

ORIGINAL ARTICLE

# *Big Five and Dark Triad personality traits as predictors of multicultural attitude and efficacy*

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## BACKGROUND

The advances in communication and transportation facilities have accelerated the formation of multicultural societies worldwide. Personality traits may be one of the most important indicators of adapting to multicultural environments. Educational environments are multicultural in terms of the composition of students they serve. The present study investigated the predictive role of Big Five and Dark Triad personality traits on multicultural attitude and efficacy (MAE) among teacher candidates.

## PARTICIPANTS AND PROCEDURE

The study population comprised of teacher candidates ( $N = 404$ ) studying in Turkey. In order to collect data, Big Five personality and the Dark Triad, the Adjective Based Personality Scale and the Dark Triad Dirty Dozen Scale were used respectively. In addition, data regarding MAE were collected through the Multicultural Efficacy Scale.

## RESULTS

The results showed that openness to new experience positively ( $\beta = .16, p < .01$ ) and psychopathy negatively

( $\beta = -.16, p < .01$ ) predicted multicultural attitude. On the other hand, multicultural efficacy was positively predicted only by openness to new experience ( $\beta = .32, p < .001$ ). Therefore, openness and psychopathic traits can play an important role in explaining multicultural attitude and efficacy. Also, there is no significant difference with regard to teacher candidates' multicultural efficacy and attitudes according to their grade level.

## CONCLUSIONS

Individuals with openness to new experiences personality trait have a positive attitude towards multiculturalism, and they view themselves as competent to get involved in multicultural environments. On the other hand, individuals with the psychopathy personality trait have negative attitudes towards multiculturalism.

## KEY WORDS

Big Five personality traits; dark triad; multiculturalism; multicultural education; teacher candidates

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## BACKGROUND

The cross-border movement as a result of migration has brought about drastic changes and challenges within countries in terms of the family and social life. Societies have also merged and intertwined with the diversities they bear. Such terms as dominant culture, mono-culture and nation state evolved into a more complex construct, "multiculturalism". Verkuyten (2005) defines multiculturalism as "trying to foster understanding and appreciation of ethnic diversity by acknowledging and respecting minority group identities and cultures" (p. 121).

Along with families and societies, educational institutions have also been struggling constantly to reconstruct their system so that they can respond to the increasing diversity and offer a learning environment by supporting equality among all students. Because of this, the curriculum developers and researchers discuss the role of teacher training programs in confronting the social and political barriers experienced by the teacher candidates in their learning process. A comprehensive solution to these problems is to adapt multicultural education and culturally relevant pedagogy. Multicultural education is defined as "an idea, an educational reform movement (...) to change the structure of educational institutions so that male and female students, exceptional students, and students who are members of diverse racial, ethnic, language, and cultural groups will have an equal chance to achieve academically in school" (Banks & McGee-Banks, 2009, p. 1). To this end, teacher-training programs have been transformed to keep up with these changes, especially in such countries as Canada, the USA and Australia. For example, the National Council for Teacher Education Accreditation (NCATE), the organization in charge of certifying teacher education programs, integrated multicultural education into its requirements in the United States (James, 1978). On the other hand, when the curricula and standards in Canada with regard to social studies are examined, it is noted that there is progression from diversity awareness to equality through recognition and consideration (Joshee et al., 2016). The multicultural education movement, formally conceived in Australia, created many new activities and experiences at the level of pedagogical practice that still enhance the public education scene (Joshee et al., 2016).

As in other countries, in Turkey, there is a considerable need to redefine the teacher training curricula in terms of diversity, especially after the dramatic increase in the number of refugees which added more variety to the already existing diverse structure of the country. In the Turkish context such diversity means adding more to the already existing differences within the country, which includes new cultures (mostly the culture of Arab countries), different sects of the same

religion, different races, ethnicities, languages (mainly Persian and Arabic), nationalities (mostly Syria, Iraq and Afghanistan), and geographic locations.

In order to better meet the needs of students, teacher candidates are expected to better adapt to culturally diverse classrooms. In this regard, one of the priorities of the teacher training process is the fact that teacher candidates should have high multicultural efficacy and a positive attitude to effectively carry out culturally relevant educational activities. Multicultural efficacy refers to the beliefs that teacher candidates use to deal with the challenges encountered while working with students having differences such as race, culture, social class, gender and disability (Nadelson et al., 2012). Tucker et al. (2005) implied that teachers' efficacy affects their students in terms of academic performance, self-efficacy and behavior. On the other hand, multicultural attitudes mean the ability to exhibit a positive attitude toward cultural differences and a teacher's way of dealing with students who are ethnically and culturally different from him or her (DomNwachukwu, 2010). It also underlies the behaviors teacher candidates exhibit directed towards the students from diverse backgrounds. Teachers with positive multicultural attitude aim to increase cooperation among students from diverse backgrounds, develop traits such as tolerance and empathy among their students, and accomplish equal academic achievement for all students. Teachers' attitudes might affect their self-efficacy in meeting the needs of students from diverse backgrounds. However, Gay (2010) and McNeal (2005) stated that the attitudes of teachers in the classroom are generally determined by their prejudiced opinions or their past experiences during their schooling. For this reason, it is important for the teacher candidates to develop positive attitudes in order to create multicultural-friendly classrooms. Research studies investigating the two constructs revealed that there is a positive correlation between multicultural attitude and efficacy (Bangura, 2018; Kim & Jang, 2012; Sela-Shayovitz & Finkelstein, 2020; Strickland, 2018; Suk et al., 2015; Yıldırım & Tezci, 2016). On the other hand, the studies mainly focused on a range of variables including gender, grade level, settlement and age. The results with regard to these variables revealed contradictory findings. While some studies found a significant positive correlation between MAE and grade level (Akça, & Şakar, 2020; Aybek, 2018) some others found no correlation between the constructs (Bangura, 2018; Eşkisu et al., 2020; Güngör et al., 2018; Yılmaz & Göçen, 2013). In addition, the significant findings also differed; some studies indicated a more positive MAE at the lower grades (Akça, & Şakar, 2020; Çalışkan & Gençer, 2016) but some others presented opposite findings (Aybek, 2018).

A large number of research studies have been carried out regarding the relationship between the

teachers' and teacher candidates' personality traits and self-efficacy (De Jong et al., 2014; Jamil et al., 2012), teaching effectiveness (Klassen & Tze, 2014), emotional intelligence (Atta et al., 2013), burnout (Pishghadam & Sahebjam, 2012) and motivation (Jugović et al., 2012). According to Klassen and Tze (2014) there was a moderate relation between personality traits and teaching. In addition, the relationship between teachers' psychological characteristics and teaching effectiveness was significant but small (Klassen & Tze, 2014). However, the number of studies focusing on teacher candidates' personality traits and diversity is very few (Eskici, 2016; Eskici & Çayak, 2018; Unruh & McCord, 2010).

#### MULTICULTURALISM AND PERSONALITY

The Big Five model of personality is one of the most frequently used personality models and has been studied in many different cultures (Barrick & Mount, 1991; Koehn et al., 2019; Komarraju et al., 2011; Shaver & Brennan, 1992; Sheldon et al., 1997; Sorić et al., 2017). In this study, the Big Five personality model is used in order to investigate the relationship between multiculturalism and personality traits.

When the literature is reviewed, we can see that there are a few studies about the relationship between personality and multiculturalism. For instance, in a study related to racial identity and Big Five personality traits, openness and extraversion were found to be negatively related to racial identity (Silvestri & Richardson, 2001). In another study, extraversion was found to be positively correlated with advanced racial identity, while openness to new experiences was found to be negatively correlated with advanced racial identity (Walker, 2004). Based on the findings, we can assert that individuals who are open to new experiences are more prone to multicultural perception. As a matter of fact, other studies on cultural competence indicate that openness makes an individual more efficient in terms of multiculturalism (Strauss & Connerley, 2003; Thompson et al., 2002). While extraversion is associated with some variables related to multiculturalism in some studies (Stupar et al., 2014; Walker, 2004), some other studies indicated that there is no correlation between the two constructs (Gallego & Pardos-Prado, 2014). A similar difference exists with regard to the results of the studies investigating the relationship between multiculturalism and conscientiousness. It was found that conscientiousness was positively related to multiculturalism (Boldero & Whelan, 2009), whereas there are also research findings indicating that individuals with high levels of conscientiousness have a negative attitude towards immigrants (Dinesen et al., 2016) or there is no correlation between the two constructs (Thompson et al., 2002; Weatherford & Spokane,

2013). In this context, we can say that it is not possible to make a clear interpretation of the relationship between multiculturalism and conscientiousness, as in extraversion.

There are also studies with regard to the relationship between personality traits and multicultural and intercultural competence, cultural intelligence and tolerance. Regarding the relationship, Harrison (2012) expressed that openness and agreeableness positively predict cultural intelligence. Furthermore, openness (Gallego & Pardos-Prado, 2014) and agreeableness (Dinesen et al., 2016) positively predict the attitude towards multiculturalism and there is a negative correlation between agreeableness and racial identity (Silvestri & Richardson, 2001). Some other studies, however, indicated that there is no correlation between agreeableness and multiculturalism (Thompson et al., 2002; Weatherford & Spokane, 2013). With regard to tolerance, Korol et al. (2016) stated that all multicultural personality dimensions were highly correlated with tolerance of diversity and open-mindedness was a positive predictor of tolerance. The results of another study also revealed that there was a significant correlation between openness to change and both multicultural knowledge and awareness (Reynolds & Rivera, 2012). Therefore, we can assert that individuals with openness and agreeableness personality traits may have behavioral skills related to multiculturalism and openness might play an important role in the development of attitudes and skills related to multiculturalism.

Neuroticism and its opposite emotional stability and their relation to immigrants and racial identity have also been the subject of several studies. Emotional stability is positively related to positive attitude towards immigrants (Gallego & Pardos-Prado, 2014). However, higher level of neuroticism is positively related to less advanced racial identity (Walker, 2004). In addition, also emotional stability is negatively correlated with generalized prejudice and racial prejudice (Ekehammar et al., 2004). In this respect, contrary to openness and agreeableness, neuroticism is expected to be negatively related to multiculturalism. Individuals with high levels of emotional instability may have a negative attitude towards multiculturalism.

The other dimension of this research is the relationship between Dark Triad and MAE. The dark sides of personality, Machiavellianism, psychopathy and narcissism, are conceptualized as the Dark Triad (Paulhus & Williams, 2002). Three negative aspects of personality have been considered together in many studies in recent years and were also examined in different cultures (Akhtar et al., 2018; Hodson et al., 2009; Schimmenti et al., 2019).

Taking into account the features of the Dark Triad, Machiavellianism is associated with manipulating others to achieve one's own goals, psychopathy is about not taking into consideration the wishes and

needs of other individuals, and narcissism is characterized by the highest levels of self-flattery and perceiving oneself as privileged (Bogart et al., 1970; Hildebrand & de Ruiter, 2004; Twenge & Foster, 2010). The Dark Triad is positively correlated with prejudice (Hodson et al., 2009), and negatively with empathy (Jonason et al., 2013; Wai & Tiliopoulos, 2012). We can assume that multiculturalism, which has such qualities as empathy, non-bias against others, equity, respect for individual differences, and acceptance of individual diversity, would be on the opposite side of the equation (Banks, 2009). In the same vein, there is a sharp contrast between the Dark Triad and teacher characteristics. A teacher candidate with Dark Triad personality might display lack of communication and empathy in the classroom environment. In addition, a teacher candidate with narcissistic and Machiavellian personality features might ignore the learning and personal needs of the students and design the classroom based on his/her personal desires and neglect the students with diverse features. Considering these characteristics of Dark Triad personality and multiculturalism, we can hypothesize that there will be a negative correlation between these variables. However, to our best knowledge there are no empirical studies that address the question whether Dark Triad personality traits is associated with teacher candidates' multicultural attitudes and efficacy.

#### PRESENT STUDY

A distinct factor influencing cultural relations is personality, which includes everything an individual does during a social interaction (Jensen-Campbell et al., 2009). Therefore, comprehending the personality traits of those who can adapt better to diverse environments is important (Van Der Zee et al., 2004). According to Harrison (2012), in terms of the factors that could affect culture, the most evident factor is personality. However, the link between personality traits and multicultural education has drawn attention only recently. The studies carried out so far revealed that there is a relation between such personality dispositions as openness, conscientiousness, extraversion and culture related issues (Dinesen et al., 2016; Ponterotto et al., 2006; Silvestri & Richardson, 2001; Stupar et al., 2014). It is also proposed that individuals with a certain type of personality may better adapt to multicultural societies and contribute to culturally diverse environments effectively (Ponterotto et al., 2002).

When the results of the research carried out on the relationship between the Big Five personality traits and the variables related to multiculturalism are taken into consideration, it can be seen that especially openness as a personality trait may be related to multiculturalism at different levels and directions.

However, there are no studies investigating teacher candidates' Dark Triad, personality traits and MAE. Based on the results of other studies which revealed the relationship among the Dark Triad and empathy, racial prejudice and individual differences indicating a link with multiculturalism, we hypothesized that having the characteristics of Dark Triad may impact instructional effectiveness negatively in a multicultural classroom, because it is asserted that individuals with Dark Triad features focus on their own needs and interests but do not have such characteristics as understanding others' feelings, acting without prejudice and respect, and acceptance for individual differences, which are the key aspects of multicultural education. The findings of this research may reveal the relationships between personality and multiculturalism and provide relevant clues for teacher training programs to include related elective courses or activities through Banks' content integration. The specific purpose of the present study is, then, to find out whether personality traits play a role in predicting the reason behind individuals' better adaptation to cultural diversity. The study will also help to better understand the theoretical components lying beneath MAE and its comparison with grade levels.

## PARTICIPANTS AND PROCEDURE

### PARTICIPANTS

In terms of teacher training, there are two types of faculties in Turkey. The students enrolled in these faculties take the same compulsory pedagogical courses and can work as teachers at different institutions. The participants of this study consisted of 404 students – 290 female (71.80%), 114 male (28.20%) – studying at a faculty of education (departments of science teaching, Turkish language teaching, social sciences teaching, classroom teaching and mathematics teaching) and a faculty of theology of a mid-size university in Turkey. The age of participants ranged from 18 to 32 and mean and standard deviation of their age were 21.60 and 1.67 respectively. Among all the participants, 82 (20.30%) were freshmen, 88 (21.80%) were sophomores, 136 (33.70%) were juniors, and 98 (24.30%) were seniors.

### MEASURES

In order to investigate the reliability of the scales, in this research, along with the generally used Cronbach's  $\alpha$  coefficient, McDonald's  $\omega$  and greatest lower bound (GLB) coefficients, more robust indices are used when the measurement models in the test theory are taken into account (Dunn et al., 2014; McDonald, 2013; Peters, 2014).

*Multicultural Efficacy Scale* (MES). The MES was developed by Guyton and Wesche (2005) to measure multicultural experiences, attitude and efficacy of individuals. The Turkish adaptation study of the MES was conducted by Akcaoğlu and Arsal (2018). The Turkish version of the MES consists of 25 items and has three subscales, i.e. multicultural experiences, attitude and efficacy, which include five, four and sixteen items, respectively. According to Guyton and Wesche (2005), the experience subscale is for comparative purposes and is not intended to be scored to contribute to the measure of multicultural efficacy. For this reason, the data regarding experience were not used in this study. Each item of the MES is rated on a 1 to 4-point Likert type scale. Higher scores indicate that the level of the participant regarding the related feature is high. Results of exploratory factor analysis conducted with teacher candidates showed that the scale has a three-factor structure and factor loadings ranged between .38 and .76. According to confirmatory factor analysis (CFA) results, the fit indices of the MES were calculated as  $\chi^2/df = 1.42$ ,  $p < .01$ , GFI = .90, NNFI = .95, CFI = .96, RMSEA = .037 and SRMR = .049. The Cronbach's  $\alpha$  coefficients of the MES ranged from .72 to .93. The data regarding the reliability coefficients of the present study are presented in Table 1.

*Adjective Based Personality Scale* (ABPS). The ABPS, developed by Bacanlı et al. (2009), is based on the Big Five Model of personality. The ABPS consists of 40 items rated on a 7-point Likert type scale. According to the results of the exploratory factor analysis, the Big Five explained 52.64% of the total variance and factor loadings ranged from .37 to .86. The Cronbach's  $\alpha$  coefficients of the five factors ranged from .73 to .89. Çeliköz and Şeker-Sir (2016) reinvesti-

gated the factor structure of the ABPS and deleted 13 items which yielded low factor loadings. The results of CFA conducted with the remaining 27 items confirmed the 5-factor structure of the scale ( $\chi^2/df = 1.96$ , CFI = .96, IFI = .96, GFI = .96, NFI = .92 AGFI = .93, RMSEA = .040 and SRMR = .029). In addition, the results of the study revealed that Cronbach's  $\alpha$  coefficients of the five factors ranged from .77 to .84 (Çeliköz & Şeker-Sir, 2016). In this study, the ABPS scale with 27 items was used. Higher scores indicate that individuals have a high level of the related personality traits. The data regarding the reliability coefficients of the current study are presented in Table 1.

*Dark Triad Dirty Dozen Scale* (DTDD). The DTDD was developed by Jonason and Webster (2010) to determine the personality traits Machiavellianism, psychopathy and narcissism. The Turkish adaptation study of the DDS was conducted by Satici et al. (2018). The DTDD has 12 items rated on a 9-point rating Likert type scale and three factors: Machiavellianism, psychopathy and narcissism. Each factor consists of four items. Higher scores indicate that individuals have a high level of the related Dark Triad personality traits. As a result of CFA, the fit indices were calculated as  $\chi^2/df = 2.84$ ,  $p < .01$ , GFI = .95, CFI = .96, IFI = .96, RMSEA = .047 and SRMR = .066. The Cronbach's  $\alpha$  coefficients of the Dark Triad personality ranged from .71 to .87. The data regarding the reliability coefficients of the present study are presented in Table 1.

## PROCEDURE

Ethics committee permissions were obtained before starting the research process (Ref. No. 1/21/04.05.2020). The measurements were administered to the parti-

**Table 1**

*Reliability statistics of the measurements*

	McDonald's $\omega$	Greatest lower bound	Cronbach's $\alpha$
Multicultural attitude	.72	.78	.71
Multicultural efficacy	.89	.93	.78
Openness	.75	.78	.74
Conscientiousness	.82	.85	.81
Extraversion	.84	.85	.82
Agreeableness	.75	.79	.71
Neuroticism	.65	.73	.65
Machiavellianism	.68	.73	.61
Psychopathy	.56	.64	.45
Narcissism	.84	.87	.84

pants in several group sessions by the researchers. Before each group session, the researchers informed the participants about the aim of the study and the anonymity of the results. A total of 427 students were asked and 404 of the volunteers completed the data set in 20–25 minutes and 23 students did not participate in the study. In addition, informed consent was obtained from all individual participants.

## DATA ANALYSIS

Descriptive statistics, Pearson's *r* correlation coefficients and multiple hierarchical regression analysis with the backward method, preferred in order to eliminate suppressor effects (Field, 2013), were conducted via SPSS 22 for Windows and JASP.

## RESULTS

### COMPARATIVE ANALYSIS

In this analysis, whether the teacher candidates' multicultural attitudes and efficacy differ according to the grade level is examined. In this context, the mean and standard deviation values for multicultural attitude are calculated as  $M = 3.32$ ,  $SD = 0.52$  for the freshmen,  $M = 3.43$ ,  $SD = 0.48$  for the sophomores,  $M = 3.37$ ,  $SD = 0.49$  for the junior, and  $M = 3.29$ ,

$SD = 0.43$  for the seniors. The results of ANOVA revealed that teacher candidates' multicultural attitudes do not differ significantly according to their grade levels –  $F(3, 400) = 1.34$ ,  $p > .05$ . Furthermore, the mean and standard deviation values for multicultural efficacy are calculated as  $M = 3.10$ ,  $SD = 0.43$  for the freshmen,  $M = 3.22$ ,  $SD = 0.41$  for the sophomores,  $M = 3.07$ ,  $SD = 0.41$  for the juniors, and  $M = 3.13$ ,  $SD = 0.47$  for the seniors. The results of ANOVA indicated that teacher candidates' multicultural efficacy does not differ significantly according to their grade levels –  $F(3, 400) = 2.08$ ,  $p > .05$ .

### PRELIMINARY ANALYSIS

The results of preliminary analysis (descriptive statistics and correlation coefficients) are presented in Table 2. All the variables are normally distributed based on the skewness (−.56 to .86) and kurtosis (.73 to .30) coefficients.

Table 2 reveals that multicultural attitude significantly correlated with openness ( $r = .16$ ,  $p < .01$ ), extraversion ( $r = .11$ ,  $p < .01$ ), agreeableness ( $r = -.14$ ,  $p < .01$ ), Machiavellianism ( $r = -.14$ ,  $p < .01$ ) and psychopathy but not conscientiousness, neuroticism or narcissism. On the other hand, multicultural efficacy significantly correlated with openness ( $r = .33$ ,  $p < .01$ ), conscientiousness ( $r = .20$ ,  $p < .01$ ), extraversion ( $r = .24$ ,  $p < .01$ ), agreeableness ( $r = .20$ ,  $p < .01$ ),

**Table 2**

*Descriptive statistics and correlation coefficients for related variables*

Variables	1	2	3	4	5	6	7	8	9	10
1. Multicultural attitude	–									
2. Multicultural efficacy	.27**	–								
3. Openness	.16**	.33**	–							
4. Conscientiousness	.11*	.21**	.52**	–						
5. Extraversion	.10*	.22**	.55**	.44**	–					
6. Agreeableness	.13*	.20**	.53**	.48**	.33**	–				
7. Neuroticism	.01	−.10*	−.17**	−.27**	−.15**	−.22**	–			
8. Machiavellianism	−.14**	−.06	−.09	−.12*	.03	−.18**	.09	–		
9. Psychopathy	−.16**	−.06	.00	−.14*	.05	−.14**	.12*	.32**	–	
10. Narcissism	.07	.04	.01	−.05	.19**	−.04	.03	.41**	.26**	–
<i>M</i>	3.36	3.13	5.51	5.51	5.97	5.61	2.59	2.31	2.31	3.99
<i>SD</i>	0.49	0.43	0.98	1.03	1.29	0.99	0.92	1.10	1.04	1.98
Skewness	−.36	−.32	−.52	−.68	−.36	−.76	.32	.86	.70	.17
Kurtosis	−.50	.05	−.42	−.15	−.25	−.07	−.50	.30	−.20	−.73

Note. \* $p < .05$ , \*\* $p < .01$ .

but not neuroticism, Machiavellianism, psychopathy or narcissism. Based on the results of the analysis, regression analysis was conducted.

## REGRESSION ANALYSIS

Two different regression analyses were conducted in the study. The first regression analysis was carried out to test the predictive role of the personality traits on multicultural attitude. Prior to the regression analysis, in order to test whether the data meet the assumptions, variance inflation factor (VIF) and tolerance values and the results of the Durbin-Watson test were examined. When the statistical values with regard to multicollinearity were checked, it was observed that VIF values ranged between 1.01 and 1.90 and the values were smaller than the criterion value of 10 (Field, 2013). In addition, tolerance values ranged between .53 and .99 and were higher than the criterion value of .20 (Field, 2013). Finally, we examined whether there was autocorrelation in the analysis. The results indicated that the Durbin-Watson statistic test had a value of 1.84, which is between the criterion values of 1 and 3 (Field, 2013). Thus, it was revealed that all the assumptions of regression analysis were met. In the hierarchical regression analysis, gender and age were added as control variables, and Big Five personality traits, except for neuroticism, and Dark Triad personality traits, except for narcissism, were added as predictors. Neuroticism and narcissism were not added to the regression model since they did not correlate with multicultural attitudes. Regression analysis was completed in seven steps since the backward method is based on repeating the analysis by removing the variables that are not significant predictors from the model. The results of the last step of the regression analysis are presented in Table 3.

According to Table 3, openness ( $\beta = .16, p < .05$ ) positively, and psychopathy ( $\beta = -.16, p < .05$ ) negatively predicted multicultural attitude. The regression model explained 5% of the total variance ( $R^2 = .05$ ). The variables conscientiousness, extraversion, agreeableness, neuroticism and Machiavellianism did not predict multicultural attitude.

The second regression analysis was conducted to test the predictive role of the personality traits on multicultural efficacy. In order to test whether the data meet the assumptions, statistical values with regard to multicollinearity were checked. The results revealed that VIF values ranged between 1.01 and 1.88. Moreover, tolerance values ranged between .53 and .99 and the Durbin-Watson statistic test had a value of 1.94. The results indicated that all the assumptions of regression analysis were met. In the hierarchical regression analysis with backward method, gender and age were added to the model as control variables and Big Five personality traits were added as predic-

tors. Dark Triad personality traits, which did not correlate with multicultural efficacy, were not added to the regression model. Regression analysis was completed in six steps since the backward method based on repeating the analysis by removing the variables that are not significant predictors from the model was conducted. The results of the last step of the second regression analysis are presented in Table 4.

According to Table 4, openness ( $\beta = .32, p < .001$ ) positively predicted multicultural efficacy. The regression model explained 12% of the total variance ( $R^2 = .12$ ). However, conscientiousness, extraversion, agreeableness and neuroticism did not predict multicultural efficacy.

## DISCUSSION

The purpose of the current study was to explore the relationship between personality traits and MAE of the teacher candidates. When the findings of the study were examined, it was observed that only the openness among the Big Five personality traits significantly predicted MAE. In other words, individuals with the personality trait of openness have a positive attitude towards multiculturalism, and they view themselves as competent to get involved in multicultural environments. Previous research had already suggested that openness and multicultural efficacy are closely related (Silvestri & Richardson, 2001; Strauss & Connerley, 2003; Stupar et al., 2014; Walker, 2004). Features such as open-mindedness and enjoying change are among the key features of openness (Johnson & Ostendorf, 1993). In this respect, enjoying change can be seen as a tendency to recognize and accept individuals from different cultures and being open-minded can act as a medium in accepting individuals with diverse qualities. As a matter of fact, accepting individuals as they are and willingness to build relationships with people of different cultures are important features of multiculturalism (Fowers & Davidov, 2006). It can be said that the basic characteristics of multiculturalism and openness are similar, and therefore we can assert that openness is a predictor of multiculturalism. However, when  $\beta$  and  $R^2$  values were examined, it was observed that there was a small effect.

According to our findings, although extraversion, agreeableness and conscientiousness were positively correlated with multicultural attitudes and efficacy, they did not predict them significantly. Positive relations among multiculturalism and extraversion (Silvestri & Richardson, 2001; Stupar et al., 2014), agreeableness (Harrison, 2012) and conscientiousness were reported in the literature, but previous studies also indicated that extraversion (Gallego & Pardos-Prado, 2014) and agreeableness and conscientiousness (Thompson et al., 2002; Weatherford

**Table 3**

*Results of regression analysis conducted to test the predictive role of the personality traits for multicultural attitude*

Model	Variable	B	SE <sub>B</sub>	β	t	R	R <sup>2</sup>	F
1.	Gender	-.09	.22	-.02	0.43	.25	.06	3.36**
	Age	-.07	.05	-.07	1.45			
	Openness	.05	.03	.13	1.96			
	Conscientiousness	-.01	.02	-.01	0.19			
	Extroversion	.11	.02	.04	0.61			
	Agreeableness	.01	.02	.01	0.23			
	Machiavellianism	-.03	.02	-.07	1.41			
	Psychopathy	-.06	.03	-.14	2.60*			
2.	Age	-.07	.05	-.07	-1.49	.25	.06	3.82***
	Openness	.05	.03	.13	1.95			
	Conscientiousness	-.01	.02	-.01	0.21			
	Extroversion	.01	.02	.04	0.64			
	Agreeableness	.01	.02	.02	0.27			
	Machiavellianism	-.04	.02	-.07	1.49			
	Psychopathy	-.64	.03	-.14	2.59*			
3.	Openness	.05	.03	.13	1.95	.24	.06	4.07**
	Conscientiousness	-.01	.02	-.02	0.26			
	Extroversion	.01	.02	.04	0.62			
	Agreeableness	.01	.02	.01	0.25			
	Machiavellianism	-.04	.02	-.08	1.52			
	Psychopathy	-.64	.03	-.14	2.60*			
4.	Openness	.05	.03	.13	1.95	.24	.06	4.88***
	Extroversion	.01	.02	.03	0.58			
	Agreeableness	.01	.02	.01	0.25			
	Machiavellianism	-.04	.02	-.08	1.52			
	Psychopathy	-.06	.03	-.14	2.60*			
5.	Openness	.05	.02	.13	2.28*	.24	.06	6.11***
	Extroversion	.01	.02	.04	0.59			
	Machiavellianism	-.04	.02	-.08	1.55			
	Psychopathy	-.07	.02	-.14	2.66**			
6.	Openness	.06	.02	.15	3.13**	.24	.06	8.03***
	Machiavellianism	-.35	.02	-.08	1.52			
	Psychopathy	-.06	.02	-.14	2.64			
7.	Openness	.06	.02	.16	3.30**	.23	.05	10.87***
	Psychopathy	-.08	.02	-.16	3.29**			

Note. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

**Table 4**

*Results of regression analysis conducted to test the predictive role of the personality traits for multicultural efficacy*

Model	Variable	B	SE <sub>B</sub>	β	t	R	R <sup>2</sup>	F
1.	Gender	-1.27	.73	-.08	1.75	.36	.13	8.22***
	Age	-0.24	.16	-.07	1.55			
	Openness	0.37	.09	.27	4.19***			
	Conscientiousness	0.05	.07	.05	0.77			
	Extroversion	0.04	.06	.04	0.67			
	Agreeableness	0.01	.08	.01	0.01			
	Neuroticism	-0.04	.05	-.04	0.90			
2.	Gender	-1.36	.72	-.09	1.87	.35	.12	9.16***
	Openness	0.38	.09	.27	4.19***			
	Conscientiousness	0.05	.07	.04	0.73			
	Extroversion	0.04	.06	.04	0.64			
	Agreeableness	0.01	.08	.01	0.13			
	Neuroticism	-0.04	.05	-.04	0.79			
3.	Gender	-1.36	.72	-.09	1.91	.35	.12	11.01***
	Openness	0.38	.08	.27	4.51***			
	Conscientiousness	0.05	.06	.05	0.79			
	Extroversion	0.04	.06	.04	0.64			
	Neuroticism	-0.04	.05	-.04	0.81			
4.	Gender	-1.39	.71	-.09	1.94	.35	.12	13.68***
	Openness	0.40	.08	.29	5.25***			
	Conscientiousness	0.06	.06	.05	0.95			
	Neuroticism	-0.04	.05	-.04	0.85			
5.	Gender	-1.33	.71	-.09	1.86	.35	.12	18.01***
	Openness	0.41	.08	.29	5.35***			
	Conscientiousness	0.06	.06	.06	1.04			
6.	Gender	-1.34	.71	-.09	1.89	.34	.12	26.47***
	Openness	0.45	.07	.32	6.86***			

Note. \*\*\*p < .001.

& Spokane, 2013) were not related to MAE. Therefore, the findings of our research were supported by some studies but not supported by some others. Our findings also suggest that MAE were positively correlated with extraversion and conscientiousness, which contradicts the results of other studies (Stupar et al., 2014; Walker, 2004). Accordingly, there may be other variables that influence the relationship among multiculturalism and extraversion, agreeableness, and conscientiousness. As a result, when examining

the relationships between these variables, such other variables as norms, culture and past experiences that may affect this relationship should be taken into consideration.

In this study, we found that there was no correlation between neuroticism and multicultural attitude, but multicultural efficacy and neuroticism were negatively correlated. However, the results of regression analysis revealed that neuroticism predicted neither multicultural attitude nor efficacy significantly.

When the other studies in the literature are examined, it is seen that emotional stability, the opposite of neuroticism, is positively correlated with attitude towards migrants (Gallego & Pardos-Prado, 2014), while it is negatively correlated with general and racial prejudice (Ekehammar et al., 2004). Furthermore, Walker (2004) found that neuroticism is positively correlated with advanced racial identity. Combining the findings of the previous studies with the present study, we can say that neuroticism is negatively related to multiculturalism, but this correlation cannot be considered as a predictive relationship.

The findings of the study showed that Machiavellianism and psychopathy were negatively correlated with multicultural attitude but only psychopathy predicted multicultural attitude negatively. According to this finding, it can be asserted that individuals who show anti-social characteristics while ignoring the interests and needs of other individuals have negative attitudes towards multiculturalism.

Research findings on the correlation of Dark Triad personality traits with multicultural efficacy showed that there was no correlation between the variables. Therefore, these variables were not included in the regression analysis. Within the framework of this finding, it can be said that multicultural efficacy is independent of Machiavellianism, psychopathy and narcissism. In other words, the tendency to use others for one's own interests (Machiavellianism), anti-social behavior (psychopathy) and self-supremacy with the desire to be in the center of attention (narcissism) are not determinants of multicultural efficacy. However, it should not be forgotten that based solely on the findings of this study, we cannot make any conclusive comments on the relationships between multicultural attitude, efficacy and dark personality traits. Upon examining the average and standard deviation values of Dark Triad levels of the study group, we can suggest that the participants generally have low levels of Machiavellianism, psychopathy and narcissism scores. Since the dark personality traits are features that are not accepted by society, individuals may score themselves intentionally low (Young, 2018), which might be the cause of the low level of the participants' scores. Therefore, although the study group showed a normal distribution within itself, the low level of the mentioned personality traits may also be the reason for the lack of a relationship between multicultural efficacy and the Dark Triad.

Teacher candidates, as the teachers of the future, will act as the mediating agents of education environments. In this respect, it can be said that teacher candidates' openness to new experiences is one of the factors that affect MAE. On the other hand, the findings revealed that psychopathic tendencies adversely affect multicultural attitudes. However, when the findings of the study were taken into account, it was observed that personality traits of the individu-

als were not sufficient in predicting multicultural attitudes and efficacy alone. The reason for this might be that the attitudes of the individuals are not based solely on the results or consequences of their personality traits. As revealed by cognitive scientists, the human mind is a complex phenomenon (Airenti, 2019; Nunez, 2012) and at times social environment factors such as norms, culture, and past experiences can be more predictive of attitudes than personality.

When the results with regard to the comparison between MAE and grade levels are taken into consideration, we can say that teacher training programs do not support the development of MAE. Some other studies also support the finding of this study (Bangura, 2018; Eşkisu et al., 2020; Güngör et al., 2018; Yılmaz & Göçen, 2013). However, some others found a positive correlation between MAE and grade level (Akça & Şakar, 2020; Aybek, 2018). These studies were carried out in different universities in a variety of cities. Therefore, it can be assumed that the differences in research findings might be based on such environmental factors as the size of the university, its multicultural structure and the city in which the university is located.

## IMPLICATIONS

Within the framework of these findings, the addition of activities and/or elective courses in the teacher education process, which will contribute to the willingness to acquire new experiences, can also be supportive in terms of MAE. The activities to be designed will also create the opportunity to collaborate with the increasing number of foreign national students at universities and increase the interaction between students with cultural differences, which will further contribute to the development of MAE. In addition, considering that the psychopathic personality feature includes anti-social behaviors, it is important to design activities as part of the teacher training process to develop students' social skills such as communication, collaboration and empathy for multicultural education.

## LIMITATIONS

Regarding the present study, there are a few limitations that need to be addressed. The main limitation is that the results cannot be generalized to a wider population since the study was conducted at a mid-size state university in Turkey. Different universities from different countries can help generalize the findings and we can make more reliable comments on the relations. Secondly, the data collection method is limited since only self-report tools were used in the study. Future research can include experimental re-

search designs to test such models as Banks' content integration (Banks, 2009) in order to compare teacher candidates' personality traits and MAE. Thirdly, the reliability coefficient of the neuroticism, psychopathy and Machiavellianism subscales of the measurement tools used in the research was found below the generally accepted .70 value. Therefore, this limitation should be taken into consideration when interpreting the findings related to these subscales. Finally, the design of the study is cross-sectional, which can only provide the relation between variables for a short period of time and cannot provide detailed information about the phenomena. Longitudinal studies in order to reveal the change through the four-year teacher training programs can be conducted.

## CONCLUSIONS

Some personality traits are significant predictors of MAE. Openness to new experiences positively predicts MAE. By contrast, psychopathy is a negative predictor of multicultural attitude. When the predictive power of the variables and other variables that did not predict MAE are considered, we can say that comments that imply generalizability should be approached with caution. For this reason, new studies are needed to better understand the relationships between the Dark Triad and multiculturalism.

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