-		
Self-transcendence	34.89	8.38	*0.48	0.34**	0.03	0.05	0.07	0.28**	**0.26	-	
Moral behavior	81.78	18.45	0.63**	0.31**	0.08	0.03	0.02	**0.23	**0.32	**0.45	-

** $P < 0.01$, * $P < 0.05$

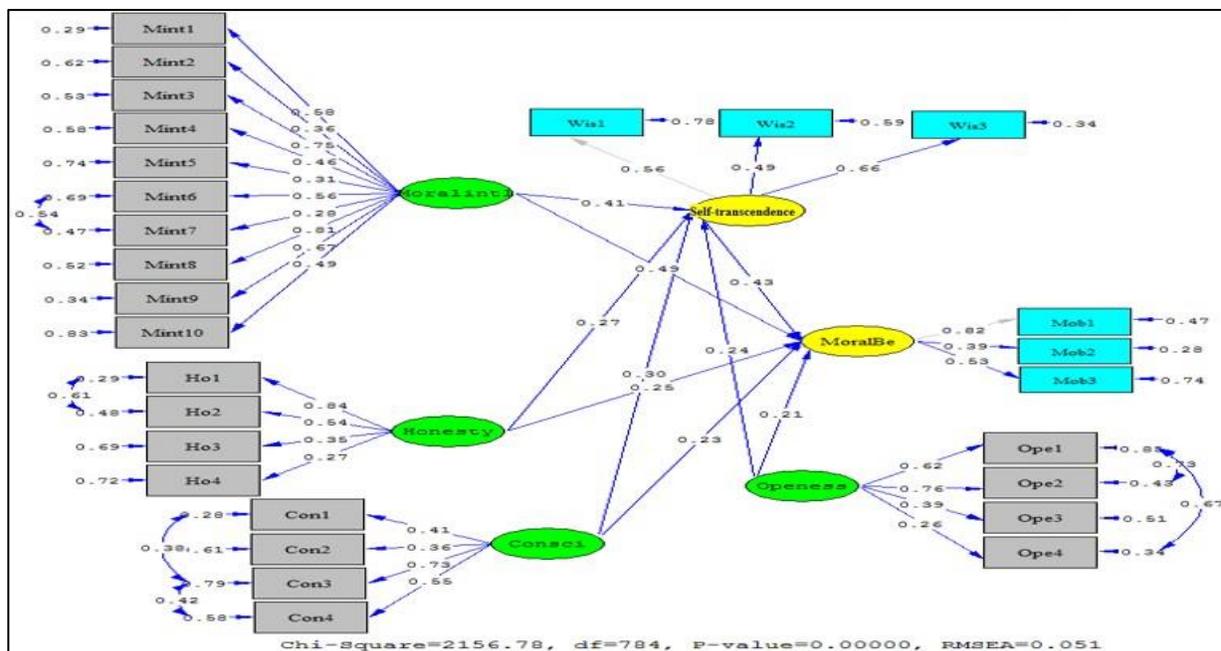


Figure 1. Standard coefficients of relationships between moral intelligence and personality traits with moral behavior mediated by self-transcendence in the standard mode

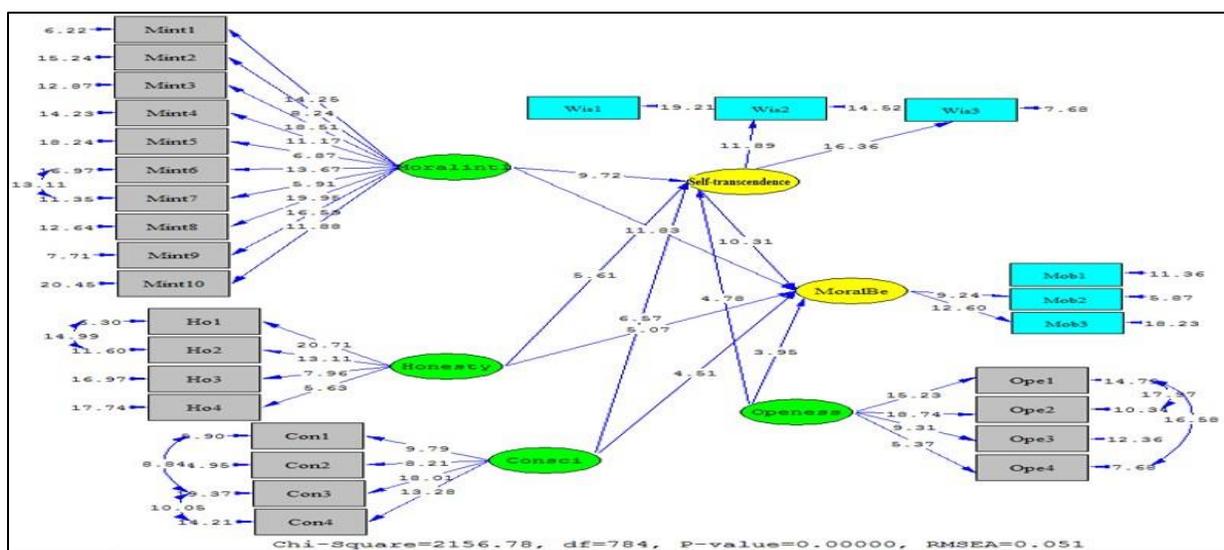


Figure 2. Standard coefficients of relationships between moral intelligence and personality traits with moral behavior mediated by self-transcendence in a significant mode

First, to determine the overall fitting of the model, the fit index was considered. The model fit indices are presented in Table 3. For the X^2/df fit index, values smaller than 3 are appropriate, and the closer it is to zero, the better the pattern will fit. For GFI and IFI, CFI, TLI index, a value close to 0.90 and above is considered an acceptable good fit, indicating that the model is good. Considering the RMSEA index, values close to

0.05 or less indicate a good fit of the pattern, and a value of 0.08 or less indicates a reasonable error of approximation. A value higher than 0.10 indicates the need to reject the pattern (35). The fit indices presented in Table 3 indicate the appropriate fit of the model.

Then, all the effects related to all different paths in the structural equation model were investigated, which are presented in Table 4.

Table 3. Fitting indicators for the developed model

Model fitting indicators	χ^2	df	χ^2/df	GFI	IFI	TLI	CFI	RMSEA
After modification	2156.78	784	2.75	0.94	0.93	0.94	0.95	0.051

Table 4. Coefficients of the model of explaining moral behavior based on moral intelligence, and personality traits mediated by self-transcendence

Direct path	Regression coefficient	t-statistics
The effect of moral intelligence on self-transcendence	0.41	9.72
The effect of honesty-humility personality trait on self-transcendence	0.27	5.61
The effect of conscientious personality trait on self-transcendence	0.30	6.57
The effect of empiricist personality trait on self-transcendence	0.24	4.78
The effect of moral intelligence on moral behavior	0.49	11.83
The effect of honesty-humility personality trait on moral behavior	0.25	5.07
The effect of conscientious personality trait on moral behavior	0.23	4.51
The effect of empiricist personality trait on moral behavior	0.21	3.95
The effect of self-transcendence on moral behavior	0.43	10.31

Analysis of data obtained from the relationships of variables through regression coefficients in the structural equation model in Table 4 shows that moral intelligence ($\beta= 0.01$, $P< 0.01$), honesty-humility ($\beta= 0.27$, $P< 0.01$), conscientiousness ($\beta= 0.30$, $P< 0.01$) and openness to experience ($\beta= 0.04$, $P< 0.01$) had a meaningful positive effect on self-transcendence. Also, the results of the structural part showed that moral intelligence ($\beta= 0.04$, $P< 0.01$), honesty-humility characteristic ($\beta= 0.25$, $P< 0.05$),

conscientiousness ($\beta= 0.23$, $P< 0.01$) and openness to experience ($\beta= 0.01$, $P< 0.01$) had a positive meaningful effect on moral behavior. Based on the results, the effect of self-transcendence on moral behavior ($\beta= 0.43$, $P< 0.01$) was also positive and significant. The Sobel test was also used to investigate the mediating role of self-transcendence in the relationship between moral intelligence and personality traits with moral behavior, the results of which are reported in Table 5.

Table 5. Results of the study of the mediating role of self-transcendence in the relationship between moral intelligence and personality traits with moral behavior through the Sobel test

Predictor variable	Criterion variable	Mediating variable	Sobel's test (z)	P
Moral intelligence	Moral behavior	Self-transcendence	7.30	0.001
Honesty-humility	Moral behavior	Self-transcendence	5.29	0.001
Conscientiousness	Moral behavior	Self-transcendence	4.61	0.001
Empiricism	Moral behavior	Self-transcendence	4.16	0.001

The results of the Sobel test in Table 5 show that the variable of self-transcendence in the relationship between moral intelligence ($P= 0.01$, $Z= 7.30$), honesty-humility characteristic ($P= 0.01$, $Z< 0.05$). Conscientiousness ($Z= 4.61$, $P< 0.01$) and openness to experience ($P= 0.01$, $Z = 4.16$) play a significant mediating role with moral

behavior. According to the results, the self-transcendence variable has a significant mediating role in the relationship between personality traits and moral intelligence with moral behavior.

Discussion

The purpose of this study was to predict moral behavior based on moral intelligence and personality traits mediated by a self-transcendent structure. The results of regression coefficients in the structural equation model show that the effect of moral intelligence, personality traits such as honesty-humility, Conscientiousness and openness to experience were positive and significant on self-transcendence. Moreover, the results of the structural part showed that the effect of moral intelligence, personality traits such as honesty-humility, conscientiousness and openness to experience were positive and significant on moral behavior. Based on the results, the effect of self-transcendence on moral behavior was also positive and significant. The results of Sobel test show that the variable of self-transcendence in the relationship between moral intelligence, personality traits such as honesty-humility, conscientiousness and openness to experience play a significant mediating role with moral behavior. Therefore, it can be said that the self-transcendence variable has a significant mediating role in the relationship between personality traits and moral intelligence with moral behavior.

In this study, the structural equation modeling method was used to explain moral behavior based on variables such as moral intelligence and personality traits (honesty-humility, conscientiousness, empiricism) mediated by self-transcendence and the Sobel test. Fitness indices for the developed model such as Root Mean Square Error of Approximation (RMSEA), Incremental Fit Index (IFI), Confirmatory Factor Analysis (CFI), Goodness Index Goodness-of-fit index (GFI), TLI, and fitness index X^2/df were used with a sample of 285 students (234 females and 51 males) from Bu-Ali Sina University. Furthermore, in this study, according to the fact that in multivariate regression analysis, the ratio of sample number (observations) to independent variables should not be less than 5. Otherwise, the results of the regression equation will not be very generalizable (34), and a more conservative ratio of 10 observations per independent variable has been suggested by Halinsky and Floret (35) and Miller and Kans (35). It has always been emphasized that the minimum sample should not

be less than 200 (35). The desired sample was selected and studied.

In previous studies in the field of morality, moral behavior has not been explained based on moral intelligence and personality traits. The moral intelligence structure and personality traits have been studied with structures other than moral behavior or with different samples and methods. Previous studies have also paid less attention to the structure of moral behavior and more to the moral components and virtues of morality. For example, Khaleghi and Chenari (14) studied the relationship between the components of moral intelligence and altruism of the Faculty of Literature and Humanities of Qom University students with a descriptive and correlational method using a sample size of 196 participants (based on Morgan table). The instruments used in their research included a standard moral intelligence questionnaire and an altruism questionnaire. To analyze data, they used statistical techniques, analysis of variance, t-test, Kruskal-Wallis-Mann-Whitney test, and Pearson correlation coefficient (using SPSS software). Their results showed that those with high moral intelligence also have desirable social behaviors, including altruism.

Ansari Shahidi et al. (17) examined the role of moral intelligence and professional value in predicting nurses' resilience using the descriptive-analytical method (correlational type) with 150 nurses in Bam hospitals selected by the census. In their study, data collection tools included a demographic information checklist and a three-part questionnaire on moral intelligence, professional value (NPVS-R), and psychological resilience (CD-RISC). Data were analyzed by SPSS 20 and Pearson correlation coefficient, linear regression, one-way analysis of variance, and independent t-test. Their results showed a significant relationship between moral intelligence, professional value, and resilience, and those with high moral intelligence and professional value have high resilience. Yablovi et al. (21), using a descriptive research method of correlation, investigated the relationship between moral components with personality traits with the statistical population (all physical education teachers in Isfahan province), and a sample of 305 people was selected using a stratified random

sampling method. The research instruments included moral components (17 questions) and personality (15 questions), and the data were analyzed using Pearson correlation coefficient and hierarchical regression analysis. Their results showed a significant relationship between moral components and personality traits, including success, power-seeking, and need for belonging. Also, regression analysis results showed that moral components could significantly predict personality traits. Finally, Azadmanesh, Abolmaali, Mohammadi (29), using the research method of correlation with the statistical population (students of Tehran University of Applied Sciences) and a sample of 370 people (multi-stage cluster sampling), examined the structural relationship between moral behavior and wisdom with self-control mediating role. The tools included a list of ethical behavior styles, a self-control scale, and a wisdom scale and used structural equation modeling to analyze the data. The results indicated that wisdom has a positive effect on moral behavior, and wisdom through self-control mediation positively affects two dimensions of moral behavior, namely people-centered and task-oriented.

Based on the present study results, it can be stated that when people have high moral intelligence, the possibility of moral behavior in various situations, for example, in education, business, politics, and many organizations, is facilitated. Because when individuals can control and apply fundamental moral values (9) and the mental capacity to understand and discern the principles, values, goals, and daily actions of the human world (10), that is the same as moral intelligence. When faced with different situations in life, they are more likely to behave based on moral values and in situations where there is a chance of inappropriate and immoral behavior, the tendency to behave morally increases.

On the other hand, based on the results of the present study, which show that there is a positive and significant relationship between personality traits and moral behavior, it can be said that people with these personality traits such as honesty-humility (honesty, fairness, avoidance of greed and Humility, conscientiousness (organization, perseverance, perfectionism, and prudence) and openness to experience (aesthetic appreciation, curiosity, creativity, and

unconventionality) (39) are more likely to act morally in different situations. In fact, according to the present study results, such personality traits can play a facilitating role in moral behavior.

Furthermore, based on the results of the present study, indicating that the self-transcendence variable affects moral behavior and that it meaningfully mediates the relationship between moral intelligence and personality traits such as honesty-humility, conscientiousness, and openness to experience with moral behavior, it can be said that people who have the characteristics of wise people, like self-transcendence, because they go beyond their interests and prejudice (26), they are more likely to engage in moral behavior because self-transcendence is defined as a reduction in reliance on social definitions of self, an increase in internalization, and a strong sense of connection to past and future generations (27). Thus, it can be argued that decentralization, that is, self-transcendence, helps individuals display moral behaviors in various life situations. In this regard, we can refer to some researches. For example, Oden, Ardel, and Rupel (28) showed that wisdom is positively associated with ethical attitudes and rejection of suspicious business behaviors harmful to others and the environment. On the other hand, the research of Desi and Rodnando (30), which aimed to investigate the relationship between conscience, self-control, and wisdom with moral virtues such as empathy, kindness, tolerance, justice, respect, showed that the overall level of wisdom among respondents is moderate and there is a meaningful weak correlation between self-control and conscience with wisdom. According to the results indicating that the factors of moral intelligence and personality traits (empiricism, honesty-humility, and conscientiousness) can be a predictor of moral behavior through the mediation of self-transcendental structure, it is suggested that in future studies, the role of culture, social factors and family context on a larger sample be examined for predicting moral behavior in different life situations (work, education, community, family).

Because moral behavior has a significant role in the growth and development of a society, the findings of this study can help us identify people who actually and practically show moral behavior

in different life situations. In addition, of course, the findings of this study explain part of the moral behavior, and it is necessary to identify and examine other factors affecting moral behavior as well. One of the limitations of this study is the limited sample size which included just the students of Bu-Ali Sina University. Another limitation was the low cooperation of male students to participate in the study to complete the desired scale. Also, using merely self-report instruments and implementing the study in an academic context can be considered other limitations of the present study. These limitations limit the generalization of results to other age groups in different educational contexts. Therefore, researchers need to be careful in generalizing the results of this study. This study has no conflict of interest.

References

1. Starc M. Ethics and the ethical attitude. *Jung journal* 2017; 11(1), 47-52.
2. Miller MJ, Woehr DJ, Hudspeth N. Monography: The meaning and measurement of work ethic: Construction and initial validation of a multidimensional inventory. *J Vocat Behav* 2002; 60(2): 451-89.
3. Treynor WFC. Are the Mistrustful the least trustworthy? *Studies of unethical behavior*. USA: University of Michigan; 2004.
4. Haidt J. *The righteous mind: Why good people are divided by politics and religion*. New York, NY: Random House; 2012.
5. Reynolds SJ, Ceranic TL. The effects of moral judgment and moral identity on moral behavior: An empirical examination of the moral individual. *J Appl Psychol* 2007; 92(6): 1610-24.
6. Suhonen R, Stolt M, Virtanen H, Leino-Kilpi H. Organizational ethics: A literature review. *Nurs Ethics* 2011; 18(3): 285-303.
7. Kochanska G, Aksan, N. Children's conscience and self-regulation. *J Pers* 2006; 74(6): 1578-617.
8. Koenig AL, Cicchetti D, Rogosch FA. Child compliance/noncompliance and maternal contributors to internalization in maltreating and no maltreating dyads. *Child Dev* 2000; 71(1): 1018-32.
9. Saleh K. Moral intelligence and its role in formulating children characters. *Multi knowledge electronic comprehensive journal for education and science publications* 2018; 7: 301-13.
10. Lennick D, Kiel F. Worksheet for defining your code of ethics. *Moral IQ* 2011; 21(1): 1-13.
11. Martin DE, Sloan R. Plagiarism, integrity, and workplace deviance: a criterion study. *Ethics Behav* 2008; 19(1): 36-51.
12. Borba M. *Building moral intelligence*. USA: Jossey-Bass; 2011.
13. Narvaez D. The emotional foundation of high moral intelligence. *Directions for child and adolescents development* 2010; 129: 77-94.
14. Khaleghi N, Chenari M. [The relationship of moral intelligence and altruism]. *Ethics in science and technology* 2016; 10(4): 55-64. (Persian)
15. Auvinen J, Suominen T, Leino-Kilpi H, Helkama K. The development of moral judgment during nursing education in Finland. *Nurs Edus Today* 2004; 24(7): 538-46.
16. Ngammuk P. A study of 8 fundamental moral characteristics among Thai undergraduate students. *The Hawaii International Conference on Education*; 2011: 4-7.
17. Ansari Shahidi M, Tat M, Badrizadeh A, Maleki S. [The role of ethical intelligence and professional value in predicting nurses' resilience]. *Yafte* 2018; 20(3): 48-58. (Persian)
18. Kalshoven K, Den Hartog DN, De Hoogh AHB. Ethical leader behavior and big five factors of personality. *J Bus Ethics* 2011; 100(1): 349-66.
19. Lee K, Ogunfowora B, Ashton MC. Personality traits beyond the big five: are they within the HEXACO space? *J Pers* 2005; 73(5): 1437-63.

Conclusion

Considering moral behavior as a reaction or response in a way that is consistent with what society and individuals value (such as what is needed in the workplace, organizations, community, family, university, school, and in general, at the macro-level - relations with different countries), it can be stated that when people in a society can control and have mental capacity to understand and recognize values, the conditions for moral behavior are facilitated in different situations.

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20. Khezri S, Manavipour D. [Psychometric properties of HEXACO personality inventory among students]. [Shefaye Khatam](#) 2016; 4(4): 50-60. (Persian)
 21. Yablovi B, Mostahfezian M, Meshkati Z. [Relationship between ethical factors and personality traits]. *Ethics in science and technology* 2016; 11(1): 137-44. (Persian)
 22. Fischer A. Assessment of problem solving skills by means of multiple complex systems – validity of finite automata and linear dynamic systems. Ph.D. Dissertation. Heidelberg; 2015.
 23. Le TN, Levenson MR. Wisdom as self-transcendence: What's love (and individualism) have to do with it? *J Res Pers* 2005; 39(4): 443-57.
 24. Thomas ML, Bangen KJ, Ardel M, Jeste DV. Development of a 12-Item Abbreviated Three Dimensional Wisdom Scale (3D-WS-12) item selection and psychometric properties. *Assessment* 2017; 24(1): 71-82.
 25. Kordnoghi R. [The psychology of wisdom]. Tehran: Arjmand; 2017. (Persian)
 26. Kohlberg L. Stage and sequence: The cognitive developmental approach to socialization. In: Goslin DA. (editor). *Handbook of socialization theory and research*, Chicago, IL: Rand McNally; 1969: 347-480.
 27. Levenson M, Jennings PA, Aldwin CM, Shiraishi RW. Self-transcendence: conceptualization and measurement. *Int J Aging Hum Dev* 2005; 60(2): 127-43.
 28. Oden CD, Ardel M, Ruppel CP. Wisdom and its relation to ethical attitude in organizations. *Bus Prof Ethics J* 2015; 34(2): 141-64.
 29. Azadmanesh M, Abolmaali K, Mohammadi A. [The structural relationship between wisdom and moral behavior: The mediating role of self-control]. *Journal of developmental* 2020; 16: 321-32. (Persian)
 30. Desi D, Rodelando O. Levels of moral intelligence virtues and wisdom development among selected Filipino working adults. *The Bedan journal of psychology* 2017; 1(1): 61-66.
 31. Kang MJ, Glassman M. Moral action as social capital, moral thought as cultural capital. *J Moral Educ* 2010; 39(1): 21-36.
 32. Termini KA, Golden JA. Moral behaviors: What can behaviorists learn from the developmental literature? *Int J Behav Consult Ther* 2007; 3(4): 1-16.
 33. Ellemers N, Van der Toorn JV, Paunov Y, Van Leeuwen T. The psychology of morality: A review and analysis of empirical studies published from 1940 through 2017. *Pers Soc Psychol Rev* 2019; 23(4): 332-66.
 34. Hiro TY, Yamamoto T. Statistical inference in vector auto regressions with possibly integrated processes. *J Econom* 1995; 66(1-2): 225-50.
 35. Hooman H. [Structural equation modeling using LISREL Software]. 1st ed. Tehran: Samat; 2005. (Persian)
 36. Mohammadi S, Nakhaei N, Borhani F, Roshanzadeh M. [Moral intelligence in nursing: a cross-sectional study in East of Iran]. *Iranian journal of medical ethics and history of medicine* 2013; 6(5): 57-66. (Persian)
 37. Arasteh HR, Azizi Shamami M, Jafari Rad A, Mohammadi Jozani Z. [Assessing the status of students' moral intelligence]. *Journal of cultural strategy* 2010; 10: 201-14. (Persian)
 38. Bahrami MA, Asami M, Fatehpanah A, Dehghani Tafti A, Ahmadi Tehrani G. [Moral intelligence status of the faculty members and staff of the Shahid Sadoughi University of Medical Sciences of Yazd]. *Iranian journal of medical ethics and history of medicine* 2012; 5(6): 81-95. (Persian)
 39. Ashton MC, Lee K. The HEXACO-60: A short measure of the major dimensions of personality. *J Pers Assess* 2009; 91(1): 340-45.
 40. Ghalenei RI, Abolghasemi A, Rostami M. [Role of HEXACO personality dimensions, D personality type and emotions in the quality of life of people suffering from cancer]. *Journal of Torbat Heydariyeh University of Medical Sciences* 2014; 2(3): 10-21. (Persian)
 41. Aghababaei N. [The relationship between honesty and humility with personality, religion and subjective well-being]. *Journal of psychology and religion* 2012; 19(1): 40-2. (Persian)
- Kord Noghahi R, Jahan F, Rashid Kh, Rezaei A. [Measure of wisdom in Iran (introduce and validate3 scale)]. Measurement