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Sustainability of Emotional Development in the University Environment: A SEM analysis of the Relationship between Emotional Intelligence and Personality Factors

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Abstract. *This research examines the relationship between Emotional Intelligence (EI), personality factors (Big Five), and demographic variables within the university environment using Structural Equation Modeling (SEM). In a competitive educational context, EI is essential for academic and professional success, facilitating stress management, interpersonal relationship development, and adaptation to labour market demands. Previous studies have highlighted significant relationships between EI dimensions and personality traits. Extraversion and agreeableness correlate positively with empathy and emotional awareness, whereas neuroticism is negatively associated with emotional control. While conscientiousness fosters emotional self-regulation, it may be negatively correlated with empathy. Additionally, demographic factors (gender, education level, and region) influence these relationships. Women generally score higher in empathy and emotional awareness, while men exhibit greater emotional control. Furthermore, education level and place of origin (urban/rural) impact the development of emotional competencies and emotional regulation strategies. The research methodology involves a statistical analysis applied to a sample of 440 students from the Gheorghe Asachi Technical University of Iași, Romania, specializing in Engineering and Management, with 97 students from the Republic of Moldova and 343 from Romania. The study assesses personality aspects using the Big Five Inventory (BFI) and measures EI through a questionnaire adapted from the specialized literature. The statistical analysis includes Spearman correlations and SEM modelling to validate the statistical hypotheses. The study's findings will contribute to optimizing educational strategies, developing university counselling programs, and promoting sustainable emotional development. The conclusions will enable the adaptation of academic policies to enhance students' emotional intelligence and facilitate a smoother transition into the labour market.*

Keywords: SEM model, emotional intelligence, personality factors, university environment.

Introduction

In a dynamic and competitive educational environment, emotional intelligence (EI) has become crucial to students' adaptation and success. The development and maintenance of emotional

DOI: 10.2478/picbe-2025-0176

competencies contribute to the sustainability of higher education by providing students with the cognitive and emotional resources necessary to manage academic stress, interpersonal relationships, and the transition to the labour market. According to the specialized literature, EI is influenced by personality factors (Big Five) and demographic characteristics, such as gender, education level, and place of origin.

Beyond personality traits, demographic factors can impact the development of emotional intelligence within the university setting. Research suggests that women generally score higher in emotional awareness and empathy, whereas men may excel in emotional control. Furthermore, education level and place of origin (urban/rural) can moderate the relationships between personality and EI, affecting both the perception and expression of emotions in academic and social contexts.

In this context, modelling the relationships between emotional intelligence, personality factors, and demographic variables using Structural Equation Modeling (SEM) provides a more detailed understanding of the dynamics of this process. This advanced statistical method allows for the simultaneous testing of relationships between variables, contributing to validating theoretical hypotheses and identifying mechanisms that support sustainable emotional development in higher education.

Therefore, this study investigates how personality factors influence emotional intelligence and how demographic variables (gender, education, region) moderate these relationships. The findings will have practical implications for educational policies, personal development programs, and academic counselling strategies, contributing to creating a more emotionally balanced and sustainable university environment.

Literature Review

Previous studies have demonstrated relationships between the dimensions of emotional intelligence (EI) and personality factors, relationships that are further moderated by demographic factors.

Zohoorian, Zeraatpishe, and Khorrami (2022) indicate that extroverted and agreeable individuals tend to exhibit higher levels of empathy and a greater willingness to communicate. Individuals with high neuroticism are also more empathetic, although this is not necessarily reflected in their willingness to communicate. Conscientiousness is negatively associated with empathy, suggesting that highly disciplined individuals tend to be less empathetic.

A longitudinal study by Van Heel, Bijttebier, Colpin, and Goossens (2020) explores the temporal stability of variables. It captures the dynamic interactions between emotional intelligence, personality factors, and demographic variables over time, emphasizing their reciprocal influences.

Koivisto, Virkkala, Puustinen, and Aarnio (2023) found that open and empathetic individuals exhibit greater flexibility in visual information processing, suggesting a link between cognitive empathy and visual perception. Openness and agreeableness emerge as the strongest predictors of cognitive empathy, influencing how individuals process ambiguous visual information. Although cognitive empathy is key in explaining individual differences in visual perception, it is not the only mechanism involved.

The study by Bętkowska Korpała et al. (2022) analyzes the personality characteristics of empathy profiles among medical students based on the Big Five personality traits. The research identifies three distinct clusters of students, grouping different empathy levels and personality trait dimensions.

Similarly, research by Jeong Park and Hwa Lee examines the relationship between empathy and personality traits using the Five-Factor Model (FFM) and proposes personalized educational

strategies for developing empathy in Human-Computer Interaction (HCI) education. Their findings reveal that agreeableness is the strongest predictor of empathy, particularly the "Empathic Concern" dimension. Openness to experience is positively associated with empathy, particularly with the "Perspective Taking" dimension. Extraversion has a moderate but inconsistent relationship with empathy. Neuroticism is correlated with "Personal Distress" (intense emotional reactions to others' suffering), but its relationship with empathy remains contradictory. Conscientiousness shows weak and inconsistent correlations with empathy.

Emotional awareness has also been extensively studied in relation to personality factors and demographic dimensions. Lane and Smith (2021) analyze emotional awareness as a critical socio-emotional ability, developing a theoretical model and measurement methods, particularly the Levels of Emotional Awareness Scale (LEAS). Their study concludes that emotional awareness is an essential socio-emotional skill influenced by cognitive development, early-life experiences, and evolutionary mechanisms.

Ghiabi and Ali Besharat (2011) examine the relationship between personality dimensions and emotional intelligence among university students at the University of Tehran using the Big Five model. Their study, conducted on a sample of 443 students (237 women, 206 men), employs the NEO-PI-R (for personality assessment based on the Big Five) and the Emotional Intelligence Scale (EIS) (based on the Salovey and Mayer model). Using Pearson correlation coefficients and linear regression analysis, their findings indicate that extraversion is positively correlated with EI ($r = 0.66$), while neuroticism is negatively correlated with EI ($r = -0.45$). Openness to experience, agreeableness, and conscientiousness have weaker correlations with EI ($r = 0.42$, $r = 0.23$, $r = 0.23$). Regression analysis confirms that extraversion positively predicts EI, while neuroticism negatively predicts EI with 99% certainty. The other traits (Openness, Agreeableness, and Conscientiousness) do not significantly impact EI.

Another study examining the relationship between emotional regulation and personality factors is that of Kratsiotis and Niven (2020). This study concludes that personality factors play a central role in emotion regulation, influencing when, how, and why individuals manage their emotions. Extraverts and conscientious individuals are likelier to adopt effective emotion regulation strategies, whereas neuroticism is most strongly associated with maladaptive strategies, leading to poor management of negative emotions.

Finally, Zhou, Sun, Wang, and Jiang (2022) analyze the relationship between conscientiousness and emotional intelligence in an organizational team setting. Their findings indicate that conscientiousness positively predicts team emotional intelligence (TEI) ($r = 0.34$, $p < 0.01$). Additionally, individual emotional intelligence mediates this relationship (indirect effect: 0.255, $p < 0.001$), while the leader's positive emotional interactions moderate the influence of conscientiousness on TEI. In the absence of a leader who fosters positive emotions, the impact of conscientiousness on team emotional intelligence diminishes.

Methodology

This research investigates the relationships between emotional intelligence (EI) dimensions and personality factors, considering the moderating influence of demographic variables among young adults in a university setting. Grounded in the Big Five personality framework, this study examines how EI components interact with personality traits. The research is founded on the premise that personality traits influence the development and expression of emotional intelligence in young individuals, both directly and indirectly.

Model Variables

1. Dimensions of Emotional Intelligence (Dependent Variables)
   - Emotional Awareness – The capacity to identify and comprehend one's own emotions as well as those of others.
   - Emotional Control – The ability to regulate and effectively manage emotional responses.
   - Empathy – The capacity to perceive and appropriately respond to the emotions of others.
   - Emotional Reactions – The way individuals express and display emotions in social interactions.
2. Personality Factors (Independent Variables)
   - Extraversion – The degree of sociability, energy, and inclination toward social engagement.
   - Agreeableness – The tendency to exhibit cooperative, friendly, and altruistic behaviors.
   - Conscientiousness – The extent of self-discipline, organization, and perseverance.
   - Neuroticism – A predisposition to experience negative emotions such as anxiety, depression, and stress.
   - Openness to Experience – A disposition toward intellectual curiosity, creativity, and the exploration of new ideas and experiences.

Conceptual Models and Research Hypotheses

The conceptual models, based on literature review findings, investigate the relationships between personality and emotional intelligence, moderated by three demographic variables: [Gender], [Education Level], and [Area].

Conceptual model 1 is presented in Figure 1: Extraversion ([PF][EX])→ (+) Emotional Awareness ([EI][EA]), (+)Emotional Reactions ([EI][RE])
Moderators: Gender ([Gender]), Education Level ([ED])

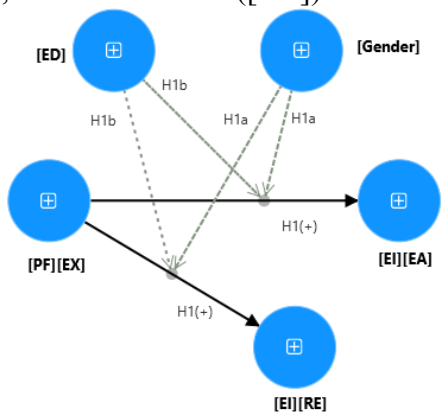

Figure 1. Model ([EI][EA],[EI][RE])=function ([PF][EX]) | moderator [ED], [Gender]
Source: Authors' own research.

Researched hypotheses:
H1: Extraversion is positively correlated with all dimensions of emotional intelligence, particularly emotional Awareness and Emotional Reactions, as extraverted individuals tend to be more expressive and aware of others' emotions (Alegre, Pérez-Escoda, & López-Cassá, 2019).
H1a: Gender influences the relationship between Extraversion and Emotional Reactions (women tend to be more emotionally expressive).
H1b: Education level moderates the relationship between extraversion and Emotional Awareness (individuals with higher education have greater Emotional Awareness).

Conceptual model 2 is presented in Figure 2: Agreeableness ([PF][AG])→ (+) Empathy ([EI][EM]), (+) Emotional Reactions ([EI][RE])
Moderator: Region of Origin ([Area])

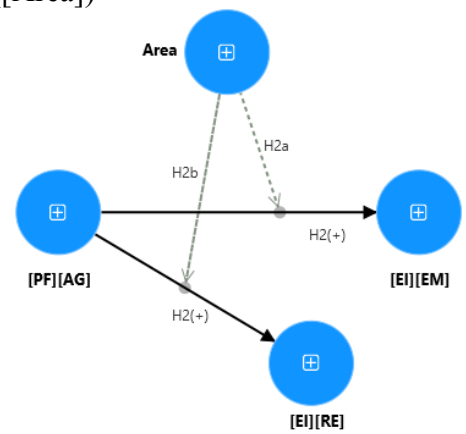

Figure 2. Model ([EI][EM],[EI][RE])=function ([PF][AG]) | moderator [Area]
Source: Authors' own research.

Researched hypotheses:
H2: Agreeableness positively influences Empathy and Emotional Reactions, playing a key role in an individual's ability to understand and emotionally respond to others' needs (Sanchez-Ruiz & Khoury, 2019)
H2a: Region of origin influences the relationship between Agreeableness and Empathy (community bonds shape the empathy-emotional reaction connection).
H2b: Region of origin influences the relationship between Agreeableness and Emotional Reactions.

Conceptual model 3 is presented in Figure 3: Conscientiousness ([PF][CO]) → (+) Emotional Control ([EI][EC])
Moderator: Education level [ED]

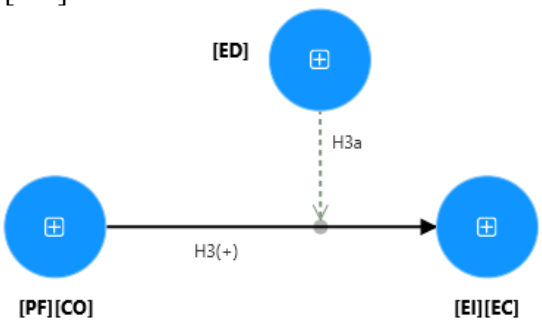

Figure 3. Model ([EI][EC])=function ([PF][CO]) | moderator [ED]
Source: Authors' own research.

Researched hypotheses:
H3: Conscientiousness is positively correlated with emotional control, as conscientious individuals tend to be more organized and exhibit better self-regulation of emotions (Dan et al., 2021).
H3a: Education level influences the relationship between conscientiousness and emotional control (individuals with higher education may develop more effective emotional self-regulation strategies).

Conceptual model 4 is presented in Figure 4: Neuroticism ([PF][NE]) → (−) Emotional Control ([EI][EC]), (−) Emotional Reactions ([EI][RE])
Moderators: [Gender], Education Level ([ED])

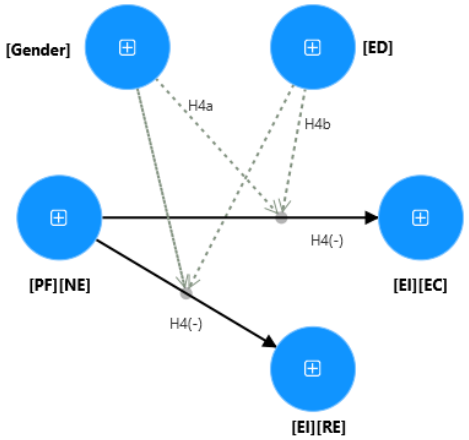

Figure 4. Model ([EI][EC],[EI][RE])=function ([PF][NE]) | moderator [ED], [Gender]
Source: Authors' own research.

Researched hypotheses:
H4: Neuroticism is negatively correlated with all dimensions of Emotional Intelligence, particularly Emotional Control, as neurotic individuals face challenges in managing negative emotions (Kumar & Tankha, 2023).
H4a: Women tend to score higher in Neuroticism, which influences Emotional Control.
H4b: Individuals from rural areas may have lower levels of Neuroticism due to a less stressful lifestyle.

Conceptual model 5 is presented in Figure 5: Openness to Experience ([PF][OP])→ (+) Emotional Awareness ([EI][EA]), (+) Empathy ([EI][EM])
Moderator: Education level [ED]

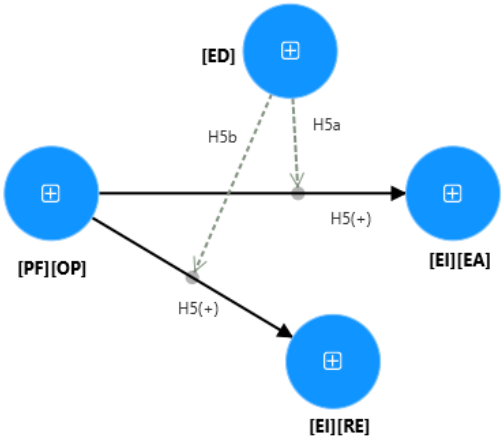

Figure 5. Model ([EI][EA],[EI][RE])=function ([PF][OP]) | moderator [ED]
Source: Authors' own research.

Researched hypotheses:
H5: Openness to experience is positively correlated with emotional awareness and empathy, as open individuals tend to be more receptive to others' emotions and explore their own emotional experiences (Szcześniak, Rodzeń, Malinowska, & Kroplewski, 2020:13).
H5a: Education level influences the relationship between openness to experience and emotional awareness (higher education fosters more excellent emotional reflection and awareness).
H5b: Education level influences the relationship between openness to experience and emotional reaction.

The study was conducted on 440 students from Gheorghe Asachi Technical University of Iași, Faculty of Industrial Design and Business Management, in Engineering and Management. The sample includes students from years 1-4 of the Bachelor's program and years 1-2 of the Master's program.

The distributions of demographic variables within the respondent sample are presented in the following tables: Table 1—variable [Gender], Table 2—variable [Area], and Table 1—variable [Education level].

Table 1. Variable [Gender]

Value code	Variable value	No
1	Man	175
2	Female	265

Source: Authors' own research.

Table 2. Variable [Area]

Value code	Variable Value	No
0	Rep. of Moldova and Ukraine	97
1	Iaşi	139
2	Vaslui	40
3	Bacău	25
4	Botoşani	33
5	Suceava	23
6	Galaţi	13
7	Neamţ	54
8	Vrancea	8
9	Other region (Bucureşti, Buzău)	8

Source: Authors' own research.

Table 3. Variable [Education level]

Value Code	Variable value	No
1	First year of Bachelor's	115
2	Second year of Bachelor's	140
3	The third year of Bachelor's	83
4	The fourth year of Bachelor's	40
5	First year of Master's	53
6	Second year of Master's	9

Source: Authors' own research.

Measurement Instruments
The study utilized the following measurement instruments:

- Big Five Inventory (BFI) – Used to assess personality traits (John & Srivastava, 1999), consisting of 44 items grouped into five dimensions, using a 5-point Likert scale.

- Emotional Intelligence Assessment – adapted from the Emotional Intelligence Questionnaire (Whetten & Cameron, 2011), consisting of 12 questions on a 5-point Likert scale.

The dimensions assessed include Emotional Awareness, Emotional Control, Empathy, and Emotional Output/Reactions.

Both questionnaires were administered between August 2, 2024, and December 10, 2024.

Data Analysis

- Spearman correlations are used to identify relationships between variables (SmartPLS.v4 software).
- Structural Equation Modeling (SEM) was applied to determine the impact of personality factors on EI dimensions and to validate the research hypotheses (SmartPLS.v4 software).

Practical Implications

- in selection and professional training: Understanding the relationship between personality and emotional intelligence can assist in recruiting and developing effective leaders.
- In education: developing empathy and emotional awareness among students can be enhanced through personalized university strategies based on personality traits.

Results and discussions

Model 1: Extraversion ([PF][EX])→ (+) Emotional Awareness ([EI][EA]), (+)Emotional Reactions ([EI][RE])

Moderators: Gender ([Gender]), Education Level ([ED])

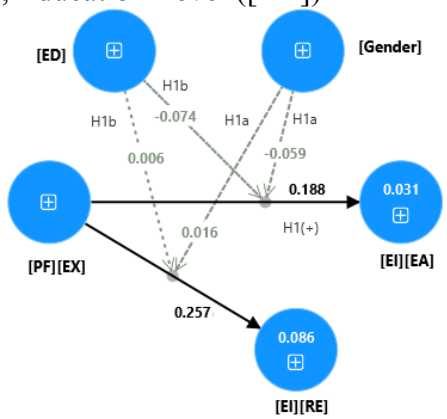

Figure 6. Model 1 results ([EI][EA],[EI][RE])=function ([PF][EX]) | moderator [ED], [Gender]

Source: Authors' own research.

The results obtained by applying the PLS algorithm (Figure 6) on conceptual model 1 lead to the following interpretations:

Relationship between [PF][EX] and dependent variables:

- the relationship [PF][EX] → [EI][EA] (0.188) indicates a positive and moderate correlation, meaning that as [PF][EX] increases, [EI][EA] also increases.
- The relationship [PF][EX] → [EI][RE] (0.257) is positive and stronger than the one with [EI][EA], suggesting that [PF][EX] has a greater impact on [EI][RE].
- hypothesis H1 is validated, confirming that an increase in [PF][EX] leads to significant increases in both [EI][EA] and [EI][RE], with a stronger impact on [EI][RE].

For the Male group (Gender = 1), a stronger relationship is observed between [PF][EX] and [EI][EA]. As [PF][EX] increases, the growth in [EI][EA] is more pronounced among men.

For the Female group (Gender = 2), the relationship between [PF][EX] and [EI][EA] is weaker, as Gender negatively moderates the predictor's effect on the dependent variable.

Another negative moderation is observed in [ED], affecting the relationship between [PF][EX] and [EI][EA]. This can be explained by the fact that, among women, higher education levels may slightly reduce Emotional Awareness, in contrast to the male group. However, this moderation effect is very low, likely due to the fact that respondents already have a higher level of education from the first year of undergraduate studies.

In conclusion, H1 is validated, and H1a and H1b are partially validated.

Model 2: Agreeableness ([PF][AG]) → (+) Empathy ([EI][EM]), (+) Emotional Reactions ([EI][RE])
Moderator: Region of Origin ([Area])

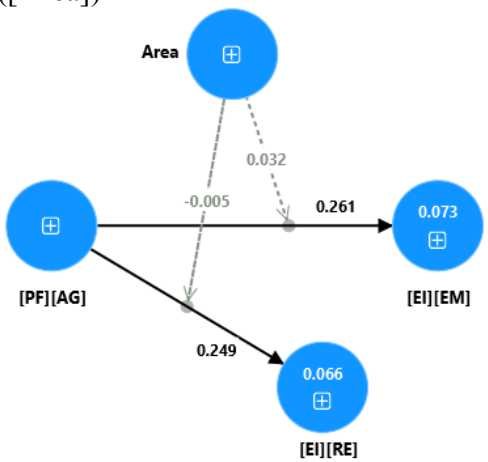

Figure 7. Model 2 results ([EI][EM],[EI][RE])=function ([PF][AG]) | moderator [Area]
Source: Authors' own research.

The results obtained by applying the PLS algorithm (Figure 7) on conceptual model 2 lead to the following interpretations:

- The relationship [PF][AG] → [EI][EM] (0.261) is positive and moderate, indicating that as [PF][AG] increases, [EI][EM] also increases.
- The relationship [PF][AG] → [EI][RE] (0.249) is positive and moderate, but slightly weaker than the effect on [EI][EM].
- A higher level of [PF][AG] leads to an increase in both dependent variables, but the impact is slightly more significant on [EI][EM] than on [EI][RE].

Effect of the Moderator Variable [Area]

- [Area] → [PF][AG] (-0.005): minimal negative effect, suggesting that [Area] does not significantly affect the value of [PF][AG].
- [Area] → [EI][EM] (0.032): weak positive effect, indicating a minor impact of [Area] on [EI][EM].

The variable [Area] has an insignificant direct effect on [PF][AG] but a slightly positive effect on [EI][EM]. This means that the impact of [PF][AG] on [EI][EM] and [EI][RE] is not significantly influenced by the moderator variable [Area].

Synthetic, H2 is validated, and H2a and H2b are invalidated.

Model 3: Conscientiousness ([PF][CO]) → (+) Emotional Control ([EI][EC])
Moderator: Education Level ([ED])

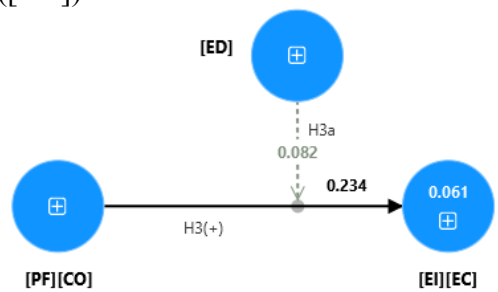

Figure 8. Model 3 results ([EI][EC])=function ([PF][CO]) | moderator [ED]
Source: Authors' own research.

The results obtained by applying the PLS algorithm (Figure 8) on conceptual model 3 lead to the following interpretations:

- for the main relationship [PF][CO] → [EI][EC], the regression coefficient is 0.234.
- this indicates a positive and moderate relationship between [PF][CO] and [EI][EC], meaning that an increase in [PF][CO] is associated with an increase in [EI][EC].
- hypothesis H3(+) suggests that this relationship is positive and supported by the data. While this relationship is significant, it is not very strong.

Moderating Effect of [ED]

- the moderation coefficient of [ED] is 0.082, leading to the conclusion that [ED] indirectly influences the relationship between [PF][CO] and [EI][EC], but its coefficient is relatively low.
- If [ED] had a higher coefficient, it would indicate a stronger moderating effect on this relationship.

In conclusion, the results confirm a significant positive relationship between [PF][CO] and [EI][EC], validating Hypothesis H3(+), [ED] acts as a moderator, but its influence is relatively low (coefficient = 0.082) and hypothesis H3a is not validated.

Model 4: Neuroticism ([PF][NE]) → (−) Emotional Control ([EI][EC]), (−) Emotional Reactions ([EI][RE])
Moderators: Gender ([Gender]), Education Level ([ED])

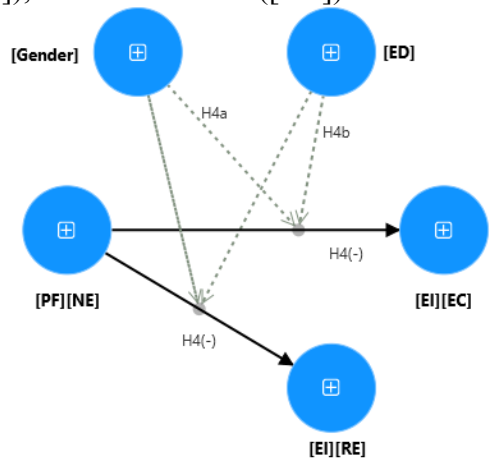

Figure 9. Model 4 results ([EI][EC],[EI][RE])=function ([PF][NE]) | moderator [ED], [Gender]
Source: Authors' own research.

The results obtained by applying the PLS algorithm (Figure 9) on conceptual model 4 lead to the following interpretations:

Main Relationships

- [PF][NE] → [EI][EC] (-0.266): A negative and moderate relationship, indicating that a higher level of [PF][NE] is associated with a decrease in [EI][EC].
- [PF][NE] → [EI][RE] (-0.342): A negative and strong relationship, meaning that an increase in [PF][NE] leads to an even more significant reduction in [EI][RE] compared to [EI][EC].

Hypothesis H4(-) is supported, indicating a significant negative effect of [PF][NE] on both dependent variables.

Moderating role of the variable [Gender]

- [Gender] → [PF][NE] (0.137): A positive relationship, meaning that an increase in Gender (from male = 1 to female = 2) leads to an increase in [PF][NE].
- [Gender] → [EI][RE] (-0.029): A negative but very weak relationship, suggesting an insignificant effect on this variable. The variable [Gender] indirectly influences [EI][EC] through [PF][NE].

Conclusion: Women (Gender = 2) tend to have higher levels of [PF][NE] compared to men. Therefore, gender differences indirectly influence [EI][EC] and [EI][RE], but the direct impact of Gender on these variables is weak.

Moderating Role of the Variable [ED]

- [ED] → [PF][NE] (-0.134): A moderate negative relationship, indicating that a higher education level reduces [PF][NE].
- [ED] → [EI][EC] (0.035): A weak positive relationship, suggesting an insignificant effect of education on [EI][EC].

The variable [ED] indirectly moderates the relationship between [PF][NE] and [EI][EC] by reducing [PF][NE]. A higher level of education is associated with a reduction in [PF][NE], which may mitigate its negative impact on the dependent variables. The direct effect of education on [EI][EC] is small, but its indirect influence (through the reduction of [PF][NE]) may be more significant.

In conclusion, [PF][NE] negatively influences both [EI][EC] and [EI][RE], with a more substantial effect on [EI][RE] and [Gender] and Education ([ED]) moderate these relationships: Gender is positively associated with [PF][NE], meaning women tend to have higher levels of [PF][NE] than men. Education reduces [PF][NE], which may help mitigate its negative effects on [EI][EC] and [EI][RE].

Model 5: Openness to Experience ([PF][OP]) → (+) Emotional Awareness ([EI][EA]), (+) Empathy ([EI][EM])

Moderator: Education Level ([ED])

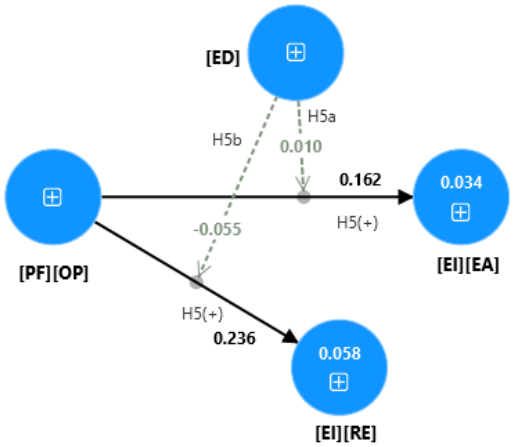

Figure 10. Model 5 results ([EI][EA],[EI][RE])=function ([PF][OP]) | moderator [ED]

Source: Authors' own research.

The results obtained by applying the PLS algorithm (Figure 10) on conceptual model 5 lead to the following interpretations:

Main relationships between variables:

- [PF][OP] → [EI][EA] (0.162): A positive and moderate relationship, indicating that an increase in [PF][OP] leads to an increase in [EI][EA].
- [PF][OP] → [EI][RE] (0.236): A stronger positive relationship compared to [EI][EA]. A high level of [PF][OP] results in a significant increase in [EI][RE]. The variable [PF][OP] has a significant positive effect on both dependent variables. The impact is more substantial on [EI][RE] than on [EI][EA], suggesting that [PF][OP] plays a more important role in predicting [EI][RE].

Moderating role of the variable [ED]:

The variable [ED] influences the relationships between [PF][OP] and the dependent variables through two effects:

- [ED] → [PF][OP] (-0.055): Weak negative relationship, suggesting that a higher education level slightly reduces [PF][OP].
- [ED] → [EI][EA] (0.010): Very weak positive relationship, indicating an almost negligible effect.

Education has a small negative effect on [PF][OP], which may indicate that a higher level of education attenuates the effect of [PF][OP] on the dependent variables. The direct effect of education on [EI][EA] is almost nonexistent, suggesting that it does not significantly contribute to this model.

Hypothesis H5(+) is supported, as the effects of [PF][OP] on [EI][EA] and [EI][RE] are positive. However, moderation by [ED] does not significantly impact, as its coefficients are very small.

Conclusion: [PF][OP] positively influences both [EI][EA] and [EI][RE], with a more substantial effect on [EI][RE]. The variable [ED] plays a moderating role, but its influence is weak, slightly reducing [PF][OP] without a significant effect on [EI][EA]. Hypothesis H5(+) is supported, indicating a positive relationship between [PF][OP] and the dependent variables.

Conclusion

This research utilized Structural Equation Modeling (SEM) to analyze the relationships between emotional intelligence (EI), personality factors (Big Five), and demographic variables.

The results confirmed some theoretical hypotheses while rejecting others, and the coefficients obtained from the analysis provide a clear picture of the strength and direction of these relationships.

The relationships between personality factors and emotional intelligence can be summarized as follows: Extraversion positively influences emotional awareness ([PF][EX] → [EI][EA] = 0.188) and emotional reactions ([PF][EX] → [EI][RE] = 0.257). Extraverted individuals tend to be more emotionally expressive and aware, with a stronger influence on emotional reactions than on emotional awareness. Agreeableness has a positive impact on empathy ([PF][AG] → [EI][EM] = 0.261) and emotional reactions ([PF][AG] → [EI][RE] = 0.249). Agreeable individuals have a high capacity for empathy, and this effect is slightly stronger than its influence on emotional reactions. Conscientiousness is positively correlated with emotional control ([PF][CO] → [EI][EC] = 0.234). Organized and disciplined individuals exhibit better emotional control, reducing impulsive behaviours. Neuroticism has a significant negative impact on emotional control ([PF][NE] → [EI][EC] = -0.266) and emotional reactions ([PF][NE] → [EI][RE] = -0.342). Highly neurotic individuals struggle significantly with managing negative emotions, and the effect on emotional reactions is stronger than on emotional control. Openness to experience is positively correlated with emotional awareness ([PF][OP] → [EI][EA] = 0.162) and emotional reactions ([PF][OP] → [EI][RE] = 0.236). Open individuals tend to be more emotionally aware and expressive, with a stronger effect on emotional reactions.

Moderating Role of Demographic Variables: Gender influences the relationship between extraversion and emotional awareness**.** Among men**,** the relationship [PF][EX] → [EI][EA] is stronger than among women**.** This effect is weaker among women, indicating a negative moderation of the relationship. Education level moderates the relationships between personality and EI, but its effect is weak. For example, in the case of Conscientiousness**,** the moderation coefficient is [ED] → [PF][CO] = 0.082**,** indicating a very weak impact on the relationship between conscientiousness and emotional control**.** Region of origin does not significantly affect the relationships between personality and EI. The coefficient [Area] → [PF][AG] = -0.005 suggests an insignificant influence**,** meaning that cultural factors do not play a significant role in these relationships**.**

The study's limitations stem from the following aspects: the sample was restricted to a single university, which may limit the generalizability of the results; external factors such as academic stress or social influences were not analyzed, although they may impact emotional intelligence and absence of longitudinal analysis, meaning that the evolution of relationships over time cannot be observed.

Future studies should focus on expanding the study to other universities and academic disciplines, using more objective methods (e.g., neuropsychological testing) to evaluate EI, conducting longitudinal analyses to examine changes in EI over time, and exploring the influence of the work environment and stress on EI development.

The study's findings demonstrate that emotional intelligence is significantly influenced by personality traits, while demographic variables such as gender and education level play a moderating role in these relationships. Although some demographic factors have a limited impact, the practical implications are relevant for education and professional development, providing clear directions for improving university counselling programs and leadership training.

Acknowledgement

The studies presented in this article were conducted within the frame of the Centre for Research and Innovation in Textiles and Fashion Industry SMART-Tex-IS from Gheorghe Asachi Technical University of Iasi.

This research was conducted as part of the SOFIAHub project, Grant nr. GNaC2023_267/2024, funded by the ARUT and supported by Gheorghe Asachi Technical University of Iași.

References

Alegre, A., Pérez-Escoda, N., & López-Cassá, E. (2019). The Relationship Between Trait Emotional Intelligence and Personality. Is Trait EI Really Anchored Within the Big Five, Big Two and Big One Frameworks? *Frontiers in Psychology, Sec. Emotion Science, 10*. Retrieved from https://doi.org/10.3389/fpsyg.2019.00866

Bętkowska-Korpała, B., Pastuszak-Draxler, A., Olszewska-Turek, K., Sikora-Zych, K., Epa, R., & Starowicz-Filip, A. (2022). Personality characteristics of empathy profiles – practical implications for education of medicine students. *BMC Medical Education*, 1-11.

Dan, Y., Ahmed, A., Chupradit, S., Chupradit, P., Nassani, A., & Haffar, M. (2021). The Nexus Between the Big Five Personality Traits Model of the Digital Economy and Blockchain Technology Influencing Organization Psychology. *Frontiers in Psychology*.

Ghiabi, B., & Ali Besharat, M. (2011). An investigation of the relationship between Personality dimensions and emotional intelligence . *Procedia - Social and Behavioral Sciences 30*, 416 – 420.

Jeong Park, H., & Hwa Lee, J. (n.d.). Looking into the Personality Traits to Enhance Empathy Ability: A Review of Literature. (C. A. Stephanidis, Ed.) *Communications in Computer and Information Science, HCI International 2020 - Posters*(1224). Retrieved from https://doi.org/10.1007/978-3-030-50726-8_23

John, O. P., & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. In *Handbook of Personality: Theory and Research* (pp. 102-138). New York: Guilford Press.

Koivisto, M., Virkkala, M., Puustinen, M., & Aarnio, J. (2023). Open and empathic personalities see two things at the same time: the relationship of big-five personality traits and cognitive empathy with mixed percepts during binocular rivalry. *Current Psychology*, 9552–9562. doi: https://doi.org/10.1007/s12144-021-02249-7

Kratsiotis, H. D., & Niven, I. (2020). This is a repository copy of Personality traits and emotion regulation : a targeted review and recommendations. *White Rose Research*, 1-20.

Kumar, V., & Tankha, G. (2023:16). Association Between the Big Five and Trait Emotional Intelligence Among College Students. *Psychology Research and Behavior Management*, 915–925.

Lane, D. R., & Smith, R. (2021). Levels of Emotional Awareness: Theory and Measurement of a Socio-Emotional Skill. *Journal of Intelligence, 9: 42.* Retrieved from https://doi.org/10.3390/jintelligence9030042

Sanchez-Ruiz, M.-J., & Khoury, J. (2019). A Model of Academic, Personality, and Emotion-Related Predictors of University Academic Performance. *Front. Psychol. Sec. Educational Psychology*.

Szcześniak, M., Rodzeń, W., Malinowska, A., & Kroplewski, Z. (2020:13). Big Five Personality Traits and Gratitude: The Role of Emotional Intelligence. *Psychology Research and Behavior Management* , 977–988.

Van Heel, M., Bijttebier, P., Colpin, H., & Goossens, L. (2020). Perspective taking, empathic concern, agreeableness, and parental support: Transactional associations across adolescence . *Journal of Adolescence* , 21-31.

Whetten, D., & Cameron, K. (2011). *Developing management skills.* SUA: Prentice Hall.

Zhou, X., Sun, X., Wang, Z., & Jiang, T. (2022;101:42). Association between conscientiousness and team emotional intelligence: A moderated mediation model. *Medicine*. Retrieved from http://dx.doi.org/10.1097/MD.0000000000031001

Zohoorian, Z., Zeraatpishe, M., & Khorrami, N. (2022). Willingness to Communicate, Big Five Personality Traits, And . *Canadian Journal of Educational and Social Studies* , 17-27.