



The Study of the Model of Delinquency Based on Conduct Disorder and Character Type Meditated by Moral Intelligence in Delinquent Adolescents

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Abstract

Background: Delinquency is one of the social phenomena that currently besets societies and imposes heavy expenses on them annually. This study aimed to study the relationship between delinquency based on conduct disorder and character type with the mediating role of moral intelligence in the adolescents of Kerman City Correctional Center.

Methods: This was a cross-sectional descriptive-analytical study. The statistical population included 66 adolescents from Kerman City Correctional Center, selected using random sampling. The research tools included a Conduct Disorder Questionnaire (CDQ), a character-type questionnaire (Hans Eysenck, 1963), and a moral intelligence questionnaire (Link & Keil, 2005). Data were analyzed using SPSS 28, Smart PLS3, the Pearson correlation coefficient, and confirmatory factor analysis.

Results: There was a direct and significant relationship between moral intelligence and character types (path coefficient (PC)=1.502, T=2.096, $P<0.05$), between conduct disorder and moral intelligence (PC=0.996, T=1173.19, $P<0.01$), and between moral intelligence and character types (PC=1.502, T=2.096, $P<0.05$) of the delinquent adolescents. There was also an indirect significant relation between conduct disorder based on character types and ethical intelligence mediation (PC=-1.495, T=2.095, $P<0.05$).

Conclusion: We can impact the relationship between conduct disorder and character type by increasing moral intelligence to reduce conduct disorder, neuroticism, and psychosis in delinquent adolescents.

Keywords: Moral intelligence, Conduct disorder, Character type, Delinquent adolescents, Correctional center

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Introduction

Adolescent delinquency is among the disorders that have plagued urban societies following industrialization (1). Scientific studies done on the causes of delinquency show that delinquency results from the delinquent's personal and social characteristics and the delinquent's environmental conditions (2). Adolescents in correctional centers have constantly been subjected to oppression, injustice, and deprivation in society compared to normal adolescents (3). Conduct disorder and early forms of antisocial behavior that start from childhood are, unfortunately, among the distinctive features of children who are kept in correctional centers (4).

Numerous factors are responsible for causing delinquency in adolescents, including personality type and moral intelligence.

One of the variables that can affect delinquency among adolescents is personality type. Personality traits are stable characteristics that do not change much from one situation to another and can predict a person's behavior in different situations (5). If students have lower levels

of negative emotions and rumination and fewer features of the neurotic personality type, the probability of their social adaptation increases (6).

Moral intelligence is another influential factor in adolescent delinquency and the degree of tendency towards it (7). Most delinquent adolescents do not have a proper moral structure, and due to the extreme neglect of the moral aspects of their personality from the very beginning of their lives, this dimension of their existence does not develop adequately. In other words, their moral intelligence remains underdeveloped (8).

Moral intelligence is the ability to distinguish right from wrong and means having solid beliefs and acting on them, enabling a person to behave correctly and respectfully. Children of families with a correct educational style and whose educational principles include the development of moral intelligence and child growth have a lower tendency towards delinquency (9). Moral intelligence mediates the relationship between social intelligence and students' responsibility (10). Studies have shown that curriculum subjects under titles such as democracy and



human rights, citizenship rights, and social justice and integrating and practicing moral intelligence activities in each lesson effectively educate adolescents. This training will lead to more democratic citizens and teachers skilled in and committed to achieving social justice and a better and more democratic future (11).

Therefore, the aim of conducting the present study was to research and evaluate the impact of delinquency based on conduct disorder and personality type with the mediation of moral intelligence in conditions that have not yet been studied among adolescent delinquents in correctional centers in the country. Therefore, the conceptual model of the research was designed (Figure 1), and the hypotheses were compiled as follows:

1. There is a significant relationship between conduct disorder and personality type in delinquent adolescents.
2. There is a significant relationship between conduct disorder and moral intelligence in delinquent adolescents.
3. There is a significant relationship between moral intelligence and personality type in delinquent adolescents.
4. There is a significant relationship between conduct disorder and personality type with the mediation of moral intelligence in adolescent delinquents.

Methods

This was a cross-sectional analytical research on adolescents in the Kerman Correctional Center in the 2022 school year. The statistical sample was 66 adolescents who were selected through simple random sampling. A complete list of adolescents from Kerman Correctional Center was used for random sampling in this study. Then, each person was assigned a number, and the subjects were randomly selected using Excel software. In this research, three standard questionnaires were used to collect data, including:

1. Conduct Disorder Questionnaire (CDQ): This questionnaire was created by Goodman in England. It consists of 35 questions and five components (aggression, irresponsibility, deception, vandalism, weak interpersonal relationships) on a 5-point Likert scale ranging from never (1 point) to always (5 points). The overall score of conduct disorder is between 35 and 175, and its average is 105. The

minimum and maximum scores in the dimensions of aggression, irresponsibility, and deception are 8 and 40, respectively, and the average score of these dimensions is 24. In the dimension of vandalism, the minimum score is 25, and the average score is 15. In the dimension of weak interpersonal relationships, the minimum score is 6, the maximum score is 30, and the average score is 18. Tehranidoust used this questionnaire in Iran, and its obtained reliability was 0.67 using Cronbach's alpha (12). The obtained construct validity of this questionnaire using the correlation test between this questionnaire and the child symptom inventory-4 (CSI-4) test was 0.871. The validity of this questionnaire was confirmed by the respondents, professors, and confirmatory factor analysis, and the obtained reliability of this questionnaire using Cronbach's alpha was 0.74, which showed the reliability of this questionnaire to be acceptable.

2. Eysenck Personality Questionnaire-Revised Short Scale (EPQ-RS): This questionnaire was created by Eysenck in 1963. This single-component questionnaire measures the three dimensions of psychopathic personality with a minimum score of 18 and a maximum of 36, extroversion with a minimum score of 19 and a maximum score of 38, and psychosis with a minimum score of 18 and a maximum of 36. This questionnaire consists of 57 questions about different behaviors and feelings on a 2-point Likert scale (Yes=1 and No=2). Azkhash et al also obtained the alpha coefficients of this questionnaire for scales of psychopathy, emotional distress, and extroversion-introversion as 0.63, 0.78, and 0.56, respectively, which indicated its favorable validity (13). The validity of the questionnaire was confirmed by the respondents, professors, and confirmatory factor analysis, and a reliability of 0.72 was obtained for this questionnaire in the present study using Cronbach's alpha, which indicated the reliability of this questionnaire.
3. Moral Competence Inventory (MCI): This questionnaire was created by Link and Keil in 2005, consists of 40 questions, and includes the components of honesty (10 questions), responsibility (10 questions), forgiveness (10 questions), and compassion (10 questions) on a 5-point Likert scale, ranging from very little (1) to very much (5). The minimum score of moral intelligence is 40, the maximum score is 200, and the average score is 120. In addition, in the dimensions of honesty, responsibility, forgiveness, and compassion, the minimum score is 10, the maximum score is 50, and the average score is 30. In Bahrami and colleagues' research, the validity of 0.89 was obtained through internal consistency (14). The validity of the questionnaire was confirmed

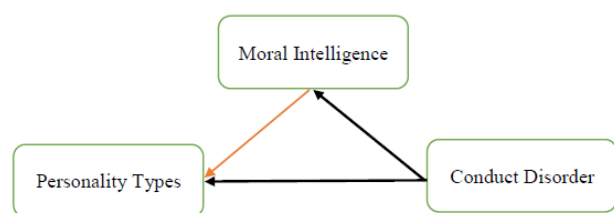


Figure 1. Conceptual model of the research

by respondents, professors, and confirmatory factor analysis. The reliability of this questionnaire in the present research was 0.71 using Cronbach's alpha, which indicates the reliability of this questionnaire.

SPSS version 28 software, Smart PLS3 software, correlation coefficient tests, confirmatory factor analysis, and structural equation model were used for data analysis.

Results

Sixty-six adolescents from Kerman Correctional Center were included in the study. Of the respondents, 65.2% were female, 15% were in the age group of 16 to 18, and 56.7% had lower than high school diploma education (Table 1).

The average conduct disorder was 78.53, and the average scores of conduct disorder in the dimensions of aggressiveness, irresponsibility, deception, vandalism, and weak interpersonal relationships were 18.24, 17.96, 18.13, 10.93, and 13.24, respectively. The conduct disorder score in all dimensions was lower than average (Table 2).

Table 1. Demographic characteristics of the participants

Variable	Type of variable	Frequency	Percent
Gender	Male	43	65.2
	Female	23	34.8
Age	12 to 14 years	13	19.7
	14 to 16 years	20	30.3
	16 to 18 years	33	50.0
Parents' education level	Lower than high school diploma	38	57.6
	Up to high school diploma	19	28.8
	Bachelor's degree	9	13.6
	Total	66	0.100

Table 2. Descriptive indicators of the dimensions of the conduct disorder, personality type, and moral intelligence questionnaires in adolescents of Kerman Correctional Center

Number	Variables	Average	Mean	Standard deviation	Skewness	Elongation
1	Conduct disorder	78.53	105	20.18	1.518	2.925
2	Aggression	18.24	24	4.69	1.043	1.664
3	Irresponsibility	17.96	24	4.44	1.22	2.278
4	Deception	18.13	24	4.82	1.255	2.033
5	Vandalism	10.93	15	3.55	1.25	1.83
6	Interpersonal relationships	13.24	18	3.75	1.56	2.88
7	Personality types	84.63	85	8.62	0.517	-0.954
8	Extroversion	30.30	28	3.69	-1.258	1.590
9	Neuroticism	27.43	27	4.94	0.536	-0.942
10	Psychosis	26.89	27	5.66	0.615	-1.171
11	Moral intelligence	151.197	120	20.16	-1.327	-0.824
12	Honesty	38.41	30	5.45	-1.364	-1.172
13	Responsibility	39.24	30	4.35	0.421	-1.246
14	Forgiveness	40.65	30	2.61	-1.642	-1.361
15	Compassion	39.51	30	7.59	-1.231	-1.042

The average score of personality types was 63.84. In addition, the average scores of personality type in the dimensions of extroversion, neuroticism, and psychosis were 30.30 (minimum of 19 and maximum of 38), 27.43 (minimum of 18 and maximum of 36), and 26.89 (minimum of 18 and maximum of 36), respectively (Table 2).

The average moral intelligence was 151.19. The average scores of moral intelligence in honesty, responsibility, forgiveness, and compassion were 41.38, 24.39, 40.65, and 39.51, respectively (Table 2).

As can be seen in Table 3, the values of the composite reliability and Cronbach's alpha for the research variables are above 0.7, which indicates acceptable convergent validity. In addition, the obtained values for the average variance extracted (AVE) index are greater than 0.05, which indicates validity.

According to the results of Figure 2, it can be seen that the factor loading and also the path coefficients in all research variables are at an acceptable level (questions whose factor loading was less than the acceptable level were removed from the final model). Therefore, the research variables of the model are valid and have a suitable fit.

The bootstrap command was used to confirm

Table 3. The indices of Cronbach's alpha, composite reliability, and extracted average variance of research variables

Number	Research variables	Cronbach's alpha	CR	AVE
1	Conduct disorder	0.713	0.833	0.563
2	Personality types	0.723	0.960	0.621
3	Moral intelligence	0.762	0.824	0.536

AVE, average variance extracted; CR, composite reliability

the research hypotheses, which shows the output of t-coefficients and standard estimation (Figure 3).

The results of structural equation modeling in Figure 3 show that there is a direct and significant relationship between conduct disorder and personality types ($P < 0.01$, $T = 3.31$, path coefficient (PC) = 2.32), conduct disorder and moral intelligence ($P < 0.01$, $T = 1173.19$, $PC = -0.996$), and moral intelligence and personality types ($P < 0.05$, $T = 2.096$, $PC = 1.502$) in delinquent adolescents. In addition, a significant indirect relationship exists between conduct disorder and personality types with the mediation of moral intelligence ($P < 0.05$, $T = 2.095$, $PC = -1.495$) (Table 4).

Discussion

This study was conducted to investigate the relationship between delinquency based on conduct disorder and personality type with the mediation of moral intelligence in adolescents in Kerman Correctional Center. For this purpose, the relationships between conduct disorder and personality type, conduct disorder and moral intelligence, moral intelligence, and personality type, and conduct disorder and personality type with the mediation of moral intelligence were investigated. The results showed a significant relationship between the variables in all four cases.

The results of the research showed that there was a

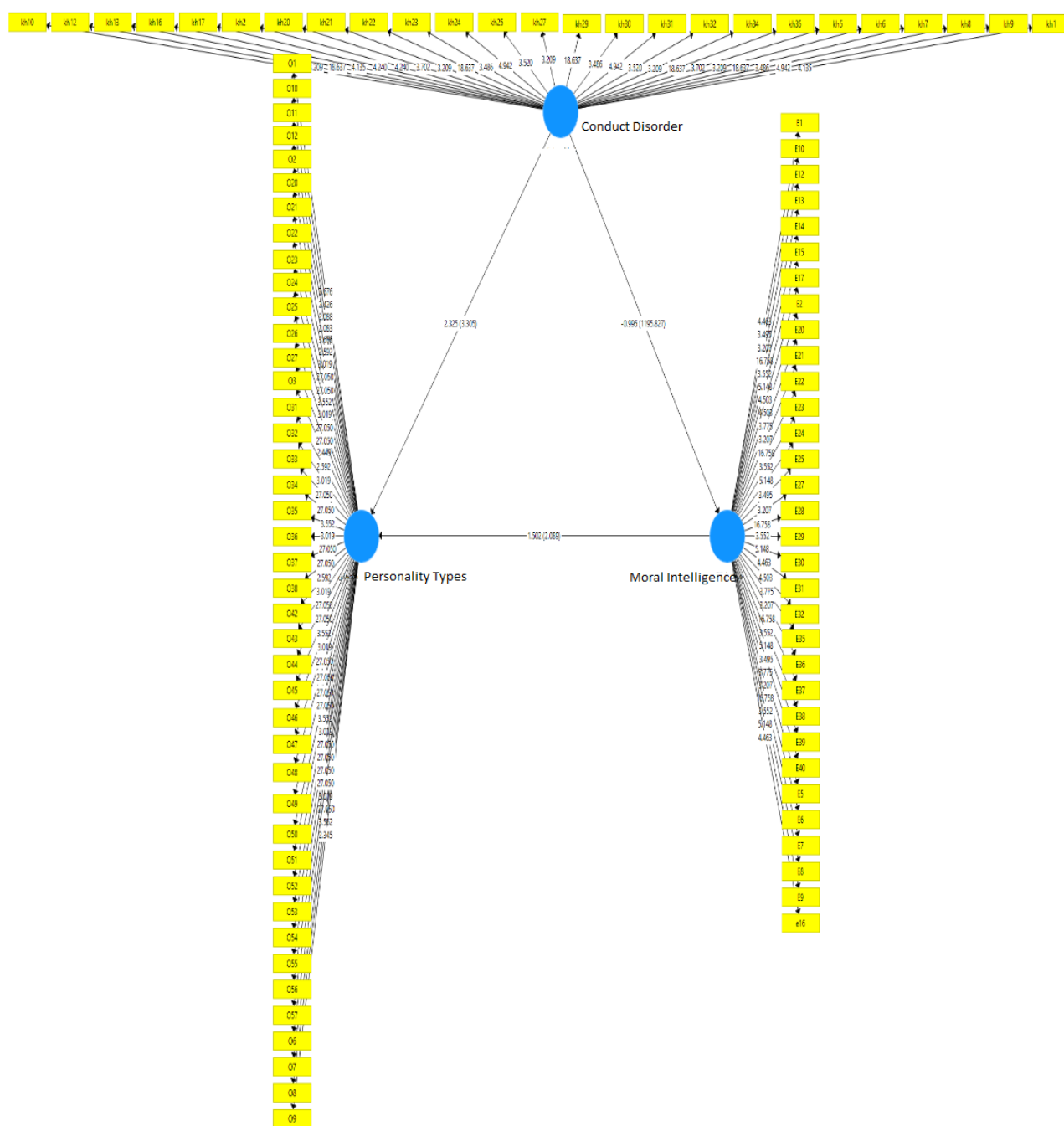


Figure 2. Factor loading values and path coefficients of structural equations in research variables

Table 4. Testing results of research hypotheses.

Number	Hypotheses	Standardized coefficients	t-value	Significance level	The status of the hypothesis
1	Conduct disorder on personality types	2.325	3.312	0.001	Confirmed
2	Conduct disorder on moral intelligence	-0.996	1173.196	0.000	Confirmed
3	Moral intelligence on personality types	1.502	2.096	0.036	Confirmed
4	Conduct disorder on personality types with the mediation of moral intelligence	-1.495	2.095	0.036	Confirmed

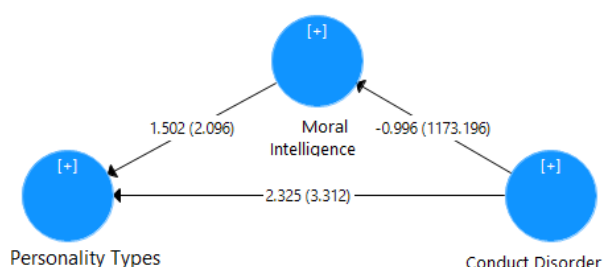


Figure 3. Running the model in the significant numbers and standard estimation mode

direct significant relationship between conduct disorder and personality type in delinquent adolescents. Students with conduct disorder had more psychopathic personality traits than normal students (15). The associated crime prevention authorities must pay more attention to all behavioral disorders, especially conduct disorders in children and adolescents. Preventing this disorder with effective prevention methods, including family-oriented programs, school-oriented measures, teaching skills to children, etc., can be very helpful. In case of the occurrence of this disorder, it is possible to improve it with the help of various treatment methods and thus protect society from the occurrence of crime in the future because the importance and influence of this disorder in the criminality phenomenon is so great that it requires more theoretical and field research and the research carried out thus far is not enough. Therefore, it can be concluded that with the increase in conduct disorder, the personality types of neuroticism and psychosis increase, but extroversion decreases.

The results of this research indicated a direct significant relationship between conduct disorder and moral intelligence in delinquent adolescents. The results of some studies have been consistent with this research. One study showed that training to strengthen moral intelligence could positively and sustainably affect the decision-making process of participants in exam violations (16). In addition, studies have shown a positive and significant relationship between spiritual and moral intelligence and academic performance. Additionally, there was a positive and significant relationship between all ten dimensions of moral intelligence and students' academic performance, except for the dimensions of keeping promises, accepting responsibility to serve others, and the ability to forgive others' mistakes (17).

Moral intelligence includes the metacognitive range that enables the reaction of cognitions, attitudes, and moral activities within the framework of individual value systems. Moral intelligence is a vital intelligence for all human beings. It is considered a turning point for all forms of intelligence because moral intelligence directs other forms of intelligence to perform valuable tasks (18). Therefore, with the increase of conduct disorder, the level of moral intelligence decreases in adolescents.

In addition, the results of this research showed that there was a significant relationship between moral intelligence and personality type in delinquent adolescents. In one research, it was shown that personality types and emotional intelligence had a significant relationship with mental health. In addition, the dimensions of extroversion and conscientiousness of personality and emotional intelligence had a negative significant correlation with mental health. Also, extroversion, conscientiousness, and emotional intelligence explained 29%, 31%, and 47% of the variance related to mental health at a significant level, respectively (19). Normal adolescents are relatively in higher moral development and growth (20). There was a negative relationship between neuroticism and students' academic progress, a positive relationship between extroversion and students' academic progress, and a negative relationship between psychopathy and students' academic progress (21).

Another study showed a significant relationship between moral intelligence and three groups of personality types (22). Individuals with higher moral intelligence do the right thing; their actions are consistent with their values and beliefs, perform well, and connect things with moral principles. Eysenck (22) believes that adolescents with irritable, unstable, unusual, aggressive, and antisocial personalities score higher on the psychopathy scale than normal adolescents. As a result, aggressive and antisocial adolescents have a much higher tendency towards delinquency than normal adolescents, and also, the symptoms of neurosis affect a person's behavior and make it difficult for the individual to adapt to the environment. Therefore, according to what has been stated, it can be concluded that with the increase in moral intelligence, neuroticism and psychosis of delinquent adolescents decrease, and their extroversion increases.

Finally, the results of this research indicated that conduct disorder and personality type had a significant indirect relationship with the mediation of moral

intelligence in delinquent adolescents. In his research, Sadeghi Kharai (10) showed that moral intelligence has a mediating role in the relationship between social intelligence and students' responsibility. Ramezanzadeh and Mosleh (23) concluded that moral intelligence mediates the relationship between spiritual intelligence and psychological resilience. In one research, Saberlari (24) emphasized the role of moral intelligence in students' psychological well-being and confirmed the mediating role of hope for education in the relationship between the two mentioned variables. Rahimi (7) showed that moral intelligence mediates moral development, wisdom, and emotional intelligence. Porter et al (25) showed a strong relationship between psychopathic personality traits and aggressive behaviors in the interpersonal relationships of children and adolescents with conduct disorder.

There may be individuals among delinquents who have not been able to adapt to the environment due to the symptoms of neurosis and, therefore, have fallen into the path of delinquency. Therefore, timely diagnosis of neuroticism symptoms by psychologists, counselors, trainers, and other related professionals can be effective in preventing the formation of criminal backgrounds and behaviors. Psychotic disorders, which are basically associated with extreme anxiety and intense emotional response and significantly disrupt a person's cognitive abilities, are effective on juvenile delinquency; therefore, early diagnosis of psychotic symptoms, and in case of occurrence, treatment of psychotic disorders can be effective. In addition, it is essential to promote moral intelligence to help personality development and reduce conduct disorder in delinquent adolescents for two reasons: 1) Moral intelligence is one of the dimensions of intelligence that provides a framework for the correct functioning of human beings and is considered as a predictive factor of behavior. 2) Morality is considered a strategic capital for societies and is a prerequisite for an efficient social life. In one research conducted by Cheng and Cheng (9), it was shown that moral intelligence and moral identity are among the most essential and prominent factors affecting adolescents' tendency towards delinquency, and adolescents with a sufficient level of moral intelligence development have less tendency towards delinquency. The strong connection between conduct disorder in childhood and adolescence and antisocial personality disorder in adulthood is one of the most important causes of delinquency. Research shows that three-quarters of dangerous criminals are those with antisocial personality disorder, and almost all of these criminals had conduct disorder in their childhood and adolescence. If conduct disorder is not treated in childhood, some of its sufferers may start committing criminal acts in their childhood. If this continues, it will subtly reduce the age of delinquency. Based on what has been stated, it is possible to affect the relationship between

conduct disorder and personality type by increasing moral intelligence and reducing conduct disorder, neuroticism, and psychosis in delinquent adolescents.

This research has all the limitations of the questionnaires used in this research, and also, the sample of the present study included adolescents from Kerman Correctional Center; therefore, caution should be exercised in generalizing the research results to other youths and criminals in the country.

Conclusion

This study showed that personality type and moral intelligence significantly correlate with conduct disorder. Personality describes the cognitive, emotional, and behavioral patterns that are relatively permanent in people, distinguishing one person from another and affecting all aspects of human behavior. On the other hand, moral intelligence is a variable that affects people's behavior. Moral intelligence is based on the idea that people are not born moral or immoral but learn to be good. Therefore, it is possible to improve the moral intelligence of adolescents with training, which is also effective in predicting behavioral disorders and personality types. Therefore, to reduce delinquency, it is suggested that training programs be included in the educational programs to increase the moral intelligence of delinquent adolescents.

Authors' Contribution

Conceptualization: Marzieh Ganjavi.

Data curation: Marzieh Ganjavi.

Formal analysis: Marzieh Ganjavi.

Funding acquisition: Marzieh Ganjavi.

Investigation: Marzieh Ganjavi.

Methodology: Marzieh Ganjavi.

Project administration: Marzieh Ganjavi.

Resources: Marzieh Ganjavi.

Software: Marzieh Ganjavi.

Supervision: Alireza Manzari Tavakoli, Zahra Zeinaddiny Meymand.

Validation: Marzieh Ganjavi.

Visualization: Marzieh Ganjavi.

Writing—original draft: Marzieh Ganjavi.

Writing—review & editing: Marzieh Ganjavi.

Competing Interests

None to be declared.

Ethical Approval

Before implementing the questionnaires, the purpose of the research was explained to the respondents and they were assured that this information is only for research purposes and that they are free to withdraw from participation at any stage of the research. The Kerman University of Medical Science (KMU) Ethics Committee has approved this study (IR.KMU.REC.1401.557).

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