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Relationships of the Big Five Personality with Self-Esteem and Emotion Understanding in Students from Visual Arts High Schools and General Education High Schools

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Abstract

The problem of the present study was defined as follows: What personality characteristics were predictors of emotion understanding and self-esteem in students of visual arts high schools and general education high schools. The problems discussed in this article have important implications for the effective functioning of artistically gifted youth in the school environment and for the optimization of their development in various areas of activity. Students of visual arts and general education high schools ($N = 440$) aged 15–18 ($M = 16.88$, $SD = 0.81$) in Poland were surveyed. The participants completed Costa and McCrae's NEO-FFI, Rosenberg's Self-Esteem Scale (SES), and Matczak and Jaworowska's Emotion Understanding Test (TRE). Enter regression analysis was conducted. The results showed that in the group of visual arts high school students neuroticism, extraversion, and conscientiousness were significant predictors of self-esteem, while neuroticism and openness to experience were predictors of

emotion understanding. In the group of high school students who pursued a general education curriculum, self-esteem was statistically significantly predicted by neuroticism and conscientiousness. Significant predictors of emotion understanding in this group of students included neuroticism, extraversion, openness to experience, and agreeableness. These findings demonstrate that the students functioned differently in the school setting depending on the educational curriculum they were following. The results of the present study can be used to formulate practical educational guidelines.

Keywords: visual arts schools, general education schools, Big Five personality traits, self-esteem, emotion understanding.

Introduction

Visual arts abilities have been analyzed from a psychological and a pedagogical perspective by numerous authors (Limont, 2005; Livingstone et al., 2011; Chruszczewski, 2013; Khamatnurov et al., 2016). Some researchers rightly claim that the analysis of those abilities should not be limited to the intellectual dimension, as they “have a multifaceted personality-related and social background, and are therefore subject to very diverse individual-specific conditions” (Popek, 2010, p. 84). Various scholars have also drawn attention to the personality-related aspects of the development and formation of artistic abilities (Feist, 1998; Furnham & Walker, 2001; Popek, 2010; Abuhamedh & Csikszentmihalyi, 2014).

Gifted individuals are characterized by distinctive, yet often contradictory, personality characteristics. These features include narcissism, low self-esteem, megalomania, the ability to concentrate while being absent-minded, or euphoria combined with pessimism (Schütz & DePaulo, 1996; Meneely & Portillo, 2005). Moreover, gifted young people typically display increased levels of anxiety, insecurity, unconventionality, self-sufficiency, suspicion, and emotional sensitivity, low emotional resistance (Reddy, 2003; Sandgren, 2003), high levels of schizothymia and independence, poor socialization, depressiveness, and high tension (Sandgren, 2003; Abutalebi Ahmadi, 2013).

Still, gifted and talented students are not given sufficient attention, and the complexity and specificity of their functioning are often overlooked. Gifted people are characterized by properties that allow them to achieve high outcomes in their area of expertise. Contemporary research shows, however, that

individuals with above-average abilities and talents do not always use their potential to the full, and experience numerous failures and disappointments on their way to achieving goals. For this reason, the personality and emotionality of gifted people should be considered in interactive terms (Popek, 2001; 2010). Due to the complexity of abilities, they should be explored as part of a larger system, taking into account their interactions with the social environment (Popek, 1996; 2001; 2010). A huge role in the process of developing abilities is played by cognitive characteristics, personality, as well as emotions and motivation (Kuśpit, 2013; 2015). The key to this development is also the specific character of the school young people attend and their relationships with teachers. Gifted individuals are primarily treated as persons with special needs and unique creative capacity (Limont & Cieślukowska, 2005). Research shows that artistically gifted students require greater attention and care as their functioning, especially in the emotional and social spheres, differs from that of the general population. During their development, they may be exposed to various threats related to the sense of being misunderstood by others and experiences of isolation, loneliness, and internal conflict (Tokarz, 2005). The literature on artistic giftedness is quite abundant (Anghel, 2016), but there are few analyses that specifically concern the distinctive nature of artistic giftedness (Gałarska & Aksman, 2013). There are also few definitions of this kind of giftedness (Gałarska & Aksman, 2013). Those that have been proposed so far emphasize the importance of the skillful performance of activities related to creating and reproducing works of visual art (Popek, 1988) and preferences related to the reception, storage and processing of artistic material (Limont, 1992; 1998); they also relate artistic talent to esthetic sensitivity (Selaković, 2017), creative imagination (Šlahova et al., 2017), cognitive and affective ability, specific interests, and motivation (Brandon, 2000; Zimmerman, 2004). Bates and Munday (2005) count the following among the determinants of artistic giftedness: acuity of vision, above-average memory and attention skills, good manual skills, high motor coordination, esthetic intelligence and emotional sensitivity. The characteristics of artistically gifted persons have also been argued to include high self-awareness and self-sufficiency, originality of thought and action, perseverance in pursuing goals, high self-awareness, a specific life attitude, and high aspirations which may lead to disappointment and frustration (Popek, 2010; Gałarska & Aksman, 2013).

The instructional schedule in art schools is more demanding than in general education schools, which is why artistically gifted students may experience stress caused by fatigue and the pressures of artistic evaluation and creativity crisis (Olejniczak, 2013). Students of art schools take part in exhibitions and competitions. It should be noted that the high expectations and the pressure of being continuously assessed by the teacher lead to high stress, which artistically gifted students cannot cope with effectively due to their high emotional sensitivity (Więckowska-Kowalska, 2017).

Most studies on the personality of artistically gifted people have been carried out with adult samples. There is little research on the personality and the personality predictors of psychological functioning of artistically gifted adolescents attending visual arts schools.

Personality in terms of the Big Five model

One of the most popular and culturally universal concepts and measures of personality, also used in relation to the student population, is the Big Five model. In recent decades, this model has been one of the most popular and widely used personality models (Feher & Vernon, 2021), despite certain controversies around some of its assumptions, for example the number of dimensions or the reduced role of cultural factors (McAdams, 1995; Oleś, 2000; Mischel, 2004; Szarota, 2008; Zawadzki, 2008; DeYoung, 2010). Fundamental importance in McCrae and Costa's theory is attributed to the notion of trait, understood as a dimension of individual differences and a generalized disposition which has intellectual, emotional and behavioral manifestations. As such, a trait does not determine behavior, since it depends on many factors. Traits are relatively stable over time and characterize individuals to a different extent (de Raad & Perugini, 2002; McCrae & Costa, 2005; DeYoung, 2010). Traits allow both to describe individuals and to compare between them, as they primarily regard common characteristics that are largely biologically determined and condition an individual's functioning in various situations (McAdams, 1995; Mischel, 2004; McCrae & Costa, 2008; Zawadzki, 2008; Ciecuch & Łaguna, 2014). Research on traits using the Big Five model has been carried out within two traditions: lexical and psychometric (questionnaire-based), and the results of analyses made within these two approaches

have allowed to formulate consistent conclusions (Zawadzki et al., 1998; Oleś, 2000; Ciecuch & Łaguna, 2014). Numerous analyses have shown that the Big Five model is reliable and cross-culturally replicable (McCrae et al., 1998; Feher & Vernon, 2021). The concept of the Big Five represents, in a concise and synthetic manner, five fundamental dimensions of personality: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to experience (Zawadzki et al., 1998; Oleś, 2000; Zawadzki, 2008).

Extraversion is a dimension that describes social interactions both qualitatively and quantitatively. It is related to the level of one's activity, the need to seek stimulation and positive affect. *Agreeableness* refers to attitudes towards others; Agreeable individuals tend to avoid conflicts and are trusting and trustworthy, considerate and cooperative. *Conscientiousness* is related to motivation, perseverance, and how well-organized a person is striving to achieve goals and perform tasks; it also describes one's attitude to work and encompasses competence, tendency to maintain order, diligence, striving for achievement, self-discipline, and prudence. *Neuroticism* (or low *Emotional stability*) is associated with a low degree of emotional adaptation, emotional imbalance, and a tendency to experience negative emotions such as embarrassment, fear, guilt, and anger, as well as susceptibility to stress. *Openness to experience* refers to one's intellectual characteristics and includes imagination, aesthetics, emotions, actions, ideas, and values. This trait is connected with the tendency to seek new ideas, intellectual curiosity, tolerance, thinking out of the box, creativity, a tendency to challenge authority, interest in the outside world, and exploring novelty (Costa & McCrae, 1989; de Raad & Perugini, 2002; McCrae & Costa, 2005; Komaraju et al., 2011).

Self-esteem

Self-esteem is an evaluative component of the self-concept (Kulas, 1986; Kumar, 2017). It has been defined in many ways (Heatherton & Wyland, 2003; Abdel-Khalek, 2016). Some researchers view it as a generalized appraisal of the self (Dijksterhuis, 2004; Oleś & Drat-Ruszczak, 2008), which is the outcome of one's reflection on the degree to which one is recognized and accepted by the people one considers important (Leary & Baumeister, 2000; MacDonald et al., 2003).

James (1892/2002), the first researcher of self-esteem, defined it as a subjective feeling based on a ratio of one's actual and potential successes (pretensions). He believed that self-esteem was associated with one's aspirations as related to one's achievements, which led to a certain feeling towards oneself. Self-esteem is higher when the discrepancy between one's aspirations and the effects of one's actions is smaller (Robins et al., 2012; Szpitalak & Polczyk, 2015). Researchers pay attention to the importance of self-esteem in social relations (Leary & Baumeister, 2000; Oleś & Drat-Ruszczak, 2008; Harris & Orth, 2020) and emphasize the affective properties of self-esteem, noting that it constitutes an emotional response to the self (Rosenberg et al., 1995; Wang & Ollendick, 2001).

Another important researcher of self-esteem, Rosenberg (1989; Rosenberg et al., 1995), saw it as a kind of attitude towards the self. He pointed out that self-esteem was a positive or a negative attitude towards oneself which involved a global evaluation of the self. People with high self-esteem value themselves highly and believe in their own worth, which does not necessarily mean they consider themselves better than others. By contrast, people with low self-esteem are dissatisfied with themselves (Rosenberg, 1989; Rosenberg et al., 1995). In this article, we adopt Rosenberg's definition of self-esteem and use his concept of self-esteem as the theoretical basis for our study.

Self-esteem plays a crucial role in human functioning. How one perceives oneself determines the specific actions one takes, one's social interactions and the development of one's personality characteristics (Kulas, 1986; Mruk, 2013). Undoubtedly, self-esteem plays a particularly important role in education and students' functioning at school. Self-esteem is a key element of self-confidence and the motivation that students need to engage in and carry out learning tasks (Ferkany, 2008).

High self-esteem is a positive predictor of an individual's success and well-being (Orth & Robins, 2014). Low self-esteem is a significant risk factor for mental health problems, antisocial behavior and substance abuse (Robins et al., 2012), which means that promotion of high self-esteem and prevention of low self-esteem are important social goals (Robins et al., 2012; Orth & Robins, 2014), also in the context of educational provision. Low self-esteem may result in low activity and low level of school achievement, as it is a predictor of these latter variables (Lawrence, 2006; Freudenthaler et al., 2008).

Emotion understanding

The development of the ability to understand and analyze emotions and use the knowledge associated with them depends on the social environment, including the family and the school environments (Trentacosta & Fine, 2010; Bariola et al., 2011). The ability to understand emotions is an important predictor of school success. Proper management of one's own emotions supports thinking and problem solving, also in educational situations (Mohoric & Taksic, 2016). A person who understands emotions finds it easier to scrutinize them from various points of view (Matczak & Knopp, 2013). The ability to understand, analyze and properly express emotions is also key to interpersonal relationships with teachers and peers. A student who has the ability to understand their own and other people's emotions, can successfully cope with social situations, harness their knowledge about emotions in acting and in problem-solving, and adapt more easily to new situations. People with high emotional abilities are able to concentrate on performing tasks and achieve better academic performance (Goleman, 2001; Mohoric & Taksic, 2016). Research indicates that students who have good emotion management skills are more conscientious about their school responsibilities and less likely to play truant, find it easier to transition from primary to high school (Petrides et al., 2004), and have better grades and conduct in school (Qualter et al., 2007). Difficulties in controlling one's own emotional states, impatience, emotional lability, and low levels of social skills can reduce students' achievement (Roeser et al., 2001; Tennant et al., 2015). The awareness of one's own emotions and competences may not only facilitate the realization of one's goals, but also contribute to establishing satisfying interpersonal relations and overcoming various kinds of difficulties (Roeser et al., 2001; Przybylska, 2008).

Characteristics of provision in art schools in Poland

Provision in art schools is quite unique as students learn general education subjects, as well as acquiring knowledge in various fields of art and narrow artistic specialties. Visual arts high schools, in addition to general education courses, also teach subjects such as history of art, drawing and painting, sculpture, fundamentals of photography and filmmaking, fundamentals of

design, multimedia design and specialty/specialization courses (MKiDN, 2016). Artistic provision in visual arts schools is associated with specific difficulties: some of the most frequently encountered problems are related to artistic evaluation and the “creativity crisis” (Olejniczak, 2013). The specific character of education in visual arts schools is related to the fact that some students have difficulty learning general subjects, which often do not spark as much interest as specialty subjects. In addition, participation in exhibitions, open-air workshops, competitions and art classes is associated with severe stress (Olejniczak et al., 2017). It turns out that students who apply to an art school are often gifted individuals who, at the same time, display emotional immaturity and behavioral inadequacy (Więckowska-Kowalska, 2017). Students of visual arts schools have a kind of sensitivity that contributes to the fact that they perceive the world in a different way than their peers from general education schools. The educational provision system in art schools allows to develop the students’ individual potential, their sensitivity and preferred working methods in order to ensure acceptance, understanding and a sense of security (Krygiel, 2014, p. 64).

Personality traits, self-esteem and emotion understanding in visual arts school students

Research on artistically gifted adolescents carried out using the concept of the Big Five personality traits is scarce in the literature of the subject. Existing reports demonstrate that artistically gifted students are characterized by a higher openness to experience than students from general education schools (Iskra, 1998; Gelade, 2002; Batey et al., 2010; Ozga, 2018), and that the dimension of openness to experience itself is positively correlated with creativity (Furnham & Chamorro-Premuzic, 2010; Chmielińska, 2013). Moreover, artistically gifted individuals display a higher level of extraversion than their science-prone peers (Per & Beyoglu, 2011; Nogaj, 2018).

There are also few studies so far on the understanding of emotions in artistically gifted people. The results of a study conducted by Kuśpit (2017) indicate that a person’s creative attitude correlates positively with their ability to understand emotions. A high level of emotion understanding in artistically gifted students is accompanied by both nonconformity and

heuristic behaviors. Conversely, reproductive attitude, nonconformity and algorithmic behaviors correlate with a low level of emotion understanding. Przybylska (2007) obtained similar results in her study of the relationship between creative attitude and emotional intelligence. Also, social skills, including the ability to cope in situations of social exposure, and assertiveness, have been observed to positively correlate with creative attitude (Kuśpit, 2004).

More literature can be found on the self-esteem of artistically gifted individuals. Previous analyses in this area point to the importance of self-image, self-awareness (primarily in relation to one's own creative potential), self-commitment, self-acceptance, and self-efficacy in artistically gifted people (Pufal-Struzik, 2015; Łopuszańska, 2016). The results of a study by Pufal-Struzik (2015) show that artistically gifted adolescents have significantly higher levels of personal and reflective self-awareness than adolescents without artistic ability. Other studies confirm the existence of this type of relationship (Davis, 1992; Howard-Hamilton & Franks, 1995). Moreover, artistically gifted young people have been found to display lower global self-esteem compared to students attending general education schools (Pufal-Struzik, 2015). This is consistent with the position taken by Popek (2010), who believes that visual artists may be characterized by low self-esteem even if they exhibit narcissistic traits or Machiavellian attitude (Łopuszańska, 2016).

The cited findings provided a basis for the programmed research reported in this paper, the goal of which was to verify the model of relationships among the analyzed variables, as proposed in Figure 1.

As already mentioned, the conception adopted in this paper views personality traits as endogenous and relatively constant characteristics that become manifest in diverse areas of human functioning and complex emotional and social situations (Oleś, 2000; Mischel, 2004; McCrae & Costa, 2008; Zawadzki, 2008; Ciecuch, & Łaguna, 2014). For this reason, they may determine other human properties, such as self-esteem and the understanding of emotions. The model we propose represents this direction of the dependency between the investigated variables. The cited findings led us to expect that the patterns of the relationships included in the model would be different for students from visual arts schools and those from general education schools.

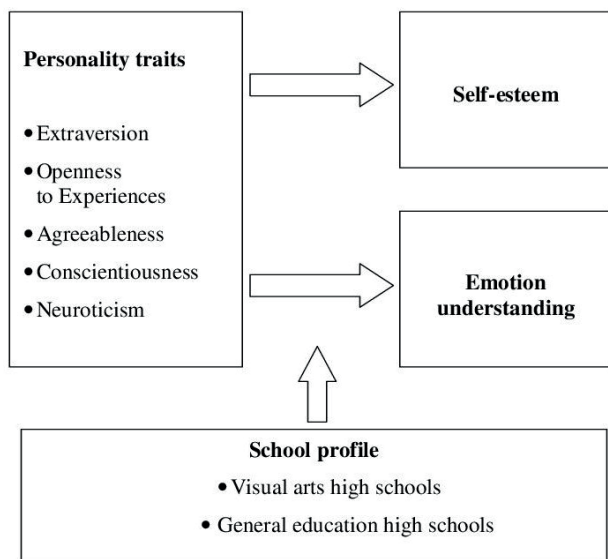


Figure. 1. Model of relationships of personality traits with self-esteem and emotion understanding in visual arts high school students and general education high school students

Source: Authors' model.

Purpose of current study

In light of the considerations, the analysis of subjective factors, such as artistically gifted students' personality traits, self-esteem and ability to understand emotions, is an important task from the perspective of instruction and education.

The problem of the present study was defined as follows: "What personality characteristics were predictors of emotion understanding and self-esteem in students of visual arts high schools and general education high schools?"

We hypothesized that art school students' self-esteem would be significantly positively predicted by low neuroticism and low agreeableness as well as high conscientiousness, high openness to experience and high extraversion. Moreover, we hypothesized that understanding of emotions in the group of art school students would be positively predicted by low neuroticism and

high levels of the other Big Five personality traits: extraversion, conscientiousness, openness to experience, and agreeableness.

We also expected similar relationships to hold in the group of students from general education schools; at the same time, we supposed that there would be differences in the strength of prediction between the two groups of students. We supposed that neuroticism and openness to experience would be stronger predictors of self-esteem and emotion understanding in the group of visual arts school students, as they had been reported to characterize this group of students in previous research (Feist, 1998; Furnham & Walker, 2001; Kaufman, 2013; Abuhamdeh & Csikszentmihalyi, 2014).

Method

Participants

The study included students of visual arts high schools ($n = 262$, including 225 women and 37 men) aged 15–18 ($M = 17.02$, $SD = 0.79$) and students of general education schools ($n = 178$, including 95 women and 83 men), also aged 15–18 ($M = 16.74$, $SD = 0.83$) in Poland.

Eligibility measures

Personality traits

The Polish adaptation of the NEO-FFI (Costa & McCrae, 1989) by Zawadzki, Strelau, Szczepaniak and Śliwińska (1998). The inventory contains 60 items, 12 for each of the five scales: Neuroticism (N), Extraversion (E), Openness to experience (O), Agreeableness (A) and Conscientiousness (C). The respondent rates the items on a five-point scale, from 1 – strongly disagree to 5 – strongly agree. Cronbach's alpha reliability coefficients for the individual scales are as follows: Neuroticism $\alpha = 0.80$, Extraversion $\alpha = 0.77$, Conscientiousness $\alpha = 0.82$, Openness to experience and Agreeableness $\alpha = 0.68$ (Zawadzki et al., 1998).

Self-esteem

Rosenberg's Self-Esteem Scale (SES)

Self-esteem was measured using the Polish translation of Rosenberg's SES (1989) by Dzwonkowska, Lachowicz-Tabaczek and Łaguna (2008). The SES

is used to measure global and conscious *self-esteem*, which is a permanent attitude towards the self. This instrument consists of 10 items. The items are answered using a scale from 1 (strongly agree) to 4 (strongly disagree). The reliability of the scale estimated using the Cronbach's alpha coefficient ranges from $\alpha = 0.81$ to $\alpha = 0.83$ (Dzwonkowska et al., 2008).

Emotion understanding

Emotion Understanding Test (TRE)

TRE is a Polish instrument developed by Matczak and Piekarska (2011). TRE measures the following components of *knowledge about emotions*: knowledge of emotion words, knowledge of relationships between emotions, knowledge about changes occurring when emotions intensify, and knowledge of sources of emotions which may be related to situational factors as well as a person's internal properties and states and which have a modifying effect on external factors (Matczak & Piekarska, 2011). TRE consists of 30 closed-ended tasks that are grouped into five parts. These tasks are scored on a scale from 0 to 1 – the maximum score is 30 points. The test allows to determine the overall level of emotion understanding. The reliability coefficients of the TRE exceed $\alpha = 0.80$ (Matczak & Piekarska, 2011).

Procedure

As the first step in the study procedure, we obtained the approval of the director of the governmental Center for Artistic Education. Then consent was obtained from the heads of the visual arts high schools and general education high schools taking part in the study, as well as from students and their parents. Participation in the study was anonymous and voluntary. The sample of students from visual arts and general education high schools was selected using intentional–random sampling. We intentionally chose schools of a specific type (visual arts schools and general education schools) which provided the desired number of participants, whereas students in each type of school were selected randomly.

Testing and statistical analysis procedures

The survey was conducted in the years 2019–2020, in visual arts high schools and general education high schools throughout Poland. The sample was selected using intentional–random sampling. The results were analyzed statistically using Statistica 9.1 software. The quantitative variables were presented as means with standard deviation, and the qualitative variables were expressed as numbers and percentages. Linear relationships between the variables were determined using Pearson’s correlation coefficient (r). The associations of personality traits with self-esteem and emotion understanding were explored using enter regression analysis. Differences and relationships were considered statistically significant at $p < 0.05$.

Results

The descriptive statistics of the sample with regard to the investigated variables are given in Table 1.

Table 1. Descriptive statistics of the variables personality traits, emotion understanding and self-esteem in the sample of high school students

	Visual arts school students		General education students	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Neuroticism	28.70	8.86	24.08	8.98
Extraversion	25.85	7.96	26.54	6.51
Openness to experience	29.83	6.26	26.17	6.36
Agreeableness	26.92	6.70	26.12	6.12
Conscientiousness	26.74	7.45	27.16	7.13
Emotion understanding	17.30	3.69	17.15	3.64
Self-esteem	25.12	5.17	27.31	5.26

Source: Authors’ research.

The next table shows the results of the analysis of correlations of personality traits with emotion understanding and self-esteem in both study groups.

Table 2. Results of the analysis of correlations of personality traits with emotion understanding and self-esteem in the groups of artistically gifted and general education high school students

Personality traits	Visual arts school students		General education students		
		Emotion understanding	Self-esteem	Emotion understanding	Self-esteem
Neuroticism	r	-0.134	-0.647	-0.060	-0.701
	p	0.030	< 0.001	0.424	< 0.001
Extraversion	r	0.057	0.412	-0.062	0.416
	p	0.362	< 0.001	0.411	< 0.001
Openness to experience	r	0.190	0.103	0.357	0.030
	p	0.002	0.096	< 0.001	0.692
Agreeableness	r	-0.032	0.119	0.215	0.159
	p	0.610	0.054	0.004	0.034
Conscientiousness	r	-0.040	0.288	-0.058	0.442
	p	0.519	< 0.001	0.441	< 0.001

Source: Authors' research.

Finally, we performed regression analyses of the predictors of self-esteem of students from visual arts and general education schools. The results are shown in the tables 3–6.

Regression analysis for SES, predictors: NEO-FFI

Table 3. Personality traits and self-esteem of visual arts school students. Results of regression analysis

Personality factors	Self-esteem			
	Adjusted $R^2 = 0.490$ $F(5,256) = 51.154$ $p < 0.001$ $f^2_{Cohen} = 1.00$			
	B	B	t	p
Neuroticism	-0.324	-0.555	-11.727	< 0.001
Extraversion	0.154	0.237	5.065	< 0.001
Openness to experience	0.069	0.083	1.849	0.066
Agreeableness	-0.034	-0.045	-0.952	0.342
Conscientiousness	0.095	0.137	2.927	0.004

Source: Authors' research.

The figures in Table 3 show that the model was well-fitted to the data $F(5,256) = 51.154$; $p < 0.001$ and allowed to explain 49% of the variance in the visual arts school students' self-esteem. Statistically significant predictors of the variable of self-esteem in this group included neuroticism (negative relationships), as well as extraversion and conscientiousness (positive relationships), with neuroticism being the strongest predictor ($p < 0.001$), followed by extraversion ($p < 0.001$) and conscientiousness ($p = 0.004$). High extraversion and conscientiousness and low neuroticism promoted high self-esteem in visual arts high school students.

Table 4. Personality traits and self-esteem of students from general education schools. Results of regression analysis

Personality factors	Self-esteem			
	Adjusted $R^2 = 0.515$ $F(5,172) = 38.659$ $p < 0.001$ $f^2_{\text{Cohen}} = 1.12$			
	<i>B</i>	B	t	p
Neuroticism	-0.364	-0.621	-10.116	< 0.001
Extraversion	0.024	0.030	0.435	0.664
Openness to experience	0.054	0.065	1.231	0.220
Agreeableness	-0.013	-0.015	-0.265	0.791
Conscientiousness	0.137	0.186	3.003	0.003

Source: Authors' research.

As shown in Table 4, the model fit the data well $F(5,172) = 38.659$ $p < 0.001$ and allowed to explain 51.5% of the variance in the self-esteem of students from general education schools. Statistically significant predictors of self-esteem in this group included neuroticism (negative relationships) and conscientiousness (positive relationships), with neuroticism being a stronger predictor ($p < 0.001$) than conscientiousness ($p = 0.003$).

The next analyses concerned personality predictors of emotion understanding in both groups of students. Table 5 shows the results of these analyses for visual arts school students.

Regression analysis for TRE, predictors: NEO-FFI

Table 5. Personality traits and emotion understanding of visual arts school students. Results of regression analysis

Personality factors	Emotion understanding			
	Adjusted $R^2 = 0.045$ $F(5,256) = 3.440$ $p = 0.005$ $f^2_{Cohen} = 0.07$			
	B	B	t	p
Neuroticism	-0.064	-0.153	-2.366	0.019
Extraversion	0.008	0.018	0.281	0.779
Openness to experience	0.116	0.196	3.195	0.002
Agreeableness	-0.009	-0.017	-0.259	0.796
Conscientiousness	-0.044	-0.088	-1.377	0.170

Source: Authors' research.

The figures in Table 5 show that the model fit the data well $F(5,256) = 38.659$ $p < 0.001$; it allowed to explain only 4.5% of the variance in emotion understanding in the group of visual arts school students. In this group of students, statistically significant predictors of emotion understanding included neuroticism (negative relationships) and openness to experience (positive relationships). Openness to experience was the stronger predictor of emotion understanding ($p = 0.002$), and neuroticism was the weaker predictor ($p = 0.019$).

The Table 6 shows the results of regression analysis for the students from general education schools.

Table 6. Personality traits and emotion understanding in students from general education schools. Results of regression analysis

Personality factors	Emotion understanding			
	Adjusted $R^2 = 0.191$ $F(5,172) = 9.374$ $p < 0.001$ $f^2_{Cohen} = 0.27$			
	B	B	t	p
Neuroticism	-0.079	-0.194	-2.447	0.015
Extraversion	-0.128	-0.228	-2.608	0.010
Openness to experience	0.203	0.354	5.163	< 0.001
Agreeableness	0.154	0.258	3.447	0.001
Conscientiousness	-0.056	-0.109	-1.360	0.176

Source: Authors' research.

The statistics in Table 6 show that the model was well-fitted to the data $F(5,172) = 9.374$, $p < 0.001$ and allowed to explain 19.1% of the variance in emotional understanding in the group of students from general education schools. In this group of students, emotion understanding was statistically significantly predicted by neuroticism (negative relationships), extraversion (negative relationship), as well as openness to experience (positive relationships) and agreeableness (positive relationships). The strongest predictor of emotion understanding was openness to experience ($p < 0.001$), followed by a slightly weaker predictor – agreeableness ($p = 0.001$), then extraversion ($p = 0.010$), and neuroticism ($p = 0.015$).

Discussion

The aim of the present study was to determine whether and what personality traits were predictors of self-esteem and emotion understanding in a group of students from visual arts and general education schools.

Personality traits and self-esteem in students from visual arts and general education schools

Neuroticism was the strongest negative predictor of self-esteem in students from both visual arts and general education schools: the higher the level of neuroticism, the lower was the students' self-esteem, which means that students' neuroticism lowered their self-esteem. Negative relationships between neuroticism and self-esteem were also found in other studies (Watson et al., 2002; Amirazodi & Amirazodi, 2011; Hufer-Thamm & Riemann, 2021). Neuroticism, as a personality trait, is associated with proneness to anxiety, stress and frustration, lack of self-confidence, and a tendency to experience guilt (Caspi et al., 2005; Amirazodi & Amirazodi, 2011), all of which may reduce self-esteem. A high level of neuroticism is also associated with intellectual apathy, understood as listlessness, a lack of motivation to undertake intellectual tasks and the tendency to see them as unattractive (Mayer et al., 1989; Kossowska & Schounwenburg, 2000), which may have an adverse impact on self-esteem. The high neuroticism scores in both groups of students may have important implications for the formation of their self-esteem, which in turn may contribute to the level of their school achievements and coping with the

difficulties and requirements posed by the education system. Therefore, to strengthen students' self-esteem, it is worth using strategies that will contribute to effective coping with anxiety, uncertainty and guilt.

In the present study, conscientiousness (in both study groups) and extraversion (only in the group of visual arts school students) were also significant predictors of self-esteem.

The results regarding the relationship of **conscientiousness** with self-esteem are consistent with previous findings showing that people with high self-esteem are more conscientious (Pullmann & Allik, 2000; Robins et al., 2001; Erol & Orth, 2011; Szpitalak & Polczyk, 2015), although some other authors (Paszowska-Rogacz & Poraj, 2017) have found no significant associations between these two variables. Conscientiousness is viewed as a modern counterpart of the trait of perseverance, which favors school achievements (Kossowska & Schounwenburg, 2000), which, in turn, fosters higher self-esteem (Baumeister et al., 2003).

Many studies indicate that there exist relationships between **extraversion** and self-esteem (Robins, 2001; Watson et al., 2002; Schmitt & Allik, 2005; Szpitalak & Polczyk, 2015), which are explained, among others, in terms of positive affect, which is an important aspect of both these constructs (DeNeve & Cooper, 1998; Robins et al., 2001; Amirazodi & Amirazodi, 2011). The present results suggest that these associations apply only to students of visual arts schools, as the predictive relationship between extraversion and self-esteem turned out to be insignificant in the case of students from general education schools. Perhaps, in the group of visual arts school students, self-esteem was largely built on relationships with other people. Those students are also more often subjected to evaluation (for example in competitions) and more often have to face situations of social exposure. Since they participate in exhibitions and competitions, their self-esteem is more exposed to social evaluation. In the group of students from general education schools, a more important role was played by their individual work, personal educational successes, and their adaptation to school requirements, which is easier for students who are high on conscientiousness. In students from visual arts schools, a significant role in shaping self-esteem is played by interpersonal relations, social exposure, and their participation in the school's social life. As regards this group of students then, it is worth paying attention to the

atmosphere in school and in class as well as mutual relationships between students which, when good, may support the student in achieving his or her individual successes. Failure to ensure proper interpersonal relationships may indirectly lead to problems in this group of students, the more so that their higher need for approval from others may increase the instability of their self-esteem (Johnson, 1998). This observation corresponds with research on school difficulties of visual arts school students. Perhaps, visual artists are sensitive to other people's evaluation of them, which contributes to building their self-esteem and self-satisfaction, which, in turn, motivates them to be active in the school space. The subjective sense of having achieved personal success may not be sufficient motivation to undertake tasks and work towards previously planned goals.

In this present study, the relationships between **openness to experience** and **agreeableness** were not significant predictors of self-esteem in either of the investigated groups of students. This can be explained by the fact that these traits are less important to a person's self-perception (Szpitalak & Polczyk, 2015). It is worth noting that previous findings regarding the relationships analyzed in this study are not unequivocal. Some results (Campbell & Fehr, 1990) show that self-esteem is negatively correlated with agreeableness, since people with low self-esteem are uncertain about whether their judgments, opinions and decisions are correct. Other analyses (Szpitalak & Polczyk, 2015) demonstrate that self-esteem is not statistically significantly associated with openness to experience and agreeableness, which is consistent with our results.

The findings reported in this paper support the claim that the Big Five traits can significantly explain individual differences in self-esteem (Erol & Orth, 2011), also in adolescents.

Personality traits and emotion understanding in students of visual arts and general education schools

The results of the present analyses indicated that emotion understanding in students from visual arts schools was significantly predicted by neuroticism (negative predictor) and openness to experience (positive predictor). These predictive relationships were weaker than when self-esteem was used as the explained variable. They also explained a lower percentage of variance in emotion understanding than in the group of students from general education

schools. Moreover, in the latter group of students, apart from neuroticism and openness to experience, extraversion and agreeableness were also significant predictors of emotion understanding, i.e. emotion understanding was significantly predicted by almost all dimensions of the Big Five, except for conscientiousness.

It can then be assumed that understanding of emotions has a more cognitive character: it is less dependent on personality and more on social training (Kuśpit, 2018), which explains the positive relationship of this construct with the trait of **openness to experience** in both studied groups. Openness to experience is the intellectual dimension of the Big Five (Zawadzki et al., 1998; McCrae & Sutin, 2009; Kaufman, 2013). People who are open to experience seek new experiences, are intellectually curious, have broad mental horizons and a rich imagination and look for unconventional solutions and explanations, which is conducive to the understanding of emotions.

In both groups of students, significant negative predictive relationships were also observed between **neuroticism** and emotion understanding. This observation is consistent with the findings of other researchers who showed that neuroticism was negatively correlated with emotion regulation (Dynes, 2010), understood as awareness, understanding, and acceptance of emotions and the ability to flexibly adjust appropriate emotion regulation strategies to one's goals and the situational context (Gratz & Roemer, 2004). Students who are able to control their own emotional states can give a direction to their own behavior, which is important for their social functioning and achieving the intended goals, which, in turn, contributes to their better functioning in various social and educational situations, also in the educational space (Kuśpit, 2018). The negative relationship between neuroticism and emotion understanding can also be explained by the fact that lower neuroticism is associated with lower sensitivity and lower concentration on one's own emotional states and the emotional states of other people. Individuals with a lower sensitivity have a weaker contact with emotions, analyze emotions less deeply and attach less importance to them. This having been said, there is still much room for further research in this area.

In the group of students from general education schools, emotion understanding was also significantly predicted by extraversion (negative predictor) and agreeableness (positive predictor).

Extraversion is negatively associated with emotion understanding, because the lower one's level of extraversion (and the higher the introversion), the more likely one is to focus on their emotional states and analyze emotions in the situational context. Introverts are more inwardly oriented – they analyze emotions, while extroverts are more outwardly oriented – they have more relationships than introverts, but the bonds they make are more superficial, less tight, and they are less involved in those relationships, which does not make it easy for them to understand either their own or other people's emotional states.

Agreeableness was quite a strong predictor of emotion understanding in the group of students from general education schools. In the Big Five model, this trait is understood as striving to avoid conflicts and a positive attitude towards other people that involves trust and being considerate and cooperative. These properties are conducive to understanding emotions and building and using knowledge about them and about their role in individuals' behavior.

Our results indicated that personality characteristics were significant predictors of the students' ability to understand emotions, but the specific nature of the investigated relationships differed between the groups.

Implications for educational practice

The results obtained in this study may be of use in channeling students' potential in the right direction and optimizing their development and social functioning.

Regardless of the type of school the students attended, neuroticism was the strongest negative predictor of self-esteem. This finding shows that proneness to anxiety, sensitivity, low resistance to difficult situations, and shyness in interpersonal relationships play an important role in reducing a person's self-esteem. When working with students from either type of school, it is particularly worthwhile to use training techniques and methods that will allow them to learn how to constructively cope with and minimize stress and anxiety. Our results also indicate that teachers should use individualized teaching methods that take into account students' high emotional sensitivity and proneness to anxiety, both of which may hinder their ability to cope in the educational space. This is important since proper organization of school

institutions and the support they offer allows schools to socially increase students' self-esteem without compromising other high-priority goals, such as providing an ambitious educational program (Ferkany, 2008).

Compared to students from visual arts schools, in the group of students from general education schools, a higher percentage of emotion understanding was explained by personality traits. Without a doubt, it is important to support students' emotion understanding, especially in the case of students from visual arts schools. It seems that this group of students perceive the world through the prism of their interpersonal experiences rather than through the prism of emotions. In both groups of students, the strongest predictor of emotion understanding was openness to experience, which can be supported and developed through training to facilitate and optimize students' emotional coping in the school setting.

Limitations and recommendations for further research

One limitation of the present study is that the sample included students from only one type of specialty school – visual arts high schools. It would be justified to continue the investigations with other levels of education (for example the academic level) and other specialties (for example music). Moreover, our analyses focused on selected subjective characteristics: personality traits, self-esteem and emotion understanding. In the light of the present results, in future studies, it is worth considering other constructs, such as the internal and external locus of control, achievement motivation and self-efficacy, all of which may also play an important part in shaping students' self-esteem and emotion understanding.

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