



# Big Five Personality Traits and Gratitude: The Role of Emotional Intelligence

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**Background:** Among many possible variables that can be associated with gratitude, researchers list personality traits. Considering that these relationships are not always consistent, the first purpose of the present study was to verify how the Big Five factors connect to dispositional gratitude in a sample of Polish participants. The second purpose was to assess the unique contribution of personality traits on gratitude with multiple regression analyses. Moreover, because much remains to be learned about whether these associations are indirectly influenced by different personal or social variables, the third goal was to explore the role of emotional intelligence as a potential mediational mechanism implicated in the relationship between personality traits and gratitude.

**Participants, Methods and Data Collection:** The sample consisted of 712 Polish respondents who were aged between 17 and 88. Most of them were women (64.3%). They answered questionnaires concerning their personality traits, emotional intelligence, and gratitude. The research was conducted using the paper-and-pencil method through convenience sampling.

**Results:** The results showed that both gratitude and emotional intelligence correlated positively and significantly with extraversion, openness to experience, agreeableness, and conscientiousness. Gratitude and emotional intelligence correlated negatively and significantly with neuroticism. The personality predictor of gratitude with the highest and positive standardized regression value was agreeableness, followed by openness to experience and extraversion. Neuroticism had a negative impact on gratitude. Conscientiousness was the only statistically insignificant predictor in the tested multiple regression model. Moreover, emotional intelligence mediated the relationship between four dimensions of personality (extraversion, openness to experience, agreeableness, and conscientiousness) and gratitude and acted as a suppressor between neuroticism and gratitude.

**Conclusion:** The current study broadens our comprehension of the interaction among personality traits, emotional intelligence, and a grateful disposition. Moreover, it imparts a noteworthy foundation not only for the mediatory role of emotional intelligence between four dimensions of personality and gratitude but also for its suppressor effect between neuroticism and being grateful.

**Keywords:** Big Five, personality traits, gratitude, emotional intelligence

## Introduction

Throughout history, philosophers and theologians have counted gratitude as an important human virtue.<sup>1,2</sup> Moreover, the concept of gratitude has been highly respected in most cultures and religions.<sup>3-5</sup> Yet, it has been considered one of the most neglected and undervalued emotions by psychology,<sup>6,7</sup> and it has only recently become a significant topic within the field of gratitude research.<sup>2,8</sup>

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Although, there is a lack of concurrence about the nature of the construct<sup>5,7</sup> and gratitude has been described in different ways, it has been prevalently conceptualized as a general disposition<sup>9</sup> or a temporary emotional state.<sup>10</sup> According to the first perspective, gratitude is defined as a generalized predisposition to acknowledge and answer with appreciation to others' benevolence (person, God, luck, fate or nature).<sup>11</sup> In the second sense, gratitude has been depicted as a complex emotion which follows a costly, unexpected, and intentionally given benefit.<sup>12,13</sup> It is elicited from specific situations or reflections.<sup>5</sup> In the present study, gratitude is considered as a disposition that refers to a generalized tendency to experience gratitude in daily life.<sup>11</sup>

Despite the growing interest in gratitude research,<sup>2</sup> much remains to be learned about how being grateful is directly related to other personality traits outside of the Western context, and whether these relationships are indirectly influenced by different personal or social variables. Among the various potential models of directionality that link gratitude to numerous components of human functioning, the reverse model and the mediational approach seem quite promising. Consistent with the reverse model, some variables may lead to gratitude. For example, Wood and colleagues examined social support as a factor that may induce gratitude.<sup>14</sup> In other studies, intrinsic religiosity/spirituality,<sup>11,15,16</sup> appreciation of simple pleasures and natural beauty<sup>17</sup> enhanced gratitude. Following this line of reasoning, we assumed that emotional intelligence could lead to gratitude since it is a psychological resource that allows one to perceive, be aware of and better understand others' and one's own emotions and behaviors.<sup>18</sup> Moreover, emotional intelligence is considered to foster trust,<sup>19</sup> contributes to positive relationships with others thanks to interpersonal (social) and intrapersonal (self) dimensions,<sup>20</sup> and is related to positive emotional states,<sup>21</sup> and gratitude.<sup>22</sup> The mediational model suggests the presence of a potential intervening mechanism through which these variables may affect gratitude. In this sense, emotional intelligence was assumed to be a mediator that explains why personality traits may result in a grateful disposition.

Several psychologists imply that both personal and environmental factors may be implicated in the development of gratitude. It has been noted that social functioning, cooperation and reciprocal altruism correlated more strongly with gratitude.<sup>4</sup> It also seems that success,<sup>23</sup> social support,<sup>14</sup> religiosity<sup>4</sup> and prayer,<sup>24</sup> humility,<sup>25</sup> behavioral

routines, and social interactions<sup>26</sup> may lead to gratitude. Finally, various studies have showed that gratitude is associated with a positive outlook toward life<sup>27</sup> and represents an essential positive personality trait.<sup>28</sup>

Among the many possible variables that can be associated with gratitude, researchers list personality traits. In fact, a review of the literature shows that the relations between the Big Five personality traits and gratitude have already been robustly established. However, considering that these relationships are not always consistent, especially in regard to openness to experience and neuroticism,<sup>29</sup> and that there is a lack of similar studies in Poland, the first purpose of the present study was to verify how the Big Five factors connect to dispositional gratitude in a sample of Polish participants. Based on the results of previous analyses performed prevalently in Western countries, it has been assumed (Hypothesis 1) that a significant proportion of the people who are more agreeable,<sup>7,11,27</sup> extraverted,<sup>11,30–32</sup> conscientious,<sup>11,27</sup> open,<sup>11,27</sup> and less neurotic<sup>11,27</sup> would tend to be more grateful. Positive correlations result from common features combining gratitude with individual personality traits. For example, agreeableness refers to interpersonal trust, harmony-seeking,<sup>33</sup> and prosociality. Therefore, since highly agreeable individuals are inclined to display a higher level of social interaction and be more empathetic and liked by others, they may also reveal stronger gratitude and see the goodness of others around them. Extraversion is another trait positively correlating with gratitude. In this regard, Watkins<sup>15</sup> observed that people high in extraversion were warm and sensitive to reward, and thus could be more prompt to reply with gratitude. Regarding openness to experience, which involves receptivity to novel ideas,<sup>34</sup> the outcomes of different studies are inconsistent. Saucier and Goldberg<sup>30</sup> observed that people who rated themselves as open expressed lower gratitude. McCullough and colleagues<sup>11</sup> found a positive correlation between both variables. In contrast, Watkins et al<sup>29</sup> and Breen et al<sup>35</sup> reported a lack of correlation between openness and gratitude. Conscientiousness involves, apart from other important features, the propensity to pursue socially recommended rules<sup>36</sup> and to consistently fulfil duties toward other people.<sup>37</sup> In accordance with this view, we expected that conscientiousness would be positively associated with gratitude since being grateful results from an awareness of prosocial norms.<sup>38</sup> In the case of neuroticism, we assumed that it would be inversely related to gratitude.<sup>27,31,36</sup> Since individuals who are high in

neuroticism often feel personally inadequate and insecure, they can express doubts within the context of receiving good things from others and, accordingly, show lower gratitude toward them. However, not all studies show such a relationship. For example, Neto<sup>39</sup> and Chen et al<sup>40</sup> found that neuroticism was not associated with gratitude.

In addition to the first aim (Hypothesis 1), which is replicative of earlier Western correlational research on personality traits and gratitude, the second purpose was to assess the unique contribution of personality traits on gratitude with multiple regression analyses (Hypothesis 2). In fact, McCullough and colleagues<sup>11</sup> consistently observed independent effects of agreeableness and neuroticism on dispositional gratitude across three studies. Applying multiple regression with gratitude as the dependent variable seems to be an important approach since relatively few researchers have considered gratitude as a dependent variable in their analyses.<sup>41–43</sup>

Moreover, there are some grounds to believe that gratitude may not only be an outcome variable within the reverse model, but a direct relationship between personality traits and being grateful can be accounted for by third variables.<sup>14,27</sup> Therefore, the next purpose of the study was to explore a potential mediational mechanism implicated in this association. Our choice was emotional intelligence, which consists in

the capacity to process emotional information accurately and efficiently, including that information relevant to the recognition, construction, and regulation of emotion in oneself. (p. 197)<sup>44</sup>

A review of the literature shows that emotional intelligence can be conceptualized as a trait and as an ability.<sup>45</sup> In our study, we assessed trait emotional intelligence which refers to the self-perception of typical emotion-related dispositions. So understood, it appears to be an important mediating factor since it promotes well-being outcomes,<sup>46</sup> optimism and hope.<sup>47</sup> Therefore, we assumed that emotional intelligence could be a potential mediator between dimensions of personality according to the Big Five Model, and gratitude (Hypothesis 3). Although there are well-established dilemmas with the implementation of cross-sectional mediation analyses to gather evidence for causal processes,<sup>48,49</sup> mediation models are useful with strong prior theoretical justification and empirical support<sup>50</sup> for the relationships between the independent variables, dependent variable, and mediator. In the following section, we have attempted to provide the main

rationale that regards the crucial assumption of the temporal precedence in the mediational scheme.<sup>51</sup>

The first important link in the prospective mediatory relationship is the association between a range of personality traits and emotional intelligence. On a conceptual foundation, McCrae<sup>52</sup> called attention to connections between emotional intelligence and facets of the dimensions of the Big Five Model. Moreover, there have been some studies that showed that both constructs are most likely intertwined.<sup>53–55</sup> It has been found that emotional intelligence negatively and significantly correlates with neuroticism, and positively and significantly associates with extraversion, openness, agreeableness, and conscientiousness.<sup>47,56–61</sup> In many of these studies,<sup>58,62,63</sup> it has been documented that while neuroticism and extraversion were the strongest personality determinants of emotional intelligence, agreeableness and openness were similarly weak. In turn, Van der Zee et al<sup>64</sup> and De Raad<sup>65</sup> found that conscientiousness was not linked to emotional intelligence, and Atta et al<sup>66</sup> observed conscientiousness as the strongest correlate of emotional intelligence. On the level of multiple regression, Petrides et al<sup>67</sup> observed that all Big Five factors of personality contribute significantly to the prediction of emotional intelligence.

The second crucial bond in the mediatory association is the tie between emotional intelligence and gratitude. Although only a small number of studies have examined this connection,<sup>68</sup> there is some evidence that both variables are positively correlated.<sup>29,69,70</sup> According to Watkins<sup>29</sup> and Ludovino,<sup>71</sup> emotional intelligence can be essential for grateful responding since being able to manifest gratitude is a part of having emotional intelligence. Perceiving and valuing positive aspects in the world that characterize gratitude<sup>22</sup> are possible thanks to skills which derive from emotional intelligence, such as establishing interpersonal relationships and maintaining their quality.<sup>72</sup> This directional pattern seems to have its solid grounding in some findings<sup>73</sup> that show emotional intelligence as an important predictor of life outcomes. Moreover, emotional intelligence may be a key factor in understanding and processing emotional information accurately and efficiently.<sup>74</sup>

## Methods

### Participants

The sample consisted of 712 participants recruited from Poland, aged 17 to 88 ( $M = 38.25$ ;  $SD = 17.94$ ). Most were women ( $n = 458$ , 64.3%). The respondents were different

in terms of their declared level of education—from primary (34.4%), through technical (7.4%), secondary (27.5%) and higher (30.6%). In addition, 126 participants were residents of villages and towns (17.7%), 215 of small to medium cities up to a population of 50,000 (30.2%), and 371 were residents of large cities of over 50,000 people (52.1%). Most of the respondents assessed their financial conditions as medium (44.7%) and high (45.6%).

## Data Collection

The data were collected using a battery of questionnaires via paper-and-pencil mode. A convenience sampling strategy was applied to recruit participants through high schools, colleges, University of the Third Age, as well as through relatives and friends. All of the respondents were informed about the objective of the research and the confidentiality protection policy. Those who agreed to engage in the study were provided with general information about its goal and gave informed consent. Only after showing their agreement, the participants were asked to complete the questionnaires. In the case of adolescents, they could take part in the study only after obtaining written consent from their parents or legal guardians. The study was approved by the Bioethics Committee of the Institute of Psychology at the University of Szczecin and performed in accordance with the Declaration of Helsinki.

## Measurement

The NEO Five-Factor Inventory,<sup>75</sup> in the Polish version adapted by Zawadzki et al<sup>76</sup> was used to measure five basic domains of individual differences in personality: 1) neuroticism, which refers to the propensity to experience negative emotions, anxiety, apprehensiveness, and psychological distress in response to threats, frustration, and different stressors;<sup>77</sup> 2) extraversion, which represents the tendency to enjoy social situations and interpersonal relationships;<sup>78</sup> 3) openness to experience, which reflects the tolerance of ambiguity, curiosity, innovation and imagination;<sup>52</sup> 4) agreeableness, which denotes the quality of interaction “along a continuum from compassion to antagonism” (p. 888),<sup>79</sup> having facets of trust, straightforwardness and altruism; and 5) conscientiousness, which implies both proactive and inhibitive aspects, such as competence, striving to achieve, scrupulosity and cautiousness.<sup>79</sup> This tool was created on the basis of the five-factor Big Five Model. It is used to measure personality traits on a 5-point Likert-type scale where 1 means strongly disagree and 5 means strongly agree. Respondents answer 60 statements (12 items per domain). The higher the score on

a particular scale, the stronger the intensification of the feature. The reliability of the questionnaire in the current study was adequate: neuroticism ( $\alpha = 0.82$ ), extraversion ( $\alpha = 0.77$ ), openness to experience ( $\alpha = 0.59$ ), agreeableness ( $\alpha = 0.72$ ) and conscientiousness ( $\alpha = 0.83$ ).

The Emotional Intelligence Questionnaire (INTE),<sup>72</sup> based on the model developed by Mayer and Salovey,<sup>44</sup> and adapted into Polish by Jaworowska and Matczak,<sup>80</sup> measures general emotional intelligence as the ability to recognize emotions, regulate them and use them in solving problems.<sup>81</sup> The questionnaire consists of 33 items. Respondents use a 5-point scale where 1 = strongly disagree and 5 = strongly agree to indicate to what extent each item exemplifies their agreement. The higher the score obtained, the higher the level of emotional intelligence. The internal consistency in the original studies showed an alpha of 0.90. In the present study, Cronbach’s alpha reliability coefficient was 0.88.

The Gratitude Questionnaire – Six Item Form (GQ-6), developed by McCullough and colleagues,<sup>11</sup> and adapted into Polish by Kossakowska and Kwiatek,<sup>82</sup> evaluates individual differences in the propensity to experience gratitude in daily life. It is a six-item measure where respondents indicate their responses on a 7-point scale where 1 means strongly disagree and 7 means strongly agree. A higher score means a higher level of gratitude. The reliability of the questionnaire in our study was equal to  $\alpha = 0.78$ .

## Statistical Analysis

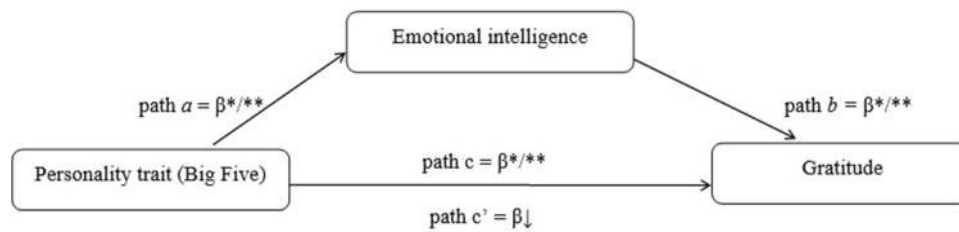
All statistical analyses were carried out using the IBM SPSS Statistics software, AMOS with Maximum Likelihood Estimation, version 25.0 and the PROCESS 3.2 macro for empirical verification of the created mediation models (Figure 1).

All models were estimated using the bootstrapping method with random sampling with a replacement of 5000 samples with a 95% confidence interval. The minimum value of the significance factor was  $p < 0.05$ . In all of the five mediation models created, each of the Big Five personality traits was an independent variable relative to the dependent variable of gratitude and emotional intelligence as the mediator (Figure 1).

## Results

### Descriptive Statistics and Initial Analysis

Despite the fact that the bootstrapping method used is resistant to the lack of a normal distribution of the



**Figure 1** Theoretical model of the role of emotional intelligence in the relationship between the Big Five personality traits and gratitude. \*  $p < 0.05$ ; \*\*  $p < 0.01$ .

analyzed variables,<sup>83</sup> the obtained skewness and kurtosis values were in the range of  $-1$  to  $1$ ,<sup>84</sup> which indicates that all variables did not differ significantly from the normal distribution (Table 1).

### Multicollinearity, Confounding, and Correlations

Before proceeding to the main analysis, the data were investigated in terms of the occurrence of influential points and outliers using the Mahalanobis distance (with  $\chi^2 p < 0.001$ ), Cook’s distance, and leverage values. The criterion for rejecting a given observation was exceeding two of the three indicators used. The assumption about the lack of a lag 1 autocorrelation using the Durbin-Watson test ( $1 > d > 3$ ) and

the lack of a strong correlation of variables using the values of Pearson’s correlation coefficients (Table 2) and variance inflation factor ( $VIF < 10$ ) were fulfilled. In addition, the criteria of homogeneity of variance and homoscedasticity were fulfilled.

According to the statistics, extraversion, openness to experience, agreeableness, and conscientiousness correlated positively with gratitude. Inversely, neuroticism was associated negatively with gratitude. Such correlational links confirmed Hypothesis 1. Moreover, the same pattern of results was obtained in the case of personality traits and emotional intelligence.

### Regression Analysis

To examine the direct effects of the Big Five personality traits as predictors of gratitude (Hypothesis 2), multiple regression analysis using the structural equation model (SEM) was performed. The analysis was conducted with the maximum likelihood method of estimation (Figure 2).

The results indicate that the personality predictor of gratitude with the highest and positive standardized regression value was agreeableness ( $\beta = 0.25$ ;  $p < 0.001$ ), followed by openness to experience ( $\beta = 0.11$ ;  $p < 0.01$ ) and extraversion ( $\beta = 0.09$ ;  $p < 0.05$ ). Neuroticism had a negative impact on gratitude with  $\beta = -0.11$  ( $p < 0.01$ ). Conscientiousness was the only statistically insignificant predictor in the tested multiple regression model ( $\beta = 0.05$ ;

**Table 1** Descriptive Statistics of Analyzed Variables (N = 712)

Variable	M	SD	Skewness	SE	Kurtosis	SE
GRA	33.33	5.11	-0.79	0.09	1.00	0.18
EI	121.68	12.16	0.12	0.09	0.21	0.18
NEU	1.85	0.67	0.11	0.09	-0.25	0.18
EXT	2.39	0.55	-0.09	0.09	-0.16	0.18
OPE	2.05	0.46	0.27	0.09	-0.01	0.18
AGR	2.61	0.46	-0.30	0.09	0.07	0.18
CON	2.64	0.56	-0.11	0.09	-0.24	0.18

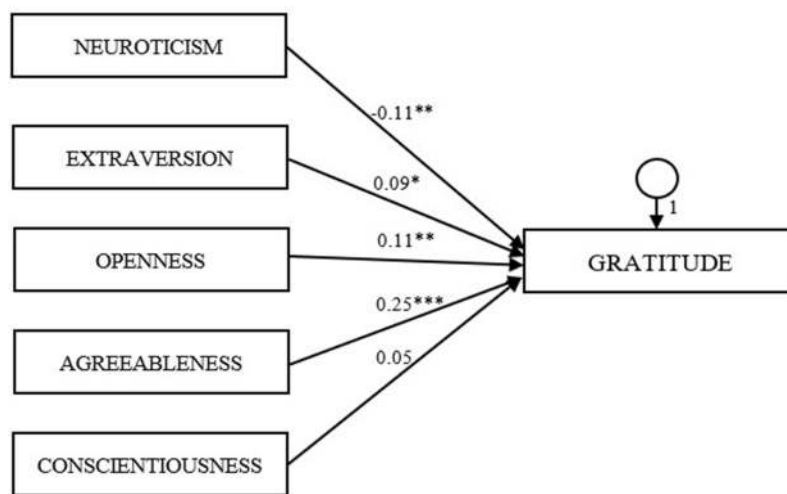
**Abbreviations:** GRA, gratitude; EI, emotional intelligence; NEU, neuroticism; EXT, extraversion; OPE, openness to experience; AGR, agreeableness; CON, conscientiousness.

**Table 2** Correlations Between Dimensions of NEO FFI, INTE, and GQ-6 (N = 712)

	GRA	EI	NEU	EXT	OPE	AGR	CON
GRA	I						
EI	0.32**	I					
NEU	-0.23**	-0.29**	I				
EXT	0.19**	0.48**	-0.37**	I			
OPE	0.13**	0.25**	-0.08*	0.20**	I		
AGR	0.30**	0.25**	-0.29**	0.13**	-0.01	I	
CON	0.16**	0.41**	-0.26**	0.15**	-0.08*	0.33**	I

**Notes:** \* $p < 0.05$ ; \*\* $p < 0.01$ .

**Abbreviations:** GRA, gratitude; EI, emotional intelligence; NEU, neuroticism; EXT, extraversion; OPE, openness to experience; AGR, agreeableness; CON, conscientiousness.



**Figure 2** Standardized regression weights in multiple regression structural equation model of Big Five personality traits as predictors of gratitude. \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

$p > 0.05$ ). The Big Five variables explained 13% of the variance in gratitude,  $R^2(4, 711) = 0.13, p < 0.05$ .

### Mediation Analysis

The results of the mediation analysis showed statistically significant values for each of the created models (Table 3). All linear models fit the data well, as evidenced by statistically significant ( $p < 0.001$ )  $F$  values. In addition, each personality trait as an independent variable explained from 9% to 12% of the variance of the dependent variable.

The negative indirect effect value in model A (Indirect =  $-0.60$ ; 95% CI $[-0.84; -0.39]$ ) may be a result of cooperative suppression<sup>85</sup> of emotional intelligence for the relationship of neuroticism and gratitude. For the remaining models, emotional intelligence proved to be an important mediator for gratitude as a dependent variable and the independent variable: extraversion (Indirect =  $1.35$ ; 95% CI $[0.96; 1.77]$ ), openness to experience (Indirect =  $0.84$ ; 95% CI $[0.53; 1.19]$ ), agreeableness (Indirect =  $0.72$ ; 95% CI $[0.45; 1.03]$ ) and

conscientiousness (Indirect =  $1.15$ ; 95% CI $[0.83; 1.50]$ ). Statistically insignificant values of the unstandardized regression coefficients of the  $c'$  path in model B ( $B = 0.41$ ;  $p < 0.05$ ), model C ( $B = 0.60$ ;  $p < 0.05$ ) and model E ( $B = 0.33$ ;  $p < 0.05$ ) testify to full mediation models,<sup>86</sup> while model D is an example of partial mediation for which the regression value after adding a mediator decreased from  $B = 3.30$  ( $p < 0.001$ ) to  $B = 2.58$  ( $p < 0.001$ ). Therefore, the statistics obtained in the present study confirmed Hypothesis 3, showing that emotional intelligence was a mediator between four personality factors (extraversion, openness to experience, agreeableness, conscientiousness) and gratitude. Moreover, emotional intelligence acted as a suppressor in the relationship between neuroticism and gratitude.

### Discussion

The purpose of this study was threefold. The first goal was to verify whether there is an association between dimensions of personality and gratitude within the Polish context.

**Table 3** Results of Mediation Analysis with Unstandardized Regression Coefficients (N = 712)

Model	F	R <sup>2</sup>	a	b	c	c'	%	IND	95% CI	
									LL	UL
A	50.61***	0.12	-5.18***	0.12***	-1.78***	-1.18***	26	-0.60	-0.84	-0.39
B	41.28***	0.10	10.72***	0.16***	1.76***	0.41	49	1.35	0.96	1.77
C	41.85***	0.11	6.50***	0.13***	1.44**	0.60	37	0.84	0.53	1.19
D	70.04***	0.09	6.49***	0.11***	3.30***	2.58***	18	0.72	0.45	1.03
E	41.11***	0.10	8.95***	0.13***	1.48***	0.33	44	1.15	0.83	1.50

Notes: \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

Abbreviations: A, NEU-EI-GR; B, EXT-EI-GR; C, OPE-EI-GR; D, AGR-EI-GR; E, CON-EI-GR; %, mediation proportion; IND, indirect; LL, lower limit; UL, upper limit.

The second aim was to assess the unique contribution of personality traits on gratitude with multiple regression analyses. The third goal was to estimate the mediatory role of emotional intelligence on the association between personality traits and a grateful disposition.

With respect to the first goal, our results are consistent with other previous studies<sup>87</sup> and demonstrate the cross-cultural consistency of the relation between personality traits and gratitude. Starting with a negative correlation between neuroticism and gratitude, there is some evidence that being grateful is related to lower anxiety,<sup>9,11,88</sup> depression,<sup>9</sup> negative emotions,<sup>11</sup> and post-traumatic stress disorder.<sup>89,90</sup> Lin<sup>28</sup> found that those who were more grateful were also more inclined to feel shame and anger less frequently than less grateful individuals. All of the abovementioned correlates of gratitude are listed by different researchers as components of neuroticism. Therefore, a feeling of being thankful and appreciative is related to a lower predisposition to experience negative affects and psychological distress. In other words, people who are anxious may express higher levels of distrust about others' motives which consequently may lead to lower gratitude. Regarding the positive correlation between extraversion and gratitude, our outcomes reflect those findings obtained by other authors, as well. For example Wood and colleagues<sup>7,27</sup> reported that warmth, gregariousness, assertiveness, activity, excitement-seeking, and positive emotions were positively associated with gratitude. In other studies,<sup>40</sup> gratitude correlated modestly with extraversion, suggesting that being grateful comes with enthusiasm and optimism. Extraverted people may attribute received benefits in the benefactor's intentions with more confidence thus expressing their gratitude. Although in some other reports, openness to experience did not correlate with gratitude,<sup>29,35</sup> or was associated negatively,<sup>30</sup> our findings are in line with the results found by McCullough and colleagues,<sup>11</sup> and Wood.<sup>14,27</sup> Watkins<sup>29</sup> found a convincing explanation for this variety of results. It seems that the more cognitive facets of openness may be either unrelated or even negatively associated with gratitude. In contrast, the more emotional features of openness may show positive links with gratitude. Thus, it can be assumed that the emotional aspects of openness to experience prevailed in our sample. In terms of agreeableness, the positive correlation with gratitude was the strongest among the other Big Five dimensions. This is understandable if we consider that highly agreeable individuals enjoy more positive interpersonal relationships than their less agreeable counterparts. In

fact, empirical data<sup>35</sup> suggest that gratitude is an interpersonal strength that consists in empathy and adaptive social behaviors. Therefore, agreeableness and gratitude share common characteristics, this is, pursuing positive actions toward other people.<sup>28</sup> Finally, conscientiousness was positively associated with gratitude, as well. Such a result is not surprising if we consider that conscientiousness, among other different features, consists in following socially prescribed social norms.<sup>90</sup> Similarly, some studies have showed that being grateful increases the motivation to behave according to communal,<sup>91</sup> cultural,<sup>92</sup> and social<sup>93</sup> norms.

With regard to the second aim, the current study assessed that four of five personality traits predicted unique variance in the grateful disposition, thus not only replicating the results obtained by McCullough et al,<sup>11</sup> but providing more information about the role of the remaining personality dimensions, as well. In fact, the present outcomes suggest that in addition to the agreeableness and neuroticism found by the abovementioned authors, extraversion and openness to experience also predicted gratitude. Hence, it may be assumed that persons who are kind and responsive to others (higher agreeableness), experience awe and a broader range of positive emotions in view of goodness and beauty (higher openness to experience), are less tense or anxious (lower neuroticism) and are more sensitive to reward, tend to recognize and respond gratefully to the benevolence of others. These results can be justified on a theoretical basis as reported by McCullough and collaborators (2001)<sup>8</sup> who claim that people with stronger personality dispositions toward prosocial behavior are more likely to appreciate others' benevolence and express their gratitude than individuals with a weaker prosocial approach. In fact, all of the Big Five predictors of gratitude (except neuroticism), identified in the present study, share a common characteristic of increased positive attitudes toward others. For example, McAdams<sup>94</sup> observes that extraverts tend to search for social relationships. Consequently, they enhance their opportunity of getting assistance and acts of benevolence from others which, in turn, can lead to higher gratitude. The opposite can be expected in the case of individuals high in the trait of neuroticism who, because of anxiety and shyness, avoid social interactions and, thus, are less exposed to situations of kindness and express lower levels of gratitude. Similarly, openness to experience together with agreeableness are considered conceptually and empirically associated with prosocial behavior.<sup>95</sup> The

existing literature<sup>96,97</sup> suggests that open and agreeable people are interpersonally trusting and susceptible to a view of positive outcomes in life. Since gratitude is a prosocial trait itself<sup>98</sup> which is felt in the context of receiving good things, it is therefore reasonable that it correlates with other prosocial traits.<sup>99</sup>

With respect to the third goal, emotional intelligence acted as a mediator in the association between four personality traits (extraversion, openness, agreeableness, conscientiousness) and a grateful disposition. These outcomes confirm some theoretical insights and empirical evidence presented by researchers who have posited that emotional intelligence contributes to establishing and maintaining interpersonal relationships.<sup>72</sup> For example, Bar-On<sup>100</sup> suggested that individuals who display emotional intelligence effectively understand and express themselves. Moreover, they also have the ability to understand the feelings of other people and use this knowledge to relate to them. Therefore, on the basis of the present research, it can be cautiously assumed that four broad domains of personality (extraversion, openness, agreeableness and conscientiousness) can lead to higher gratitude when people experience empathy, have the capacity to self-monitor in social situations, and understand others' emotions and behaviors.

Moreover, emotional intelligence also acted as a suppressor in the relationship between neuroticism and gratitude. The outcome found in this study may suggest that the ability to regulate emotions in the self may impact the increase of gratitude in people with a tendency to higher levels of anxiety and fear. Therefore, it may be carefully presumed that neuroticism does not entirely preclude the feelings of gratitude if individuals with anxiety try to develop skills specific to emotional intelligence. In fact, independently of personality traits, abilities associated to emotional intelligence can be learned.<sup>101</sup> In this respect, our result has educational and therapeutic implications, denoting that those persons who demonstrate stronger traits of neuroticism, and self-consciousness, as one of its facets, may show certain levels of gratitude if they manage to observe and analyze their emotions and use their self-awareness as a resource.

## Limitations

Despite the significance of these results, we should address several limitations. First, although the outcomes confirmed the suggested mediatory model, the cross-sectional character of the data, with no temporal inquiry, does not allow any inferences on causal and predictive impact. We

acknowledge that future research and different study design alternatives should be considered and employed before these mediation models can be confirmed. More specifically, longitudinal and experimental approaches would furnish a more accurate clarification of the relationships tested. Second, gaining significant statistical effects from mediation analyses does not denote that we have proof to assert that emotional intelligence is a mediator in the relationship between personality traits and gratitude. Indeed, greater emotional intelligence could be a result of gratitude. Therefore, in future analyses, researchers should consider an alternative causal model or different mediator possibilities.<sup>49</sup> Moreover, expressing gratitude may actually be one component of emotional intelligence, which means that it is part of the same latent variable and could not act as a mediator. Similarly, both gratitude and emotional intelligence could be interstitial personality traits, meaning that they represent the interplay of personality factors.<sup>102</sup> However, taking into account that in the social sciences, different variables may act in a "cycle of virtue",<sup>15</sup> we can expect that emotional intelligence enhances gratitude and gratitude enhances emotional intelligence, as well. Their relationship may consist in an upward spiral where both variables may coexist in reciprocal exchange. Third, the data were gathered through the use of self-report methods that might enhance desirability bias and alter the soundness of the results. Hence, a guarded interpretation is recommended when using the findings. In future investigations, it would be helpful to implement a social desirability scale with the goal of preventing or decreasing such a bias.

## Conclusions

In conclusion, from a theoretical point of view, the current study broadens our comprehension of the interaction among personality traits, emotional intelligence, and a grateful disposition. It imparts a noteworthy foundation not only for the mediatory role of emotional intelligence between four dimensions of personality and gratitude, but also for its suppressor effect between neuroticism and being grateful, as well. More precisely, it is possible to consider that emotionally intelligent people who display trust, experience positive emotions, are open to new experiences, show propensity to follow socially accepted norms, and manage doubts and negative affect may demonstrate higher levels of gratitude. In supporting this perspective, the mediation effect of emotional intelligence was found in the relationship between personal traits and optimism/hope,<sup>47</sup> and between need for relatedness and



flourishing/happiness.<sup>101</sup> From a practical point of view, the development of emotional intelligence skills can provide people with accurate acknowledgment and appreciation of others' generosity.

## Data Sharing Statement

The data sets used during the current study are available from the corresponding author.

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## Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agreed to be accountable for all aspects of the work.

## Disclosure

The authors report no conflicts of interest in this work.

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