



## ***The Role of Resilience in the Relationships between the Big Five Personality Traits and Life Satisfaction and Anxiety***

Marija Crnković<sup>1</sup>, Marija Šarić Drnas<sup>b</sup> and Diana Olčar<sup>b</sup>

<sup>a</sup>*Poliklinika za zaštitu djece i mladih Grada Zagreb, Croatia*

<sup>b</sup>*Učiteljski fakultet, Sveučilište u Zagreb, Croatia*

The objective of this study was to examine the role resilience plays in the relationship between the Big Five personality traits and anxiety and life satisfaction. A total of 470 students from the University of Zagreb in Croatia participated in the study. The results are explained within the framework of McCrae and Costa's (1991) temperament and instrumental model of personality and well-being. A path analysis and a bootstrapping resampling method were performed. Higher levels of extraversion, agreeableness, conscientiousness, and emotional stability were associated with higher levels of resilience, which was related to lower levels of anxiety and higher life satisfaction. It can be concluded that resilience is a full mediator between extraversion and conscientiousness on the one hand, and life satisfaction and anxiety on the other. In addition, resilience is a partial mediator between agreeableness and emotional stability, and also between life satisfaction and anxiety. The practical contribution of the study lies in understanding how to better support students' mental health by targeting the protective factors of different personality traits.

**Keywords:** personality, life satisfaction, anxiety, resilience, early adulthood

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### **Introduction**

During their university years, students face various stressors. In addition to stress related to the pressure of academic achievement and fear of failure, students may face difficulties in adjusting to life away from home, forming new relationships, and feeling pressure to fit in with their peers (Kumaraswamy, 2013). All these stressors may induce problems of mental health which are very common among college students (Pedrelli et al., 2014). Understanding how to develop and strengthen resilience is highly important to overcome anxiety, which is the most common mental health problem among college students (Blanco et al., 2008) and to enhance

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Corresponding author. Email address: [marija.saric@ufzg.hr](mailto:marija.saric@ufzg.hr)

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students' life satisfaction. Studies show that life satisfaction can be sustained and anxiety diminished through the development of resilience (Cohn et al., 2009; Haddadi & Besharat, 2010). Some prior studies pointed to the importance of personality factors that function as protective factors (Friborg et al., 2005). However, no study has analysed the role of resilience in the relation to personality on the one hand and life satisfaction and anxiety on the other. Thus, this study investigates resilience in the prevention of and intervention in anxiety, and in enhancing life satisfaction among students with different personality traits.

### *Life satisfaction*

Subjective well-being (SWB) is a broad term which refers to individuals' appraisals of their lives. At an affective level, SWB is related to the frequency of positive emotions compared with unpleasant ones. At a cognitive level, SWB relates to cognitive judgment about one's life from the person's own perspective and refers to life satisfaction (Malvaso, & Kang, 2022; Pavot & Diener, 1993). Emotional reactions often manifest as a reaction to the current situation and are of short duration, while life satisfaction can take a long-term perspective (Pavot & Diener, 1993). Studies show that stable dispositional differences represent one of the most significant predictors of life satisfaction which is not surprising because the way a person perceives a certain situation also depends on his or her personality traits (Heidemeier & Goritz, 2016).

There is an implicit assumption that well-being and (mental) ill-being are opposite ends of the same continuum. Although mental health and mental illness are moderately negatively correlated ( $r \approx -0.5$ , Keyes, 2009), they are two separate constructs. The absence of mental illness does not necessarily mean the presence of wellbeing or positive mental health (e.g., life satisfaction).

### *Anxiety*

As one of the most prevalent mental health diagnoses worldwide is anxiety disorders (Baxter et al., 2013), we have used anxiety as an indicator of ill-being in this research. Anxiety is an unpleasant feeling of apprehension, tension and insecurity, characterized by anticipation of possible danger or threat (DSM-V; American Psychiatric Association, 2014). Anxiety is a common occurrence in everyday life and has a motivational and adaptive function, encourages planning, caution, self-protection, and thinking, and prevents repeated exposure to unpleasant and painful situations. It is important to distinguish between normal and abnormal anxiety, where the latter lasts for a long time and interferes with the individual's functioning. For normal anxiety to become pathological, it depends on its intensity and duration and occurs outside a dangerous or threatening situation interfering with the functioning of the individual (Muris, 2010). Many studies have confirmed the important role of personality in different anxiety disorders (Bienvenu et al., 2004).

### *Personality and life satisfaction*

The Big Five model implies that the five personality dimensions represent personality at the most extensive, meaningful level of abstraction, and that each trait condenses a large number of specific personality characteristics (Mikloušić, 2014). Accordingly, extroverts are assertive, active, sociable, and more prone to

positive emotions. Neuroticism affects the propensity to respond with negative emotions to diverse stressful events such as anxiety, fearfulness, nervousness, or sadness (Barlow et al., 2014). Agreeableness refers to the tendency to go along with others and agree with them, as opposed to imposing one's own opinion (Diener & Lucas, 2017). Conscientiousness refers to behaviours such as organization, planning, control, reliability, and propensity for hard work (Costa & McCrae, 1992). Intellect encompasses exploration through intellectual engagement, such as learning and reasoning of abstract knowledge (De Young, 2015).

In one of the first studies to examine the relationship between personality and well-being, Costa and McCrae (1980) proposed a model relating extraversion and neuroticism to the experience of positive and negative affect respectively. They concluded that these two dimensions are crucial for the experience of subjective well-being. McCrae and Costa (1991) supplemented their model by adding conscientiousness and agreeableness as dimensions associated with experiencing more positive and less negative affect. Agreeableness and conscientiousness contribute to functional behaviour in social situations and at work and reduce the amount of stress which can arise from interpersonal conflicts and a failure to perform duties, and thus positive correlations with life satisfaction are expected (Lučev & Tadinac, 2010). People who are therefore extraverted, agreeable, and conscientious have higher levels of life satisfaction, unlike neurotic persons who have lower levels of life satisfaction (Odaci & Cikrikci, 2019). McCrae and Costa (1991) did not foresee the relation between the fifth factor, openness to experience, and SWB which was confirmed in some studies (e.g., Hayes & Joseph, 2003; Joshanloo & Afshari, 2011). According to the Big Five model (Goldberg, 1999), the fifth factor is defined as intellect, and in the Five Factor model (Costa & McCrae, 1992) it is named openness to experience. These two traits are similar but do not completely overlap. Unlike intellect which relates to exploration through intellectual engagement, openness to experience refers to the exploration of perceptual and sensational domains (DeYoung, 2015). Individuals who are open to experience have a tendency to be open to various ideas and experiences (Costa & McCrae, 1992). It could be assumed that open people could have life experiences that enhance life satisfaction. However, McCrae and Costa (1991) do not foresee an association between openness to experience and well-being. Open individuals experience more of both positive and negative affect which may arise from having more positive but also more negative experiences respectively (Gutierrez et al., 2005; McCrae & Costa, 1991). Based on the substantial similarity between openness to experience and intellect (DeYoung, 2015), it is expected that intellect would show the same pattern of correlation as openness.

### *Personality and anxiety*

Studies on the relationship between personality and anxiety have consistently shown neuroticism and extraversion as basic traits in predicting anxiety (Bienvenu et al., 2004). Given that neuroticism affects the person's propensity to respond with negative emotions to various stressful events, it is a basic disposition common to all anxiety disorders (Barlow et al., 2014). Extraversion consistently shows strong negative correlations with social anxiety (Watson & Naragon-Gainey, 2014). Extraverts tend to engage in social activities and stimulating environments that reduce the likelihood of social anxiety (Kaplan et al., 2015;

Naragon-Gainey et al., 2009). Results about other personality dimensions are less clear. A meta-analysis study (Kotov et al., 2010) has shown that anxiety states were related with low conscientiousness and were not related with openness and agreeableness. Kaplan et al. (2015) found a negative but relatively weak correlation between social anxiety and agreeableness, conscientiousness, and openness. Conscientiousness and agreeableness also predicted few anxiety symptoms, while openness was unrelated to them in Watson and Naragon-Gainey's study (2014). Agreeable people are probably less likely to experience anxiety since one of their characteristics is trust, which is why they are less sceptical about others (Glinski & Page, 2010). Low conscientiousness is characterized by disorganized and careless behaviour, inefficiency, and unreliability (Costa & McCrae, 1992), and thus it may have an effect on the emotional state due to its influence on low achievement and performance failures (McCrae & Costa, 1991). Identifying mechanisms through which various personality dimensions may predict a predisposition toward a certain level of life satisfaction and anxiety has important implications for prevention programmes.

#### *Resilience as a mediator between personality, life satisfaction, and anxiety*

Possible mechanisms by which personality traits may affect well-being are proposed in McCrae and Costa's (1991) temperament and instrumental models. The temperament model postulates a direct relation between personality traits and well-being which is proposed as one of the mechanisms through which extraversion and neuroticism affect SWB, namely through the direct effect of extraversion and neuroticism on the experience of pleasant and unpleasant emotions. The instrumental model, on the other hand, refers to the indirect effect of personality on SWB. Certain dispositions may induce circumstances and a lifestyle that enhances happiness or unhappiness. McCrae & Costa (1991) proposed that conscientiousness and agreeableness have an indirect effect on well-being because these traits enable successful social engagement and professional achievement.

It is important to refer to resilience when examining the indirect relation between personality and well-being. Resilience may be described as the ability to adapt in the face of adversity, tragedy, trauma, and crucial life stressors (Newman, 2005). Studies show that resilience is a multidimensional construct encompassing dispositional characteristics, family cohesion, and external forms of support (Friborg et al., 2003). It follows that other personal characteristics beyond personality traits, such as self-esteem, self-efficacy, and social skills, as well as contextual conditions, define resilience (Ercan, 2017). Moderate correlations exist between the Big Five personality traits and resilience, but other constructs besides personality traits explain resilience (Friborg et al., 2005). Many studies have confirmed that personality traits relate to resilience (Friborg et al., 2005) in such a way that individuals who are more emotionally stable, extraverted, conscientious, agreeable, and open to experience, are more resilient (Fayombo, 2010; Lü et al., 2014). Resilience sustains life satisfaction and diminishes anxiety by enabling an individual to maintain or retrieve psychological health despite experiencing adversities (Cohn et al., 2009; Haddadi & Besharat, 2010). However, until now, no study has examined the role of resilience as a mediator between the Big Five personality dimensions and life satisfaction and anxiety.

*The present study*

Although there is empirical and theoretical evidence on the association between personality on the one hand and life satisfaction and anxiety on the other, as well as the relationship between resilience and the latter variables, the role of resilience in the relationship between personality and life satisfaction and anxiety remains unclear. Therefore, the aim of our study was to examine the role of resilience as a mediator between the Big Five personality dimensions and life satisfaction and anxiety as a criterion. Guided by McCrae and Costa's (1991) temperament and instrumental model of the relationship between personality and SWB, we set a number of hypotheses about the direct and indirect effects of personality on life satisfaction and anxiety. Since life satisfaction is an aspect of SWB, we hypothesize the same direct and indirect relationship between personality and life satisfaction as those represented in the temperament and instrumental model of McCrae and Costa. (1991). However, due to the moderate negative relationship between life satisfaction and anxiety, we assume the same direct and indirect effects between personality and anxiety as those represented in the McCrae and Costa model but with opposite directions. Accordingly, we hypothesize that extraversion and emotional stability have a direct positive effect on life satisfaction and a direct negative effect on anxiety (H1).

Since extroversion and emotional stability are positively correlated to resilience, it is expected that extraversion and emotional stability have a positive effect on resilience which is positively correlated to life satisfaction and negatively to anxiety. Therefore, we hypothesize that resilience is a mediator between extroversion and emotional stability on the one hand and life satisfaction and anxiety on the other (H2a). Likewise, it is expected that agreeableness and conscientiousness have a positive effect on resilience which is positively correlated to life satisfaction and negatively to anxiety. Therefore, we expect that resilience is a mediator between agreeableness and conscientiousness on the one hand and life satisfaction and anxiety on the other (H2b).

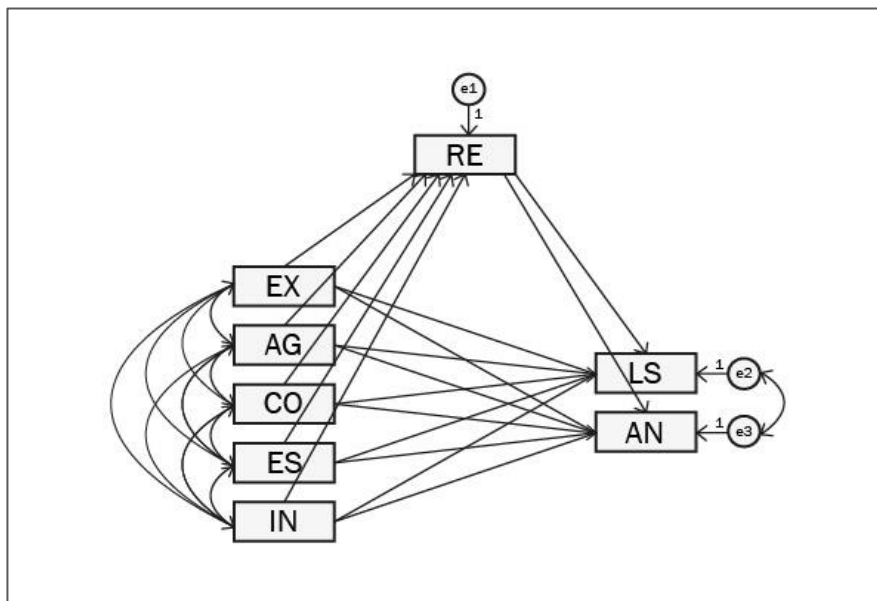


Figure 1. Proposed model. *Note.* EX – Extraversion; AG – Agreeableness; CO – Conscientiousness; ES – Emotional stability; IN – Intellect; RE – Resilience; LS – Life satisfaction; AN – Anxiety.

## Methodology

A total of 470 students from several faculties at the University of Zagreb, Croatia, participated in the study (71.9% female). The average age was 24.2 years. The research study consisted of participants filling out a questionnaire during lectures at college. The anonymity of participation was emphasized and consent was sought from all participants. The research was approved by the Ethics Committee of the Faculty of Teacher Education at the University of Zagreb.

Resilience was measured with the *Resilience Scale for Adults (RSA)* constructed by Friborg et al. (2003). It is a self-assessment scale and focuses on intrapersonal and interpersonal protective factors, namely Perception of self, Planned future, Social competence, Structured style, Family cohesion, and Social resources. Confirmatory factor analysis indicated that a one-factor structure better fits the data in the present study than a six-factor structure. The authors of the present study also agreed with the justification of using the total score on this scale (Friborg et al., 2006). The scale consists of 33 items, with each item constructed as a 7-point semantic differential scale where each item has a positive and negative attribute at each end of the continuum of the scale (e.g., I often doubt... I completely believe). An example of an item is “Believing in myself helps me to overcome difficult times”. Previous studies have supported adequate construct (Friborg et al., 2006), and convergent and discriminative validity of the scale (Friborg et al., 2003). The Croatian translation of the scale (Pavin Ivanec & Miljević-Ridički, 2013) was used.

Personality was measured by the *International Personality Item Pool 50S (IPIP 50S)* which is a Croatian translation of the shorter version of Goldberg's (1999) IPIP questionnaire. The IPIP measures extraversion (e.g., *I am the life of the party*), agreeableness (e.g., *I make people feel at ease*), emotional stability (e.g., *I am relaxed most of the time*), conscientiousness (e.g., *I am always prepared*), and intellect (e.g., *I spend time reflecting on things*) (Mlačić & Goldberg, 2007). It consists of 50 items in a positive and negative direction, and each personality dimension is measured by 10 items. The participant's task is to estimate how much each item applies to him or her on a scale from 1 (completely false) to 5 (completely true). Mlačić and Goldberg (2007) obtained a clear five-factor structure for the IPIP-50 and adequate convergent and discriminative validity of the scale.

Life satisfaction was measured with the *Satisfaction with Life Scale (SWLS)* by Diener et al. (1985). The scale had previously been translated into Croatian by Rijavec et al. (2008). It consists of five items (e.g., *The conditions of my life are excellent*) that measure global cognitive judgments of one's life satisfaction. A 7-point Likert-type scale was used, where 7 indicates “Strongly agree” and 1 indicates “Strongly disagree”. Exploratory factor analysis confirmed the single-factor structure of the scale. Previous research showed adequate convergent and discriminative validity (Pavot & Diener, 1993) as well as reliability of the scale (Olčar et al., 2021).

Anxiety was measured by the *Zung Self-Rating Scale for Anxiety (SAS)* (Zung, 1971). SAS contains 20 items that cover affective, physiological, psychomotor, and psychological anxiety symptoms. Each statement (e.g., *I feel afraid for no reason at all*) are answered on a four-point scale: rarely, sometimes, often,

and most of the time. The scale asks participants to base their answers on their experiences over the last week. The scale has adequate concurrent and discriminative validity (Zung, 1971).

For all subscales Cronbach alpha reliability coefficients are presented in Table I. The reliability coefficients for all the subscales are above .80. and usually as the cut off point for Cronbach alpha reliability coefficient .70 is considered suitable (Field, 2013).

## Results

Data analyses were performed using IBM SPSS Statistics 20 and IBM SPSS AMOS 20. Prior to analysis data was analysed for missing values and for univariate and multivariate normality of all variables (Hair et al., 2010). The coefficients of asymmetry and kurtosis of most variables were within the range of  $|1|$  which suggests that the variables are normally distributed (Hair et al., 2010). Mahalanobis' distance was calculated to detect multivariate outliers. There were four cases of multivariate outliers and they were excluded from analysis. The preliminary analyses showed that assumptions for further analysis were met. The arithmetic mean, standard deviation and Persons' correlations were calculated to examine relationships in the model (Table II).

Path analysis was performed to test the significance of the mediators. The Maximum Likelihood method (ML) was used to assess the significance of the regression coefficients. The bootstrapping resampling method was used to test the significance of direct, indirect, and total effect. Two thousand bootstrap samples and 95% confidence intervals (CI) were used (Kline, 2011). Effects with  $p < .05$  were considered statistically significant.

Table I. Intercorrelations, arithmetic means, standard deviations, and reliability coefficients for the variables used in the study.

	1.	2.	3.	4.	5.	6.	7.	8.
1. Extraversion	1	.25**	0.02	.29**	.33**	.46**	.27**	-.15**
2. Agreeableness		1	.10*	0.03	.34**	.31**	.27**	0.02
3. Conscientiousness			1	.17**	.10*	.43**	.21**	-.17**
4. Emotional stability				1	0.10	.45**	.40**	-.60**
5. Intellect					1	.21**	.13**	-0.02
6. Resilience						1	.64**	-.43**
7. Life satisfaction							1	-.42**
8. Anxiety								1
M	3.48	4.11	3.8	3.26	3.84	5.55	5.18	2.05
SD	0.66	0.56	0.6	0.7	0.54	0.76	1.16	0.36
Cronbach alpha	.86	.85	.83	.88	.81	.93	.86	.88

*Note.* M – arithmetic mean; SD – standard deviation; \*  $p < 0.05$ ; \*\*  $p < 0.01$ .

The aim of this research was to test the effectiveness of resilience as a mediating variable between personality traits according to the Big Five model and life satisfaction and anxiety. The assumed model was tested through a fully saturated model, which has zero degrees of freedom and in this case, consisted of 36 parameters. Since fully saturated models always provide a perfect fit to the data, model fit indices are not inspected or reported. The model explained 43.6% of the variance of life satisfaction, 40.4% of the variance of anxiety, and 48.7% of the variance of resilience.

In the fully saturated model, the next direct effects were not statistically significant. From the direct effect on resilience, only the effect of intellect was not significant (-0.029; 95% CI [-0.150, 0.048]). From the effects on life satisfaction, the effect of extraversion on life satisfaction (-0.077; 95% CI [-0.276, 0.011]), the effect of conscientiousness on life satisfaction (-0.080; 95% CI [-0.347, 0.001]), and the effect of intellect on life satisfaction (-0.012; 95% CI [-0.169, 0.210]) were not significant. The direct effect of conscientiousness on anxiety (0.033; 95% CI [-0.027, 0.069]) and the effect of intellect on anxiety (0.020; 95% CI [-0.043, 0.057]) were not significant. Therefore, these nonsignificant effects were excluded from the model which was recalculated.

The revised model can be seen in Figure 2. Fit indices showed a very good fit of the data to the model (Kline, 2011). Chi-square was significant ( $CMIN = 12.008$ ;  $DF = 7$ ;  $p = .100$ ) which is not an indicator of a good model fit, but this often happens with large samples (Hair et al., 2010). Other fit indices showed a good model fit ( $CMIN/DF = 1.715$ ;  $CFI = .995$ ;  $TLI = .978$ ;  $NFI = .987$ ;  $RMSEA = .041$ ). All effects were significant, and the model explained 43.6% of the variance of life satisfaction, 40.4% of the variance of anxiety, and 48.7% of the variance of resilience.

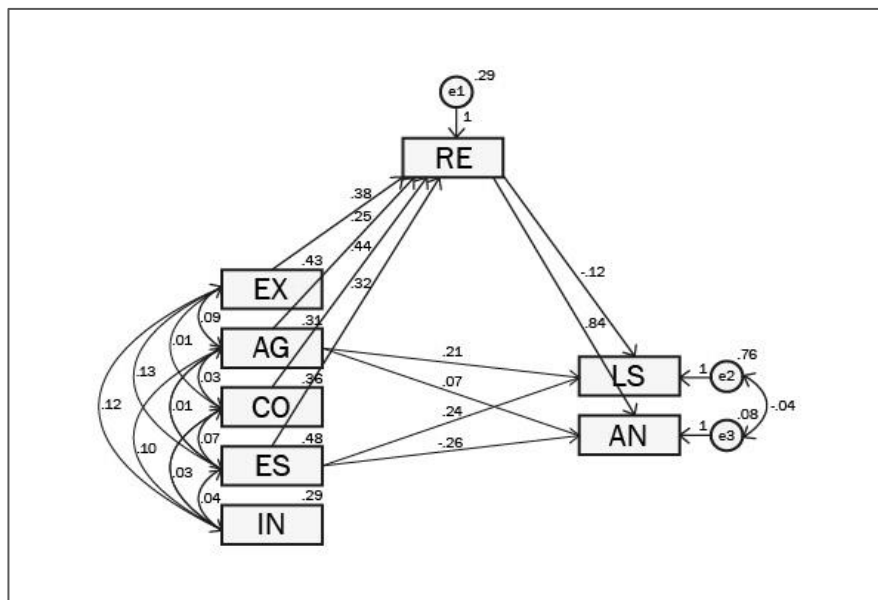


Figure 2. Final model. Note. EX – Extraversion; AG – Agreeableness; CO – Conscientiousness; ES – Emotional stability; IN – Intellect; RE – Resilience; LS – Life satisfaction; AN – Anxiety.



As can be seen from Figure 2 and Table II, before mediation, significant predictors of resilience were extraversion (0.33; 95% CI [0.249, 0.408]), agreeableness (0.18; 95% CI [0.118, 0.247]), conscientiousness (0.35; 95% CI [0.262, 0.418]), and emotional stability (0.29; 95% CI [0.202, 0.361]). After mediation, agreeableness (0.10; 95% CI [0.038, 0.180]), emotional stability (0.15; 95% CI [0.066, 0.214]), and resilience (0.55; 95% CI [0.476, 0.626]) were significant direct predictors of life satisfaction. Furthermore, agreeableness (0.10; 95% CI [0.066, 0.214]), emotional stability (-0.49; 95% CI [-0.562, -0.416]), and resilience (-0.25; 95% CI [-0.340, 0.162]) were significant direct predictors of anxiety.

Figure 2 and Table II show that the first hypothesis, where extraversion and emotional stability were expected to have a direct positive effect on life satisfaction and a direct negative effect on anxiety, was partially confirmed. Only emotional stability has its assumed effect.

Partial and full mediation effects were obtained in the second hypothesis, with agreeableness and emotional stability predicting life satisfaction indirectly through resilience (0.10; 95% CI [0.063, 0.137]; 0.16; 95% CI [0.107, 0.137], respectively). Since agreeableness (0.10; 95% CI [0.038, 0.180]) and emotional stability (0.15; 95% CI [0.066, 0.214]) were still direct predictors of life satisfaction, a partial mediation effect was obtained. Extraversion (0.18; 95% CI [0.131, 0.233]) and conscientiousness (0.19; 95% CI [0.144, 0.246]) also indirectly predicted life satisfaction through resilience, but the direct effect on life satisfaction was no longer significant. This therefore resulted in a full mediation effect. Intellect was not significantly related to either resilience or life satisfaction.

The results were similar for anxiety as a criterion variable. Agreeableness was a positive (0.11; 95% CI [0.049, 0.190]) and emotional stability a negative (-0.49; 95% CI [-0.562, -0.416]) direct predictor of anxiety. The same variables also predicted lower anxiety indirectly through resilience (-0.04; 95% CI [-0.074, -0.026]; -0.07; 95% CI [-0.107, -0.040], respectively), showing partial mediation. Next, extraversion (-0.08; 95% CI [-0.114, -0.054]) and conscientiousness (-0.09; 95% CI [-0.120, -0.049]) indirectly predicted lower anxiety through resilience, but the direct effect on anxiety was no longer significant, indicating full mediation. Intellect was not significantly related to either resilience or anxiety.

Table II. Structural coefficients for the tested model with life satisfaction and anxiety as a criterion.

		Total effect			Direct effect			Indirect effect		
		Resilience			Life satisfaction			Life satisfaction		
		Standardized estimate	Lower 95% CI	Upper 95% CI	Standardized estimate	Lower 95% CI	Upper 95% CI	Standardized estimate	Lower 95% CI	Upper 95% CI
Personality traits	Extraversion	0.326*	0.249	0.408	-	-	-	0.178*	0.131	0.233
	Agreeableness	0.181*	0.118	0.247	0.099*	0.038	0.180	0.099*	0.063	0.137
	Conscientiousness	0.351*	0.262	0.418	-	-	-	0.192*	0.144	0.246
	Emotional stability	0.294*	0.202	0.361	0.145*	0.066	0.214	0.161*	0.107	0.201
Resilience					0.547*	0.476	0.626		-	
					Direct effect			Indirect effect		
					Anxiety			Anxiety		
					Standardized estimate	Lower 95% CI	Upper 95% CI	Standardized estimate	Lower 95% CI	Upper 95% CI
Personality traits	Extraversion				-	-	-	-0.080*	-0.114	-0.054
	Agreeableness				0.112*	0.049	0.190	-0.044*	-0.074	-0.026
	Conscientiousness				-	-	-	-0.086*	-0.120	-0.049
	Emotional stability				-0.492*	-0.562	-0.416	-0.072*	-0.107	-0.040
Resilience		-			-0.246*	-0.340	-0.162	-	-	

*Note.* \*Statistically significant ( $p \leq .05$ ).

## Discussion

The present study's objective was to examine the role resilience plays in the relationship between the Big Five personality traits and anxiety and life satisfaction as criterion variables. The results were explained within the framework of McCrae and Costa's (1991) temperament and instrumental model of the relationship between personality and subjective wellbeing.

The findings of the study on the relationship between personality and life satisfaction are consistent with those of previous studies (Odaci & Cikrikci, 2019) which consistently show that neuroticism, extraversion, agreeableness, and conscientiousness are significantly related to life satisfaction. The results also indicate a significant correlation between intellect and life satisfaction, but it was small in magnitude (Cohen, 1988). Likewise, in predicting life satisfaction, intellect did not have an effect, which could be in line with McCrae and Costa's (1991) hypothesis that there is no relationship between openness to experiences and SWB.

Furthermore, anxiety was related to low emotional stability, low conscientiousness, and low extraversion, which is in line with the meta-analysis by Kotov et al. (2010). Taking into account the magnitudes of correlations, it can be concluded that emotional stability was the best predictor of both life satisfaction and anxiety. This is in line with the literature (Vittersø, 2021) where neuroticism was found to be more highly associated with well-being than extraversion. Personality changes that predominate in young adulthood include an increase in emotional stability, warmth, self-control, and self-confidence (Roberts & Mroczek, 2008). These traits are often referred to as social maturity because people who develop them are more efficient in mastering different life tasks (Roberts & Mroczek, 2008). Besides, emotional stability was more strongly related to anxiety than to life satisfaction, where the magnitude of correlation was considered to be medium for life satisfaction and large for anxiety (Cohen, 1988). The correlation with other personality variables were marginal or very small for anxiety, and modest (except intellect) for life satisfaction. It can thus be concluded that, within the framework of the Big Five theory, the absence of anxiety requires emotional stability, while life satisfaction requires the presence of other personality characteristics.

According to McCrae and Costa's (1991) temperament model, results of the present study show that emotional stability had a direct positive effect on life satisfaction, and a direct negative effect on anxiety. However, in the present study, extraversion did not demonstrate a direct effect on either life satisfaction or anxiety, contrary to assumptions. A facet of extraversion, the disposition to experience more pleasant emotions, strongly predicts the affective component of SWB. The temperament model by McCrae and Costa (1991) focuses on a global measure of SWB which includes both affective and cognitive components. Thus, our results suggest that extraversion does not have a direct effect on life satisfaction because it is a cognitive judgment about one's life and constitutes a factor which is separated from the affective component of SWB (Pavot & Diener, 1993). Further, extraversion was negatively correlated with anxiety, but failed to have a significant direct effect on anxiety. Naragon-Gainey et al. (2009) found that the correlation between extraversion and social anxiety is broad and is not simply the result of low positive emotions. Their study showed that social anxiety was significantly related to all facets of extraversion with its strongest link being to sociability and ascendance, a moderate association with positive emotionality, and a weak association with fun-seeking. Low

scores on these facets of extraversion may induce circumstances that prevent successful social engagement which may increase anxiety. Thus, it can be suggested that extraversion has an indirect effect on anxiety.

In McCrae and Costa's (1991) instrumental model of association between personality and SWB, the results of mediation analysis indicated that higher levels of extraversion, emotional stability, conscientiousness, and agreeableness among students were associated with higher levels of resilience, which was related with lower levels of anxiety and higher life satisfaction. The second hypothesis was thus confirmed. The effect of extraversion and conscientiousness on life satisfaction and anxiety was fully mediated by resilience. Extroverts are probably resilient because of their predisposition to positive emotions and due to their social skills, which facilitate maintaining close interpersonal relationships (Ercan, 2017). Conscientious behaviour may enable one to be calmer in stressful situations and both to take action and focus on specific issues, which reinforces the ability to face stress (Ercan, 2017). The direct effect of emotional stability and agreeableness on life satisfaction and anxiety was partially mediated by resilience. Agreeable people are probably more resilient because they are kind to others and willing to help and cooperate with them. These qualities may enable such individuals to have less conflictual relationships and to be more accepted and supported by their social network (Ercan, 2017). Besides the indirect effect of agreeableness on lower levels of anxiety, agreeableness also has a positive direct effect on anxiety which was not expected. As agreeableness is related to the desire to sustain strong interpersonal relationships, it correlates with socially desirable interactions and more closely with impression management as one of the socially desirable forms of responding (Graziano & Tobin, 2002). Relations between agreeableness and external criteria may also be attributed to self-favouring bias. Impression management is positively related to anxiety and may be used as a way of protecting one's self-esteem or avoiding punishment (Powell, 2021). In other words, agreeable people may please others as a way of avoiding punishment or social rejection, and are thus more likely to be accepted and supported by their social network, thus reducing their anxiety and enhancing their resilience. Emotionally stable people may easily adapt to new environments, which sustains their resilience, unlike neurotic people who, due to their proneness to negative emotional states, face difficulties when coping with stress (Balgiu, 2017). Still, the relationship between emotional stability and agreeableness on the one hand, and life satisfaction and anxiety on the other, could be explained by other factors apart from resilience which were not included in this study, such as self-esteem (Joshi & Afshari, 2011), cognitive flexibility (Odaci & Cikrikci, 2019), and courage (Abdollahi et al., 2022).

The fifth factor, intellect, did not show a direct or indirect effect through resilience on life satisfaction and anxiety, which is in accordance with McCrae and Costa's (1991) model. These results suggest that being flexible in accepting new ideas and having broad interests is not necessarily related to one's happiness or unhappiness. Likewise, intellect was not related to resilience, which is in accordance with studies on university students where openness was not a predictor of resilience (Balgiu, 2017; Ercan, 2017). These results suggest that perhaps McCrae and Costa's (1991) hypothesis of no association between openness to experience and well-being may also be applied to the relationship between openness to experience and resilience, possibly because open individuals have more of both positive and negative experiences (Gutierrez et al., 2005).

However, other studies on college students (Findyartini et al., 2021; Shi et al., 2015) have shown that openness was a significant predictor of resilience. Thus, more research regarding the relationship between resilience and openness/intellect is needed.

We can conclude that within the Big Five theory, emotional stability has proven to be the most prominent predictor of life satisfaction and anxiety among the student population. Although other personality dimensions were related to the criterion variables, their effect in comparison with emotional stability was less strong. Emotional stability and agreeableness had a direct effect on life satisfaction and anxiety, along with an indirect effect on the criterion variables through resilience. Other personality dimensions, apart from intellect, had an indirect effect on the criterion variables through resilience. These results suggest that it is crucial to build emotional stability into efforts to prevent and address students' anxiety. However, in enhancing life satisfaction, other personality dimensions need to be supported besides emotional stability. By strengthening students' resilience and focusing on their dispositional protective factors, we may be able to improve their mental health.

#### *Limitations and directions for future studies*

There are several limitations in the current research study. Since this is a correlational study, conclusions about causal relations cannot be drawn. Although the sample included students from various faculties, the number of female participants greatly exceeded their male counterparts. Studies have shown that there are gender differences in personality traits (De Bolle et al., 2015) and in anxiety (Piggott et al., 2019), while gender differences in life satisfaction are inconsistent (Batz & Tay, 2018). Finally, data were collected by self-assessment questionnaires which are liable to bias as well as socially desirable responses. Future research making use of multiple data sources will help to reduce such potential biases.

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#### **Conflict of Interest**

The authors declare that there is no conflict of interest in this research study.

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