

OPIICS 2019

International Conference of Psychology, Sociology, Education, and Social Sciences

PERSONALITY AND MENTAL HEALTH: THE MODERATOR ROLE OF EMOTIONAL INTELLIGENCE

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Abstract

This study analyze the role of emotional intelligence (EI) [attention to feelings (AF), emotional clarity (EC) and emotional repair (ER)] in the relationship between personality and mental health. The sample is composed of a total of 232 students of degree in early childhood and elementary education. The results show that neuroticism (N), agreeableness (A), attention to feeling (AF) and emotional repair (ER) are key to preventing stress, anxiety and depression. Emotional Clarity (EC) in stress and depression, and extraversion (E) and consciousness (C) in depression. Moreover, when the moderating role of EI in the relationship between personality traits and mental health was analysed, the results showed that he role of EI by itself does not buffer the detrimental effects of neuroticism (N) on mental health. EI might be more beneficial to the mental health of women with personality traits of extraversion (E), openness (O) and consciousness (C), and men with agreeableness (A) personality trait. Although these data are inconclusive, and more studies are needed to examine these relationships.

2357-1330 © 2020 Published by European Publisher.

Keywords: Personality, stress, anxiety, depression, emotional intelligence.



1. Introduction

The World Health Organization stated that more than 322 million people worldwide suffer from depression, a disorder that is the leading cause of disability, and more than 264 million have anxiety disorders (WHO, 2017). In fact, these alarming data are not new, in 2011 the WHO reported that as many as 800,000 people commit suicide each year, which means that every 40 seconds, a person dies by committing suicide. It has been predicted that by 2030, depression will be the leading cause of global disease burden (Depression, World health organization, 22 March 2018). In addition, suicide is the second leading cause of death among young people aged 15-29 and more women than men suffering from depression (WHO, 2018). Indeed, as the EU states, through the European Pact for Mental Health and Well-being (2008) promoting psychological health in young people should be a priority objective for society. Mental health is the result of a complex interaction of social, psychological and biological factors (e.g., personality) (Ogboghodo, Osadiaye, & Omosun-Fadal, 2018). Personality has an impact on mental health that we cannot ignore and has been studied in several studies (Brailovskaia & Margraf, 2016; Ervasti, Kallio, Määttänen, Mäntyjärvi, & Jokela, 2019; Gramstad, Gjestad, & Haver, 2013; Lyons, Evans, & Helle, 2019; MacIntyre et al., 2019; Milić, Škrlec, Milić Vranješ, Podgornjak, & Heffer, 2019; Mostafaei et al., 2019; Pereira-Morales, Adan, & Forero, 2019; Seto et al., 2019; Sørengaard et al., 2019). There may be personality traits that protect individuals against mental distress in the face of adversity (Lyons et al., 2019). MacIntyre et al. (2019) examined the correlations between personality, well-being and stress in an international sample of language teachers. The results show that both personality and stress are correlated in a manner consistent with the well-being of the teacher. However, personality and stress do not correlate with each other. The authors indicate that more studies are needed due to the important role that teachers play. For this reason, this study analyzes the relationship between personality and the mental health of future teachers. Furthermore, there is a vast literature focusing on the study of EI and mental health, indicating that EI plays an important role in the absence of depression, anxiety and stress (Guo, Ji, You, & Huang, 2017; Salguero, Palomera, & Fernández-Berrocal, 2012). The crucial role in mental health has been examined not only in adults and young people, but also in other samples in which its role is essential. In a study conducted with 180 patients “cancer survivors”, EI was found to predict both psychological and physical health, although to a greater extent mental health (Mirzaei et al., 2019) and Dehghan, Karimzadeh, Teymouri, and Rostami (2019) aimed at predicting the perceived stress based on EI in 90 women with HIV/AIDS. A meta-analysis conducted by Schutte, Malouff, Thorsteinsson, Bhullar, and Rooke (2007) of 44 effect sizes based on the responses of 7898 participants was concluded that EI has a significant effect on mental health, psychosomatic health, and physical health. Bar-On (2012) analyzed five studies which examined the relationship between EI and health and well-being, in four of these studies, all those who examine stress, it is found that EI is negatively correlated with stress. EI and stress coping strategies are among the important variables that according to various positive psychology researches play a significant role in the relation between the factors related to personality and their psychological consequences (Gohari, Afjah, & Abbasabadi, 2019). People high in EI have fewer anxiety symptoms, less expression of anger, and lower levels of depression (Salguero et al., 2012). Therefore, the aim of this study is to analyze the role of EI in the relationship between personality and mental health.

2. Problem Statement

This study aims to include the findings of previous studies around personality, and sex differences in EI, EI and mental health in order to improve the beneficial effects of EI interventions on mental health or help in optimizing their design.

3. Research Questions

Hypothesis 1: Personality (N, E, O, A, and C) will be significantly related to mental health (stress, anxiety and depression).

Hypothesis 2: EI (attention to feelings, emotional clarity and emotional repair) will be significantly related to mental health (stress, anxiety and depression).

Hypothesis 3: EI (attention to feelings, emotional clarity and emotional repair) will moderate the relationship between personality (N, E, O, A, and C) and mental health (stress, anxiety and depression).

4. Purpose of the Study

The aim of this study is to analyze the role of EI [attention to feelings (AF), emotional clarity (EC) and (ER)] in the relationship between personality (N, E, O, A, and C) and mental health (stress, anxiety and depression).

5. Research Methods

5.1. Sample

232 participants of which 96 are students of Degree in early childhood education "0" and 136 are students of Degree in elementary education, with ages ranging from 17 years to 46 years. The average age of the entire set of subjects in the sample is about 19,59 years (SD = 3,48). Of the total study sample, 172 of the participants are women, (74,1%) and 60 are men (25,9%).

5.2. Measures

Personality. It was measured through the NEO Five-Factor Inventory of Personality (NEO-FFI) that was created by Costa and Mc Crae (1978) and later adapted by Cordero, Pamos, and Seisdedos (1999). Cronbach's alpha reliability is .77 for (N), .73 for Extraversion, .82 for Openness, .55 for Agreeableness and .83 for Conscientiousness.

Emotional intelligence. It was used the Spanish version (Fernández-Berrocal, Extremera, and Ramos, 2004) of the Trait Meta-Mood Scale (TMMS; Salovey, Mayer, Goldman, Turvey, & Palfai, 1995) (Cronbach's alpha for Attention = .89, Clarity = .92, Repair = .85) the internal consistency for the global measure of EI is .89.

Perceived stress. It was analyzed through 9 items of the Spanish version (2.0) of Perceived Stress Scale (PSS) by Cohen, Kamarck, and Mermelstein (1983). Cronbach's alpha reliability coefficient is high .90.

Anxiety and depression. They were measured through the Goldberg-EADG anxiety and depression scale (Goldberg, Bridges, Duncan-Jones, & Grayson, 1987) whose version adapted to Spanish was made by Montón, Pérez Echevarría, Campos, García Campayo, and Lobo (1993). Cronbach's alpha reliability is .85 for anxiety and .84 for depression.

6. Findings

6.1. Hypothesis Testing

Means, Standard Deviations and bivariate correlations are shown in Table 01.

Table 01. Means, Standard Deviations and bivariate correlations

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	N	1													
2	E	-.13	1												
3	O	-.10	-.04	1											
4	A	-.19**	.03	-.00	1										
5	C	-.10	.30**	.09	-.00	1									
6	EI	-.06	.27**	.15*	.07	.31**	1								
7	AF	.35**	.19**	.14*	-.06	.09	.66**	1							
8	EC	-.19**	.16*	.09	.03	.32**	.80**	.28**	1						
9	ER	-.32**	.23**	.10	-.19**	.27**	.70**	.11	.44**	1					
10	Stress	.71**	-.12	-.03	-.15*	-.11	-.04	.39**	-.20**	-.31**	1				
11	Anxiety	.56**	-.02	-.03	-.20**	.03	.01	.34**	-.12	-.21**	.66**	1			
12	Depression	.67**	-.19**	-.12	-.24**	-.19**	-.06	.31**	-.15*	-.32**	.70**	.69**	1		
13	Degree	-.00	-.13	-.09	-.05	-.08	-.00	-.07	-.03	.10	-.03	.00	.01	1	
14	Sex	.09	.10	.09	.20**	.10	.01	.13	-.04	-.07	.14*	.16*	.01	.32**	1
	M	2,30	3,80	3,30	3,83	3,50	3,21	3,26	3,18	3,19	2,89	3,01	2,53	,59	,74
	SD	,79	,67	,87	,56	,74	,58	,83	,82	,76	,76	,83	,75	,50	,44

Note: *p < .05; ** p < .01. Neuroticism "N"; Extraversion "E"; Agreeableness "A"; Conscientiousness "C"; Emotional intelligence "EI"; Attention to feelings "EA"; Emotional Clarity "EC"; Emotional Repair "ER". Degree in early childhood education "0" Degree in elementary education "1"; Men "0", Women "1"

Hypothesis 1 stated that personality (N, E, O, A, and C) would be significantly related to mental health (stress, anxiety and depression). As observed in table 01, (N) positively correlated with stress ($r=.71$, $p<.01$), anxiety ($r=.56$, $p<.01$) and depression ($r=.67$, $p<.01$). In contrast, agreeableness negatively correlated with stress ($r= -.15$, $p<.05$), anxiety ($r=-.20$, $p<.01$) and depression ($r= -.24$, $p<.01$). Both extraversion and conscientiousness negatively correlated with depression ($r=-.19$, $p<.01$). Therefore, H1 is partly supported. Hypothesis 2 stated that EI (attention to feelings, emotional clarity and emotional repair) would be significantly related to mental health (stress, anxiety and depression). As observed in table 01, attention to feeling (AF) positively correlated with stress ($r=.39$, $p<.01$), anxiety ($r=.34$, $p<.01$) and depression ($r=.31$, $p<.01$). In contrast, emotional clarity EC and ER negatively correlated with stress [EC ($r= -.20$, $p<.01$); ER ($r= -.31$, $p<.01$)], anxiety [EC ($r=-.12$, ns); ER ($r= -.21$, $p<.01$)] and depression [EC ($r= -.15$, $p<.05$); ER ($r= -.32$, $p<.01$)]. When EI was considered globally, it did not correlate significantly with either stress ($r= -.04$, ns), anxiety ($r= .01$, ns)-or depression ($r= -.06$, ns). This result shows that EI should be analysed in terms of its dimensions. Because one of the dimensions (AF) has effects in a different direction. Therefore, H2 is partly supported. In addition, women scored higher than men on (A) ($r=.20$, $p<.01$), stress ($r=.14$, $p<.05$) and anxiety ($r=.16$, $p<.05$). There are more women than men studying the

degree in early childhood education ($r = -.32, p < .01$). Hypothesis 3 stated that EI (attention to feelings, emotional clarity and emotional repair) would moderate the relationship between personality (N, E, O, A, and C) and mental health (stress, anxiety and depression). In order to test the H3, each of the personality traits will be analysed in a different way.

6.1.1. Neuroticism

The results show a negative relationship between neuroticism and mental health (stress, anxiety and depression) regardless of EI (attention to feeling, emotional clarity and emotional repair) (see table 02). Moreover, in men the relationship between (N) and anxiety was higher the higher the EI ($B = .15, p < .10$) (see figure 01), EC ($B = .11, p < .10$) (see figure 02) and ER ($B = .12, p < .10$) (see figure 03) were. In women the relationship between (N) and anxiety was positive regardless of EI. Attention to feeling (AF) has a positive relationship to stress ($B = .15, p < .01$) and anxiety ($B = .17, p < .01$) but not with depression ($B = .08, ns$) and it was also found a negative relationship of emotional repair (ER) with depression ($B = -.12, p < .05$). Therefore, H3 is partially supported.

Table 02. Results of the regression analysis for the anxiety depending on EI (EC and ER) and (N)

Variable	Anxiety	Variable	Anxiety	Variable	Anxiety
Degree	.07	Degree	.07	Degree	.09
Age	.01	Age	.01	Age	.01
Sex	.25*	Sex	.23*	Sex	.25*
Neuroticism	.56**	Neuroticism	.57**	Neuroticism	.56**
IE	.08	EC	.01	ER	-.03
IE * N	.15†	EC * N	.11†	ER * N	.12†
R2	.35**	R2	.34**	R2	.35**
ΔR2	.01	ΔR2	.01	ΔR2	.01

Note: B are non-standardized regression coefficients; † $< .10$; * $p < .05$; ** $p < .01$. Neuroticism "N"; Emotional intelligence "EI"; Emotional Clarity "EC"; Emotional Repair "ER". Degree in early childhood education "0" Degree in elementary education "1"; Men "0", Women "1"

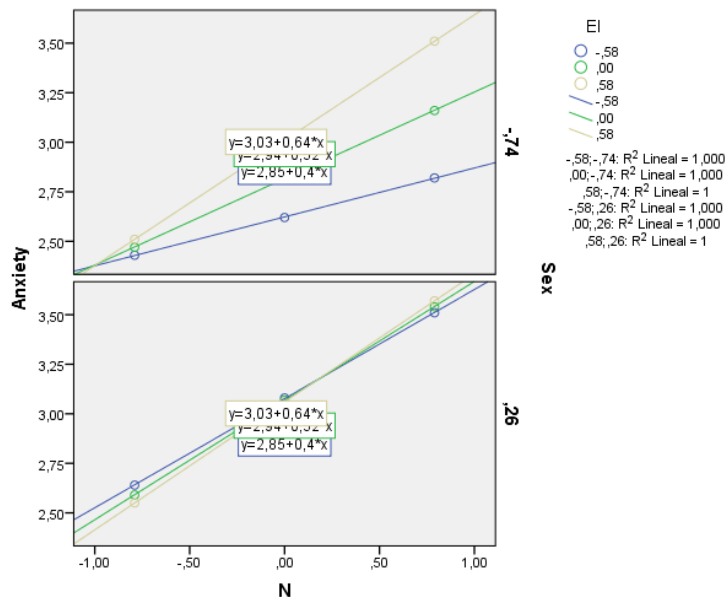


Figure 01. Regression analysis for the EI*N on anxiety

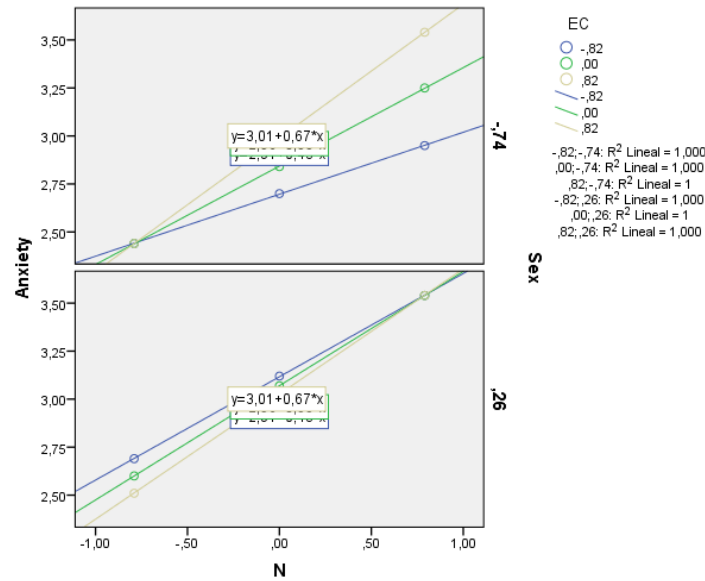


Figure 02. Regression analysis for the EC*N on anxiety

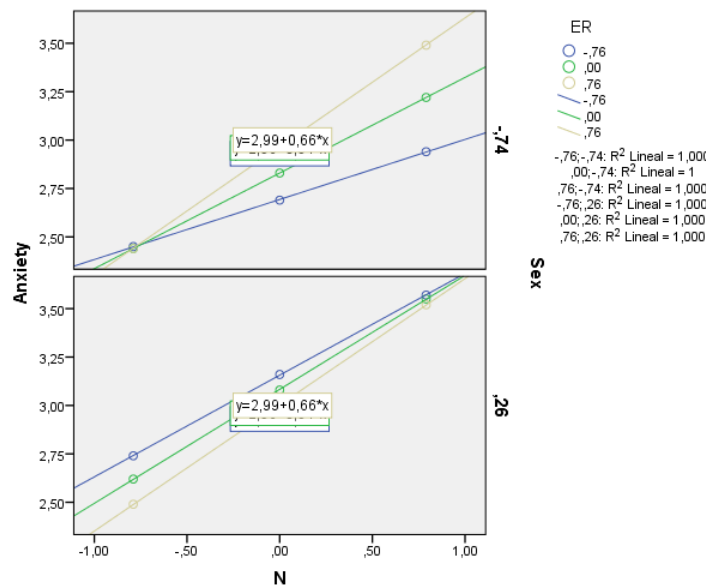


Figure 03. Regression analysis for the ER*N on anxiety

6.1.2. Extraversion

The results show a negative relationship between (E) and stress and depression but not for anxiety (the relationship is negative but not significant), so extraversion protects against stress and depression. Overall EI has not any effect on stress, anxiety and depression. Nevertheless, the relationship between attention to feeling and mental health is positive [stress (B=.39, p<.01), anxiety (B=.35, p<.01) and depression (B=.33, p<.01)]. Thus, students who attend more to their emotions are more likely to have a worse mental health. Nevertheless, emotional clarity is negatively related to stress (B= -.16, p<.01) and emotional repair is also negatively related to stress (B= -.28, p<.01), anxiety (B= -.23, p<.01) and depression (B= -.28, p<.01). Therefore, emotional reparation is beneficial for students' mental health (stress, anxiety and depression) and emotional clarity for stress. Therefore, H3 is not accepted.

6.1.3. Openness

Students with an open personality have less depressive-type symptoms ($B = -.16, p < .01$). In these models, attend to emotions is also detrimental to mental health [stress ($B = .37, p < .01$), anxiety ($B = .36, p < .01$) and depression ($B = .31, p < .01$)]. In both (men and women), when ER is low, the relationship between openness and depression is negative, but in boys, when emotional repair is high, the relationship between openness and depression is positive. Therefore, H3 is partially supported.

6.1.4. Agreeableness

Students having agreeableness personality trait can have better mental health (stress, anxiety and depression) considering the results show in our models (see table 03). As you can see in figure 04 and 05, students with high levels of AF having agreeableness personality trait have less stress and anxiety. Furthermore, the negative relationship between agreeableness and stress ($B = -.18, p < .10$) and anxiety ($B = -.23, p < .05$) depending on AF is stronger in men. Therefore, H3 was partly supported.

Table 03. Results of the regression analysis for the stress and anxiety depending on EI (attention to feeling) and (A)

	Stress	Anxiety
Variable	B	B
Degree	.04	.11
Age	.01	.01
Sex	.28*	.44**
Agreeableness	-.23**	-.35**
AF	.34**	.28**
AF * A	-.18†	-.23*
R2	.20*	.21**
ΔR2	.01	.01*

Note: B are non-standardized regression coefficients; † < .10; * $p < .05$; ** $p < .01$. Agreeableness "A"; Attention to feelings "EA". Degree in early childhood education "0" Degree in elementary education "1"; Men "0", Women "1"

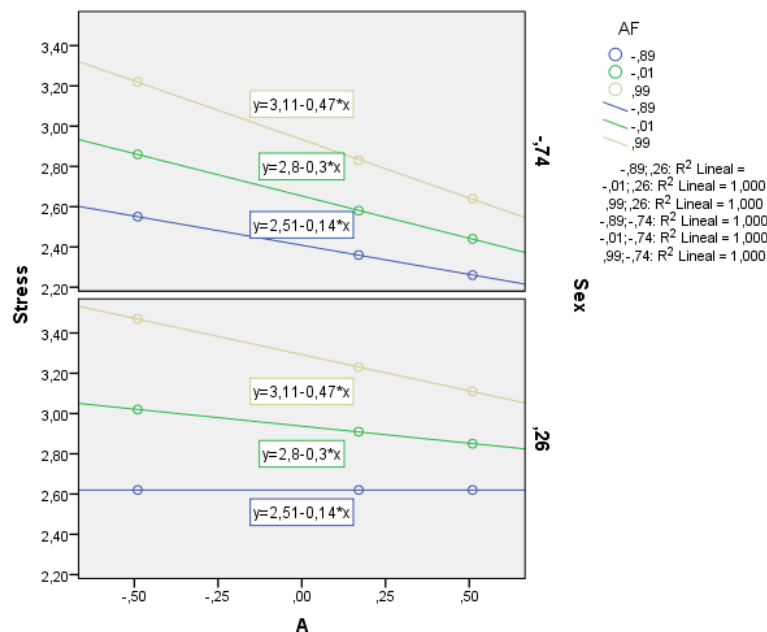


Figure 04. Regression analysis for the AF*A on stress

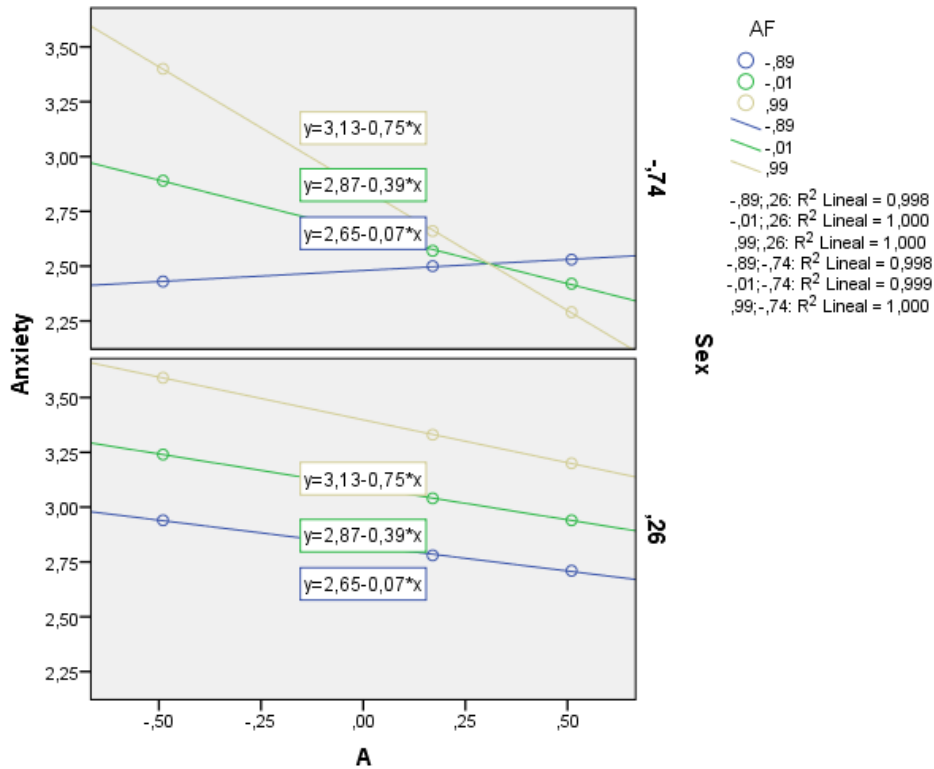


Figure 05. Regression analysis for the AF*A on anxiety

6.1.5. Consciousness

Students having consciousness personality trait can have better mental health (stress and depression) considering the results show in our models (see table 04). As you can see in figure 06 and 07, students with high levels of AF having consciousness personality trait have less stress when the AF ($B = .11, p < .10$) is low and less depression when ER ($B = .12, p < .10$) is low than when is high. Therefore, H3 was partly supported.

Table 04. Results of the regression analysis for the stress and depression depending on EI (attention to feeling and emotional repair) and consciousness (C)

Stress		Depression	
Variable	B	Variable	B
Degree	.05	Degree	.05
Age	.01	Age	-.01
Sex	.21	Sex	.09
Consciousness	-.16**	Consciousness	-.12
AF	.36**	ER	-.27**
AF * C	.11†	ER * C	.12†
R2	.20**	R2	.15**
ΔR2	.01	ΔR2	.01*

Note: B are non-standardized regression coefficients; † < .10; * $p < .05$; ** $p < .01$. Consciousness “C”; Emotional intelligence “EI”; Attention to feelings “EA”; Emotional Clarity “EC”; Emotional Repair “ER”. Degree in early childhood education “0” Degree in elementary education “1”; Men “0”, Women “1”

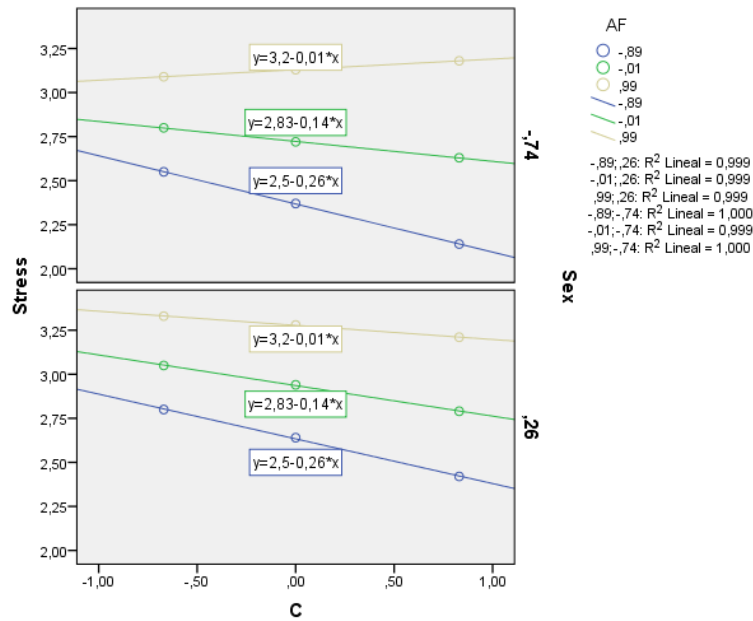


Figure 06. Regression analysis for the AF*C on stress

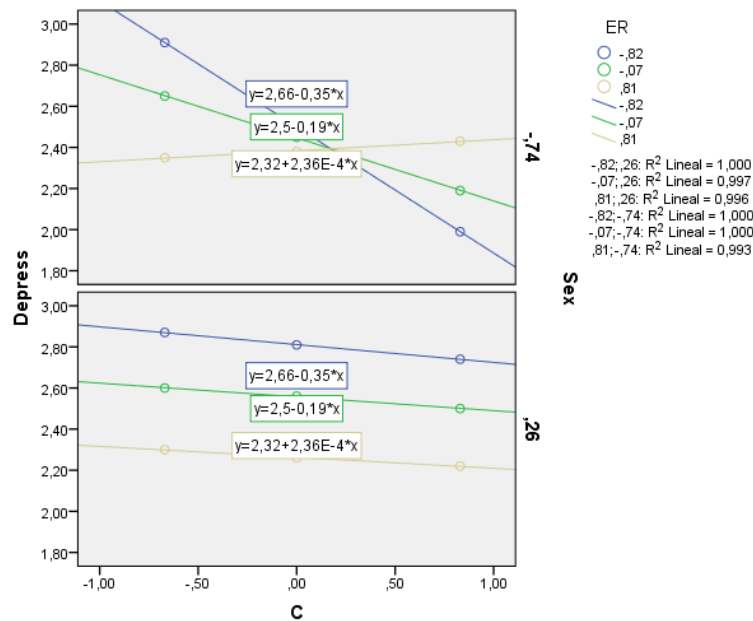


Figure 07. Regression analysis for the EC*C on depression

7. Conclusion

The aim of this study was to analyze the role of EI in the relationship between personality and mental health. Neuroticism positively correlated with stress, anxiety and depression. These results were also found by Vujičić and Randelović (2017) and Mostafaei et al. (2019), and similar results were reported by other studies (Brailovskaia & Margraf, 2016; Ervasti et al., 2019; Gramstad et al., 2013; Milić et al., 2019; Mousavi & Essazadegan, 2016; Pereira-Morales et al., 2019; Seto et al., 2019; Sørengaard et al., 2019). In contrast, (A) negatively correlated with stress, anxiety and depression. These correlations were reported by

Mostafaei et al. (2019). In the study by Vujičić and Randelović (2017) it was found the same results but it was not found the stress correlation. However, Ervasti et al. (2019) found that agreeableness negatively correlated to self-reported stress. In addition, Mousavi and Essazadegan (2016) indicated that anxiety and depression negatively correlated with agreeableness. Both (E) and (C) negatively correlated with depression. These results are contrary to the results obtained by Sørengaard et al. (2019) which indicated that extraversion and conscientiousness had not a significant effect on anxiety or depression. Mousavi and Essazadegan (2016) found that anxiety negatively correlated with conscientiousness and depression negatively correlated with extraversion. However, in the study by Vujičić and Randelović (2017) extraversion negatively influenced anxiety, and conscientiousness negatively predicts anxiety and depression. Moreover, the correlation between conscientiousness and depression was found previously by different studies (Seto et al., 2019; Vujičić & Randelović, 2017). Furthermore, extraversion was positively correlated with all three (stress, anxiety and depression) in the study by Brailovskaia and Margraf (2016) and Gramstad et al. (2013) also found that extraversion protected against symptoms of depression. No correlations were found for openness as in the study of Vujičić and Randelović (2017). Nevertheless, Mousavi and Essazadegan (2016) found that anxiety negatively correlated with openness. The results of the present study are also in line with the findings obtained in the meta-analysis by Malouff, Thorsteinsson, and Schutte (2005) in which it was showed that (N) had a large effect size, (C) had a medium effect size, (E) and (A) had small effect sizes, and (O) was not significantly associated with symptoms of psychopathology. Although the order in the present work would be: (1) Neuroticism (N), (2) Agreeableness (A), (3) and (4) Extraversion (E) and Conscientiousness (C), and (5) Openness (O). On the basis of the results of the present study it can be concluded that the majority of personality traits benefit mental health. Although the relationships for (N) and (A) are clearer, more research is needed in the other personality traits especially in openness. Nonetheless, more studies should clarify this relationship, which is far from clear. For instance, Day, Therrien, and Carroll (2005) stated that of the five personality traits analyzed, only (N) was shown to be negatively related to well-being and positively related to strain symptoms.

On the other hand, AF positively correlated with stress, anxiety and depression. In contrast, EC negatively correlated with stress, and depression but it didn't correlate with anxiety. ER negatively correlated with all (stress, anxiety and depression). When EI was considered globally, it did not correlate significantly with either stress, anxiety-or depression. This result shows that EI should be analysed in terms of its dimensions. Because one of the dimensions AF has effects in a different direction, at least at time 1. In fact, as Salguero et al. (2012) argued although AF is negatively correlated with mental health and that EC and ER have a positive relationship with mental health at time 1. However, at time 2, AF and ER significantly predicted the psychological well-being, controlling the previous effects of psychological adjustments. Therefore, this study adds to the literature that ensures that EI has the ability to improve mental health (Bar-On, 2012; Dehghan et al., 2019; Delhom, Gutierrez, Mayordomo, & Melendez, 2018; Mirzaei et al., 2019; Salguero et al., 2012; Schutte et al., 2007). However, it would be helpful to keep in mind Delhom et al. (2018)'s suggestion that emotionally intelligent people make greater use of problem-focused strategies (than emotional strategies), and they benefit from them in achieving a positive mood and, therefore, better psychological adjustment, whereas emotional strategies foster depressed mood. In addition, more empirical evidence is needed due to the alarming situation of mental diseases worldwide

and the important role EI could play in mitigating them. Furthermore, women scored higher than men on stress and anxiety but no differences were found in depression. Vujičić and Ranđelović (2017) found the same results, and in other studies women reported higher levels of job stress than males (Gramstad et al., 2013). Women also scored higher than men on (A).

The results show a negative relationship between (N) and mental health (stress, anxiety and depression) regardless of EI (AF, EC and ER). Moreover, in men the relationship between (N) and anxiety was higher the higher the EI, EC and ER were. In women the relationship between (N) and anxiety was positive regardless of EI. Attention to feeling AF has a positive relationship to stress and anxiety but not with depression and it was also found a negative relationship of ER with depression. These results are contrary to the findings of Salami (2011) which show that EI is able to buffer the negative effects of neuroticism on wellbeing. The results indicated that the relationship between (E) and mental health was not moderated by EI. However, Salami (2011) found that people who scored high in extraversion and EI showed better wellbeing than those who scored low in EI. Although in the present study the interactions did not reach significance extraverted women with high IE scores if they seem to show better mental health. Students with an open personality have less depressive-type symptoms. ER moderated the relationship between (O) and depression. In men, when ER is high, the relationship between openness and depression is positive. In both (men and women), when ER is low, the relationship between openness and depression is positive. Students having agreeableness personality trait can have better mental health (stress, anxiety and depression) considering the results. Students with high levels of AF having agreeableness personality trait have less stress and anxiety. Additionally, the negative relationship between agreeableness and stress and anxiety depending on AF is stronger in men. Students having consciousness personality trait can have better mental health (stress and depression) considering the results show in the models. Students with high levels of AF having consciousness personality trait have less stress when the AF is low and less depression when ER is low than when is high. These results are in accordance with the results of Salami (2011) which showed interactions for (N) and (E) but not for (A), (C) and (O). Some of the limitations that should be addressed in future studies are related to the measures used that attempt against the common variance method. Even though many studies in this topic do it using these measures which helps in the comparison of the data and helps to gather enough of a critical mass to advance in the future research (Schutte et al., 2007). Although the present study provides information related to other samples, relates the findings with those of longitudinal studies extracting suggestions for future studies, the design (no longitudinal), the sample size and the exclusivity of the sample (students of degree in early childhood and elementary education) limits the external validity of the study.

In conclusion, on the basis of the results it can be deduced that both emotional stability (N) and (A) are keys to mitigating stress, anxiety and depression. While (E) and (C) are for depression. On the other hand, while AF is detrimental to stress, anxiety and depression, ER is beneficial to minimize for all of them (stress, anxiety and depression). EC also has a positive effect in order to prevent stress and depression but not anxiety. In conclusion, (N), (A), attention to feeling AF and ER are key to preventing stress, anxiety and depression. Emotional Clarity (EC) in stress and depression, and (E) and (C) in depression. The role of EI by itself does not buffer the detrimental effects of (N) on mental health. EI might be more beneficial to the mental health of women with personality traits of (E), (O) and (C), and men with (A) personality trait.

Therefore, the results of this study show the relevance of further analysing the role of EI in the relationship between personality and mental health. Therefore, the results of this study show the relevance of further analysing the role of EI in the relationship between personality and mental health. Given the alarming figures released by the WHO (2018, 2017) on mental diseases, it is a commitment of all society to join efforts to improve research in order to put an end to this situation.

Acknowledgments

This work was made possible with the financial support provided by the following projects: “Social Capital and Wellbeing - *Bienestar y Capital Social (BYCS)*” Research (ref.S-51) funded by Government of Aragon and the University of Zaragoza.

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