

# Relationship between Personality Traits and Prosocial Behavior: The Moderating Role of Emotional Intelligence

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**Submitted:** 28 November 2021

**Accepted:** 25 January 2022

Int J Behav Sci. 2022; 15(4): 226-234

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## Abstract

**Introduction:** The purpose of this study was to investigate the moderating role of emotional intelligence in the relationship between personality traits and prosocial behavior.

**Method:** This study was a descriptive correlational study. The statistical population included all students of the University of Bojnord in 2018. For this purpose, 340 students were selected by cluster random sampling. Participants completed the Prosocial Tendencies Measure, NEO-Five Factor Inventory, and The Schutte Self-Report Emotional Intelligence (SSREI) scale. Data were analyzed using Pearson's correlation coefficient and hierarchical regression.

**Results:** The results showed that 11% and 0.09% of the variance of prosocial tendencies was explained by emotional intelligence and personality traits, respectively. The results also showed that emotional intelligence significantly moderates the relationships between personality traits of neuroticism and agreeableness with prosocial behavior.

**Conclusion:** Emotional intelligence can reinforce the relationships of personality traits of neuroticism and agreeableness with prosocial behavior.

**Keywords:** Prosocial Behavior, Emotional Intelligence, Personality

## Introduction

Pro-Social Behavior (PSB) includes different forms of behavior such as altruism heroism, cooperation, trustworthiness, and fairness observing in contexts of family, friends, co-workers, and strangers [1]. The PSB is derived from six prosocial tendencies including altruistic, compliant, emotional, public, anonymous, and dire components. Altruism is voluntary helping based on concern for the needs and benefit of others. Compliant involves helping others as a response to their request. Emotional means helping others in extremely emotional situations. The public was done in the presence of an audience to gain acceptance and respect of people. In Anonymous, the helper is unknown to people in need of help. Dire involves helping in an emergent situation [2].

It is necessary to study the predictors of PSB since it plays an important role in an individual's psychological and social health. In this way, helping others leads to the reception of appreciation and approval from others, which in turn can produce positive feelings in the helper. Therefore, PSB can reinforce individuals' psychological and social well-being by enhancing social bonding, a sense of meaning, and self-worth [3].

There are individual differences in performing PSB because people do not respond equally to emergencies situations. It is assumed that such individual differences are based on personality traits. Personality traits reflect the relatively stable, automated patterns of thoughts, feelings, and behaviors that distinguish people from one another, and that are appeared in trait-evoking conditions [4]. According to the Big Five theory, individuals can be identified

in terms of five broad traits, i.e., neuroticism, openness, extraversion, agreeableness, and conscientiousness. It has been claimed that the Big Five dimensions can be some part of the prosocial personality [5]. Individuals with a high level of neuroticism are susceptible to anxiety, melancholia, social anxiety, self-blame, and withdrawal from social interactions [6]. Fear of social interactions in neurotic individuals may decrease PSB [7]. Openness is related to features of aesthetic appreciation, unconventionality, creativity, and inquisitiveness [8]. However, people with artistic predispositions accentuate emotional expressions that may sensitize them to the circumstances and needs of others to empathize with others [9]. Also, openness may relate to PSB through experiencing unusual cases such as victims in need of help [10]. Conscientiousness includes features such as responsibility and observance of ethics that may motivate people to help others [11]. In some cultures, conscientiousness was associated with compassion [9]. Extraversion includes the characteristics of sociability and warmth. Individuals with high scores on extraversion are successful in adaptive interpersonal relationships that may provoke compassion and PSB [9]. Finally, agreeableness contains features such as sympathetic, kind, warm, understanding, and sincere [12]. Agreeable people positively evaluate PSB since they are sensitive to others' problems [10]. It has been revealed that agreeableness relates to empathy and compassion in some cultures [9]. Habashi et al. [13] found that agreeableness was associated with the emotional reactions of victims who needed help.

Regarding the relationship between the traits of the Big Five and PSB, Mlcak [14] indicated that helping professions and volunteering experience participants had higher levels of extraversion, openness to experience, conscientiousness, anonymous behavior, altruism, behavior in crisis, empathic concern, and perspective-taking than participants without experience and economic professions. Rodrigues et al. [15] indicated that only agreeableness is related to prosocial tendency while other traits were not correlated with prosocial tendency. Martin-Raugh et al. [16] found that conscientiousness and extraversion are associated with PSB. Courbalay et al. [17] revealed that prosocial responses to others' pain rely on agreeableness, neuroticism, and conscientiousness. A meta-analysis study indicated that the traits of agreeableness and Openness were positively related to PSB [18]. In a cross-culture study, neuroticism and openness were predictors of compassion, while agreeableness was significant only in the Canadian culture

[9].

It seems that emotional intelligence can strengthen PSB. Emotional intelligence is the ability and capacity to perceive, express, recognize, apply, and manage emotions in oneself and others [19]. Emotional intelligence is a set of abilities and non-cognitive skills that enhance one's ability to successfully deal with environmental stresses and pressures [20]. The ability of emotional intelligence contains a combination of four emotion-related abilities as the perception of emotions, integration of emotions, emotion understanding, and emotion management [19]. Studies indicated that emotional expressiveness and sensitivity to the distress of others are important in developing PSB [21]. Emotion recognition accuracy from faces is conceptualized as a performance of emotional intelligence so that some studies indicated a correlation between emotion recognition accuracy and PSB [22] while other studies suggested no significant relationship between emotion recognition accuracy and PSB [21]. Martin-Raugh et al. [16] found that emotional intelligence was not correlated with role-playing performance on PSB. The role of emotions in PSB has been inquired in empathy-altruism hypothesis. This hypothesis states that prosocial motivation is stimulated by empathy. Empathy as an aspect of emotional intelligence is the ability to understand others' emotions that are induced by the story of sad events. In this regard, Torkman Malayeri and Sheikholeslami [23] revealed that empathy through moral emotions affects PSB.

As emotional intelligence theory has predicted, the ability to understand, utilize and manage the emotions of oneself and others has many positive effects and increases the likelihood of PSB. In this regard, Rahpeyma and Fouladchang [24] found that emotional intelligence training increased PSB such as helping, cooperation, and sharing.

Although previous studies have examined the relationship between personality traits and emotional intelligence and its components with PSB, however, there are differences in the findings of these studies. Also, in previous studies, the mediating role of emotional intelligence in the relationship between personality traits and compassion has been studied [9], however, the moderating role of emotional intelligence in the relationship between personality traits and PSB has not been studied. As the conceptual model shows in Figure 1, the present study seeks to investigate the moderating role of emotional intelligence in the relationship between personality traits and PSB.

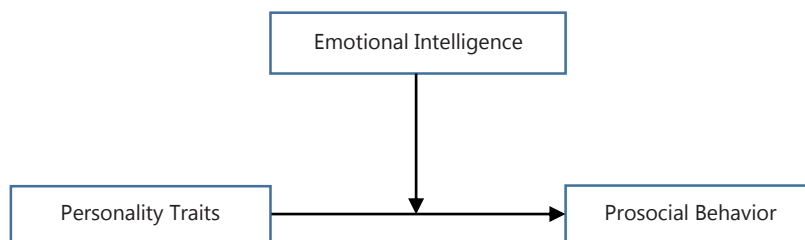


Figure 1. Conceptual Model

## Method

Since the present study tried to investigate the relationship between personality traits and PSB concerning the moderating role of emotional intelligence, it has a descriptive nature based on the correlation method. The statistical population consisted of all students of University of Bojnord who were selected by two-stage cluster sampling. The number of samples was considered 386 based on the Cochran's formula for a limited population ( $N=4500$ ). The inclusion criteria included being a student at Bojnord University and expressing a consent to participate in the study. To select the sample, at first two faculties were randomly selected and then six classes were randomly selected from each faculty. All participants expressed their consent to participate in the study. Participants' responses were assured of confidentiality. They were asked to complete a questionnaire for one week. After removing the incomplete questionnaires, the responses of 340 participants were evaluated. Data were analyzed using descriptive statistics including mean and standard deviation as well as inferential statistics including Pearson correlation coefficient and hierarchical regression. SPSS software version 22 was used for statistical analysis. Participants were in the age range of 18-25 years with a mean of 19.98 and a standard deviation of 1.53. Among them, 44.1% were male and 55.9% were female.

The tools used in this study were as follows:

**Prosocial Tendencies Measure:** Carlo and Randall (2002) designed the Prosocial Tendencies Measure. It has 23-item with the sub-scales of public, anonymous, dire, emotional, compliant, and altruism. Responses are based on a five-point scale ranging from 1 (does not describe me at all) to 5 (describes me greatly). Cronbach's alpha for public was 0.78, anonymous 0.85, dire 0.63, emotional 0.75, compliant 0.80, and altruism 0.74. The test-retest reliability with a two-week interval for public, anonymous, dire, emotional, compliant, and altruism were 0.61, 0.75, 0.72, 0.80, 0.73, and 0.60, respectively. The designers have reported that this inventory was correlated with global prosocial behavior and multidimensional measure of empathy [2]. In Iran, the Prosocial Tendencies Measure has been translated and its psychometric properties have been studied. The test-retest reliability and Cronbach's alpha were 0.86. The correlation of Prosocial Tendencies Measure with scales of global prosocial behavior, empathic concerns, altruism values, and social responsibility motivation was 0.34, 0.41, 0.38, and 0.47, respectively [25]. In the present study, the reliability of Cronbach's alpha was obtained for public 0.70, anonymous 0.80, dire 0.68, emotional 0.76, compliant 0.72, and altruism 0.62.

### Schutte Self-Report Emotional Intelligence (SSREI)

**Scale:** Schutte et al. (1998) developed a scale of emotional intelligence based on the model of emotional intelligence of Salovey and Mayer. This scale has 33 items including appraisal and expression of emotion, regulation of emotion, and utilization of emotion components. Responses are based on a five-point scale in the range of 1 (strongly disagree) to 5 (strongly agree). Test-retest reliability with a two-week interval was 0.78. Internal

consistency with Cronbach's alpha was 0.90. SSREI were negatively related to the Toronto Alexithymia Scale and Trait Meta Mood Scale [26]. In Iran, the test-retest reliability and Cronbach's alpha for SSREI was 0.85 and 0.77, respectively. SSREI was positively related to Trait Meta-Mood Scale and Satisfaction With Life Scale [SWALS] and was negatively associated with the Depression Anxiety Stress Scales [27]. This study has reported the reliability of Cronbach's alpha for SSREI 0.78, appraisal and expression of emotion 0.81, emotional regulation 0.68, and utilization of emotion 0.43.

**NEO-Five Factor Inventory:** Costa and McCrae developed the NEO-Five Factor Inventory in 1992. This inventory is a 60-item and responds to items on a 5-point Likert scale of strongly disagree, disagree, indifferent, agree, and strongly agree. The Neo-Five factor inventory has five factors of neuroticism, extraversion, openness, agreeableness, conscientiousness. Costa and McCrae [28] reported internal consistency in the range of 0.68 for agreeableness to 0.86 for neuroticism. The short form was related to the long version ( $r=0.68$ ). The correlation of spouse and peer evaluation forms ranged from 44 to 36 for conscientiousness and 48 to 65 for agreeableness. In Iran, test-retest reliability was reported in the range of 0.61 for openness to 0.82 for extraversion and Cronbach's alpha in the range of 0.35 for openness to 0.83 for neuroticism. The factor of neuroticism was associated with all dimensions of SCL-90-R while other factors had a reverse correlation or no correlation with SCL-90-R dimensions [29]. In this study, the Cronbach's alpha for neuroticism, extraversion, openness, agreeableness, and conscientiousness were 0.72, 0.84, openness 0.65, 0.70, and 0.55, respectively.

## Results

The normality data were analyzed by Kolmogorov-Smirnov. The results showed that variables had a normal distribution. The significance levels for neuroticism, extraversion, openness, agreeableness, conscientiousness, emotional intelligence, and PSB were 0.11, 0.09, 0.12, 0.10, 0.13, 0.10, and 0.07, respectively, in which a significance level above 0.05 indicates a normal distribution of data.

The mean and standard deviation of the studied variables and their correlation are presented in Table 1. The results show that there is a significant correlation between PSB with emotional intelligence and personality traits of neuroticism, openness, and agreeableness. Also, emotional intelligence was associated with neuroticism and extraversion.

Hierarchical Regression Analysis is used to investigate the moderating role of a variable in studies of correlation.

The regression analysis has several assumptions:

1. The distribution of errors should be normal. To test the normality of the error distribution, the standard error value distribution diagram is compared with the normal curve. As Figure 2 shows, the distribution of errors for the dependent variable is somewhat normal.
2. Other assumptions in the regression is the independence of the errors, the difference between the actual values, and the values predicted by the regression equation, from each other. Regression cannot be used if the independence of the error hypothesis is rejected and

the errors are correlated with each other. The Durbin-Watson test is used to check the independence of observations (independence of residual values or errors)

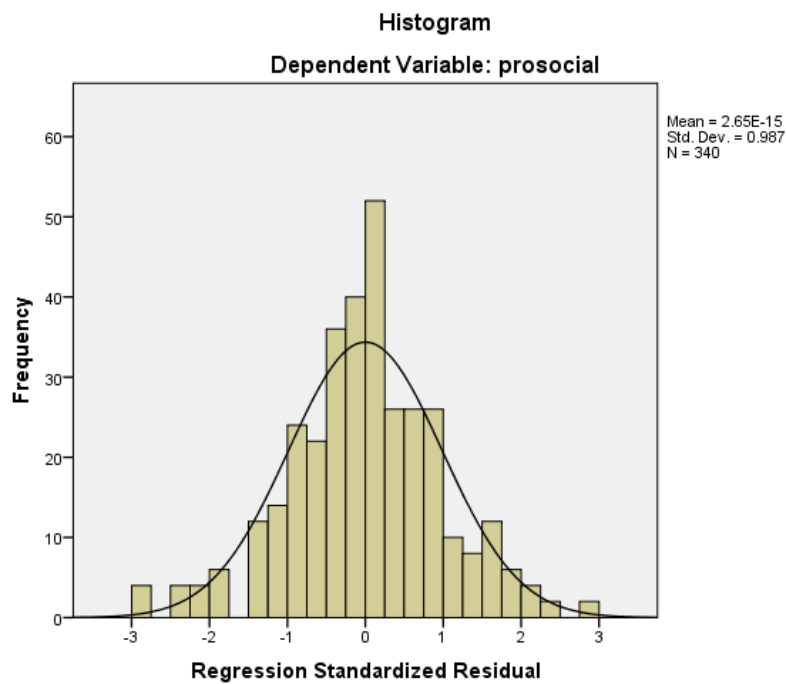
from each other. In this study, the value of the Durbin-Watson test was 1.56, therefore, the assumption of independence of errors is accepted.

**Table 1. Mean and Standard Deviation of Studied Variables and Their Correlation**

Variables	M	SD	1	2	3	4	5	6	7	8	9
1-Neuroticism	37.31	6.36	1								
2- extraversion	41.45	6.45	.36***	1							
3- openness	39.69	6.52	.49***	.61***	1						
4- agreeableness	39.68	5.90	.55***	.51***	.58***	1					
5- conscientiousness	42.08	6.96	.24***	.53***	.50***	.42***	1				
6- regulation	38.02	8.56	.08	.24***	.01	.03	.05	1			
7-appraisal and expression	39.78	5.41	-.18***	.10	.07	-.06	.03	.60***	1		
8- utilization	36.28	6.56	-.15***	.10	.05	-.13**	.003	.43***	.54**	1	
9- total	77.80	10.61	-.16***	.19***	.03	.05	.01	.86***	.83***	.77***	1
10-prosocial behavior	114.09	16.97	-.23***	.005	-.16***	-.24***	.04	.33***	.27***	.20***	.33***

\*\*\*. Correlation is significant at the 0.01 level (2-tailed).

\*\* . Correlation is significant at the 0.05 level (2-tailed).



**Figure 2. Distribution of errors in PSB.**

3. The assumption of multicollinearity means that there is a strong correlation between the two predictor variables. In this case, despite the high value of the determination coefficient, the regression model may not have high validity. It is measured by statistics called tolerance and Variance Inflation Factor (VIF). These indicators are calculated separately for each of the predictor variables. The value of the tolerance varies between 0 and 1. The larger value indicates the lowest degree of overlap with the other variables. VIF is the inverse of tolerance varying between 1 and 10. In this study, values of tolerance were in the range of 0.14 to 0.99 and VIF values were in the range of 1 to 7 for predictor variables. Therefore, this assumption has been considered.

To do moderated regression analysis, a new variable as an interaction variable is created by multiplying the vector of the predicting variable and the new predicting variable (moderator variable). Then, in the regression analysis, the predictor and interaction variables are

entered into the regression equation. If the interaction variable significantly changes the variance of the criterion variable beyond the influence of predictor variables, the interaction relationship becomes significant. It can be stated that the moderating variable has strengthened or weakened the relationship between the predictor and the criterion variables. To examine the moderating role of emotional intelligence in the relationship between personality traits and PSB, in the first step, the deviation score of personality traits separately as the first predictor variable is entered into the regression analysis. Then in the second step, the deviant score of emotional intelligence (moderator variable) is entered in the regression analysis as the second predictor variable. In the third step, the interaction of the deviation score of personality traits and emotional intelligence as a predictor variable is entered into the analysis. The values and significance levels for the predictor variables in steps 1 to 3 have been presented in Table 2.

**Table 2.** Results of Moderated Regression Analysis of Personality Traits with PSB with the Moderating Role of Emotional Intelligence

Model		R Square	Step1 $\beta$	Step2 $\beta$	Step 3 $\beta$	R Square Change $\Delta R$
1	neuroticism	.05	-.23***	-.18***	.13	.05***
	EI	.14		.18***	.36***	.08***
	EI*neuroticism	.15			-.33***	.01**
2	extraversion	0	.005	-.06	-.04	0
	EI	.11		.34***	.34***	.11***
	EI*extraversion	.11			-.02	0
3	openness	.02	-.15***	-.147***	-.15	.02***
	EI	.13		.32***	.32***	.10***
	EI*openness	.13			.010	0
4	agreeableness	.05	-.24***	-.22***	.020	.059***
	EI	.15		.31***	.35***	.10***
	EI*agreeableness	.16			-.26***	.01**
5	conscientiousness	.002	-.04	-.04	.026	.002
	EI	.11		.33***	.29***	.10***
	EI* conscientiousness	.11			-.23	.008

\*\*\*. Correlation is significant at the 0.01 level (2-tailed).

\*\* . Correlation is significant at the 0.05 level (2-tailed).

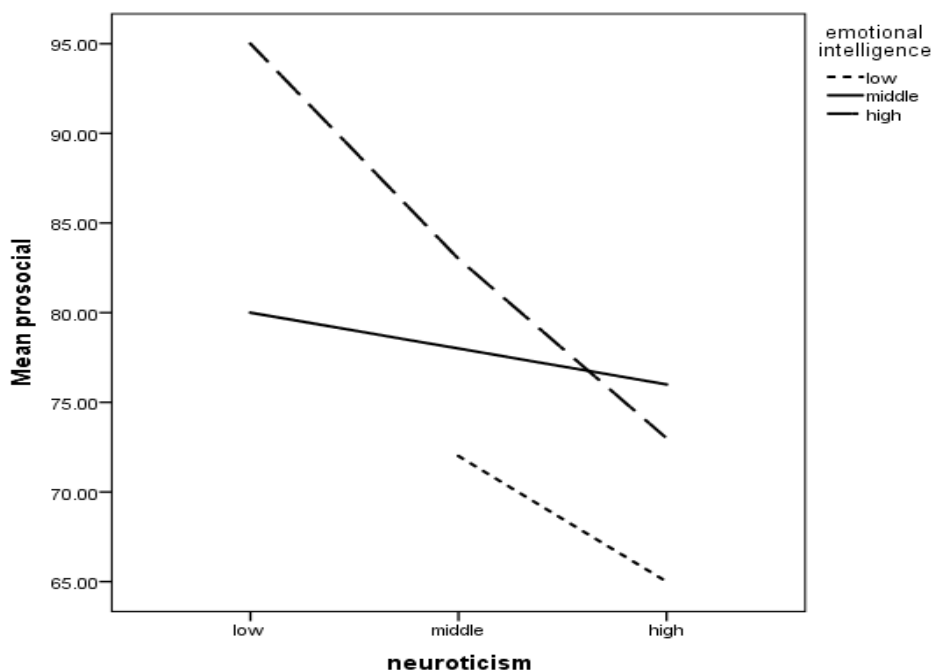
Table 2 shows that emotional intelligence, neuroticism, agreeableness, and openness have explained 11, 5, 6, and 2 percent variance PSB, respectively. Concerning the moderating effect, it can be stated that emotional intelligence moderates the relationship between neuroticism and agreeableness with PSB. Table 2 shows that the interaction of emotional intelligence and neuroticism ( $\beta = -0.33$  and  $\Delta R=0.01$ ), the interaction of emotional intelligence and agreeableness ( $\beta = -0.22$  and  $\Delta R=0.01$ ) are significantly significant.

To show this moderating effect, participants were divided into three groups based on one standard deviation higher and lower than mean in traits of neuroticism, agreeableness, and emotional intelligence. Then the mean

of the groups created in the variables of PSB was calculated. For clarity, figures 1 and 2 illustrate how neuroticism, agreeableness, and emotional intelligence variables interact together in predicting PSB.

As shown in Figure 3, the mean PSB was high in individuals who had a higher level of emotional intelligence and lower level in neuroticism, even if personality traits of neuroticism were strong in the individual. If there is a higher level of emotional intelligence, PSB will also be higher.

As Figures 4 and 5 show, the mean PSB is higher in people with higher emotional intelligence than those with lower emotional intelligence. PSB will be higher even if the agreeableness and openness are low.



**Figure 3.** Interaction between neuroticism and emotional intelligence in predicting PSB.

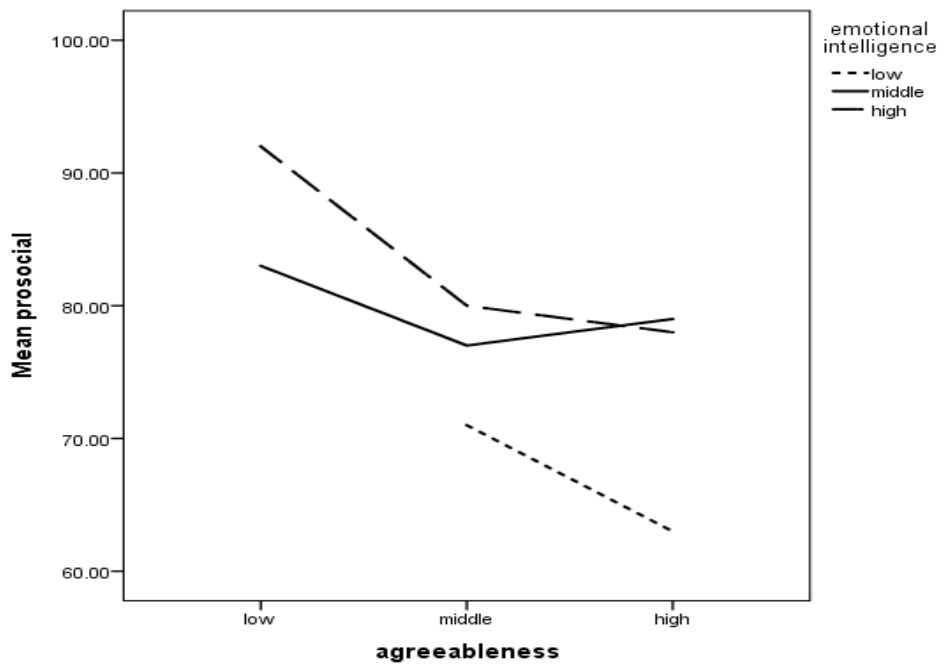


Figure 4. Interaction between agreeableness and emotional intelligence in predicting PSB.

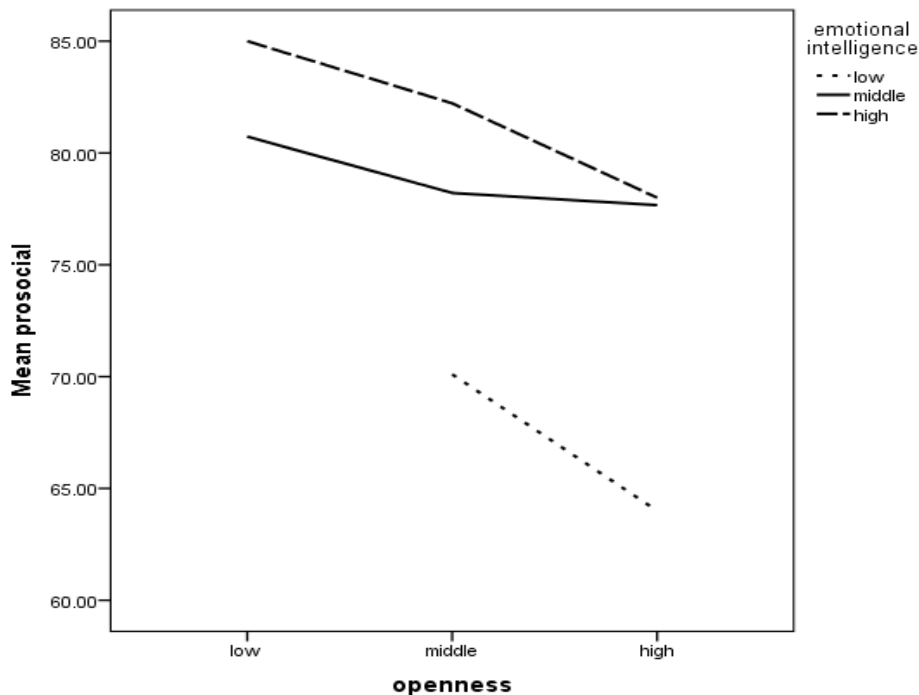


Figure 5. Interaction between openness and emotional intelligence in predicting PSB.

**Discussion**

The present study aimed to investigate the moderating role of emotional intelligence in the relationship between personality traits and PSB.

This study found that high scores in neuroticism are associated with low levels of PSB. This finding is consistent with studies indicating neurotic individuals have lower scores on prosocial tendencies [7, 13]. It seems that neurotic individuals do less PSB because of fear of social relationships and withdrawal from social situations. Also, fear of interactions impedes the formation of social self-efficacy in these people so that neurotic individuals scruple to understand the needs of others and to manage their emotions in the helping process [30]. studies have

demonstrated that neurotic individuals have a low level of emotional intelligence skills [31]. Furthermore, neurotic individuals are vulnerable to others' negative emotions and cannot manage these emotions effectively, so they feel more distress than usual when perceiving others' suffering and unhappiness. People with a high score in neuroticism are sensitive to negative stimuli such as others' distress. When they watch the damage and suffering of others, instead of being motivated to help them, try to eliminate the source of their discomfort. Therefore, they may avoid situations that require help and suppress the relevant thoughts [13]. Also, the findings of this study showed that openness was negatively correlated with PSB.

Regarding the relationship between openness and PSB, there are different findings. Some studies have reported no significant correlation [15-17] and in some studies, significant correlations have been observed [14, 18].

However, individuals with high-level openness tend to notice emotional expression and studies have shown a positive relationship between compassion and openness [9]. However, PSB is different from empathy and requires the action of helping. Thus, open-minded people may not perceive helpful behaviors as interesting or even find them problematic, and thus the level of PSB among open-minded people may decrease.

The results of this study showed that agreeableness was negatively correlated with PSB.

This finding is inconsistent with several studies [15, 17, 18]. However, in some studies, agreeableness has not been associated with PSB [14, 16]. Many studies have examined the association of agreeableness with empathy and compassion [9, 13]. PSB is beyond empathy and compassion with the victim since in PSB one must act to ease the others' pain and need. It requires emotional excitation, feeling efficacy to help, and have knowledge and experience to help. Therefore, individuals may be sympathetic to the discomforts of others, but may have not an action in their behavioral repository to reduce the suffering of others [32].

This is due to the fact that the participants of this study were young students of the university and these participants might not have enough experience to understand and manage the situations that required help. Also, Participants may prevent mental involvement with others' problems and needs to retain opportunities to be happy and entertained.

Additionally, it is unclear why the relations between PSB with agreeableness were negative. It seems that since agreeableness has aspects of conflict avoidance or even obedience [33], these traits are theoretically unrelated to PSB.

Even under certain conditions, a good mood may reduce the likelihood of a prosocial response. An observer who is in a very positive mood and faces an emergency of ambiguity tends to interpret the situation as non-emergency, even if it is clear that it is an emergency. If helping involves doing something difficult and unpleasant, people in good mood tend to resist helping [34].

The results showed that emotional intelligence is associated positively with PSB.

consistent with this finding, some studies indicated that emotional intelligence is positively related to compassion [9] and PSB [7, 21, 22]. People with high emotional intelligence skills can understand others' negative feelings and are more likely to be motivated to help others. They may also feel more competent and confident in helping others because they have strong skills to manage their own and others' emotions [35].

Empathy as a manifestation of emotional intelligence involves emotional and cognitive responses to another person's emotional state and includes sympathy, a desire to solve the problem, and to adopt the other person's

perspective [36]. As the empathy-altruism hypothesis explains, prosocial motivation is stimulated by empathy to help others [37].

Theorists of emotional intelligence point out individuals with a high level of emotional intelligence understand and evaluate their emotional states correctly and express their emotions, effectively regulate their moods, and even rely on others' emotional needs on time [19]. Furthermore, the negative state relief model explains that individuals help to reduce their negative emotions and have a better feeling [32]. If helping involves behaviors that improve feelings, the person with a bad mood is more likely to engage in PSB than when he/she is in a neutral mood. A negative emotion often has a positive effect on PSB, if it is not too severe if the emergency is not ambiguous and if the assistance is interesting and satisfying [32].

Also, the results indicated that emotional intelligence significantly moderates the relationships between personality traits of neuroticism, agreeableness, and openness with PSB.

Actually, PSB was high in individuals who had a higher level of emotional intelligence and a lower level in neuroticism, agreeableness, and openness. The higher the level of emotional intelligence, the higher PSB. This finding suggests that emotional intelligence can reinforce the relationships of personality traits of neuroticism and agreeableness with PSB.

Studies have suggested that emotional intelligence training increase PSB, Rahpeyma ,and Fouladchang [24] and decrease bully behavior [38].

PSB requires accuracy in recognizing and explaining others' emotions, approximately managing and expressing emotions [21]. If individuals are unable to correctly perceive and detect others' emotions, manage themselves, and rely appropriately on them, this disability may constraint them from appropriate performance in circumstances of social urgent. Therefore, emotional intelligence skills are essential for PSB. consistent with this finding, Davis et al. [39] demonstrated a moderation model in the relationship between life events, empathic concern, and prosocial and aggressive behaviors among adolescents.

Although the present study looked at individual factors in predicting PSB, different studies indicate that the occurrence of PSB is influenced by various factors. The PSB requires understanding the situation as an emergency, having a sense of responsibility, having the knowledge and skills to help, and deciding to help [32]. Recently it has been suggested that the relationship between individual differences and PSB is mediated by prosocial knowledge [16].

The present study faced some limitations. Self-report questionnaires were used in the study to measure PSB, which led to bias in responses and over-estimation of subjects in doing PSB. Also, the present study only examined a correlation between variables and it is not possible to deduce a causal relationship. In addition, the present study was conducted among college students, which limits the generalization of findings to other populations. Based on the present limitations, it is

suggested that other report questionnaires or observation tools be used to measure PSB. Also, given the influence of environmental factors and circumstances on the conduct of PSB, it is suggested to study factors such as the subject of assistance, characteristics of the person in need of assistance, knowledge of the helping, the existence of spectators besides the role of individual characteristics in conducting PSB.

Considering the positive effects of PSB and emotional intelligence on mental health and social well-being and reducing negative behaviors, it is recommended that emotional intelligence skills be taught in schools, universities, and supportive organizations. So that in necessity situations they can behave prosocial through managing in oneself and others, and benefit from the positive consequences of PSB.

## Conclusion

The study indicated that emotional intelligence, neuroticism, agreeableness, and openness were related to PSB. Emotional intelligence was a strong predictor of PSB and the negative effect of trait personality moderated on PSB. It can be concluded that even with negative characteristics, emotional intelligence skills can increase the rate of PSB.

## Conflict of Interest

The author declares no competing interests.

## Ethical Approval

This study is the result of a research project with the ethical code of IR.UB.REC.1400.006, which was approved in the University of Bojnord.

## Acknowledgment

The author would like to thank all the students of the University of Bojnord who participated in this study.

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