Research Article

Effect of the Dark Tetrad on Emotional Intelligence

Katarina Sokić

1 Oxford Business College, Oxford, United Kingdom

ABSTRACT

The main aim of this study was to investigate the relationships between Dark Tetrad traits (Machiavellianism, narcissism, psychopathy and sadism) and ability emotional intelligence dimensions – self-emotion appraisal, others’ emotion appraisal, use of emotion and regulation of emotion. The Wong and Law Emotional Intelligence Scale, Short Dark Triad and Assessment of Sadistic Personality were applied to a sample of 322 participants from the general population (63% women) of Croatia. Results showed that both psychopathy and sadism had negative relations with emotional intelligence. Sadism showed significant effects on self-emotion appraisal, others’ emotion appraisal, and use of emotion dimensions, while psychopathy showed significant effect on regulation of emotion. Machiavellianism negatively correlated to a weaker degree with self-emotion appraisal and others’ emotion appraisal, but it showed no significant effects on emotional intelligence dimensions in regression analysis. Narcissism showed positive effects on EI as a whole, use of emotion and self-emotion appraisal. The results highlighted the importance of the dark traits in the explanation of emotional intelligence and showed that the dark traits are differently associated with emotional intelligence dimensions.

Keywords: dark traits, psychopathy, Machiavellianism, narcissism, sadism, emotional intelligence
Introduction

Emotional intelligence (EI) is the “ability to reason validly with emotions and with emotion-related information and to use emotions to enhance thought” (Mayer et al., 2016, p. 296). Salovey & Mayer (1990) considered EI to be an aspect of personal intelligence related to feelings. Personal intelligence includes knowledge about the self and about others, and accordingly, it is divided into inter and intrapersonal intelligence (Gardner, 1983). Model of EI of Mayer & Salovey (1997) is also known as the cascading model (Joseph, & Newman, 2010), and it includes four dimensions of EI: emotion perception, emotion understanding, emotion facilitation, and emotion regulation. Based on this model, Wong & Low (2002) developed a four-factor self-report EI measure (The Wong and Law Emotional Intelligence Scale - WLEIS) composed of four dimensions: a) appraisal and expression of emotion in the self, which reflects the ability to understand and express self-emotions, b) appraisal and recognition of emotion in others, which represents the ability to detect and understand others' emotions, c) regulation of emotion in the self, which encompasses the abilities to regulate self-emotions and successfully recover from emotional distress, and d) use of emotion to facilitate performance, which reflects the ability to use emotions to promote constructive behaviors and better personal performance.

People with developed emotional intelligence use emotions and moods to induce adaptive behavior. Appraising emotions in others and empathy could help individuals in assessing the affective reactions of others and in choosing socially adaptable behaviors. Also, emotion regulation skills lead to adaptive states of mood. However, in antisocial individuals, emotional regulation may lead to manipulative behavior such as manipulative scenarios or manipulation to others in order to achieve illicit goals (Salovey & Mayer, 1990).

The alternative concept of EI considers EI to be a set of affected-related personality traits like assertiveness, adaptability, empathy (Anglim et al., 2020; Pérez et al., 2005; Van Rooy & Viswesvaran, 2004). According to this
concept, EI is defined as “a constellation of emotion-related self-perceptions and dispositions located at the lower levels of personality hierarchies” (Petrides et al., 2007, p. 26). The results of meta-analyses showed that correlations between trait EI concept and ability EI concept are low ($r = .26$, see Joseph & Newman, 2010). Therefore, in the present study, ability-based model of EI will be used in line with the original proposal by Salovey & Mayer (1990).

The EI is often explored within the models of basic personality traits (i.e., Big Five and HEXACO model of personality). In the studies which used ability EI model (e.g., Shi & Wang, 2007; Wong & Law, 2002), the results indicated that self-emotion appraisal, others’ emotion appraisal, use of emotion, and EI total score moderately negatively correlated with Big Five Neuroticism, while only others’ emotion appraisal had negative and low correlation with Extraversion. EI total score, use of emotion and regulation of emotions dimensions had low positive correlation with Openness. EI total score, others’ emotion appraisal and regulation of emotions dimensions had low to moderate positive correlation with Conscientiousness and Agreeableness. Also, EI total score and all EI dimensions, except regulation of emotions, had low to moderate positive correlations with Conscientiousness (Shi & Wang, 2007; Wong & Law, 2002). Other studies that used trait EI models, showed that EI subdimensions highly positively correlated with HEXACO dimensions of Extraversion, Conscientiousness and Agreeableness (Austin & Vahle, 2016; Veselka et al., 2010). Facet-level correlations from a recent study (Anglim et al., 2020) thoroughly explained this connection; it has been shown that the Social Self-Esteem and Liveliness facet of Extraversion strongly correlated with some components of trait EI such as managing one’s own emotions.

**Emotional intelligence and dark traits**

In recent years, there has been a growing interest in examining the relationship between emotional intelligence and socially undesirable traits named dark traits (Ali et al., 2009; Dinić et al., 2021; Michels, & Schulze, 2021;
These traits are encompassed in the constructs of the Dark Triad and the Dark Tetrad. The Dark Triad constitutes Machiavellianism, subclinical narcissism and subclinical psychopathy. Machiavellianism involves a person's strong tendency to manipulate, and is often accompanied by a lack of empathy, lower levels of affect, a focus on pursuing one's own goals and an abnormal view of morality (Spain et al., 2014). O'Connor & Athota (2013) found that Agreeableness mediated the relationship between EI and Machiavellianism; individuals high in EI showed low levels of Machiavellianism because they are more agreeable but not emotionally competent. Furthermore, a high level of EI can be related to high Machiavellianism, when Agreeableness is low.

The main features of narcissism are a grandiose sense of self-importance (e.g., overemphasis on one's own achievements and talents, expectation to be recognized as superior even without real achievements), preoccupation with fantasies about one's own boundless success, power, excellence and beauty (Wright et al., 2013). Psychopathy is a constellation of interpersonal, affective and antisocial characteristics often in the context of chronic antisocial and socially deviant behavior (Hare, 2003). In addition to the Dark Triad, sadism was included to form the Dark Tetrad. Sadism is the tendency to seek pleasure or dominance by inflicting suffering, pain and humiliation on others (Myers et al., 2006). Sadism reflects a tendency to enjoy inflicting pain and suffering on others and refers to the cruel, demeaning or aggressive behavior towards others in an effort to humiliate and dominate them (Plouffe et al., 2017).

Recent meta-analyses (Miao et al., 2019; Michels & Schulze, 2021; Vize et al., 2018) examined relationships between the Dark Triad traits and EI respecting two dominant models of EI: the ability model based on Mayer and Salovey’s four-branch model (Mayer & Salovey, 1997), and the personality EI model (Neubauer & Freudenthaler, 2005; Pérez et al., 2005; Petrides et al., 2011). The meta-analysis conducted by Miao et al. (2019) showed that overall EI, ability and trait, were significantly negatively related to Machiavellianism and psychopathy and that overall EI, ability and trait, were not related to
narcissism. In contrast, the meta-analysis conducted by Michels & Schulze (2021) has shown that narcissism was positively related to trait EI and negatively related to ability EI. Further, Machiavellianism and psychopathy were negatively related to both ability EI and trait EI. The meta-analysis by Vize et al. (2018) indicated that both psychopathy and Machiavellianism had low to moderate negative correlation with EI, and narcissism was significantly positively related to EI. In contrast, recent study has shown that trait EI positively correlated with narcissism, negatively with Machiavellianism, and, surprisingly, was unrelated to psychopathy and sadism (Schreyer et al., 2021).

In view of these contradictory findings and given that the role of sadism in the prediction of EI has not been sufficiently examined, one aim of this study was to contribute to a better understanding of these relationships. We were particularly interested in whether there is a strong association of EI with sadism, given recent debate in the literature about the justification for including sadism as a different dark personality trait and whether sadism is an improvement over the Dark Triad. (Book et al., 2016; Dinić et al., 2021; Dinić et al., 2020; Dinić & Jevremov, 2019; Foulkes, 2019; Furnham & Horne, 2021). Namely, some authors consider sadism a conduct disorder (Myers et al., 2006) or just one psychopathy facet since psychopathy and sadism had similar patterns of relationships with HEXACO traits (Book et al., 2016). However, some recent studies have shown that the inclusion of sadism contributes to better elucidation of profiles more prone to sadism (Dinić et al, 2020). Furthermore, sadism has shown uniqueness among the Dark Tetrad, and it is not justified to consider it redundant (Dinić et al., 2020; Međedović & Petrović, 2015).

Objectives and hypotheses

The main aim of this study was to investigate the relations between emotional intelligence dimensions and Dark Tetrad traits. In this study, four-factor ability model of EI based on the Wong and Low questionnaire (2002) was used, which represents an operationalization of Salovey & Mayer’s (1990) conceptualization of EI. Based on the theory that EI involves the abilities to
properly understand, use and regulate emotions (Mayer et al., 2016), and empirical evidence that empathic deficit and callousness are core of Dark Tetrad traits, especially psychopathy and sadism (Ali et al., 2009; Dinić et al., 2020; Međedović & Petrović, 2015; Paulhus, 2014), we expect that psychopathy and sadism negatively correlate with the overall score of EI and all the subdimensions of EI. Since Machiavellianism involves manipulativeness and the callousness exploitation of others for one’s own ends (Spain et al., 2014), and with prior research showing negative associations of Machiavellianism and EI dimensions (Miao et al., 2019; Vize et al., 2018), we expect negative relations between Machiavellianism and emotion appraisal in self and in others. Since narcissism is connected to prosocial traits such as high extraversion and low selfishness (Book et al, 2015; Malesza & Kalinowski, 2019; Papageorgiou, 2019), and on the basis of prior evidence (Vize et al., 2018), we expect positive associations between narcissism dimensions of EI related to appraisal and expression of emotions in the self and use of emotions.

Method

Participants and Procedure

The original sample included 361 participants. Questionnaire data for 39 participants were excluded from analyses due to missing data, and thus, the final sample comprised 322 participants. Out of the total sample (N = 322), 202 participants declared themselves females, 118 declared themselves males, and 2 declared to be other. Participants were from Croatia, aged between 20 and 68 (M = 37.45, SD = 11.07). Participants did not receive a fee to participate in the survey. The size of our sample was above the minimum of 250 recommended for correlational studies by Schönbrodt & Perugini (2013). Data were collected online from the general population on a convenient sample during the spring of 2020. The study protocol was approved by the Ethics Committee from the Department of Psychology, Faculty of Humanities and Social Sciences, University of Zagreb.
Measures

Wong and Law Emotional Intelligence Scale

The Wong and Law Emotional Intelligence Scale (WLEIS; Wong & Law, 2002, for Croatian adaptation see Sokić & Horvat, 2019) is a short 16-item measure of emotional intelligence as an ability. WLEIS measures four dimensions of emotional intelligence: self-emotion appraisal (SEA; e.g., “I have good understanding of my own emotions.”), others’ emotion appraisal (OEA; e.g., “I always know my friends’ emotions from their behavior.”), use of emotion (UOE; e.g., “I always tell myself I am a competent person”), and regulation of emotion (ROE, e.g., “I can always calm down quickly when I am very angry.”). Participants were asked to rate the extent to which each item applied to them on a 7-point scale from 1 = strongly disagree to 7 = strongly agree. A higher mean score indicates a higher degree of EI.

The Short Dark Triad

The Short Dark Triad (SD3; Jones & Paulhus, 2014, for Croatian adaptation see Wertag et al., 2011) was developed to capture three dark traits: Machiavellianism, narcissism, and psychopathy. The instrument consists of 27 items scored on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree, with 9 items devoted to each of the three scales. Example items include: “Avoid direct conflict with others because they may be useful in the future.” (Machiavellianism), “People see me as a natural leader.” (narcissism), and “Payback needs to be quick and nasty.” (psychopathy).

The Assessment of Sadistic Personality

The Assessment of Sadistic Personality (ASP; Plouffe et al., 2017) assesses sadism and consists of 9 items (e.g., “Being mean to others can be exciting.”). Participants were asked to what extent they agree with each item on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. A maximum-likelihood confirmatory factor analysis (CFA) in AMOS Version 26 was conducted in order to test unidimensionality of the ASP. The model is acceptable when Comparative Fit Index (CFI) > .90, Tucker–Lewis
Index ($TLI$) > .90, Root Mean Square Error of Approximation ($RMSEA$) < .08, and Standardized Root Mean Squared Residual ($SRMR$) < .08 (Brown, 2006). CFA showed good fit for the ASP model: $\chi^2(27) = 132.12; p < .001; CFI = .91; TLI = .94, RMSEA = .07$, and $SRMR = .04$.

Data Analyses

To quantify bivariate relationships between the subscales and total score of EI and dark traits, zero-order correlations (Pearson’s $r$) were calculated. To predict EI subscales and total score based on Dark Tetrad, five hierarchical multiple regression analyses were performed. Gender and age were included as a control variable in the 1st step, and scores on four Dark Tetrad scales were entered in the 2nd step.

Results

Descriptive statistics and bivariate correlations

Descriptives and alpha reliabilities for all scales are reported in Table 1. All scales demonstrated an adequate alpha coefficient of reliability. In line with previous findings (Kong, 2017; Extremera Pacheco et al., 2019; Sokić & Horvat, 2019), in this study alphas for all WLAIS scales ranged from .85 to .92. The reliability of the Short Dark Triad and the Assessment of Sadistic Personality were acceptable and consistent with those reported in the previous literature (Jones & Paulhus, 2014; Plouffe et al., 2017). Skewness and kurtosis for all scales were within the recommended values for normal distribution (between −2 to +2, see Gravetter & Wallnau, 2014). Mean scores on EI dimensions were similar to data presented in the previous findings (Sokić & Horvat, 2019) indicating that the majority of participants have pronounced abilities to recognize their own and others' emotions as well as regulation and use of emotions. Means scores on Machiavellianism and narcissism were in line with earlier findings (Dinić et al., 2020; Gojković et al., 2019; Paulhus et al., 2021; Plouffe et al., 2017; Schreyer et al., 2021).
Table 1

Descriptive statistics and alpha reliabilities

<table>
<thead>
<tr>
<th>Variable</th>
<th>Min</th>
<th>Max</th>
<th>M</th>
<th>SD</th>
<th>Sk</th>
<th>Ku</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-emotion appraisal</td>
<td>7</td>
<td>28</td>
<td>23.45</td>
<td>3.53</td>
<td>-1.29</td>
<td>1.25</td>
<td>.86</td>
</tr>
<tr>
<td>Others’ emotion appraisal</td>
<td>7</td>
<td>28</td>
<td>22.43</td>
<td>3.81</td>
<td>-1.30</td>
<td>1.23</td>
<td>.85</td>
</tr>
<tr>
<td>Use of emotion</td>
<td>4</td>
<td>28</td>
<td>21.76</td>
<td>4.49</td>
<td>-1.17</td>
<td>1.76</td>
<td>.87</td>
</tr>
<tr>
<td>Regulation of emotion</td>
<td>4</td>
<td>28</td>
<td>20.91</td>
<td>4.72</td>
<td>-1.17</td>
<td>1.48</td>
<td>.92</td>
</tr>
<tr>
<td>EI total score</td>
<td>35</td>
<td>111</td>
<td>88.09</td>
<td>13.17</td>
<td>-1.40</td>
<td>1.94</td>
<td>.92</td>
</tr>
<tr>
<td>Machiavellianism</td>
<td>10</td>
<td>45</td>
<td>24.86</td>
<td>6.16</td>
<td>0.38</td>
<td>0.28</td>
<td>.81</td>
</tr>
<tr>
<td>Narcissism</td>
<td>9</td>
<td>42</td>
<td>24.61</td>
<td>5.33</td>
<td>-0.24</td>
<td>0.71</td>
<td>.73</td>
</tr>
<tr>
<td>Psychopathy</td>
<td>9</td>
<td>39</td>
<td>17.94</td>
<td>5.24</td>
<td>0.65</td>
<td>0.48</td>
<td>.75</td>
</tr>
<tr>
<td>Sadism</td>
<td>9</td>
<td>36</td>
<td>14.21</td>
<td>5.31</td>
<td>1.34</td>
<td>1.81</td>
<td>.84</td>
</tr>
</tbody>
</table>

Table 2 presents simple bivariate (zero-order) correlations between all measured variables. Bivariate correlations between the EI subscales were moderate to large, indicating partial overlap among them. Within Dark Tetrad traits, sadism had small to moderate correlations with narcissism and Machiavellianism, and large correlation with psychopathy. Machiavellianism had moderate positive correlations with narcissism and psychopathy, and psychopathy had small positive correlations with narcissism, which is consistent with the previous studies (Lee, 2019; Paulhus et al., 2021; Plouffe, 2017).

Bivariate correlations between the EI dimensions and Dark Tetrad traits partially supported our hypothesis. Consistent with the prediction, both psychopathy and sadism showed negative correlations with EI total score and self-emotion appraisal, others’ emotion appraisal and use of emotion subscales, but not with regulation of emotion subscale. As predicted, Machiavellianism negatively correlated to a weaker degree with self-emotion appraisal.
appraisal and others’ emotion appraisal subscales. Narcissism showed positive bivariate correlations with EI as a whole and with use of emotion subscale. Contrary to our prediction, narcissism was not connected with self-emotion appraisal and others’ emotion appraisal subscales.

Table 2

Bivariate correlations

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Self-emotion appraisal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Others’ emotion appraisal</td>
<td>.62***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Use of emotion</td>
<td>.50***</td>
<td>.37***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Regulation of emotion</td>
<td>.48***</td>
<td>.36***</td>
<td>.53***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. EI total score</td>
<td>.80***</td>
<td>.73***</td>
<td>.79***</td>
<td>.79***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Machiavellianism</td>
<td>-.21**</td>
<td>-.12*</td>
<td>.07</td>
<td>-.02</td>
<td>-.10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Narcissism</td>
<td>.06</td>
<td>-.00</td>
<td>.37***</td>
<td>.11</td>
<td>.20**</td>
<td>.28***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Psychopathy</td>
<td>-.24**</td>
<td>-.26***</td>
<td>-.03</td>
<td>-.19**</td>
<td>-.22**</td>
<td>.54***</td>
<td>.29***</td>
<td></td>
</tr>
<tr>
<td>9. Sadism</td>
<td>-.27***</td>
<td>-.25***</td>
<td>-.06</td>
<td>-.13**</td>
<td>-.25**</td>
<td>.44***</td>
<td>.21***</td>
<td>.69***</td>
</tr>
</tbody>
</table>

*** p < .001. ** p < .01. * p < .05.

Prediction of emotional intelligence based on Dark Tetrad traits

Participants’ scores on four EI subscales regressed on Dark Tetrad traits with gender and age included as control variables in each case at the 1st step (Table 3). Dark Tetrad traits together accounted for additional 9% of the variance in the self-emotion appraisal ($\Delta F[4, 315] = 4.22, p < .01$), 7% of the additional variance in others’ emotion appraisal ($\Delta F[4, 315] = 5.33, p < .001$), 19% of the additional variance in the use of emotion ($\Delta F[4, 315] = 16.08, p < .001$), 9% of the additional variance in the regulation of emotion ($\Delta F[4, 315] = 4.97, p < .001$), and 14% of the additional variance in the EI total ($\Delta F[4, 315] = 7.12, p < .001$).
Sadism uniquely negatively predicted self-emotion appraisal, others’ emotion appraisal and use of emotion, while psychopathy showed independent negative associations with the regulation of emotion subscale. Narcissism uniquely positively predicted self-emotion appraisal, use of emotion and regulation of emotion, with dominant prediction in the case of use of emotion. Machiavellianism showed no significant contribution to the prediction of EI subscales.
Table 3

Standardized beta coefficients of the Dark Tetrad traits in predicting emotional intelligence scale and subscales

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Self-emotion appraisal</th>
<th>Others’ emotion appraisal</th>
<th>Use of emotion</th>
<th>Regulation of emotion</th>
<th>EI total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>.07</td>
<td>.18**</td>
<td>-.02</td>
<td>-.05</td>
<td>.06</td>
</tr>
<tr>
<td>Age</td>
<td>.09</td>
<td>.03*</td>
<td>-.06</td>
<td>.04</td>
<td>.06</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.01</td>
<td>.03</td>
<td>.00</td>
<td>.00</td>
<td>.01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>-.02</td>
<td>.09</td>
<td>.01</td>
<td>-.11</td>
<td>.00</td>
</tr>
<tr>
<td>Age</td>
<td>.08</td>
<td>.03</td>
<td>.00</td>
<td>.08</td>
<td>.08</td>
</tr>
<tr>
<td>Machiavellianism</td>
<td>-.03</td>
<td>.05</td>
<td>.09</td>
<td>.09</td>
<td>.11</td>
</tr>
<tr>
<td>Narcissism</td>
<td>.15*</td>
<td>.09</td>
<td>.43***</td>
<td>.16*</td>
<td>.29***</td>
</tr>
<tr>
<td>Psychopathy</td>
<td>-.09</td>
<td>-.11</td>
<td>-.05</td>
<td>-.28***</td>
<td>-.16*</td>
</tr>
<tr>
<td>Sadism</td>
<td>-.23*</td>
<td>-.22**</td>
<td>-.17*</td>
<td>-.10</td>
<td>-.22**</td>
</tr>
<tr>
<td>$\Delta R^2$</td>
<td>.09**</td>
<td>.07***</td>
<td>.19***</td>
<td>.09***</td>
<td>.13***</td>
</tr>
<tr>
<td>Total $R^2$</td>
<td>.10**</td>
<td>.10***</td>
<td>.19***</td>
<td>.10***</td>
<td>.14***</td>
</tr>
</tbody>
</table>

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

Discussion

This study aimed to investigate the relations of emotional intelligence dimensions (self-emotion appraisal, others’ emotion appraisal, use of emotion and regulation of emotion) and Dark Tetrad traits (Machiavellianism,
narcissism, psychopathy and sadism). The results from this study support most of the proposed hypotheses.

The bivariate correlation analyses showed small-to-medium effect sizes between EI dimensions and Dark Tetrad traits. Our results are in line with the previous findings that have shown negative relations between EI and Machiavellianism, psychopathy and sadism, as well as positive relations between EI and narcissism (Michels & Schulze, 2021; Petrides et al., 2011; Plouffe et al., 2017; Vize et al, 2018). Thus, narcissism uniquely positively predicted measures of adaptive function and emotional stability (adequate use and regulation of emotion), in line with the view that narcissism includes elements of adaptivity when not accompanied by high levels of the other three dark personality traits.

However, although the association between Machiavellianism and total score on the EI scale was negative, contrary to predictions, this relation was not significant ($r = -0.10$, $p = 0.17$). As expected, Machiavellianism, psychopathy and sadism were negatively correlated with the self-emotion appraisal dimension of EI. The negative associations between them were consistent with the studies showing that these dark traits were related to low emotionality (Akram & Stevenson, 2021; Plouffe, 2017; Schreyer et al, 2021). These results are in line with the theoretical assumptions that Machiavellianism, psychopathy and sadism entail an emotional coldness and low emotionality (Međedović & Petrović, 2015; Paulhus & Williams, 2002). Contrary to our hypothesis, narcissism was unrelated to the self-emotion appraisal dimension. This result is in accordance with the previous studies which showed that overall EI and ability EI were not related to narcissism (Miao et al., 2019), and in line with a view that narcissistic individuals are self-destructive having reduced empathy, and more interested in their own success and status than in emotional closeness to others (Malesza et al., 2019).

Expected negative correlations of Machiavellianism, psychopathy and sadism with others’ emotion appraisal confirmed theoretical assumptions that low empathy is a central element of all Dark Triad traits (Dinić et al., 2020; Paulhus & Williams, 2002; Plouffe et al., 2017). Also, these findings are in line
with the theoretical construct of EI by which appraising and expressing emotions in others include empathy and non-verbal perception (Salovey & Mayer, 1990). Narcissism was unrelated to others’ emotion appraisal, which is in line with the findings that narcissists are not interested in other people (Park et al., 2014). Following our hypothesis, the results of this study confirmed positive associations between narcissism and use of emotion, but the expected negative association between psychopathy and sadism and use of emotion was not confirmed. Utilization of emotion reflects the ability to use emotions in adaptive ways including flexible planning, creative thinking, redirected attention, and motivation (Salovey & Mayer, 1990). We assume that our findings are due to narcissists’ ability to position themselves in a positive light in an overconfident way (Jones & Paulhus, 2011). The absence of the expected negative association of psychopathy with use of emotion may be due to measuring psychopathy as a one-dimensional construct that does not separate the characteristics of primary psychopathy characterized by callousness and manipulativeness and secondary psychopathy involving impulsivity and deviant behavior (Levenson et al., 1995; Lykken, 1995). It should be noted that sadism did not show zero-order relationships with use of emotion; expected negative association emerged only after controlling for the variance in sadism shared with the other three dark traits. Consistent with the expectations, psychopathy and sadism were negatively correlated with the regulation of emotion. This EI subscale measures the ability to adequately regulate emotions and successfully recover from emotional distress (Wong & Law, 2002). The results are consistent with our hypothesis based on the conception of psychopathy and sadism as involving deficient emotional and behavioral restraint, high behavioral impulsivity, impulsive thrill-seeking and aggression (Foulkes, 2019; Međedović & Petrović, 2015).

These findings must be considered bearing some limitations in mind. Firstly, participants were recruited online, and study sample consisted of general population, rather than offenders, forensic and clinical or another more homogeneous pattern sample. This way of conducting research greatly reduces the possibility of sample control so that, in fact, we do not know
whether the data on sociodemographic characteristics are true. Although such a sample may be appropriate for the investigation of continuous relations between dark tetrad traits and emotional intelligence dimensions, additional studies with other samples are needed. Therefore, although our findings provide preliminary support, they cannot be generalized to the other populations. Although such a sample may be appropriate for the investigation of continuous relations between Dark Tetrad traits and emotional intelligence dimensions, additional studies with other samples are needed. Next, the present study employed short self-report measures of the Dark Triad and emotional intelligence, which could have affected socially desirable responsiveness in an effort to present themselves in a favorable light. Moreover, associations between EI and dark triad measures are complex and different on the facet level (Walker et al., 2021). The authors emphasize that grandiose and vulnerable narcissism should be considered separately rather than combined into a total score because grandiose narcissism is positively related to EI, while vulnerable narcissism negatively related to EI. Also, Walker et al., (2021) indicate that primary psychopathy is positively related to EI but secondary psychopathy is negatively related to EI. Therefore, future empirical research on the relationship between the dark traits and EI should be conducted focusing on facet-level analysis. For further clarifying the nature of dark personality traits and their links to emotional intelligence, it is necessary to use other measures of these psychological constructs.

Despite these limitations, our findings confirmed that sadism and psychopathy have a strong maladaptive potential and therefore represent a high risk factor for establishing normal interpersonal relationships, both for intimate and working life. Also, our findings indicated that narcissism has adaptive potential in promote constructive, social desirable behaviors.

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Data availability statement
The data that support the findings of this study are available from the author, upon reasonable request.

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Utjecaj Mračne tetrade na emocionalnu inteligenciju

Katarina Sokić

1 Oksford Biznis Koledž, Oksford, Ujedinjeno Kraljevstvo

Glavni cilj ovog istraživanja bio je ispitati odnose između osobina Mračne tetrade (Makijavelizma, narcizma, psihopatije i sadizama) i dimenzija emocionalne inteligencije - sposobnosti procjene vlastitih emocija, procjene tuđih emocija, korištenja emocija i regulacije emocija. Wong i Law skala emocionalne inteligencije, Kratki upitnik Mračne trijade i Skala procjene sadističke ličnosti primijenjeni su na uzorku od 322 sudionika iz opće populacije (63% žena) Hrvatske. Rezultati su pokazali da su psihopatija i sadizam negativno povezani s emocionalnom inteligencijom. Sadizam se pokazao značajnim u predviđanju procjene vlastitih emocija, procjene tuđih emocija i korištenja emocija, dok je psihopatija značajniji prediktor regulacije emocija. Makijavelizam je na bivarijatnoj razini negativno korelirao s procjenom vlastitih emocija i procjenom tuđih emocija, ali nije pokazao značajne učinke na dimenzije emocionalne inteligencije u regresijskoj analizi. Narcizam je pokazao pozitivne učinke na EI u cjelini, dimenziju korištenja emocija i samo- procjenu vlastitih emocija. Rezultati su naglasili značaj mračnih crta ličnosti u objašnjenju emocionalne inteligencije i pokazali da su mračne crte različito povezane s dimenzijama emocionalne inteligencije.

Ključne riječi: mračne crte, psihopatija, Makijavelizam, narcizam, sadizam, emocionalna inteligencija