European Journal of Mental Health
https://doi.org/10.5708/EJMH.19.2024.0015

RESEARCH ARTICLE

Early Maladaptive Schemas' Associations with Big-Five Personality Traits in Two Non-Clinical Adult Samples from Different Cultural Backgrounds

Aiste DIRZYTE [1] ✉, Aidas PERMINAS [3], Aiste SKARNULYTE[2], Indre GAJDOSIKIENE[2], Rugile BITINAITE [2], Aleksandras PATAPAS [4]

Affiliations
[1] Faculty of Creative Industries, Vilnius Gediminas Technical University, Lithuania
[2] Institute of Psychology, Mykolas Romeris University, Lithuania
[3] Department of Psychology, Vytautas Magnus University, Lithuania
[4] Institute of Public Administration, Mykolas Romeris University, Lithuania

✉ Correspondence
Dirzyte Aiste
Faculty of Creative Industries, Vilnius Gediminas Technical University, Saulėtekio ave. 11, Vilnius 10221, Lithuania
Email: aiste.dirzyte@vilniustech.lt

History
Received: 14 June 2023
Accepted: 5 December 2023
Published: 31 January 2024

Citation
Dirzyte, A., Perminas, A., Skarnulyte, A., Gajdosikiene, I., Bitinaite, R. & Patapas, A. (2024). Early Maladaptive Schemas' Associations with Big-Five Personality Traits in Two Non-Clinical Adult Samples from Different Cultural Backgrounds.
European Journal of Mental Health, 19, e0015, 1–17.
https://doi.org/10.5708/EJMH.19.2024.0015

Introduction: While personality traits and early maladaptive schemas (EMSs) can affect an individual's behavior and well-being, the links between these constructs are under-researched, especially in non-clinical samples.
Aims: Two studies were conducted to address these links, intending to explore their specifics, as previous research evidenced various associations' models.
Methods: In Study 1, the sample consisted of 120 respondents (65.0% females) living in the UK and the USA. In Study 2, the sample consisted of 244 respondents (68.0% females) living in Lithuania. In both studies, most of the respondents were aged 18-25. The survey was administered online. Studies 1 and 2 applied the Big Five Inventory and Young Schema Questionnaire.
Results: In Study 1, neuroticism was significantly positively associated with 17 EMSs. Extraversion stood significantly negatively related to 12 EMSs, conscientiousness was significantly negatively related to 15 EMSs, open-mindedness stood significantly negatively related to 2 EMSs, but significantly positively related to admiration, and agreeableness appeared significantly negatively related to 9 EMSs.
In Study 2, neuroticism was significantly positively associated with 16 EMSs. Extraversion stood significantly negatively related to 9 EMSs, conscientiousness was significantly negatively related to 12 EMSs, open-mindedness and agreeableness were significantly negatively related to 10 EMSs.
Conclusions: Study 2 partly failed to replicate the results of Study 1, which implies that the model of links between EMSs and personality traits could be impacted by cultural factors, and needs further investigation.

Keywords: personality traits, Big Five, early maladaptive schemas, non-clinical samples, well-being

ISSN 1788-7119 (online)

Introduction

Early maladaptive schemas (EMSs) are dysfunctional core beliefs about self, others, and the world, primarily developed during childhood due to an adverse environment and unmet needs (Young, 1999). EMSs, as negative patterns of thoughts, arise in the early years because of negative valence experiences/interactions, mainly with caregivers (Young, 2014). EMSs gradually evolve as "conceptual templates" that shape how individuals perceive themselves and the world around them and might profoundly affect feelings and behaviors, supposedly, significantly impacting mental health and psychological well-being (Young, Klosko, & Weishaar, 2003).

Personality traits are relatively stable patterns of thoughts, feelings, and behaviors commonly used to describe and understand individuals (Soto & John, 2017b). In the "Big Five" model, personality traits are organized into five broad dimensions: extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience (McCrea & Costa, 1987). EMSs are not typically used to describe or understand personality traits but can presumably interact with them and affect them.

Previous research demonstrated that personality and EMSs are related and can interact with each other in complex ways (Bilge & Balaban, 2021; Etemadnia et al., 2021; Güler & Özgörüş, 2022; Pauwels et al., 2016; Shojaati, Kalantari, & Mulavi, 2019; Shorey, Stuart, & Anderson, 2014; Stavropoulos et al., 2020; Thimm, 2011; Yığman et al., 2021). However, the relationship between these constructs still remains an area of ongoing research. Some studies explored links between EMSs and personality traits in clinical and non-clinical samples. The findings revealed that while the links between EMSs and personality traits are more or less evident in clinical samples (Bilge & Balaban, 2021; Esmaeilian et al., 2019; Güler & Özgörüş, 2022; Pauwels et al., 2016; Shojaati, Kalantari, & Mulavi, 2019; Shorey, Stuart, & Anderson, 2014; Yığman et al., 2021), the associations between EMSs and personality traits in healthy individuals need deeper investigation. This research aimed to explore the links between EMSs and personality traits in healthy individuals (without a clinical diagnosis of mental illness).

Early Maladaptive Schemas

EMSs are systems of thoughts that develop in childhood and persist into adulthood, possibly leading to emotional and relationship difficulties (Young, 1999). EMSs are defined as 'self-defeating emotional and cognitive patterns that begin early in our development and repeat throughout life' (Young, Klosko, & Weishaar, 2003, p. 7). Young (2014) described 18 EMSs which are presented in Table 1.

Unaddressed EMSs, activated in adulthood, can lead to a wide range of mental health problems, such as anxiety, depression, or personality disorders (Bilge & Balaban, 2021; Güler & Özgörüş, 2022; Jain & Singh, 2022; Shorey, Stuart, & Anderson, 2014; Stavropoulos et al., 2020). However, EMSs can be addressed through psychotherapy; e.g., cognitive-behavioral therapy (CBT), including schema therapy, which might help individuals identify and challenge their negative schemas and develop more adaptive ways of thinking, feeling, and behaving (Young, 2014).

Previous research linked EMSs to various personality disorders (Koppers et al., 2021; Bilge & Balaban, 2021), but the links between EMSs and personality traits were under-researched, even though their analysis can provide crucial information on the specifics of maladaptive cognitions related to each personality trait.

Personality Traits

The Big Five Personality Theory, initiated by Goldberg (1990) in the 1990s and later developed by McCrea and Costa (McCrea & Costa,1987; Costa & McCrae, 1990), is a widely researched and accepted theory of personality, which describes five broad dimensions of personality, each represented by a set of qualities, that can be used to describe an individual's personality: 1) openness, which encompasses qualities such as imagination, creativity, and a willingness to experience new things; 2) conscientiousness, which encompasses attributes such as responsibility, organization, and dependability; 3) extraversion, which encompasses characteristics such as outgoingness, sociability, and assertiveness; 4) agreeableness, which encompasses qualities such as kindness, cooperativeness, and empathy; 5) neuroticism, which encompasses characteristics such as anxiety, moodiness, and emotional instability. These traits, which can be measured through self-report questionnaires, are considered relatively stable throughout an individual's life, and are believed to be impacted by both "nature" and "nurture" (McCrea & Costa, 1987).

In previous studies, openness to experience has been proven to be related to intelligence, as individuals who scored high on crystallized intelligence were also more open to experiences (Schretlen et al., 2010). Conscientiousness was linked to a strong sense of responsibility and good timekeeping skills (Stieger et al., 2020). Extraversion

Table 1. Early maladaptive schemas and their explanations

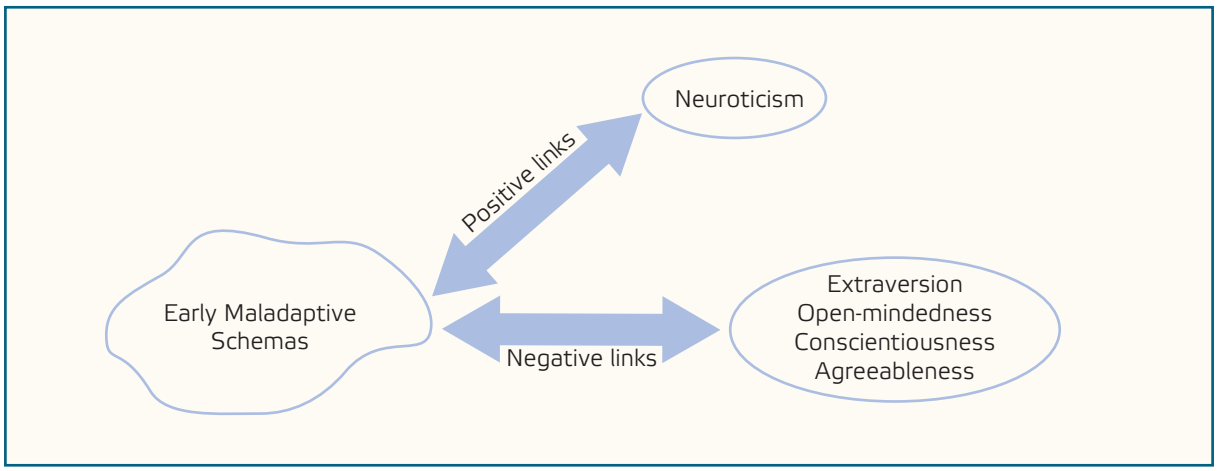
Early maladaptive schema	Explanation
Abandonment/Instability	The belief that others will leave/abandon them, linked to the fear of abandonment or losing someone important based on past experiences of loss or instability in relationships.
Mistrust/Abuse	The belief that others will harm, exploit, or deceive the individual based on past experiences of betrayal or abuse.
Emotional Deprivation	The belief that others will not meet one's needs for emotional support based on past experiences of neglect or emotional unavailability.
Defectiveness/Shame	The belief that one is inherently flawed, fundamentally defective, or inadequate, causing intense shame and low self-esteem.
Social Isolation/Alienation	The belief that one is fundamentally different from others and does not fit in, causing feelings of loneliness and disconnection.
Dependence/Incompetence	The belief that one cannot function effectively on one's own, cannot handle responsibilities, and necessitates others to take care of them or make decisions for them, leading to excessive reliance on others.
Vulnerability to Harm or Illness	The belief in being physically or emotionally harmed or becoming ill, linked to excessive fear of physical or psychological harm or illness.
Enmeshment/Undeveloped Self	Fusion of one's identity with others, excessive emotional closeness with others, neglecting one's own needs and goals, leading to loss of individuality.
Failure	The belief that one will fail, be unable to meet expectations, or will not succeed at essential tasks, causing feelings of inadequacy.
Subjugation	The belief that one must subjugate one's own needs to meet the demands of others, surrendering one's own needs and desires to the needs and desires of others, leading to feelings of powerlessness.
Self-Sacrifice	The belief that one must sacrifice one's own needs to meet the needs of others, excessive focus on the needs of others at the expense of one's own needs and desires.
Approval/Recognition Seeking	Excessive need for approval or recognition from others, leading to feelings of inadequacy or low self-esteem
Negativity/Pessimism	Pervasive negative attitudes and expectations about life and the future, causing feelings of hopelessness or despair.
Emotional Inhibition	Suppression of spontaneous emotion or expression of emotion, difficulty expressing emotions, leading to a sense of disconnection from others and oneself.
Unrelenting Standards/ Hyper-criticalness	The belief that one must strive for perfection and be overly critical of oneself and others, excessively high and rigid personal standards, causing feelings of inadequacy and self-criticism.
Punitiveness	The belief that people should be harshly punished for mistakes, assumption that others (including oneself) deserve to be punished, leading to feelings of anger and resentment.
Entitlement/Grandiosity	The belief that one is superior to others and entitled to special privileges and exempt from rules, leading to a sense of entitlement and arrogance.
Insufficient Self-Control/Self-Discipline	Difficulty in controlling/regulating impulses, behaviors, and emotions, leading to problems with addiction, impulsivity, or self-destructive behavior.

was linked to seeking attention from others (Wilt & Revelle, 2009) and getting support from others (Barańczuk, 2019). Agreeableness was linked to the ability to work in teams (Graziano et al., 2007). Neuroticism was linked to higher levels of worry, limited ability to cope with daily stressors, and less happiness in couple relationships (Headey, Muffels, & Wagner, 2010).

It is not easy to verify whether EMSs predict personality traits or if personality traits can contribute to the activation of EMSs. Young, Klosko, and Weishaar (2003) have mentioned that even though schemas develop in early life, the child's actual temperament (which, according to Caspi, Robert, & Shiner, 2005, reflects personality) can play a significant role in the development of schemas.

Previous studies demonstrated some links between EMSs and personality traits across different samples. A study by Muris (2006) on adolescents (around 13 years old) explored the relationship between EMSs and personality traits: neuroticism was related to all the EMSs, and the unrelenting standards schema was associated with extraversion, openness to experience, and conscientiousness. The schema of self-sacrifice stood positively related to agreeableness, and the schema of vulnerability to harm was also positively associated with openness (Muris, 2006). A study by Thimm (2010) on an adult outpatient sample yielded similar results of neuroticism associated with most EMSs and found that self-sacrifice stood positively associated with agreeableness. The same study also demonstrated that disagreeableness was associated with mistrust and insufficient self-control schemas (Thimm,

Figure 1. Conceptual model of the links between EMSs and personality traits



2010). EMSs were also linked to low agreeableness and high neuroticism (Sava, 2009). Even though ample research into EMSs and personality traits exists, the findings still remain inconsistent, and there is a lack of studies in non-clinical samples.

Current Research

The current research addresses intercorrelation between the EMSs and personality traits.

Based on previous studies and the conceptual theory of EMSs, it could be assumed that early maladaptive schemas can be related to the five personality traits (Shojaati, Kalantari, & Mulavi, 2019).

We conducted two cross-sectional studies in non-clinical samples to analyze the links between EMSs and personality traits to replicate the results of Study 1 in Study 2. Studies 1 and 2 focused on the cross-correlational links between EMSs and five personality traits, and, specifically, on the links between EMSs and neuroticism. In Studies 1 and 2, we hypothesized associations between EMSs and personality traits (Figure 1), still assuming no significant differences in EMSs and personality traits in Study 1 and Study 2 (H1).

In Studies 1 and 2, we explicitly presumed positive links between EMSs and neuroticism (H2), and negative links between EMSs and extraversion, open-mindedness, conscientiousness, and agreeableness (H3).

Methods

Participants

In Study 1, the respondents were 120 individuals (without a clinical diagnosis at the time of the survey) living in English-speaking countries, including the UK and the USA. Of those, 78 were females (65.0%).

In Study 2, the respondents consisted of 244 individuals (without a clinical diagnosis at the time of the survey) living in Lithuania. Of those, 166 participants were females (68.0%).

Sociodemographic characteristics of participants at baseline in Studies 1 and 2 are presented in Table 2.

Measures

Big Five Inventory - Personality traits

In Study 1, we applied the Big Five Inventory – 2 Short Form (BFI-2SF; Soto & John, 2017b). In Study 2, we applied the Big Five Inventory – 2 (BFI-2; Soto & John, 2017a). Big Five Inventory – 2 is a 60-item instrument, and Big Five Inventory – 2 Short Form is a 30-item instrument that asks respondents if they agree with the descriptions provided: 'I am someone who'… Examples of the items are: 'Is dominant, acts as a leader' for extraversion, 'Is compassionate, has a soft heart' for agreeableness, 'Is reliable, can always be counted on' for conscientiousness,

Table 2. Sociodemographic Characteristics of Participants at Baseline in Studies 1 and 2

Baseline characteristic	Study 1 (*N* = 120)		Study 2 (*N* = 244)	
	n	%	*n*	%
Gender				
Female	78	65.0	166	68.0
Male	40	33.4	66	27.0
Non-binary	1	0.8		
Prefer not to answer	1	0.8	12	5.0
Age				
18-25 years old	45	37.6	196	80.4
26-35 years old	30	25.0	29	11.8
36-45 years old	18	15.0	15	6.2
46-55 years old	20	16.6	3	1.2
56+ years old	7	5.8	1	0.4
Education				
Bachelor's degree	47	39.2	49	20.2
Doctorate degree	1	0.8	2	0.8
Health and Social Care Levels 1 and 2	1	0.8		
High/Secondary school graduate	29	24.3	167	68.4
Master's degree	10	8.3	11	4.5
No schooling completed	13	10.8	2	0.8
Trade/technical/vocational training	19	15.8	13	5.3
Student status				
Student at the moment	35	29.2	197	80.7
Not studying at the moment	85	70.8	47	19.3
Employment				
Employed (Full-time/Part-time)	52	43.3	92	37.7
Not employed	68	56.7	152	62.3

'Worries a lot' for neuroticism, and 'Is fascinated by art, music, or literature' for open-mindedness. The response pattern follows a Likert form with a scale ranging from 1 (disagree strongly) to 5 (agree strongly). In a study by Soto and John (2017a), the Cronbach's α for the BFI-2SF subscales ranged from .73 to .83. If Cronbach's α values were less than .5, it would be indicative of poor reliability and the need to redesign the scales. In Study 1, the Cronbach's α of the BFI-2SF subscales ranged from .51 to .61, and indicated moderate reliability, while in Study 2, the Cronbach's α of the BFI-2F subscales ranged from .68 to .89.

Young Schema Questionnaire – Short Form – 3rd Version - Early maladaptive schemas

Young Schema Questionnaire – Short Form – 3rd Version (YSQ-SF3; Young & Brown, 2005) was used to assess the early maladaptive schemas. The permission to use the instrument for research was acquired by purchasing the Schema eBook through the original website. This 90-item self-report instrument measures 18 EMSs. Each item presented is rated on a Likert scale from 1 (completely untrue of me) to 6 (describes me perfectly). Examples of the items are: 'I feel that people will take advantage of me' (Mistrust), 'I think that if I do what I want, I am only asking for trouble' (Subjugation). The participants were instructed to rate each statement based on the options that best describe them over the last year or base the answer on their feelings instead of what they think is true. In previous studies, the convergent and congruent validity of the YSQ-SF3 was found at a satisfactory level, and Cronbach's α for the subscales ranged from .63 to .85, suggesting good reliability (Phillips et al., 2017). In Study

Table 3. Cronbach's α and McDonald's ω Values Showing the Internal Consistency regarding the Scales used in Studies 1 and 2

	Variables	Cronbach's α		McDonald's ω	
		Study 1	Study 2	Study 1	Study 2
Personality Traits	Extraversion	.51	.82	.51	.84
	Agreeableness	.52	.78	.52	.78
	Conscientiousness	.52	.84	.52	.84
	Neuroticism	.55	.89	.56	.91
	Open-mindedness	.61	.68	.61	.71
Early Maladaptive Schemas	Abandonment	.79	.81	.79	.82
	Mistrust	.76	.84	.76	.84
	Emotional deprivation	.68	.74	.69	.74
	Defectiveness/ Unlovability	.77	.75	.77	.76
	Social Isolation / Alienation	.65	.83	.66	.84
	Practical Incompetence / Dependence	.72	.74	.72	.74
	Vulnerability to Harm or Illness	.69	.68	.70	.70
	Enmeshment	.75	.8	.75	.8
	Failure to Achieve	.73	.83	.74	.84
	Entitlement / Superiority	.52	.63	.54	.67
	Insufficient Self Control / Self Discipline	.71	.76	.71	.76
	Subjugation	.71	.8	.71	.81
	Self-sacrifice	.77	.63	.77	.67
	Admiration / Recognition Seeking	.73	.69	.73	.70
	Pessimism / Worry	.75	.76	.76	.77
	Emotional Inhibition	.64	.84	.64	.85
	Unrelenting Standards	.63	.74	.63	.74
	Self-Punitiveness	.69	.67	.70	.68

1, the Cronbach's α of EMSs subscales ranged from .52 to .77, while in Study 2, the Cronbach's α of EMSs subscales ranged from .63 to .84.

Table 3 presents Cronbach's α and McDonald's ω values that show the internal consistency regarding the scales used in Studies 1 and 2.

Procedure

The survey was administered online, the data for Study 1 being collected from October 2022 to December 2022 through social media networks, and the data for Study 2collected from September 2021 to March 2023 on the website www.psytest.online. It was part of a larger project on links between various psychological variables, including mental health and psychological well-being. The participants of both studies were informed about the study's purpose, the researchers' contacts, and the possibility of discontinuing participation at any time while filling in the questionnaire. The questionnaires took approximately 20-30 minutes to complete.

All respondents provided an informed consent to participate in the study. The procedure followed the guidelines in the Declaration of Helsinki; Study 1 was approved by the Institutional Review Board of the Institute of Management and Psychology (No. VIPI-INT-2022-02), and Study 2 was approved by the Institute of Management and Psychology, based on the approval of the Biomedical Research Ethics Committee at KU (No. STIMC-BMTEKP03).

Statistical Analyses

To test the validity of the instruments, we applied the confirmatory factor analysis (CFA) using JASP (0.16.04.0) software. For the rest of the statistical procedures, we applied SPSS (version 29.0) software.

First, we assessed the scales' reliability (Cronbach's α and McDonald's ω). Next, the normality of data distribution was evaluated (Shapiro Wilk test, skewness, and kurtosis). We then performed Pearson correlation and multiple linear regression (enter method) analyses to examine the associations between personality traits and EMSs.

Results

The results of CFA showed a weak validity of the instruments, as the values of CFI, TLI and NFI were < .9, some of the values of RMSEA were > .08, and values of SRMR were > .05; these results may indicate the limitations due to the samples' sizes.

In Study 1 and Study 2, although the Shapiro-Wilk test was mainly significant, the skewness and kurtosis (Table 4) suggested that the data may be considered normally distributed as most of the data falls within the range of +/-2

Table 4. Descriptive statistics, skewness, kurtosis, and the results of comparing samples in Studies 1 and 2

	Study 1 (*N* = 120)				Study 2 (*N* = 244)						
Variables	*M*	*SD*	S	K	*M*	*SD*	S	K	*t*(353)	*p*	Cohen's d
Early Maladaptive Schemas											
Emotional Deprivation	2.58	0.92	.25	-.21	2.67	1.05	.20	-.65	-0.887	.376	-0.10
Abandonment	2.62	0.99	.66	.61	2.57	1.13	.58	-.32	0.870	.385	0.10
Mistrust	2.66	0.99	.71	.61	2.33	1.12	.81	-.03	2.942	.003	0.33
Isolation/alienation	2.69	0.84	.38	.54	2.52	1.10	.80	.14	1.900	.058	0.21
Defectiveness/unlovability	2.69	0.84	.38	.54	2.47	1.05	.61	-.06	1.871	.062	0.21
Failure to achieve	2.64	0.94	.53	.74	2.35	1.16	.79	-.24	2.614	.009	0.29
Practical incompetence	2.52	0.92	.72	1.42	2.51	1.02	.52	.11	0.023	.982	0.003
Vulnerability to Harm	2.52	0.90	.35	-.27	2.64	0.96	.31	-.02	-1.165	.245	-0.13
Enmeshment	2.45	0.94	.68	.44	2.40	1.13	.86	.15	0.349	.727	0.04
Subjugation	2.60	0.88	.46	-.08	2.54	1.11	.79	.11	0.550	.582	0.06
Self-sacrifice	2.90	1.00	.73	.43	2.72	0.92	.51	-.06	1.941	.053	0.22
Emotional inhibition	2.71	0.88	.51	.13	2.37	1.13	.67	-.28	3.058	.002	0.34
Unrelenting Standards	3.00	0.91	.56	.28	2.76	1.06	.37	-.31	2.338	.020	0.26
Entitlement/superiority	2.66	0.76	.42	.17	3.02	0.97	.15	-.13	-3.559	< .001	-0.40
Insufficient self-control	2.83	0.96	.64	.42	2.69	1.01	.46	-.14	1.498	.135	0.17
Admiration	2.76	0.94	.79	.94	2.91	.97	.24	-.26	-1.371	.171	-0.15
Pessimism	2.71	0.94	.71	.97	2.58	1.07	.55	-.42	1.270	.205	0.14
Self-punitiveness	2.65	0.91	.57	.76	2.63	0.91	.69	.95	0.523	.601	0.06
Personality Traits											
Extraversion	2.97	0.69	-.14	.44	3.27	0.59	-0.07	-0.25	-6.325	< .001	-0.71
Agreeableness	3.26	0.70	.26	-.12	3.54	0.52	-0.31	0.26	-5.051	< .001	-0.57
Conscientiousness	3.19	0.72	.29	.31	3.41	0.59	-0.21	-0.10	-2.751	.006	-0.31
Neuroticism	2.98	0.72	-.32	.19	2.99	0.76	0.09	-0.43	-1.784	.075	-0.20
Open-mindedness	3.18	0.77	-.10	.07	3.61	0.47	-0.32	0.02	-9.154	< .001	-1.03

Note: *M* = Mean; *SD* = standard deviation; S = skewness; K = kurtosis.

(George & Mallery, 2010), so the parametric statistics could be applied. The means, standard deviations, skewness, kurtosis of the variables, and results of the Independent samples' t-test in Study 1 (English-speaking countries sample) and Study 2 (Lithuanian sample) are presented in Table 4.

In both samples, the data on EMSs were positively skewed, while most of the data on personality traits were negatively skewed. No transformations for further analyses were applied due to moderated skewness and kurtosis.

Although both samples were non-clinical, the mean scores showed that groups were to some extent not homogenous in EMSs and personality traits, possibly due to cultural factors or the characteristics of the samples. However, Independent samples' T-test partially confirmed H1, which assumed no significant differences in the samples' EMSs and personality traits. The means involving schemas of mistrust, failure to achieve, emotional inhibition, unrelenting standards stood higher in Study 1, while the mean of entitlement / superiority stood higher in Study 2, but no significant differences exhibited in other EMSs. There were also no significant differences in the means of neuroticism in Studies 1 and 2, although the other personality traits' scores were significantly different.

Furthermore, we applied the models of associations separately for Study 1 and Study 2. Although differences in the samples were found, we still expected to identify similar patterns of links between EMSs and personality traits.

Study 1

The correlation analysis in Study 1 (Table 5) partially confirmed H2 and H3, which assumed links between EMSs and personality traits. The results revealed that extraversion was significantly negatively related to almost all

Table 5. Intercorrelations for study variables in Study 1

Variables	Extraversion		Agreeableness		Conscientiousness		Neuroticism		Open-mindedness	
	r	*p*	*r*	*p*	*r*	*p*	*r*	*p*	*r*	*p*
Abandonment	-.38	.000	-.17	.062	-.17	.062	.48	.000	-.15	.094
Mistrust	-.19	.040	-.19	.030	-.26	.018	.39	.000	-.05	.577
Emotional Deprivation	-.14	.120	-.28	.002	-.25	.006	.25	.005	-.11	.217
Defectiveness / Unlovability	-.32	.000	-.19	.029	-.34	.000	.44	.000	-.08	.370
Failure to Achieve	-.32	.000	-.28	.002	-.22	.014	.35	.000	-.10	.273
Isolation / Alienation	-.32	.000	-.19	.029	-.34	.000	.44	.000	-.08	.370
Practical Incompetence / Dependence	-.35	.000	-.31	.000	-.29	.001	.38	.000	-.12	.195
Vulnerability to Harm	-.16	.091	-.37	.000	-.27	.003	.31	.001	-.22	.016
Enmeshment	-.08	.401	-.14	.136	-.24	.009	.24	.009	-.38	.000
Subjugation	-.24	.008	-.13	.152	-.26	.003	.42	.000	-.11	.222
Self-Sacrifice	-.02	.984	.08	.391	.012	.898	.23	.013	.02	.874
Emotional Inhibition	-.27	.003	-.08	.374	-.18	.047	.28	.002	-.08	.389
Unrelenting Standards	-.21	.023	.07	.435	.04	.686	.36	.000	.14	.119
Entitlement / Superiority	.03	.978	-.12	.209	-.22	.016	.15	.092	-.13	.164
Insufficient Self-Control	-.33	.000	-.05	.614	-.42	.000	.34	.000	.05	.629
Admiration	-.15	.115	-.07	.450	-.24	.008	.35	.000	.20	.025
Pessimism	-.29	.002	-.28	.002	-.20	.026	.45	.000	-.10	.274
Self-Punitiveness	-.24	.008	-.29	.001	-.18	.046	.35	.000	.03	.741

Table 6. Regressions of Associations between Neuroticism and Early Maladaptive Schemas in Study 1

Variables	*B*	*SE*	*β*	*t*	*p*	95.0% CI
(Constant)	1.99	.24		8.26	.000	[1.51, 2.47]
Emotional Deprivation	0.08	.09	.12	0.94	.348	[-0.09, 0.25]
Abandonment	0.18	.09	.27	2.00	.048	[0.00, 0.35]
Mistrust	0.07	.09	.11	0.76	.446	[-0.11, 0.24]
Defectiveness / Unlovability	0.08	0.11	.10	0.73	.466	[-0.14, 0.30]
Failure to Achieve	0.06	0.09	.09	0.66	.511	[-0.13, 0.25]
Practical Incompetence / Dependence	0.04	0.09	.05	0.38	.700	[-0.16, 0.23]
Vulnerability to Harm	-0.11	0.09	-.15	-1.24	.217	[-0.21, 0.06]
Enmeshment	0.03	0.08	.04	0.33	.744	[-0.14, 0.19]
Subjugation	0.12	0.11	.16	1.17	.243	[-0.08, 0.33]
Self-Sacrifice	-0.14	0.08	-.22	-1.75	.083	[-0.31, 0.02]
Emotional Inhibition	-0.09	0.09	-.12	-0.92	.356	[-0.28, 0.10]
Unrelenting Standards	0.11	0.08	.15	1.27	.204	[-0.06, 0.28]
Entitlement / Superiority	-0.18	0.09	-.21	-1.89	.061	[-0.37, 0.01]
Insufficient Self-Control	-0.03	0.08	-.04	-0.35	.722	[-0.19, 0.14]
Admiration	0.06	0.08	.08	0.73	.466	[-0.10, 0.22]
Pessimism	0.12	0.09	.17	1.22	.222	[-0.07, 0.31]
Self-Punitiveness	-0.02	0.09	-.02	-0.17	.866	[-0.19, 0.16]

Note. Dependent Variable: Neuroticism.

EMSs. Similarly, conscientiousness was significantly negatively related to almost all EMSs, except for abandonment, self-sacrifice, and unrelenting standards. Open-mindedness was significantly negatively related to vulnerability to harm and enmeshment, but, unexpectedly, significantly positively related to admiration, and no other significant correlations were observed. Agreeableness was significantly negatively related to mistrust, emotional deprivation, defectiveness/unlovability, failure to achieve, isolation/alienation, practical incompetence/dependence, vulnerability to harm, pessimism/worry, and self-punitiveness, but no other significant correlations were found. Finally, as expected, neuroticism was significantly positively associated with most maladaptive schemas - 17 EMSs, except for entitlement/superiority.

Furthermore, a multiple linear regression analysis was performed (enter method) to explore the specifics of associations between neuroticism and early maladaptive schemas (H2). Neuroticism represented the dependent variable, while the predictors were the eighteen EMSs, as some previous research indicated that early maladaptive schemas start forming in the earliest stages of infancy and might contribute to the development of personality traits, especially neuroticism (Bahramizadeh & Ehsan, 2011). Table 6 displays the results.

We found a significant regression equation ($F(17, 102) = 3.24$, $p < .001$, $R^2 = 0.35$). A schema of abandonment contributed significantly to the model, indicating significant positive associations between abandonment and neuroticism in Study 1.

Table 7. Intercorrelations for Study variables in Study 2

Variables	Extraversion		Agreeableness		Conscientiousness		Neuroticism		Open-mindedness	
	r	*p*	*r*	*p*	*r*	*p*	*r*	*p*	*r*	*p*
Abandonment	-.11	.080	-.09	.132	-.12	.061	.27	.000	-.16	.013
Mistrust	-.25	.000	-.16	.011	-.19	.003	.24	.000	-.18	.005
Emotional deprivation	-.03	.607	-.27	.000	-.19	.002	.10	.121	-.11	.108
Defectiveness/ Unlovability	-.01	.882	-.21	.001	-.11	.089	.16	.014	-.12	.065
Social Isolation / Alienation	-.26	.000	-.21	.001	-.18	.005	.17	.007	-.14	.038
Practical Incompetence / Dependence	-.11	.102	-.10	.111	-.7	.009	.14	.032	-.14	.032
Vulnerability to Harm or Illness	.01	.984	-.17	.008	-.16	.014	.19	.003	-.10	.118
Enmeshment	-.12	.059	-.10	.126	-.11	.089	.15	.026	-.19	.003
Failure to Achieve	-.25	.000	-.15	.023	-.24	.000	.27	.000	-.21	.001
Entitlement / Superiority	-.05	.406	-.12	.066	-.15	.021	-.01	.837	-.18	.005
Insufficient Self Control/ Self Discipline	-.14	.035	-.24	.000	-.27	.000	.25	.000	-.15	.024
Subjugation	-.15	.018	-.16	.015	-.15	.021	.21	.001	-.19	.004
Self-sacrifice	-.14	.033	.01	.931	-.12	.053	.21	.001	-.09	.183
Admiration Recognition Seeking	-.04	.560	-.19	.002	-.17	.009	.23	.000	-.07	.275
Pessimism Worry	-.13	.050	-.05	.395	-.10	.128	.17	.010	-.10	.138
Emotional Inhibition	-.37	.000	-.19	.003	-.20	.002	.19	.004	-.20	.002
Unrelenting Standards	-.16	.016	-.10	.113	-.04	.524	.27	.000	-.03	.698
Self-Punitiveness	-.06	.357	-.12	.067	-.16	.015	.22	.001	-.02	.804

Study 2

The correlation analysis in Study 2 (Table 7) also partially confirmed H2 and H3 which presumed links between EMSs and personality traits. However, the patterns of the associations in Study 2 were somewhat different than those in Study 1. The results revealed that extraversion remained significantly negatively related to much fewer EMSs, namely just to mistrust, social isolation, failure to achieve, insufficient self-control, subjugation, self-sacrifice, pessimism, emotional inhibition, and unrelenting standards. Conscientiousness was significantly negatively related to 12 EMSs, and some pattern similarities were observed. Conscientiousness, like in Study 1, was not significantly related to abandonment, self-sacrifice and unrelenting standards but additionally, in Study 2, no significant correlations with enmeshment and pessimism/worry were observed. Open-mindedness in Study 2 was significantly negatively related to 10 EMSs, including enmeshment, like in Study 1, but no significant links with vulnerability to harm or admiration were observed. Agreeableness was also significantly negatively related to 10 EMSs, and, like in Study 1, we found negative links regarding mistrust, emotional deprivation, defectiveness/unlovability, failure to achieve, isolation/alienation, and vulnerability to harm. Finally, neuroticism was significantly positively associated with 16 EMSs. As in Study 1, neuroticism was not significantly related to entitlement/superiority, and, additionally, in Study 2, neuroticism was not significantly related to emotional deprivation.

Next, we performed a multiple linear regression analysis (enter method) to explore the specifics of associations between neuroticism and early maladaptive schemas in Study 2. The dependent variable was the neuroticism,

Table 8. Regressions of Associations between Neuroticism and Early Maladaptive Schemas in Study 2

Variables	*B*	*SE*	*β*	*t*	*p*	95.0% CI
(Constant)	2.4	.21		10.99	.000	[1.97, 2.83]
Emotional Deprivation	.02	.06	.03	0.37	.705	[-0.10, 0.15]
Abandonment	.08	.05	.11	1.41	.158	[-0.03, 0.19]
Mistrust	.12	.07	.19	1.82	.070	[-0.01, 0.26]
Isolation / Alienation	-.12	.08	-.17	-1.35	.178	[-0.29, 0.05]
Defectiveness / Unlovability	.03	.07	.04	0.43	.666	[-0.12, 0.18]
Failure to Achieve	.08	.06	.13	1.29	.196	[-0.04, 0.21]
Practical Incompetence / Dependence	.07	.07	.09	0.94	.348	[-0.07, 0.21]
Vulnerability to Harm	.09	.08	.12	1.16	.245	[-0.06, 0.26]
Enmeshment	-.09	.07	-.14	-1.26	.208	[-0.23, 0.05]
Subjugation	.03	.08	.04	0.33	.737	[-0.14, 0.20]
Self-Sacrifice	-.03	.08	-.03	-0.38	.704	[-0.19, 0.13]
Emotional Inhibition	-.03	.07	-.04	-0.37	.710	[-0.18, 0.12]
Unrelenting Standards	.16	.06	.24	2.43	.016	[0.03, 0.30]
Entitlement / Superiority	-.18	.06	-.24	-2.68	.008	[-0.31, -0.04]
Insufficient Self-Control	.10	.07	.13	1.33	.182	[-0.04, 0.24]
Admiration	.04	.06	.06	0.72	.471	[-0.08, 0.17]
Pessimism	-.18	.07	-.27	-2.34	.020	[-0.34, -0.03]
Self-Punitiveness	.08	.08	.10	1.02	.306	[-0.07, 0.24]

Note. Dependent variable: Neuroticism.

while the predictors were the eighteen EMSs, and we expected to replicate the findings of Study 1. Table 8 displays the results.

A significant regression equation was found ($F(18, 216) = 2.74$, $p < .001$, $R^2 = 0.19$). The schema of unrelenting standards contributed significantly to the model, indicating significant positive associations between unrelenting standards and neuroticism in Study 2. However, entitlement / superiority was negatively related to neuroticism. Thus, Study 2 failed to replicate the results of Study 1.

Discussion

The present study was based on the Big Five Personality Theory (McCrea & Costa, 1987; Costa & McCrae, 1990) and EMSs (Young, 1999; Young, Klosko, & Weishaar, 2003) models, which propose distinct but related constructs of personality traits and early maladaptive schemas. Both personality traits and EMSs remain stable and consistent over time (e.g., Calvete, Orue, & González-Diez, 2013); they shape how individuals perceive themselves and the world around them and can have a significant impact on psychological well-being.

This research assessed the relationship between EMSs and five personality traits in two samples of mentally healthy individuals. However, the samples represented two different cultural backgrounds. The findings complemented previous research on associations between personality traits and EMSs but also implicated some serious considerations related to the role of cultural factors or the specifics of the sample.

Neuroticism and EMSs

Based on previous studies (e.g., Bahramisadeh & Ehsan, 2011; Mącik, Łysiak, & Mącik, 2019), we assumed that neuroticism is associated with more EMSs than any other personality trait, as out of five personality traits, only neuroticism was linked to adverse effects on psychological well-being. As presumed, this study confirmed positive links between most of the EMSs and neuroticism. Previous research into the adaptive schema questionnaire (ASQ), created as a positive counterpart of the YSQ, showed that neuroticism was weakly negatively correlated with all subscales of the 6 ASQ (Jain & Singh, 2022). Studies 1 and 2 showed that neuroticism was positively linked to almost all of the 18 EMSs. The findings are somewhat in line with previous studies that demonstrated associations between negative thinking and worry (Stavropoulos et al., 2020), or evidenced that individuals with high levels of neuroticism tend to have more negative and severe schemas than those with low levels of neuroticism (Bahramisadeh & Ehsan, 2011; Mącik, Łysiak, & Mącik, 2019; Muris, 2006; Thimm, 2010), as individuals with high levels of neuroticism may probably be more susceptible to activating EMSs due to their tendency to experience negative emotions.

Previous research also evidenced that EMSs can contribute to developing certain personality traits. Study 1 showed that the abandonment schema might contribute to neuroticism which is also in line with previous research (Shojaati et al., 2019; Mącik, Łysiak, & Mącik, 2019). Several studies revealed links between the domain of disconnection/rejection, which includes the abandonment schema, and neuroticism (Mącik, Łysiak, & Mącik, 2019) or directly evidenced links between abandonment and neuroticism (Bahramisadeh & Ehsan, 2011).

In Study 1, entitlement/superiority was not associated with neuroticism, and this finding does not align with previous research, which demonstrated links between neuroticism and entitlement/superiority (Muris, 2006), although the results might reflect the specifics of the sample. The results of Study 2 showed that neuroticism was positively associated with unrelenting standards and negatively associated with entitlement/superiority, which is in line with previous research (Muris, 2006). It should be considered that Study 2 failed to replicate the results of Study 1, in which the schema of abandonment positively predicted neuroticism. The failure to replicate the results with a different sample demonstrates that the links between neuroticism and EMSs are complex. More research is needed to understand EMSs contributing to neuroticism across culturally different clinical and non-clinical samples.

Conscientiousness and EMSs

Based on previous research (e.g., Lungu & Stomff, 2017), we also assumed links between conscientiousness and EMSs. Previous research has shown that individuals with high levels of conscientiousness may have fewer and less severe schemas than those with lower conscientiousness (Muris, 2006; Lungu & Stomff, 2017). In Study 1, conscientiousness was negatively associated with almost all EMSs, with the exception of abandonment, self-sacrifice, and unrelenting standards. In study 2, conscientiousness was significantly negatively related to 12 EMSs, and, as in in Study 1, was not significantly related to abandonment, self-sacrifice, and unrelenting standards but additionally, in Study 2, no significant correlations were observed with enmeshment and pessimism. A previous study found that conscientiousness and domains of over-vigilance, inhibition, disconnection, and rejection exhibited significant correlation (Lungu & Stomff, 2017). The schema of isolation/alienation falls within these domains, supporting the findings of Study 1 and 2.

Overall, this study's findings confirmed that conscientiousness and early maladaptive schemas are related constructs, but the relationship between them is complex and needs further investigation, especially with large samples across different cultural contexts.

Extraversion and EMSs

In this research, we also assumed links between EMSs and extraversion, as previous studies, to some extent, evidenced that individuals with high levels of extraversion may have fewer and less severe schemas than those with lower levels of extraversion. In Study 1, extraversion was significantly negatively related to 12 EMSs, but no significant correlations were observed with emotional deprivation, vulnerability to harm, enmeshment, self-sacrifice, entitlement, and admiration. In Study 2, extraversion was significantly negatively related to fewer EMSs, namely just to mistrust, social isolation, failure to achieve, insufficient self-control, subjugation, self-sac-

rifice, pessimism/worry, emotional inhibition, and unrelenting standards. Previous research evidenced a correlation between extraversion and entitlement, social isolation, and emotional inhibition (Bahramizadeh & Ehsan, 2011), as well as a correlation between extraversion and the domain of disconnection/rejection, which includes the abandonment schema (Lungu & Stomff, 2017). The same study found a weaker but still significant correlation between the domain of other-directedness and extraversion. The domain of other-directedness includes the schema of self-sacrifice, suggesting that the findings in Study 1 and 2 partially align with previous studies. Moreover, previous research has shown a link between extraversion and abandonment, emotional deprivation, failure to achieve, enmeshment, and unrelenting standards (Etemadnia et al., 2021), which partially falls in line with the findings of this research.

Although Study 1 and Study 2 replicated the result of negative links between extraversion and several EMSs, this subject needs more research to understand associations between EMSs and extraversion across culturally different clinical and non-clinical samples.

Open-mindedness and EMSs

In this research, we also assumed that individuals with high levels of open-mindedness would have fewer and less severe schemas than those with lower levels of open-mindedness. In Study 1, open-mindedness was negatively associated with enmeshment and vulnerability to harm and positively associated with admiration. Open-mindedness in Study 2 was significantly negatively related to 10 EMSs, including enmeshment, like in Study 1, but no significant links were observed with vulnerability to harm or admiration. Previous research demonstrated negative correlations between open-mindedness, failure to achieve, and emotional inhibition (Thimm, 2010).

Overall, it is challenging to explain significant links between open-mindedness and EMSs (Rahnemazade & Khanmohammadiotaghsara, 2015; Zeighami, 2021); the relationship between these constructs needs further examination with large samples across different cultures.

Agreeableness and EMSs

Finally, we assumed that individuals with high levels of agreeableness might have fewer and less severe schemas than those with lower agreeableness. In Study 1, agreeableness was significantly negatively related to mistrust, emotional deprivation, defectiveness/unlovability, failure to achieve, isolation/alienation, practical incompetence/dependence, vulnerability to harm, pessimism/worry, and self-punitiveness, but no other significant correlations were found. In Study 2, agreeableness was significantly negatively related to 10 EMSs, and, like in Study 1, negative links were found regarding mistrust, emotional deprivation, defectiveness/unlovability, failure to achieve, isolation/alienation, and vulnerability to harm. Previous research indicated links between agreeableness and self-sacrifice (Thimm, 2010) or between agreeableness and vulnerability to harm and self-sacrifice (Lungu & Stomff, 2017), suggesting a consistency in results on links between agreeableness and some EMSs across different samples. Interestingly, previous research has confirmed negative links between the domain of disconnection and rejection and particular music preferences, which were also related to agreeableness (Yığman, 2021), suggesting that the schemas of emotional deprivation, alienation, emotional inhibition, defectiveness, and mistrust may have a negative correlation with agreeableness, but this presumption requires further research. Generally, although evidence exists that agreeableness and early maladaptive schemas are negatively related, more research is needed to understand the specifics of these links.

Overall, the findings revealed that personality traits and EMSs are related constructs in complex ways, but their links are still an area of future research. Most importantly, in Study 2, we partly failed to replicate the results of Study 1, which implies that the model of links between EMSs and personality traits is not established yet and should be approached cautiously. Most importantly, although the findings contribute to the global understanding of links between EMSs and five personality traits, they are specific to culturally different samples. Thus, the findings show that it's important to consider cultural and contextual factors in interpreting results on the links between EMSs and Big Five personality traits, and cross-cultural studies could highlight how cultural norms are related to the manifestations of EMSs and Big Five personality traits.

Strenghts and Limitations

On the whole, the results from Studies 1 and 2, examining the relationship between Big Five personality traits and EMSs in two culturally distinct samples, present several intriguing findings and raise important questions for future research.

Both studies established that neuroticism was positively associated with almost all of the 18 EMSs, indicating a general trend across cultures. However, specific differences emerged. In Study 1, neuroticism was not linked to entitlement/superiority, contrasting with previous research and suggesting potential sample-specific characteristics or cultural influences. In Study 2, neuroticism was positively related to unrelenting standards and negatively to entitlement/superiority, aligning with prior findings. This discrepancy between the two studies could be attributed to cultural differences or distinct sample characteristics. It highlights the necessity of further investigation to determine whether these differences are rooted in cultural factors or in the specific characteristics of the samples. Future research should focus on examining EMSs and big-five personality traits across a range of culturally diverse clinical and non-clinical samples to better understand the underlying reasons for these variations.

Next, several methodological considerations present themselves. The small sample size and the high number of items in the measurement tools used in these studies might have limited the reliability of CFA. Therefore, the results should be interpreted with caution, although Cronbach's α, a measure of internal consistency, can provide a degree of confidence in the reliability of the instruments used, even in the context of small sample sizes.

Thus, the current research's most significant limitation is the sample sizes and the specifics of the samples, especially combined with the large item numbers of the measurement tools. Due to the small sample sizes and high number of items in the measurement tools, the reliability of CFA in these studies might be compromised; therefore, the findings should be regarded with concern. In future research, we recommend analyzing the data of at least 800 individuals, preferably with genders represented equally and from homogenous cultural backgrounds and age groups, to obtain significant results. Next, due to a cross-sectional study design, predictions should be considered with criticism.

Subsequently, we would suggest applying additional measures to evaluate the participants' mental health in future research, as in this survey, we trusted the participants' opinions on their mental health.

Third, the BFI-2SF demonstrated a relatively low reliability and validity in Study 1, so to explore big-five personality traits, we suggest choosing the BFI-2 (as applied in Study 2) or other instruments instead of the BFI-2SF.

Next, this study was administered online, which might also impact the results; thus, generalizations should be made with concern.

Conclusion, Implications and Future Directions

The relationships between Big Five personality traits and early maladaptive schemas (EMSs) were examined in two studies. Both of these highlight the complex interplay between personality traits and early maladaptive schemas, with notable differences and similarities in their associations across two culturally diverse samples.

Study 1 Findings: Extraversion displayed a significant negative correlation with most EMSs, except for emotional deprivation, vulnerability to harm, enmeshment, self-sacrifice, entitlement, and admiration. Conscientiousness showed a significant negative relationship with nearly all EMSs, but not with abandonment, self-sacrifice, and unrelenting standards. Open-mindedness was negatively associated with vulnerability to harm and enmeshment, but positively correlated with admiration. Agreeableness had a significant negative correlation with various EMSs, including mistrust, emotional deprivation, defectiveness/unlovability, failure to achieve, isolation/alienation, practical incompetence/dependence, vulnerability to harm, pessimism, and self-punitiveness. Neuroticism was positively related to most EMSs (17 in total), except for entitlement/superiority, and had a notable positive association with abandonment.

Study 2 Findings: Extraversion negatively correlated with mistrust, social isolation, failure to achieve, insufficient self-control, subjugation, self-sacrifice, pessimism, emotional inhibition, and unrelenting standards. Conscientiousness negatively associated with 12 EMSs, similar to Study 1, having no significant relationship with abandonment, self-sacrifice, unrelenting standards, enmeshment, and pessimism/worry. Open-mindedness showed negative correlations with 10 EMSs, including enmeshment (as in Study 1), but no significant link with vulnerability to harm or admiration. Agreeableness negatively correlated with 10 EMSs, consistent with Study 1,

including mistrust, emotional deprivation, defectiveness/unlovability, failure to achieve, isolation/alienation, and vulnerability to harm. Neuroticism was positively associated with 16 EMSs and showed a significant positive link with unrelenting standards.

Although some results are partly in line with previous research, the findings revealed that personality traits and EMSs are related constructs in complex ways, and their links still constitute an area of future research. Most importantly, Study 2 partly failed to replicate the results of Study 1.

While this research enhances the global comprehension of the relationship between EMSs and Big Five personality traits, its findings are distinct to samples from diverse cultural backgrounds. This emphasizes the significance of acknowledging cultural and contextual influences when interpreting the connections between EMSs and Big Five personality traits. Conducting comparative researches in various cultural settings with large samples can aid in discerning the universal and context-specific aspects of the relationship between EMSs and the Big Five personality traits.

Analyzing the results from Studies 1 and 2, which focused on the relationship between Big Five personality traits and EMSs in two culturally distinct samples, we can draw several insights and implications for future research.

Both studies universally found a positive link between neuroticism and the majority of the 18 EMSs. This consistency suggests a robust relationship between neuroticism and EMSs across different cultural contexts. In Study 1, however, no association was found between neuroticism and entitlement/superiority, contradicting previous research (Muris, 2006). This discrepancy might be attributed to the sample's specific characteristics, possibly reflecting unique cultural influences or sample-specific traits. Conversely, Study 2 aligned with earlier findings, showing a positive association between neuroticism and unrelenting standards and a negative association with entitlement/superiority. The difference in these results compared to Study 1 could be due to cultural variations, as the two studies involve samples from different backgrounds. On the whole, the differences in the association between neuroticism and the EMSs across the two studies highlight the necessity of further investigation to determine whether these differences are rooted in cultural factors or sample characteristics.

The inconsistency in the relationship between Big Five personality traits and EMSs across the two studies highlights the complexity of these relationships and the need for further research. Future studies should specifically explore which EMSs consistently predict neuroticism in diverse cultural contexts to gain a deeper understanding of its underlying dynamics.

Then, participants in the previous studies were mainly outpatients from psychiatric clinics who suffered from various symptoms, and the participants of the present study were mentally healthy individuals. Previous research found a much higher score in 16 of the 18 EMSs in a clinical group compared to a non-clinical group (Shorey, Stuart, & Anderson, 2014). We suggest considering differences in the activation of EMSs in clinical and non-clinical samples.

Overall, this research underscores the necessity to explore how cultural differences and sample-specific characteristics may influence the relationship between personality traits and EMSs. Future studies should aim to disentangle these factors to gain a clearer understanding of their respective impacts. This could involve using larger, more diverse samples and employing methodologies that specifically address cross-cultural comparisons. Additionally, exploring these relationships in various clinical and non-clinical settings could provide valuable insights into how these dynamics manifest in different populations.

Finally, in future research, we recommend exploring links between EMSs, personality traits, and adaptive schemata, as these explorations might provide hopeful suggestions for professionals working in the healthcare sector.

Acknowledgements

The authors thank the participants of this study for their time and participation in this research.

Author contribution

Aiste DIRZYTE: conceptualization, design, methodology, investigation, project administration, formal analysis, interpretation, supervision, writing original draft.
Aidas PERMINAS: conceptualization, writing review and editing.
Aiste SKARNULYTE: investigation, project administration, data management, formal analysis, interpretation, writing review and editing.
Indre GAJDOSIKIENE: investigation, writing review and editing.
Rugile BITINAITE: investigation, writing review and editing.
Aleksandras PATAPAS: investigation, writing review and editing.

Declaration of interest statement
The author declares no conflict of interest.

Ethical statement
All participants engaged in the research voluntarily and anonymously.
The participants provided their written informed consent to participate in this study.
Their data are stored in coded materials and databases without personal data.
The studies involving human participants were reviewed and approved by the Institutional Review Board of the Institute of Management and Psychology, VIPI-INT-2022-02.

Data Availability Statement
The data supporting this study's findings are available to the public.
We have policies in place to manage and keep data secure.

ORCID
Aiste DIRZYTE https://orcid.org/0000-0003-2057-3108
Aidas PERMINAS https://orcid.org/0000-0002-6932-2433
Aleksandras PATAPAS https://orcid.org/0000-0002-5726-8812

References

Bahramizadeh, H., & Ehsan, H. B. (2011). The evaluation of prediction potential neuroticism and extraversion according to early maladaptive schemas. *Procedia – Social and Behavioural Science, 30*, 524–529. https://doi.org/10.1016/j.sbspro.2011.10.102

Barańczuk, U. (2019). The five factor model of personality and social support: A meta-analysis. *Journal of Research in Personality, 81*, 38–46. https://doi.org/10.1016/j.jrp.2019.05.002

Bilge, Y., & Balaban, G. (2021). The relationships between personality disorders and early maladaptive schemas and the moderating role of gender. *Alpha Psychiatry, 22*(1), 12–18. https://doi.org/10.5455/apd.114935

Calvete, E., Orue, I., & González-Diez, Z. (2013). An examination of the structure and stability of early maladaptive schemas by means of the Young Schema Questionnaire-3. *European Journal of Psychological Assessment, 29*(4), 283–290. https://doi.org/10.1027/1015-5759/a000158

Caspi, A., Roberts, B. W., & Shiner, R. L. (2005). Personality development: Stability and change. *Annual Review of Psychology, 56*(1), 453–484. https://doi.org/10.1146/annurev.psych.55.090902.141913

Costa, P. T., & McCrae, R. R. (1990). Personality disorders and the five-factor model of personality. *Journal of Personality Disorders, 4*(4), 362–371. https://doi.org/10.1521/pedi.1990.4.4.362

Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D.-w., Oishi, S., & Biswas-Diener, R. (2010). *Flourishing Scale (FS)* [Database record]. APA PsycTests. https://doi.org/10.1037/t03126-000

Ehsan, H. B., & Bahramizadeh, H. (2011). Early maladaptive schemas and agreeableness in personality five factor model. *Procedia – Social and Behavioral Sciences, 30*, 547–551. https://doi.org/10.1016/j.sbspro.2011.10.107

Esmaeilian, N., Dehghani, M., Koster, E. H. W., & Hoorelbeke, K. (2019). Early maladaptive schemas and borderline personality disorder features in a non-clinical sample: A network analysis. *Clinical Psychology & Psychotherapy, 26*(3), 388–398. https://doi.org/10.1002/cpp.2360

Etemadnia, M., Shiroodi, S., Khalatbari, J., & Abolghasemi, S. (2021). Predicting love trauma syndrome in college students based on personality traits, early maladaptive schemas, and spiritual health. *Iranian Journal of Psychiatry and Clinical Psychology, 27*(3), 318–335. https://doi.org/10.32598/ijpcp.27.2.1096.2

Frías, A., Navarro, S., Palma, C., Farriols, N., Aliaga, F., Salvador, A., Aluco, E. Martínez, B., & Solves, L. (2018). Early maladaptive schemas associated with dimensional and categorical psychopathology in patients with borderline personality disorder. *Clinical Psychology & Psychotherapy, 25*(1), e30–e41. https://doi.org/10.1002/cpp.2123

Güler, K., & Özgörüş, Z. (2022). Investigation of the relationship between early maladaptive schemas, temperament and eating attitude in adults. *Journal of Eating Disorders, 10*, Article 187. https://doi.org/10.1186/s40337-022-00711-w

George, D., & Mallery, M. (2010). *SPSS for Windows Step by Step: A Simple Guide and Reference, 17.0 Update.* (10th Edition). Pearson.

Goldberg, L. R. (1990). An alternative "description of personality": The big-five factor structure. *Journal of Personality and Social Psychology, 59*(6), 1216–1229. https://doi.org/10.1037/0022-3514.59.6.1216

Graziano, W. G., Habashi, M. M., Sheese, B. E., & Tobin, R. M. (2007). Agreeableness, empathy, and helping: A person × situation perspective. *Journal of Personality and Social Psychology, 93*(4), 583–599. https://doi.org/10.1037/0022-3514.93.4.583

Headey, B., Muffles, R., & Wagner, G. G. (2010). Long-running German panel survey shows that personal and economic choices, not just genes, matter for happiness. *Proceedings of*

the National Academy of Sciences, 107(42), 17922–17926. https://doi.org/10.1073/pnas.1008612107

Jain, A., & Singh, K. (2022). Development and validation of the Adaptive Schema Questionnaire. *Indian Journal of Psychological Medicine*, *45*(5), 476–485. https://doi.org/10.1177/02537176221105146

Koppers, D., Van, H., Peen, J., & Dekker, J. J. M. (2021). Psychological symptoms, early maladaptive schemas and schema modes: predictors of the outcome of group schema therapy in patients with personality disorders. *Psychotherapy Research, 31*(7), 831–842. https://doi.org/10.1080/10503307.2020.1852482

Lungu, V., & Stomff, M. (2017). The early maladaptive cognitive schemas and personality traits in emerging adulthood. *LUMEN Proceedings, 1,* 424–437. https://doi.org/10.18662/lumproc.rsacvp2017.39

Mącik, D., Łysiak, M., & Mącik, R. (2019). Mediating role of neuroticism between early maladaptive schemas and negative emotionality. *Current Issues in Personality Psychology, 7*(3), 220–231. https://doi.org/10.5114/cipp.2019.88583

McCrae, R., & Costa P. T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology, 52*(1), 81–90. https://doi.org/10.1037/0022-3514.52.1.81

Pauwels, E., Dierckx, E., Schoevaerts, K., & Claes, L. (2016). Early maladaptive schemas in eating disordered patients with or without non-suicidal self-injury. *European Eating Disorders Review, 24*(5), 399–405. https://doi.org/10.1002/erv.2460

Phillips, K., Brockman, R., Bailey, P. E., & Kneebone, I. I. (2017). Young Schema Questionnaire – Short Form Version 3 (YSQ-S3): Preliminary validation in older adults. *Aging & Mental Health, 23*(1), 140–147. https://doi.org/10.1080/13607863.2017.1396579

Rahnemazade, M., & Khanmohammadiotaghsara, A. (2015). The relation of early maladaptive schemas with five-factor personality traits and their difference amongst first, middle and last-born children. A case study of Amol city-Iran. *Indian Journal of Fundamental and Applied Life Sciences, 5*(S1), 2019–2026. www.cibtech.org/sp.ed/jls/2015/01/jls.htm

Sava, F. A. (2009). Maladaptive schemas, irrational beliefs, and their relationship with the five-factor personality model. *Journal of Cognitive and Behavioral Psychotherapies, 9*(2), 135–147.

Schretlen, D. J., van der Hulst, E.-J., Pearlson, G. D., & Gordon, B. (2010). A neuropsychological study of personality: Trait openness in relation to intelligence, fluency, and executive functioning. *Journal of Clinical and Experimental Neuropsychology, 32*(10), 1068–1073. https://doi.org/10.1080/13803391003689770

Shojaati, A., Kalantari, M., & Mulavi, H. (2019). Do emotional abuse and personality traits predict early maladaptive schemas and social anxiety. *Early Child Development and Care, 191*(3), 389–402. https://doi.org/10.1080/03004430.2019.1621860

Shorey, R. C, Stuart, G. L., & Anderson, S. (2014). Differences in early maladaptive schemas between a sample of young adult female substance abusers and a non-clinical comparison group. *Clinical Psychology & Psychotherapy, 21*(1), 21–28. https://doi.org/10.1002/cpp.1803

Soto, C. J., & John , O. P. (2017a). The next Big Five Inventory (BFI-2): Developing and assessing a hierarchical model with 15 facets to enhance bandwidth, fidelity, and predictive power. *Journal of Personality and Social Psychology, 113*(1), 117–143. https://doi.org/10.1037/pspp0000096

Soto, C. J., & John, O. P. (2017b). Short and extra-short forms of the Big Five Inventory–2: The BFI-2-S and BFI-2-XS. *Journal of Research in Personality, 68*, 69–81. https://doi.org/10.1016/j.jrp.2017.02.004

Stavropoulos, A., Haire, M., Brockman, R., & Meade, T. (2020). A schema mode model of repetitive negative thinking. *Clinical Psychologist, 24*(2), 99–113. https://doi.org/10.1111/cp.12205

Steel, P., Schmidt, J., Bosco, F., & Uggerslev, K. (2018). The effects of personality on job satisfaction and life satisfaction: A meta-analytic investigation accounting for bandwidth–fidelity and commensurability. *Human Relations, 72*(2), 217–247. https://doi.org/10.1177/0018726718771465

Stieger, M., Wepfer, S., Rüegger, D., Kowatsch, T., Roberts, B. W., & Allemand, M. (2020). Becoming more conscientious or more open to experience? Effects of a two–week smartphone–based intervention for personality change. *European Journal of Personality, 34*(3), 345–366. https://doi.org/10.1002/per.2267

Thimm, J. C. (2010). Relationships between early maladaptive schemas and psychosocial developmental task resolution. *Clinical Psychology & Psychotherapy, 17*(3), 219–230. https://doi.org/10.1002/cpp.647

Thimm, J. C. (2011). Incremental validity of maladaptive schemas over five-factor model facets in the prediction of personality disorder symptoms. *Personality and Individual Differences, 50*(6), 777–782. https://doi.org/10.1016/j.paid.2010.12.030

Tong, K. K., & Wang, Y. Y. (2017). Validation of the flourishing scale and scale of positive and negative experience in a Chinese community sample. *PLOS ONE, 12*(8), Article e0181616. https://doi.org/10.1371/journal.pone.0181616

Wilt, J. A, & Revelle, W. (2009). Extraversion. In M. R. Leary & R. H. Hoyle (Eds.). *Handbook of individual differences in social behavior*, pp. 27–45. Guilford Press.

Yığman, F., Aksu, M. H., Nazlı, Ş. B., & Duman, A. (2021). Psychological determinants of entertainment preferences: From the perspective of schema theory. *Psychiatry and Clinical Psychopharmacology, 31*(4), 417–424. https://doi.org/10.5152/pcp.2021.21132

Young, J. E. (1999). *Cognitive therapy for personality disorders: A schema-focused approach* (3rd ed.). Professional Resource Exchange.

Young, J. E., & Brown, G. (2005). *Young Schema Questionnaire-Short Form; Version 3 (YSQ-S3, YSQ)* [Database record]. APA PsycTests. https://doi.org/10.1037/t67023-000

Young, J. E. (2014). *Early maladaptive schemas.* Schema Therapy Institute.

Young, J. E., Klosko, J. S., & Weishaar, M. E. (2003). *Schema Therapy: A Practitioner's Guide.* Guilford Press.

Zeighami, R., Hosseini, S. M., Mohammadi, N., & Shahsavari, S. (2021). Predicting addiction susceptibility based on big five personality traits. *Iranian Journal of Psychiatry and Behavioral Sciences, 15*(4), Article e10903. https://doi.org/10.5812/ijpbs.109103