The association between the adaptive/maladaptive personality dimensions and emotional regulation

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Abstract

This study investigates the associations between the big five personality dimensions, dark personality traits, and the brief form of the Personality Inventory for DSM-5 with emotion regulation difficulty dimensions. Data was obtained in a sample of normal population (N = 461). Results showed the associations between neuroticism and openness to experience from the big five personality dimensions and emotion regulation difficulty (p < 0.01). Machiavellianism and psychopathy from dark traits was associated with emotion regulation difficulty (p < 0.01). Negative affectivity, detachment, antagonism, disinhibition, and psychoticism showed positive associations with emotion regulation difficulty (p < 0.01). The results of this study expand the understanding of adaptive/maladaptive personality dimensions and indicate how adaptive and maladaptive personality dimensions could explain emotion regulation difficulty.

Key words: emotion regulation difficulty, dark trait, big five, maladaptive personality.

Introduction

Emotions are psycho-physiological phenomena that affect our thoughts and experiences about the world (Bradley and Lang 2000). It is believed that emotional systems are shaped by evolution (Panksepp 2012). The emotions include the range of responses from severe to mild, and from positive to negative (Kring and Sloan 2010). In general, contemporary theories of emotion emphasise the role and importance of emotions in providing physiological, behavioural, and motor responses, facilitating decision making, and promoting memory for important incidents and interpersonal interactions (Gross and Thompson 2007). Given what has been said, emotions play an important role in different aspects of life, such as adaptation to life changes and stressful events. As was proven, emotion regulation difficulties can lead to various psychological disorders (Surawy, Hackmann, Hawton and Sharpe 1995; Gross and Levenson 1997; Ehlers and Clark 2000; Ali et al. 2000; Cramer, Gallant and Langlois 2005; Corstorphine 2006; Woolfolk and Allen 2007; Betts, Gullone and Allen 2009; Azad-Marzabadi and Amiri 2017). Also, the results of the studies show the role of emotion in the range of psychological activities, including attention, memory, and physiological dimensions (Vuilleumier 2005).

It seems that emotion regulation difficulties are related to different personality dimensions. One of the personality models that has attracted so much attention in recent years is the theory of dark traits. In order to achieve long-term goals and adapt to social norms, people must learn how to regulate their emotions (Dahl 2004). Emotion regulation refers to the processes through which individuals influence the way of expressing and experiencing emotions (Gross 1998). Therefore, emotion regulation is an essential component for the achievement of optimal social performance (Macklem 2008).

The dark triad traits theory contains three personality bridges: narcissism, Machiavellianism, and psychopathy; although these personality traits are related to each other, they are at the same time independent of each other (Paulhus and Williams 2002). Narcissism refers to exaggerated feelings of oneself, and an inflated sense of one’s own importance, merit, mastery,
and superiorit (Twenge and Campbell 2003). Psychopathy includes dimensions such as impulsivity, lack of empathy towards others, and lack of anxiety (Paulhus and Williams 2002). Machiavellism refers to exploiting others in one’s interest, lack of intimacy, cruelty, and hegemonic behaviour (Jakobwitz and Egan 2005).

Lack of emotion and emotional experiences is one of the main characteristics in individuals with dark traits (Jonason, Lyons, Bethell and Ross 2012). Research on dark traits has shown that psychopathy is negatively associated with emotional experiences, so individuals with high psychopathy tend to pay less attention to their emotions (Malterer, Glass and Newman 2008). It seems that the psychopathic trait has emotional experience deficiencies, which lead to insensitivity to emotions (Patrick and Lang 1999). There are some limitations in examining the relationships between the dark dimensions of personality and excitement: addressing only one of the dark traits (Brook and Kosson 2013) and that some aspects of emotions, such as empathy, are more closely investigated in relation to dark traits (Shamay-Toory, Aharon-Peretz and Perry 2009). What is clear is that the psychopathic trait has a close relationship with the dimensions of the negative emotions (Wai and Tiliopoulos 2012), and emotional defects play a prominent role in dark traits, although various dimensions of emotion and especially emotion dysregulation have not yet been fully studied in relation to these traits (Ali, Amorim and Chamorro-Premuzic 2009).

With regard to various concerns about personality disorders since the third edition of the Diagnostic and Statistical Manual of mental disorders (DSM-III; American Psychiatric Association 1980), such as the lack of experimental cut-off scores, an alternative model of personality disorder (AMPD) in the third section of DSM-5 (American Psychiatric Association 2013) provided, along with classic personality disorder criteria listed in the DSM-5 (which includes the second axis DSM personality disorder criteria IV; American Psychiatric Association 1994). The alternative personality disorder model allows clinical professionals to examine the five main areas of maladaptive personality, including negative affectivity (the frequency and intensity of the experience of the levels of negative emotions), detachment (avoiding social and emotional experiences), antagonism (the behaviours of a person in confronting others), disinhibition (orientation toward immediate satisfaction and impulsive behaviour), and psychoticism (behaviours and cogitations that are strange and unusual). This model represents a dimensional model of personality pathology, focused on a variety of maladaptive personality traits (Clark 2007; Harkness, McNulty and Ben-Porath 1995; Trull and Durrett 2005; Widiger and Simonsen 2005). But an adaptive personality model that has been widely considered is the big five model of personality.

The Big Five Personality Model is widely used to assess the normal personality dimensions. This personality model includes five factors: conscientiousness, agreeableness, extraversion, intellect/openness, and neuroticism. It has been shown that these personality dimensions have a high stability throughout life (Roberts, Walton and Veitchbauer 2006). Due to the problems of the five-factor model, the Mini International Personality Item Pool (Mini-IPIP) was formed in order to evaluate personality (Donnellan, Oswald, Baird and Lucas 2006). There are many individual differences in the ability to regulate emotions (Cole, Michel and Teti 1994), and different individuals use different emotion regulation strategies that can predispose them to psychological outcomes. These differences have been considered in some personality models (McCrae and Costa 1987). For example, it has been shown that the big five personality dimensions, namely: extraversion and neuroticism, are differently associated with emotion regulation (Dasch, Cohen, Sahl and Gunthert 2008; Mroczek and Almeida 2004; Timmermans, Van Mechelen and Nezlek 2009). Also, the emotion regulation difficulty is associated with some personality disorders mentioned in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association 2013); for example, associations with borderline personality disorder (Rosenthal et al. 2008; Herr, Rosenthal, Geiger and Erikson 2013) and pathological personality dimensions (Pollock, McCabe, Southard and Zeigler-Hill 2016). Although some studies (Pollock et al. 2016) have studied the emotion regulation difficulty in the pathological aspects of the personality, but these studies have limitations such as merely examining the maladaptive dimensions of personality in relation to the difficulty of emotional regulation, and the adaptive dimensions have not been considered.

In general, based on the above, the purpose of the present study was to examine the association between emotion regulation difficulty and the dimensions of adaptive (big five model) and maladaptive (dark traits and Personality Inventory for DSM-5) personality traits.
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Material and methods

Participants and procedure

The 461 students were selected from among Bu-Ali university students in Iran. Students were selected from five colleges based on cluster sampling, which included the faculties of Economics, Agriculture, Basic Sciences, Chemistry, and Literature. Research questionnaires were given to the participants to answer. After collecting data, participants who did not have the criteria for entering the study were excluded from the analysis. Inclusion and exclusion criteria were collected through a checklist of self-reporting along with questionnaires. Inclusion criteria were as follows: 1) report of gender; 2) age; 3) non-dependence on any type of substance and smoking; 4) not having cognitive and psychiatric problems; and 5) not having brain damage. Exclusion criteria were: 1) students of other cultures; and 2) participants with overweight and obesity.

Measures

Emotion regulation difficulty questionnaire

The questionnaire consists of 36 items and six sub-scales that are scored based on the five-point Likert scale. The subscales include: 1) lack of emotional awareness; 2) lack of emotional clarity; 3) non-acceptance of emotional responses; 4) limited access to emotion regulation strategies; 5) difficulties engaging in goal-directed behaviour; and 6) impulse control difficulties. The emotion regulation difficulty scale has good internal consistency ($\alpha = 0.93$; Gratz and Roemer 2004).

Short Dark Triad (SD3)

The Short Dark Triad Scale includes 27 items and three subscales. Each of the three subscales in this questionnaire contains nine items, which are used to assess the three personality traits: Machiavellianism, narcissism, and psychopathy. The items in this scale are scored on the basis of participants’ agreement or disagreement, considering five-degree Likert scale: from 1 (strongly disagree) to 5 (strongly agree). In Jones and Paulhus’s (2014) study the $\alpha$ coefficient range was 0.68 to 0.74. The researchers performed this scale on different large population samples ($N = 768$). Peer validation was also carried out on 65 university students (Jones and Paulhus 2014). The subscales showed Cronbach’s $\alpha$ coefficients 0.70 to 0.80 in cross-validation samples (Jones and Paulhus 2014). The range 0.77 to 0.84 was reported for retest coefficients in a two-week interval (Jones and Paulhus 2011).

Big five personality inventory (short form)

This questionnaire is designed to measure five main personality dimensions. These personality dimensions include: extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience (Laverdière, Morin and St-Hilaire 2013). The correlation coefficient of these subscales is reported in the optimal range, but Cronbach’s $\alpha$ coefficient has not been reported (Laverdière, Morin and St-Hilaire 2013).

Personality Inventory for DSM-5 (brief form)

The questionnaire consists of 25 items designed to measure five dimensions of the substitution model of personality disorder, including negative affectivity, detachment, antagonism, disinhibition, and psychoticism in both adults and adolescents. Each subscale contains five items and is scored according to the four-point Likert scale (Krueger, Derringer, Markon, Watson and Skodol 2012). The study of the psychometric properties of this scale obtained the $\alpha$ coefficient range 0.59 to 0.77 (Fossati, Somma, Borroni, Markon and Krueger 2017).

Data analytic strategy

All data was analysed through SPSS version 22. Bivariate correlations and multiple regressions analysis were performed. In this study, personality variables were considered as independent variables and difficulty of emotional regulation as a dependent variable. Because most of the sub-components of the emotion regulation difficulty were related to different personality dimensions, only one general variable of emotional regulation was introduced into analysis.

Results

Descriptive statistics

Of the total participants, 392 were undergraduate students (84.8%) and 70 were masters students (15.2%). 375 participants were female (81.2%) and 87 were male (18.8%). The students’ mean age and standard deviation were 25.05 and 5.88, in males, 21.66 and 4.91 in females, respectively. Bivariate correlations among the study variables are presented in Table 1. Skew and kurtosis are in conventional range (–1 to 1; George and Mallery 2003) for all of
Table 1. Bivariate correlations for study variables

| Variables       | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   |
|-----------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| DERS            | 1    |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Extraversion    | 0.08 | 1    |      |      |      |      |      |      |      |      |      |      |      |      |
| Agreeableness  | 0.04 | 0.12** | 1    |      |      |      |      |      |      |      |      |      |      |      |
| Conscientiousness | 0.09 | 0.24** | 0.16** | 1    |      |      |      |      |      |      |      |      |      |      |
| Neuroticism     | 0.20** | -0.01 | 0.08 | 0.13** | 1    |      |      |      |      |      |      |      |      |      |
| Openness to experience | 0.38** | 0.11* | 0.32** | 0.24** | 0.35** | 1    |      |      |      |      |      |      |      |      |
| Machiavellianism| 0.32** | 0.28** | 0.13** | 0.30** | 0.22** | 0.31** | 1    |      |      |      |      |      |      |      |
| Narcissism      | 0.01 | 0.37** | 0.24** | 0.20** | 0.15** | 0.19** | 0.38** | 1    |      |      |      |      |      |      |
| Psychopathy     | 0.35** | 0.06 | 0.16** | 0.11* | 0.32** | 0.44** | 0.39** | 23** | 1    |      |      |      |      |      |
| Negative affectivity | 0.55** | 0.09 | 0.07 | 0.26** | 0.16** | 0.46** | 0.33** | -0.06 | 0.42** | 1    |      |      |      |      |
| Detachment      | 0.23** | -0.18** | 0.08 | -0.02 | -0.07 | 0.19** | 0.03 | -0.07 | 0.17** | 0.23** | 1    |      |      |      |
| Antagonism      | 0.19** | 0.18** | 0.30** | 0.10* | -0.01 | 0.14* | 0.40** | 28** | 0.46** | 0.40** | 0.16** | 1    |      |      |
| Disinhibition   | 0.35** | 0.01 | 0.07 | 0.17** | 0.02 | 0.06 | 0.15** | 0.09 | 0.17** | 0.19** | 0.10* | 0.09 | 1    |      |
| Psychoticism    | 0.47** | 0.01 | 0.15** | 0.11* | 0.26** | 0.26** | 0.36** | -0.07 | 0.31** | 0.36** | 0.29** | 0.34** | 0.24** | 1    |
| M               | 91.16 | 12.83 | 13.03 | 12.82 | 12.48 | 11.02 | 30.51 | 28.13 | 26.06 | 11.87 | 11.30 | 10.90 | 11.25 | 10.98 |
| SD              | 17.79 | 1.97 | 4.53 | 1.86 | 1.83 | 2.22 | 4.29 | 3.63 | 3.96 | 2.17 | 1.88 | 2.05 | 1.89 | 2.37 |
| Minimum         | 50   | 9    | 8    | 8    | 7    | 6    | 21   | 17   | 17   | 6    | 7    | 6    | 6    | 5    |
| Maximum         | 132  | 18   | 47   | 18   | 17   | 39   | 38   | 34   | 18   | 16   | 16   | 16   | 16   | 16   |
| Skew            | 0.35 | 0.31 | 0.37 | 0.01 | -0.10 | 0.36 | 0.15 | -0.13 | -0.07 | -0.15 | 0.21 | 0.28 | 0.14 | -0.27 |
| Koutosis        | -0.29 | -0.20 | 0.38 | -0.20 | 0.47 | 0.15 | 0.22 | 0.69 | -0.71 | 0.53 | 0.15 | 0.22 | 0.32 | 0.22 |

*p < 0.05, **p < 0.01.
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Table 2. Multiple linear hierarchical regression analyses

| Predictor                | DERS |  |  |  |  |  |  |  |  |  |  |
|-------------------------|------|---|---|---|---|---|---|---|---|---|---|
|                         | \( F (1,460) \) | \( R^2 \) | \( \Delta R^2 \) | \( F \) | \( Change \) | \( \text{Step1} \) | \( \text{Step2} \) | \( \text{Step3} \) | \( \text{Step4} \) | \( \text{Step5} \) | \( \text{Step6} \) | \( \text{Step7} \) |
| **Step 1**              |      |   |   |   |   |   |   |   |   |   |   |
| Negative affectivity    | 195.71*** | 0.30 | 0.30*** | 195.71 |   | 0.55*** | 0.43*** | 0.41*** | 0.35*** | 0.37*** | 0.35*** | 0.39*** |
| **Predictor**           |      |   |   |   |   |   |   |   |   |   |   |
|                         | \( F (2,459) \) | \( R^2 \) | \( \Delta R^2 \) | \( F \) | \( Change \) | \( \text{Step1} \) | \( \text{Step2} \) | \( \text{Step3} \) | \( \text{Step4} \) | \( \text{Step5} \) | \( \text{Step6} \) | \( \text{Step7} \) |
| Psychoticism            | 141.75*** | 0.38 | 0.08*** | 61.89 |   | – | 0.31*** | 0.27*** | 0.26*** | 0.25*** | 0.25*** | 0.29*** |
| **Predictor**           |      |   |   |   |   |   |   |   |   |   |   |
|                         | \( F (3,458) \) | \( R^2 \) | \( \Delta R^2 \) | \( F \) | \( Change \) | \( \text{Step1} \) | \( \text{Step2} \) | \( \text{Step3} \) | \( \text{Step4} \) | \( \text{Step5} \) | \( \text{Step6} \) | \( \text{Step7} \) |
| Disinhibition           | 110.90*** | 0.42 | 0.04*** | 30.83 |   | – | – | 0.20*** | 0.21*** | 0.23*** | 0.22*** | 0.21*** |
| **Predictor**           |      |   |   |   |   |   |   |   |   |   |   |
|                         | \( F (4,457) \) | \( R^2 \) | \( \Delta R^2 \) | \( F \) | \( Change \) | \( \text{Step1} \) | \( \text{Step2} \) | \( \text{Step3} \) | \( \text{Step4} \) | \( \text{Step5} \) | \( \text{Step6} \) | \( \text{Step7} \) |
| Openness to experience  | 88.07*** | 0.44 | 0.02*** | 11.75 |   | – | – | – | 0.14*** | 0.16*** | 0.13*** | 0.11*** |
| **Predictor**           |      |   |   |   |   |   |   |   |   |   |   |
|                         | \( F (5,456) \) | \( R^2 \) | \( \Delta R^2 \) | \( F \) | \( Change \) | \( \text{Step1} \) | \( \text{Step2} \) | \( \text{Step3} \) | \( \text{Step4} \) | \( \text{Step5} \) | \( \text{Step6} \) | \( \text{Step7} \) |
| Conscientiousness       | 73.55*** | 0.45 | 0.01**  | 9.16  |   | – | – | – | – | –0.11*** | –0.14*** | –0.15*** |
| **Predictor**           |      |   |   |   |   |   |   |   |   |   |   |
|                         | \( F (6,455) \) | \( R^2 \) | \( \Delta R^2 \) | \( F \) | \( Change \) | \( \text{Step1} \) | \( \text{Step2} \) | \( \text{Step3} \) | \( \text{Step4} \) | \( \text{Step5} \) | \( \text{Step6} \) | \( \text{Step7} \) |
| Machiavellianism        | 64.66*** | 0.46 | 0.01*** | 11.64 |   | – | – | – | – | – | 0.13*** | 0.18*** |
| **Predictor**           |      |   |   |   |   |   |   |   |   |   |   |
|                         | \( F (7,454) \) | \( R^2 \) | \( \Delta R^2 \) | \( F \) | \( Change \) | \( \text{Step1} \) | \( \text{Step2} \) | \( \text{Step3} \) | \( \text{Step4} \) | \( \text{Step5} \) | \( \text{Step6} \) | \( \text{Step7} \) |
| Antagonism              | 59.14*** | 0.48 | 0.02*** | 14.49 |   | – | – | – | – | – | – | –0.15*** |

Standardised regression coefficients (\( \beta \)) are reported. ***\( p < 0.001 \), **\( p < 0.01 \).
the big five personality dimensions including neuroticism and openness to experience were significantly associated with emotion regulation difficulty (p < 0.01; see Table 1). Machiavellianism and psychopathy from the dark traits have positive correlations with emotion regulation difficulty (p < 0.01). All dimensions of maladaptive personality include negative affectivity, detachment, antagonism, disinhibition, and psychoticism were positively associated with emotion dysregulation (p < 0.01).

Multiple hierarchical regression analysis was conducted to investigate the relationships between adaptive and maladaptive personality dimensions with emotion regulation difficulty (see Table 2). Among the maladaptive dimensions of personality, only negative affectivity, psychoticism, disinhibition, and antagonism were predictive of emotion regulation difficulty. Among the big five personality dimensions, openness to experience and conscientiousness were predictive of emotion regulation difficulty. Among the dark personality traits, only Machiavellianism was a predictor of emotion regulation difficulty. Overall, adaptive and maladaptive personality dimensions explained 48% of the variance in emotion regulation difficulty. Because of the use of hierarchical regression in this regression, various variables are entered into the model, and therefore variables that previously had a meaningful regression coefficient may lose their meaningful value after the arrival of the new variable entered into the analysis.

Discussion

The purpose of this study was to investigate the relationship between adaptive and maladaptive personality dimensions with emotion regulation difficulty. Based on this, the findings of this study showed that there were positive associations between emotion regulation difficulty with both adaptive and maladaptive personality dimensions. As expected, the dimensions of the dark traits of personality including Machiavellianism and psychopathy have a positive association with emotion regulation difficulty, and it was a predictor of emotional problems. This finding is consistent with studies that show an emotional defect in individuals with dark traits (Jonason, Lyons, Bethell and Ross 2013; Malterer, Glass and Newman 2008). It can be argued that the emotional deficits that exist in individuals with dark traits express the fundamental component of the emotion regulation difficulty in these individuals. On the other hand, current findings are closely related to a study that showed that Machiavellianism and psychopathy are closely related to the deficiency in empathy and emotional expression (Ali, Amorim and Chamorro-Premuzic 2009). Behavioural genetics research on these relationships show that almost all the significant correlations in these cases are ascribable to common genetic factors (Jonason, Webster, Schmitt, Li and Crysle 2012).

Another finding of the present study, which should be noted, is that the big five factor model of personality, known as adaptive personality theory, has no association with emotion regulation difficulty, except in the two components of neuroticism and openness to experience. Therefore, the result of this study about the associations of the big five personality model with emotion regulation difficulty is in line with previous studies (Bolger and Schilling 1991; Dasch et al. 2008; Mroczek and Almeida 2004; Timmermans, Van Mechelen, and Nezlek 2009). But it should be noted that unlike previous studies, the present study uses a short and modified version of the big five personality model. This finding, in contrast to other findings from the present study, suggests that the emotion regulation difficulty dimensions are more correlated with maladaptive personality rather than adaptive personality.

Although the present study contained valuable insights on the associations between different adaptive and maladaptive dimensions of personality with emotion regulation, which could be useful in distinguishing between personality models, the research also had limitations: First, the present study was conducted on a normal population, and it was cross-sectional; therefore,
causal relationships cannot be mapped out. Secondly, different psychological, social, and cultural dimensions can affect the relationship between personality dimensions and the difficulty of emotional regulation, so intercultural and longitudinal studies as well as studies on clinical populations can lead to valuable results and insights.

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