



Original Article

# Predicting bullying at schools based on basic psychological needs, moral identity, and personality traits: The mediating role of social perspective-taking

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## Abstract

**Introduction:** This research aimed to predict bullying in schools based on basic psychological needs, moral identity, and personality traits concerning the mediating role of social perspective-taking.

**Materials and Methods:** The statistical population of this descriptive and correlative study included all secondary high school students of Bahar city- Iran, in the 2020-2021 academic year. The sample size was 390 people selected by the convenient sampling method. The instruments included the scales of Bullying (Illinois, 2001), Basic Psychological Needs (Guardia et al., 2000), Moral Identity (Aquino and Reed, 2002), and the short form of the NEO Personality questionnaire (McCrae and Costa, 1998), and Social Perspective-taking (Mohagheghi et al., 2015). Data were analyzed by path analysis using SPSS-25 and LISREL software.

**Results:** We revealed that the proposed model fits well with the experimental data (GFI= 0.96, IFI= 0.97, CFI= 0.98). Also, social perspective-taking in the relationship between bullying and competency ( $Z = -2.01, P < 0.05$ ), relationship ( $Z = -4.61, P < 0.01$ ), moral identity ( $Z = -5.39, P < 0.01$ ), neuroticism ( $Z = 2.53, P < 0.05$ ), agreeableness ( $Z = -5.81, P < 0.01$ ), and conscientiousness ( $Z = -4.09, P < 0.01$ ) has a significant mediating role.

**Conclusion:** Based on the findings, the lack of satisfaction of basic needs such as competency and communication, weak moral identity, low levels of agreeableness and conscientiousness, high levels of neuroticism, and low social perspective-taking predicts and increases the possibility of bullying in schools by students.

**Keywords:** Basic psychological needs, Bullying, Personality, Moral identity, Social perspective-taking

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## Introduction

Bullying can occur directly or indirectly at all levels of education, and its incidence reaches its peak in high school (1). Direct Bullying includes physical and verbal aggression, as hitting, kicking, shouting, and threatening. In

contrast, indirect bullying, also known as social bullying, usually involves some aspects of social isolation, as rejection, gossiping, ignoring, etc. (2). Bullying in schools is a global phenomenon and one of the main challenges of the education society. Currently, in many

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countries and regions, bullying in schools is common (3) and has become a worrying problem. Statistics indicated that 20% of children had report being exposed to this behavior (4). A European multicenter study reported a bullying victimization rate of 18.2% among children (5).

A school-based global health survey found that 20.6% of Indonesian students and 28.3-51% from Southeast Asian countries aged 13-17 years had been bullied (6). In a study in Iran, it was reported that about 80% of students believed in the existence of bullying, 40.9% were bully witnesses, 33.3% were victims of bullying, and 9.8% were bullies; 16% of students had experienced a combination of these situations (7). Also, 32% of the students had been bullied by their peers at school on one or more days per month. Approximately 14% of public schools report that bullying is a frequent disciplinary problem that detracts from creating a positive school culture (6). Also, bullying and cyberbullying behaviors are considered a big social problem today and affect 37% of teenagers (8). Several studies investigated bullying in schools. They clarified the role of some factors in its prediction and occurrence, such as high levels of stress, depression (9) and anxiety (10), low emotional safety (11), excitement-seeking, self-concept, and school atmosphere (12), difficulty in emotional regulation (13), low emotional intelligence and spiritual intelligence (14), attachment, self-compassion, the role of parents and peers (15), externalization of problematic behaviors, socio-economic status family, school poverty (16), moral discontinuity and moral identity (17), impulsivity, moral indifference and dark personality traits (18). The factors mentioned above by the researchers have clarified only part of the problem in the field of bullying. Thus bullying in school as an undesirable behavior needs more investigation. Based on this, in this research, we seek to investigate other predictors of bullying in school including: basic psychological needs, moral identity, personality traits, and social perspective-taking. We assume that bullies in schools probably suffer from a lack of fundamental psychological needs satisfaction, difficulty in forming moral identity, weak personality, and low social perspective-taking. In this way, this research aimed to predict bullying in schools based on basic psychological needs, moral identity, and personality traits concerning the

mediating role of social perspective-taking. Bullying is associated with various negative consequences for bullying victims and those who commit bullying, including negative social, emotional, and physical results, causing harm in the field of education (early school dropout), lowering self-esteem, depression, and addiction (13).

Therefore, this research was conducted to answer the following questions: Can bullying be predicted based on basic psychological needs, moral identity, and personality traits concerning the mediating role of social perspective-taking? Is it appropriate to predict bullying based on basic psychological needs, moral identity, and personality traits concerning the mediating role of social perspective-taking?

### Materials and Methods

The method of this research was the descriptive and correlative type. The statistical population included all secondary high school students (10<sup>th</sup>, 11<sup>th</sup>, and 12<sup>th</sup> grades) in Bahar city of Hamadan province-Iran in the 2020-2021 academic year. There are different methods concerning on the sample size in path analysis and structural equations modeling. For example, some researchers said because the methodology of structural equation modeling is similar to some aspects of multivariate regression. It is possible to use the principles of determining sample size in multivariate regression analysis. In multivariate regression analysis, the ratio of the number of samples (observations) to the independent variables should not exceed 5. Otherwise, regression result will not be generalizable (19).

Also, considering 15 observations for each predictor variable in multiple regression analysis is a good rule of thumb (20,21). Also, it is always emphasized that the sample size should be more than 200 people (20); therefore, 390 people (198 boys and 192 girls) were selected as the study sample by the convenient sampling method and completed the scales.

The inclusion criteria included willingness to participate, being student at secondary school in the first half of the 2020-2021 academic year in Bahar city. The exclusion criteria included unwillingness to participate in the research and distortion in the scales. Ethical considerations in this research included informed consent and voluntary participation, the right to withdraw from the research, and confidentiality.

### Research instruments

*A) Bullying Scale of Illinois:* This scale is made by Illinois and has 18 questions. The questions are scored according to the 5-point Likert scale (one= never to five= always). This scale has three subscales: bullying, conflict, and victimization. The reliability of this scale has been reported by Cronbach's alpha method for each of the subscales of bullying, conflict, and victimization, respectively 0.87, 0.79, and 0.70 (22). The validity and reliability of this scale have been reported for the victim subscale at 0.65 and 0.74. These indexes for the bullying subscale reported at 0.74 and 0.78 (23). The internal consistency of this scale in the present study was obtained by Cronbach's alpha coefficient method for the bullying dimension of 0.814.

*B) Basic Psychological Needs Scale:* This scale has 21 items, which was made by Guardia, Ryan, Couchman, and Deci based on a 7-point Likert scale (completely false= 1 to completely true= 7). This scale has three subscales including autonomy, competency, and relationship (24). The reliability of this scale was obtained with Cronbach's alpha 0.64, 0.58, and 0.68, respectively (25). The reliability of this scale has also been reported as favorable in Iran (26). The internal consistency of this scale in the present study was obtained by Cronbach's alpha coefficient for autonomy 0.60, competency 0.60, and communication 60.

*C) Moral Identity Scale:* This scale has ten items, which was created by Aquino and Reed based on a 5-point Likert scale (from strongly agree= 5 to disagree= 1). This scale consists of two dimensions: internalization and symbolization. Its internal consistency with Cronbach's alpha for the two dimensions of internalization and symbolization is 0.77 and 0.76, respectively (27). In Iran, the reliability of this scale has been confirmed for two dimensions (internalization: 0.677, symbolization: 0.677) and retest (internalization: 0.505, symbolization: 0.463) (28). The internal consistency of this scale in the present study was obtained by Cronbach's alpha coefficient method for the entire scale 0.767.

*D) NEO Personality Scale (Short Form):* This scale has 60 items and was created by Costa and McCrae in 1989 based on a 5-point Likert scale (from completely agree to disagree). This scale measures five personality factors (neuroticism, extroversion, openness to experience, agreeableness, and conscientiousness) (29,30).

The internal consistency of this scale in the present study, with Cronbach's alpha coefficient method for neuroticism (0.70), extroversion (0.60), openness to experience (0.70), agreeableness (0.60), and conscientiousness (0.70) was obtained.

*E) Social Perspective-Taking Scale:* This scale has 15 items and was made by Mohagheghi et al. based on a 5-point Likert scale. This scale measures four predictors of knowing others, understanding other people's scale, putting yourself in another person's place, and respecting differences. Its reliability has been reported using Cronbach's alpha 0.78 (31). The internal validity and homogeneity of this scale in the present study were obtained by Cronbach's alpha coefficient of 0.892. The software used in this research was SPSS-25 and LISREL. Analysis of the data conducted by descriptive statistics (mean, standard deviation, skewness to normality of the data), correlation matrix, path analysis, Sobel test, and fit indices for the developed model such as the Root Mean Square Error of Estimation Approximation (RMSEA), Incremental Fit Index (IFI), Confirmatory Factor Analysis (CFI), Goodness of Fit Index (GFI), and X<sup>2</sup>/df fit index.

### Results

The participants were 390 people (198 boys and 192 girls) from secondary high school students in Bahar city, Hamadan province-Iran. The mean and standard deviation of boys' and girls' age was  $17.31 \pm 2.75$  years and  $17.03 \pm 2.97$  years, respectively. In terms of educational level, 60 students (15.4%) were in 10<sup>th</sup> grade, 39 students (10%) were in 11<sup>th</sup> grade, and 288 students (73.8%) were in 12<sup>th</sup> grade. In terms of field of study, 42 students (10%), 131 students (33.6%), 163 students (41.8%), 13 students (3.3%), and 41 students (10.5%) were studying in mathematics, experimental sciences, humanities, work and knowledge, and technical-professional field, respectively.

Pearson correlation and path analysis were used for data analysis. Before analyzing data, the assumptions of the path analysis (including normality of distribution, independence of errors, and multiple collinearity) were checked. To assume the normality of the research variables, the skewness and kurtosis of the distribution of scores were used. The results showed that the distribution of the scores of all variables is normal (distribution range is between +1 and -1). The Durbin-Watson test

was used to check the independence of the errors. The results showed no correlation among the errors (D.W= 1.64, the range between 1.5 and 2.5 is acceptable). We used Variance Inflation Factor (VIF) and tolerance to check the multiple collinearity among the predictor variables. There was no collinearity

among the variables (the range of VIF was less than five, and the tolerance was higher than 0.1). Another assumption was to establish a linear relationship among independent and dependent variables. It was investigated with Pearson correlation (Table 1).

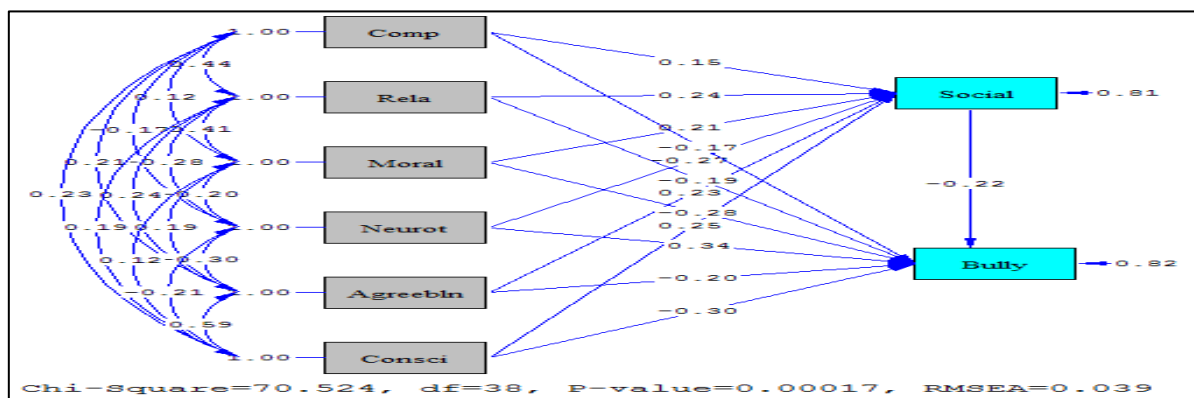
**Table 1.** Mean, standard deviation, and correlation among the studied variables

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
Autonomy	30.28	5.25	-										
Competency	29.68	6.46	0.44**	-									
Relationship	32.04	6.20	0.51**	0.42**	-								
Moral identity	32.33	5.56	0.17**	0.13*	0.40**	-							
Neuroticism	33.42	8.01	-0.22**	-0.16**	-0.27**	-0.24**	-						
Extroversion	32.51	7.22	0.25**	0.08	0.26**	0.07	-0.29**	-					
Openness to experience	34.56	8.45	0.38**	0.19**	0.05	0.03	-0.41**	0.27**	-				
Agreeableness	36.18	6.08	0.30**	0.21**	0.25**	0.18**	-0.44**	0.29**	0.25**	-			
Conscientiousness	34.48	6.64	0.21**	0.23**	0.19**	0.12*	-0.36**	0.13*	0.14*	0.47**	-		
Perspective-taking	56.09	9.23	0.09	0.20**	0.29**	0.33**	-0.23**	0.04	0.09	0.30**	0.25**	-	
Bullying	27.30	7.38	-0.07	-0.18**	-0.23**	-0.20**	0.26**	-0.06	-0.03	-0.22**	-0.17**	-0.38**	-

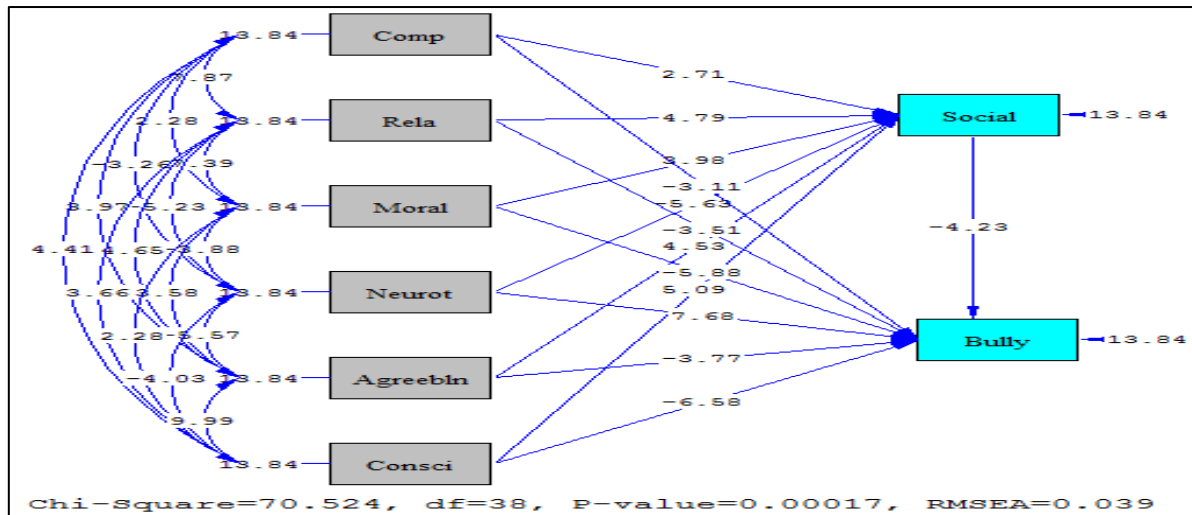
\*\* $P < 0.01$ , \* $P < 0.05$

As can be seen in Table 1, the need for competency has a positive relationship with perspective-taking ( $r = 0.20$  and  $P < 0.01$ ) and a negative relationship with bullying ( $r = 0.18$  and  $P < 0.01$ ). It means that the need for communication has a positive relationship with perspective-taking ( $r = 0.29$  and  $P < 0.01$ ) and a negative and significant relationship with bullying ( $r = -0.23$  and  $P < 0.01$ ). Moral identity has a positive relationship with perspective-taking ( $r = 0.33$  and  $P < 0.01$ ) and a negative and significant relationship with bullying ( $r = -0.20$  and  $P < 0.01$ ). A negative relationship exists between neuroticism and perspective-taking ( $r = -0.23$  and  $P < 0.01$ ). Also, there is a positive and significant relationship between neuroticism and bullying ( $r = 0.26$  and  $P < 0.01$ ), and agreeableness with perspective-taking ( $r = 0.30$  and  $P < 0.01$ ) has a positive and significant relationship with bullying ( $r = -0.22$  and  $P <$

$0.01$ ). Conscientiousness has a positive relationship with perspective-taking ( $r = 0.25$  and  $P < 0.01$ ) and a negative and significant relationship with bullying ( $r = -0.17$  and  $P < 0.01$ ). A negative and significant relationship exists between perspective-taking and bullying ( $r = -0.38$  and  $P < 0.01$ ). We used path analysis to test the relationships among research variables. Since there was no significant correlation between the need for autonomy and personality traits such as extroversion and openness to experience, perspective-taking, and bullying ( $P > 0.05$ ), these variables were excluded from the model and the analysis. In the first stage, the overall fitness of the model was analyzed; then, the regression weights of the measurement models and the coefficients related to the relationships were analyzed (Figures 1 and 2).



**Figure 1.** Standard coefficients of relationships among basic psychological needs, personality traits, and moral identity with bullying with the mediation of social perspective-taking (standard mode)



**Figure 2.** Standard coefficients of relationships among basic psychological needs, personality traits, and moral identity with bullying with the mediation of social perspective-taking (meaningful state)

First, to determine the fitness of model, fit indexes were considered. The fit indices of the model are presented in Table 2. For the X<sup>2</sup>/df fit index, values less than 3 are suitable. For GFI, IFI, CFI, and TLI index, a value close to 0.90 and above is considered an acceptable goodness of fit, which indicates the model is good. Concerning the RMSEA, values close to 0.05 or less indicate a good fitness of the model,

and a value of 0.08 or less indicates a logical error of approximation. A value higher than 0.10 indicates the requirement to reject the pattern. The fit indices presented in Table 2 show the appropriate fit of the model. In the following, the structural equation model examined all the effects related to all the different paths. The results are presented in Table 3.

**Table 2.** The fit indices for the designed model

Index	X <sup>2</sup>	df	X <sup>2</sup> /df	GFI	IFI	TLI	CFI	RMSEA
Statistic	70.52	38	1.85	0.96	0.97	0.96	0.98	0.039

**Table 3.** The coefficients of the bullying explanation model are based on the basic needs of psychology, personality traits, and moral identity, considering the role of mediator perspective-taking

Direct Path	Regression Coefficient (standard)	t-statistics
The effect of competency on perspective-taking	0.15	2.71
The effect of communication on perspective-taking	0.24	4.79
The effect of moral identity on perspective-taking	0.21	3.98
The effect of neuroticism on perspective-taking	-0.27	-5.63
The effect of agreeableness on perspective-taking	0.23	4.53
The effect of conscientiousness on perspective-taking	0.25	5.09
The effect of competency on bullying	-0.17	-3.11
The effect of communication on bullying	-0.19	-3.51
The effect of moral identity on bullying	-0.28	-5.88
The effect of neuroticism on bullying	0.34	7.68
The effect of agreeableness on bullying	-0.20	-3.77
The effect of conscientiousness on bullying	-0.30	-6.58
The effect of perspective-taking on bullying	-0.22	-4.23

t= 2.98 is significant in the 0.01 level

As can be seen in Table 3, the effect of the need for competency ( $\beta = 0.15$ ,  $P < 0.05$ ), the need for relationship ( $\beta = 0.24$ ,  $P < 0.01$ ), moral identity ( $\beta = 0.21$ ,  $P < 0.01$ ), neuroticism ( $\beta = -0.27$ ,  $P < 0.01$ ), agreeableness ( $\beta = 0.23$ ,  $P < 0.01$ ), and conscientiousness ( $\beta = 0.25$ ,  $P < 0.01$ ) are significant on social perspective-taking. The effect of need for competency ( $\beta = -0.17$ ,  $P < 0.01$ ), need for communication ( $\beta = -0.19$ ,  $P < 0.01$ ), neuroticism ( $\beta = 0.34$ ,  $P < 0.01$ ),

agreeableness ( $\beta = -0.20$ ,  $P < 0.01$ ), and conscientiousness ( $\beta = -0.30$ ,  $P < 0.01$ ) are significant on bullying.

The effect of social perspective-taking on bullying is also significant ( $\beta = -0.22$ ,  $P < 0.01$ ). To investigate the mediating role of social perspective-taking in the relationship between basic psychological needs, personality traits, and moral identity with bullying, Sobel's test was used (Table 4).

**Table 4.** The results examine the mediating role of social perspective-taking in the relationship between basic psychological needs, personality traits, and moral identity with bullying through the Sobel test

Predictor variable	Criterion variable	Mediator variable	Sobel's test (z)	P
Competency	Bullying	Social perspective-taking	-2.01	0.05
Communication	Bullying	Social perspective-taking	-4.61	0.01
Moral identity	Bullying	Social perspective-taking	-5.39	0.01
Neuroticism	Bullying	Social perspective-taking	2.53	0.05
Adjustment	Bullying	Social perspective-taking	-5.81	0.01
Conscientiousness	Bullying	Social perspective-taking	-4.09	0.01

The results of the Sobel's test showed that the perspective-taking variable in the relationship among competency ( $Z = 2.01$ ,  $P < 0.05$ ), communication ( $Z = 4.61$ ,  $P < 0.01$ ), moral identity ( $Z = 5.39$ ,  $P < 0.01$ ), neuroticism ( $Z = 2.53$ ,  $P < 0.05$ ), agreeableness ( $Z = 5.81$ ,  $P < 0.01$ ) and conscientiousness ( $Z = -4.09$ ,  $P < 0.01$ ) has a significant mediating role with bullying.

## Discussion

The results of this research indicated that the model has a favorable fitness. Basic psychological needs, moral identity, and personality traits concerning the mediating role of social perspective-taking predicted bullying. The results showed that basic psychological needs (competency and relationship), moral identity, and personality traits (conscientiousness, agreeableness, and neuroticism) can affect bullying through the mediating role of social perspective-taking. In addition, the results showed that social perspective-taking, relationship, competency, moral identity, neuroticism, agreeableness, and conscientiousness have a negative direct effect on bullying. Based on the results, one of the important factors that provide the basis for bullying students in schools is the weakness in social perspective-taking. Because bullies show behaviors related to bullying in school they cannot consider the cognitive point of view and

infer the thoughts and feelings of another person. Another factor that causes unethical behaviors to be shown by bullies is a weak moral identity or lack of moral identity formation; also, when the basic psychological needs (competency and relationship) are not satisfied by the students, the ground for bullying is created. In addition, weaknesses in personality, such as difficulty in adapting to the environment, irresponsibility, and being neurotic, also facilitate the occurrence of behaviors related to bullying.

In line with the results of this research, the results of Yan et al.'s research showed that being a victim of bullying positively predicts the level of depression in children. Negative thoughts and self-compassion mediate the relationship between bullying victimization and depression (9). The results of Khalili and Jafarian Yasar's research on 100 male students (50 bullies and 50 normal ones) showed that the mean scores of stress, depression, and anxiety in bullied students are significantly higher than normal students (10). Mahboub et al. studied three hundred eighty-five students. They concluded emotional safety variable plays a mediating role between the effects of child abuse and bullying-related behaviors. The study by Shirkavand et al. on 290 students showed that the thrill-seeking variable has both a direct and an indirect effect (through self-concept) on bullying; also, self-concept plays a mediating role in the relationship between school climate and bullying (12).

In addition, Abdollahi et al. reported that the scores of cognitive emotion regulation strategies in refocusing-planning and acceptance components in the group of non-bullying students are higher than bully students. The mean scores of components of the relationship with the school, such as the feeling of respect and justice in school, teacher support, positive feeling towards school, academic participation, communication with the school, and participation in society in the group of non-bullying students, are higher compared to bully students (13). The results of Fakharzadeh et al.'s research on four hundred forty-seven first-secondary students of Najaf-Abad city-Iran showed that understanding one's own and other's emotions and feelings (emotional intelligence component), thinking context and critical dimension (spiritual intelligence component), and moral character (spiritual intelligence component) play a significant role in predicting group membership (being a bully or not) (14). The results of Moradmand et al.'s research on three hundred twenty teenagers of Tehran-Iran showed that attachment to parents and self-compassion have a positive effect on bullying. Also, problem-solving variable a mediating role in the relationship among adolescent bullying victims, types of attachment (mother and father), and self-compassion (15). Torkashvand and Keramati studied four hundred twenty elementary school students in Tehran-Iran and reported that moral detachment and moral identity have a significant effect in predicting bullying among students (17).

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Also, Jahani-Zingir and Eghbali showed that impulsivity, moral indifference, and dark personality traits play a significant role in predicting cyberbullying in cyberspace-addicted teenagers (18). The sample is limited to two secondary schools in Bahar city of Hamedan province, the use of self-report tools and implementation in a school setting. These limitations limit the generalization of the results to other age groups in different educational contexts. We suggest that future studies investigate the role of moral emotions (especially shame, guilt, and moral attitude) in predicting bullying.

### Conclusion

Based on the results, social perspective-taking, moral identity, relationship, competency, responsibility, agreeableness, and neuroticism have direct and indirect effects on bullying. It can be concluded that strengthening social perspective-taking, satisfying the needs of communication and competency, teaching ethics and moral behaviors to strengthen moral identity and teach responsibility and agreeableness to the environment by schools can reduce the bullying behaviors in students.

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