

The relationship between emotional intelligence and the dark triad personality traits: A meta-analytic review

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Abstract

This is a meta-analysis of emotional intelligence (EI) and Dark Triad traits. EI is significantly and negatively related to Machiavellianism (overall EI: $\hat{\rho} = -0.29$; ability EI: $\hat{\rho} = -0.31$; trait EI: $\hat{\rho} = -0.27$) and to psychopathy (overall EI: $\hat{\rho} = -0.17$; ability EI: $\hat{\rho} = -0.21$; trait EI: $\hat{\rho} = -0.16$). EI is not related to narcissism (overall EI: $\hat{\rho} = 0.02$; ability EI: $\hat{\rho} = -0.10$; trait EI: $\hat{\rho} = 0.05$). The types of EI did not moderate the relationships between EI and Dark Triad traits. EI measures and measures of narcissism, Machiavellianism, and psychopathy exhibited significant moderator effects. Using EI scales may be a practical way to screen out candidates high in Machiavellianism and psychopathy.

Keywords: emotional intelligence; Dark Triad personality traits; meta-analysis

The Relationship between Emotional Intelligence and the Dark Triad Personality Traits:**A Meta-Analytic Review****Introduction**

Emotional intelligence (EI) represents “a constellation of behavioral dispositions and self-perceptions concerning one’s ability to recognize, process, and utilize emotion-laden information” (Petrides, Frederickson, & Furnham, 2004, p. 278). EI involves the ability to manage and regulate one’s own emotions; for example, it helps people stay calm, confident, and optimistic during situations that may provoke anger, fear, anxiety, and emotional hi-jacking in low EI people (Goleman, 1995). People high on EI are also good at helping others manage their emotions. Another key aspect of EI is the ability to accurately perceive their own and others’ emotions. High EI people are good at reading facial expressions, body language, and vocal expressions, and they can detect even subtle emotional messages during conversations. People with high EI can listen to their own and others’ emotions in a way that aids decision-making; they take into account their own and others’ feelings and deeply held values without getting carried away by rash emotional impulses. Thus, high EI improves decision-making.

EI predicts important outcomes across both firm- and individual-levels (Cherniss, 2001; Goleman, 1995; Goleman, Boyatzis, & McKee, 2013), and, due to the importance and popularity of EI, it has been acknowledged as one of the most extensively studied emotion-related constructs in both psychology and management (Ashkanasy, Humphrey, & Huy, 2017). Across a vast literature, findings show robust relationships between EI and myriad prosocial and positive outcomes such as job satisfaction, well-being, job performance, organizational citizenship behavior, leadership, organizational commitment, health, and job resources (Joseph & Newman, 2010; Martins, Ramalho, & Morin, 2010; Miao, Humphrey, & Qian, 2016, 2017a, 2017b, 2017c,

2018a, 2018b; O'Boyle et al., 2011; Schutte et al., 2007; Walter, Cole, & Humphrey, 2011). Research also shows support for the factor structure and the incremental validities of EI (e.g., Andrei et al., 2016; Frederickson, Petrides, & Simmonds, 2012; van der Linden et al., 2017).

Emotionally intelligent individuals are able to regulate their emotions to remain optimistic and enthusiastic and to mitigate negative feelings in the workplace, thus resulting in higher job satisfaction, organizational commitment, and organizational citizenship behaviors, as well as lower counterproductive work behaviors and turnover intentions (Miao et al., 2017a, 2017b). Furthermore, the literature illustrates how—within an organization—individuals with greater EI can facilitate effective social exchanges with supervisors and peers so that they are more likely to receive job resources (e.g., peer and/or supervisor social support) in the workplace (Miao et al., 2017c). Research shows that emotionally intelligent leaders use effective leadership behaviors/styles to influence their followers in positive ways (Walter et al., 2011).

Although these studies are clear with regards to the many positive sides of EI, there has been a surge in research exploring the dark sides of EI (e.g., Austin, Farrelly, Black, & Moore, 2007; Furnham & Rosen, 2016; Petrides, Vernon, Schermer, & Veselka, 2011). For example, emotionally intelligent individuals can use their EI to fabricate favorable impressions of themselves and to advance their self-interest and welfare at the expense of others (Kilduff, Chiaburu, & Menges, 2010). And, moreover, Kilduff et al. (2010) theorized that emotionally intelligent individuals are prone to utilize their EI to influence strategically important targets, to disguise and/or display certain emotions to maximize personal gain, to shape others' emotions via misattribution, and to strategically control emotion-laden information.

This surge in research related to the dark sides of EI has primarily examined constructs that are subsumed under the Dark Triad personality traits—narcissism, Machiavellianism, and

psychopathy. The growing number of studies suggesting that EI is positively related to negative outcomes is troubling. However, findings between EI and some negative outcomes have exhibited mixed results. Specifically, the findings between EI and the Dark Triad traits of narcissism, Machiavellianism, and psychopathy have not yielded consistent results, and many studies show that EI is negatively related to these traits. In fact, research findings have been quite mixed and the reported effect sizes (and direction of effects) exhibited a wide range (Czarna et al., 2016; Nagler, Reiter, Furtner, & Rauthmann, 2014). It is the goal of the present work to clarify the conflicting assertions regarding EI and the Dark Triad personality traits by reporting the overall estimates between EI and Dark Triad traits. In addition, we also aim to test a set of moderators that may account for the heterogeneity across this line of research.

Theory and Research Questions

Emotional Intelligence

There are two major differences in the way EI measures are conceptualized: trait EI versus ability EI (Martins et al., 2010). Trait EI measures are based on the premise that EI has trait-like properties, and like other traits can be measured using self-report measures (Petrides, 2009a, 2009b; Petrides & Furnham, 2003; Smith, Saklofske, & Yan, 2015). Trait EI has been defined as “a constellation of emotion-related self-perceptions and dispositions located at the lower levels of personality hierarchies” (Vernon, Petrides, Bratko, & Schermer, 2008, p. 635, definition derived from Petrides, Pita, & Kokkinaki, 2007). In contrast, the ability model of EI builds on the conceptualization that EI is a type of intelligence and like other intelligence tests it uses “objective” right or wrong multiple-choice items to assess EI (Mayer, Caruso, & Salovey, 1999). Meta-analyses have consistently shown that there are considerable differences between the ability and trait approaches in their correlations with other variables (O’Boyle et al., 2011;

Martins et al., 2010; Miao et al., 2017b). Moreover, the correlations between the two types of measures are small. For example, Joseph and Newman (2010) found that ability EI had corrected correlations ranging from .12 to .23 with self-report EI measures. Other researchers have further subdivided the self-report EI measures into two categories (Ashkanasy & Daus, 2005), and we report the results using this further subdivision in our supplementary materials.

Dark Triad Traits

Dark Triad personality traits consist of three traits, which are narcissism, Machiavellianism, and psychopathy. Narcissism refers to one's extreme self-aggrandizement and self-love, an inflated view of self, and fantasies of control, admiration, and successes. Machiavellianism is reflected in one's belief in the effectiveness of manipulating others and a moral stance that places expediency ahead of principle. Psychopathy is regarded as the "darkest" of Dark Triad traits and is marked by a lack of remorse and guilt in harming others, a lack of empathy, and a lack of concern for both impulsivity and other people (Nagler et al., 2014; O'Boyle, Forsyth, Banks, & McDaniel, 2012).

Dark Triad traits have been shown to be a prominent predictor of aggressive and norm-violating behaviors (Muris, Merckelbach, Otgaar, & Meijer, 2017). For example, meta-analytic findings showed that narcissism was positively related to counterproductive work behaviors and provoked aggression; Machiavellianism was positively related to counterproductive work behaviors and negatively related to job performance; and psychopathy was positively related to counterproductive work behaviors, antisocial conduct, violence, and general recidivism, and was negatively related to job performance (Leistico, Salekin, DeCoster, & Rogers, 2008; O'Boyle et al., 2012; Rasmussen, 2016; Salekin, Rogers, & Sewell, 1996).

The Connection between Emotional Intelligence and Dark Triad Traits

Researchers who explored the dark sides of EI regularly tested the link between EI and Dark Triad traits. Some researchers are concerned that high EI gives people the ability to take advantage of others by manipulating their emotions. For example, researchers have claimed that individuals high in Dark Triad traits are emotionally manipulative and prone to engage in callous exploitation (Nagler et al., 2014). Moreover, researchers have argued that EI could be associated with antisocial impulsive features, managing others' emotions to achieve personal goals, ingratiating supervisors by reporting successes and hiding failures, and mortifying others to maximize personal gains (Fix & Fix, 2015; Kilduff et al., 2010; Nagler et al., 2014).

The majority of EI researchers, however, have argued that EI is related to empathy and positive, prosocial behavior. Goleman and his colleagues have claimed that empathy is a crucial, core component of EI, and they state that empathy is “the fundamental competence of social awareness” and “the sine qua non of all social effectiveness in working life” (Goleman, Boyatzis, & McKee, 2013, p. 50). A convincing number of empirical studies have confirmed the straightforward and common-sense expectation that empathy promotes prosocial behavior. Meta-analytical studies have confirmed the empathy-altruism hypothesis (Eisenberg & Miller, 1987). EI also predicts empathic leadership (Kellelt, Humphrey, & Sleeth, 2002; 2006). A recent meta-analysis has found that EI is positively related to performing organizational citizenship behavior, a type of positive prosocial work behavior (Miao, Humphrey, & Qian, 2017b). This meta-analysis also found that EI is negatively related to counterproductive work behavior, which is the type of destructive antisocial work behavior commonly linked to the Dark Triad. Another meta-analysis found that EI is related to authentic leadership, a type of leadership that emphasizes ethical prosocial behavior (Miao, Humphrey, & Qian, 2018b). Because empathy is a core component of EI, and because EI is positively related to organizational citizenship behavior and

negatively related to counterproductive work behavior, we believe that the majority of studies will find a negative relationship between EI and the Dark Triad traits. Thus, our first hypothesis:

Hypothesis 1: EI will be negatively related to the Dark Triad traits (narcissism, Machiavellianism, and psychopathy).

Moderators for Emotional Intelligence – Dark Triad Traits Relationships

Types of EI. Some research has reported that different types of EI may show different relationships with Dark Triad traits (e.g., Zhang, Zou, Wang, & Finy, 2015). A comprehensive meta-analysis has analyzed the associations between ability and trait EI with a “general factor of personality” that subsumes the Big Five measures (van der Linden et al., 2017). According to this meta-analysis, the general factor of personality correlates .28 with ability EI and .85 with trait EI, thus having a much stronger correlation with trait EI. The large difference in the size of the correlations suggests that the two types of measures will correlate differently with a variety of personality measures, including the Dark Triad. The authors summarized their findings by stating that trait EI may be essentially identical with the general factor of personality and with the social effectiveness dimension of personality (van der Linden et al., 2017). They stated, “High-trait EI individuals are more likely to behave in socially effective ways, which will ultimately be reflected in higher scores on personality facets like friendliness, dependability, and sociability” (p. 45). This suggests that trait EI measures may be more strongly negatively correlated with the Dark Triad than ability EI measures are. However, ability EI scholars have also argued that empathy is a core component of EI, and that EI promotes prosocial behavior. Salovey and Mayer (1990) in their seminal article on EI defined empathy as “the ability to comprehend another’s feelings and to re-experience them oneself” and they argued that empathy is crucial to EI. Given that their measure also includes empathy as a key component, we leave it

as a broad, open-ended, research question as to whether there are differences between ability and trait EI measures with respect to the Dark Triad:

Research Question 1: Does the relationship between EI and Dark Triad personality traits vary across different types of EI?

Measures of EI. Even within type of measure, it is possible that different measures of EI vary in the quality of their psychometric properties and predictive validity. For example, in Martins's et al. (2010) meta-analysis on the relationship between EI and health, they found that the effect of EI on health was stronger when Trait Emotional Intelligence Questionnaire (TEIQue) and Emotional Quotient Inventory (EQ-i) were used, whereas the effect of EI on health was weaker when Schutte Emotional Intelligence Scale (SEIS) and Trait Meta Mood Scale (TMMS) were utilized. Petrides (2017) summarized and compared the psychometric properties of different measures of EI and found that some EI measures have better psychometric properties than others. Hence, we provide the following research question.

Research Question 2: Do measures of EI moderate the relationships between EI and Dark Triad traits?

Measures of Dark Triad Traits. Different measures of Dark Triad traits may have different psychometric properties (Vize, Lynam, Collison, & Miller, 2018). For example, to enhance measurement efficiency, Dirty Dozen was developed as a concise measure of Dark Triad traits that only consists of 12 items (Jonason & Webster, 2010). Other researchers also tried to develop some concise measures of Dark Triad traits that are not only driven by their theoretical roots but also cover all essential features of each Dark Triad construct; one example is the 27-item measure – The Short Dark Triad (SD3) (Jones & Paulhus, 2014). Some research has shown that Dirty Dozen and SD3 have differentially tapped each construct of Dark Triad traits

and SD3 has been shown to meet acceptable psychometric standards (e.g., Jones & Paulhus, 2014; Lee et al., 2013; Maples, Lamkin, & Miller, 2014).

In sum, most Dark Triad research has utilized standard personality questionnaires which have well-documented, acceptable validity (Furnham, Richards, & Paulhus, 2013). Nevertheless, some newer, briefer scales have received less validation. Further, different scales of Dark Triad traits may also differentially tap each construct (Vize et al., 2018), thus resulting in different validities. Hence, we tested the scale-based moderations across different Dark Triad measures.

Research Question 3: Do measures of Dark Triad traits moderate the relationships between EI and Dark Triad traits?

Method

Literature Search and Inclusion Criteria

We searched the usual plethora of academic databases to identify relevant literature (e.g., ABI/INFORM, EBSCO Host, ProQuest Dissertations and Theses, PsycNET, ScienceDirect, and Social Sciences Citation Index). We also searched relevant management and psychology journals. To supplement our search and ensure the comprehensiveness of our search, we searched the *Google* and *Google Scholar* websites as well as management and psychology conferences in order to capture unpublished studies.

For this search, we set two inclusion criteria: (1) the included studies had to be empirical and quantitative; and (2) the included studies must report at least one correlation coefficient between EI and Dark Triad traits, or provide sufficient statistics that enable us to convert them into effect sizes via Lipsey and Wilson's (2001) and/or Peterson and Brown's (2005) methods. In total, we identified 38 eligible studies for inclusion in the present meta-analysis ($k = 14$, $N = 5,297$ for EI – Narcissism; $k = 13$, $N = 4,748$ for EI – Machiavellianism; and $k = 25$, $N = 5,725$

for EI – Psychopathy). A list of the references for the studies included in the present meta-analysis and a coding table have been uploaded as online supplementary materials.

Coding and Meta-Analytic Procedures

For this set of 38 studies, we coded the relevant effect sizes, and also coded each study according to the EI measure that was used into two types: (a) ability EI and (b) trait EI; we categorized EI in accordance with Petrides (2017)¹. Such a classification of EI has been supported by meta-analytic findings (e.g., Andrei et al., 2016; van der Linden et al., 2017). We also coded each included study according to the measure(s) of EI and/or Dark Triad traits that was/were used in each study.

We performed meta-analyses according to Schmidt and Hunter (2015). We corrected measurement errors in both independent and dependent variables. We computed $\hat{\rho}$ (corrected sample-size-weighted mean correlation) in addition to \bar{r} (uncorrected sample-size-weighted mean correlation). Corrected 95% confidence intervals were calculated to assess the statistical significance of effect sizes. An effect size is thought to be statistically significant at 0.05 level when a corrected 95% confidence interval of an effect size does not include zero. Both $\text{Var}_{\text{art}\%}$ statistic and corrected 80% credibility interval were computed to evaluate the degree of heterogeneity in effect sizes and the potential existence of moderators. Moderators may exist in a meta-analytic distribution when statistical artifacts account for less than 75% of the variance in the meta-analytic effect sizes (i.e., $\text{Var}_{\text{art}\%} < 75\%$). In addition, wide corrected 80% credibility

¹ Another method to classify EI measures was developed by Ashkanasy and Daus (2005). They categorized EI into three streams/types, which are ability EI (stream 1 EI), self-report EI (stream 2 EI), and mixed EI (stream 3 EI). Ability EI scales, based on Mayer and Salovey four-branch model of EI, measure EI as a type of intelligence by incorporating objective right or wrong answers. Self-report EI scales, which are still based on Mayer and Salovey four-branch model of EI, measure EI like personality tests by including self-report items. Mixed EI scales use self-report measures and they include a wider set of variables (e.g., a mix of behaviors, competencies, and/or skills) that are not covered by Mayer and Salovey four-branch model of EI. Due to the increasing acceptance of ability versus trait EI distinction as supported by research evidence (Andrei et al., 2016; van der Linden et al., 2017) and for the parsimony and clarity of reporting, we provided the meta-analytic results of 3 streams of EI in online supplemental materials.

intervals may also be indicative of the potential existence of moderators in meta-analytic distributions. We performed subgroup analyses to test moderator effects in line with prior research (e.g., Garrett, Miao, Qian, & Bae, 2017).

Outlier Analyses

We performed outlier analyses by using sample adjusted meta-analytic deviancy (SAMD) statistic (Beal, Corey, & Dunlap, 2002). We identified one outlier in EI – narcissism meta-analytic distribution and one outlier in EI – psychopathy meta-analytic distribution. No outlier was found for EI – Machiavellianism meta-analytic distribution. We performed analyses with and without these outliers to examine whether our conclusions change as a result of outliers. We found our conclusions remain the same. Hence, in line with prior research, we decided to keep these studies for the completeness of analyses.

Publication Bias Analyses

To assess whether our meta-analytic results overestimate true mean effect sizes as a function of systematic publication bias, three publication bias analyses were performed, which are trim-and-fill analysis, Egger's test of the intercept, and time-lag bias analyses. Regarding trim-and-fill analysis, the symmetry of the distribution of effect sizes in the funnel plot was used as an indicator of the existence of publication bias. This method will calculate the adjusted effect size as a result of the possible effect of publication bias. We followed the criteria suggested by Kepes et al. (2012) to assess the degree of publication bias. The extent of publication bias is determined to be negligible, moderate, and severe when the difference between observed mean correlation and adjusted observed mean correlation is smaller than 20%, between 20% and 40%, and larger than 40%. When the aforesaid difference is 0% and there is no sample imputed in the funnel plot to restore the asymmetry of the distribution of samples, publication bias is then

determined to be absent. Egger's test of the intercept shows that publication bias is absent when the intercept is statistically non-significant. Time-lag bias occurs when studies that reported large and significant results get published earlier because they appear interesting and dramatic (Kepes et al., 2012). To assess time-lag bias, we conducted meta-regression by regressing effect sizes onto publication year (Wongupparaj, Kumari, & Morris, 2015).

Regarding EI – narcissism meta-analytic distribution, trim-and-fill analysis showed that five samples were imputed on the left side of the funnel plot (see Figure 1[a]). The difference between observed mean correlation and adjusted observed mean correlation is larger than 40%, indicating that the degree of publication bias is severe. Egger's test of the intercept exhibited an intercept of 8.75 that is statistically significant, showing the presence of publication bias. Further, the result of meta-regression demonstrated that the slope is statistically significant when effect sizes were regressed onto publication year.

As for EI – Machiavellianism meta-analytic distribution, one sample was imputed on the right side of the funnel plot according to trim-and-fill analyses (see Figure 1[b]). The difference observed mean correlation and adjusted observed mean correlation is smaller than 20%, demonstrating that the impact of publication bias is negligible. Egger's test of the intercept produced an intercept of -0.46, which is statistically non-significant, indicating the absence of publication bias. The result of meta-regression is consistent with the results of the other two publication bias analyses, demonstrating the absence of publication bias, because the slope is statistically non-significant.

With regard to EI – psychopathy meta-analytic distribution, four samples were imputed on the left side of the funnel plot. In spite of this imputation, the difference between observed mean correlation and adjusted observed mean correlation is between 20% and 40%, indicating

the impact of publication bias is moderate. Egger's test of the intercept yielded an intercept of 1.71, which is statistically non-significant. The meta-regression also confirms the absence of publication bias because the slope is statistically non-significant when effect sizes were regressed onto publication year.

Insert Figure 1 about Here

Results

Main Effect

Table 1 shows our meta-analysis findings. The effect size was considered to be statistically significant at 0.05 level when a 95% confidence interval of a meta-analytic distribution did not contain zero. We found that EI was not significantly related to narcissism ($\hat{\rho} = 0.02$). In addition, neither ability EI nor trait EI was related to narcissism (ability EI: $\hat{\rho} = -0.10$; trait EI: $\hat{\rho} = 0.05$). The relationship between EI and Machiavellianism was statistically significant and negative ($\hat{\rho} = -0.29$). And, the relationships among each of the types of EI and Machiavellianism were significant and negative as well (ability EI: $\hat{\rho} = -0.31$; trait EI: $\hat{\rho} = -0.27$). Finally, EI was significantly and negatively related to psychopathy ($\hat{\rho} = -0.17$). This significant and negative relationship also held across each type of EI (ability EI: $\hat{\rho} = -0.21$; trait EI: $\hat{\rho} = -0.16$). The $\text{Var}_{\text{art}}\%$ statistics of EI – narcissism, EI – Machiavellianism, and EI – psychopathy distributions were 10%, 31%, and 17% respectively. According to Schmidt and Hunter's (2015) 75% rule, searching for moderators was recommended in order to explain the heterogeneity across meta-analytic distributions.

Insert Table 1 about Here

Moderator Effect

We performed a series of z-tests to examine moderator effects. The results of moderator effect were shown in the last column in Table 1. As for the EI – narcissism meta-analytic distribution, we found that types of EI did not significantly moderate the relationship between EI and narcissism. Neither did EI measures (MSCEIT versus SEIS versus TEI-Que). Narcissism measures (Dirty Dozen versus NPI) nevertheless significantly moderated the relationship between EI and narcissism ($\Delta \hat{\rho} = 0.29, p < 0.05$).

We repeated the same procedures to analyze all other moderators. We found that types of EI did not significantly moderate the relationships between EI and Machiavellianism ($\hat{\rho}$ [ability EI] = -0.31 versus $\hat{\rho}$ [trait EI] = -0.27) and between EI and psychopathy ($\hat{\rho}$ [ability EI] = -0.21 versus $\hat{\rho}$ [trait EI] = -0.16).

EI measures and Machiavellianism measures significantly moderate the relationship between EI and Machiavellianism. Specifically, the relationship between EI and Machiavellianism is stronger when SEIS ($\hat{\rho} = -0.37$) and MACH-IV ($\hat{\rho} = -0.37$) were used than when TEI-Que ($\hat{\rho} = -0.19$) and Dirty Dozen ($\hat{\rho} = -0.22$) were used.

EI measures and psychopathy measures significantly moderate the relationship between EI and psychopathy. Specifically, the relationship between EI and psychopathy is stronger when MSCEIT ($\hat{\rho} = -0.22$) and TEI-Que ($\hat{\rho} = -0.19$) were used than when EQ-i ($\hat{\rho} = 0.03$) was used. Further, the relationship between EI and psychopathy is stronger when Dirty Dozen ($\hat{\rho} = -0.43$) was used than when LSRP ($\hat{\rho} = -0.22$), PCL-R ($\hat{\rho} = -0.03$), PPI ($\hat{\rho} = 0.05$), PPI-R ($\hat{\rho} = -0.13$), and SRP-III ($\hat{\rho} = -0.14$) were used.

In sum, findings support the inference that: (1) there is a negative, and significant, relationship between EI and Machiavellianism; (2) there is a negative, and significant, relationship between EI and psychopathy; (3) there is a non-significant relationship between EI

and narcissism; (4) EI types do not significantly moderate the relationships between EI and Dark Triad traits; and (5) EI measures and measures of narcissism, Machiavellianism, and psychopathy show some significant moderator effects.

Discussion

EI is considered to be an important predictor of a variety of prosocial and positive outcomes. Not surprisingly, given the clear research findings, developing, promoting, and enhancing EI is a goal across multiple streams of research on management (Gabriel, Cheshin, Moran, & van Kleef, 2016). However, despite ~~of~~ the bright sides of EI, there has been a growth in literature that is exploring the dark sides of EI out of concerns that EI may enable individuals to be manipulative and self-serving and to do things that could be deleterious to others (Davis & Nichols, 2016). Thus, there has been a dramatic increase in literature that explored the link between EI and Dark Triad personality traits.

Thus, we performed a meta-analysis in order to sort out this muddled collection of findings and assertions and to bring clarity to the existing literature. We find that there is no statistically significant relationship between EI and narcissism. In addition, EI has negative associations with Machiavellianism and psychopathy, which demonstrates that people high on EI are less likely to be high on these two undesirable personality traits. These findings hold the same across each type of EI (i.e., ability EI and trait EI). Taken altogether, our meta-analytic findings do not provide support to the dark sides of EI. This is a critical insight that is missing from much of the dark side literature, which focuses on possible negative aspects to EI. Our work should put to rest the notion that there is a clear, positive link between EI and the Dark Triad; right now, according to the existing literature, that is simply not the case. Rather, the link is negative (Machiavellianism and psychopathy) or non-significant (narcissism). Our findings are

consistent with models of EI that emphasize how empathy is a core part of EI, and with empirical meta-analyses that have found positive associations between EI and prosocial behaviors such as organizational citizenship behavior.

We explored whether relationships with the Dark Triad traits might differ according to the type of EI measure used (ability versus trait). Although some prior meta-analyses have found differences between these two types in how they relate to other personality variables and outcome variables, our study did not find statistically significant differences between these two types. This may be because both conceptualizations emphasize the importance of empathy and prosocial concern for others. People high on EI have better mental health (Martins et al., 2010), so it is not surprising that people high on EI are less likely to suffer from traits such as psychopathy associated with poor mental health.

We did find that there were differences in relationships according to the specific scales used. Thus, researchers and practitioners need to carefully consider their choice of scales if their main goal is to identify people with the Dark Triad traits. With regard to narcissism, the Dirty Dozen was more strongly negatively related to EI than was the NPI. This could be because they assess different aspects of narcissism (Maples et al., 2014). Unlike the Dirty Dozen, the NPI has as one of its three dimensions “Leadership/Authority” and it is possible that including this dimension reduces the negative relationship between NPI and EI. Maples and her co-authors (2014) examined the relationships of the Dirty Dozen and the NPI with the Five Factor Model of Personality (see their Table 3, page 329). They found that the two scales differed substantially in their correlations with the personality traits. For example, the Dirty Dozen correlated only .08 with extraversion and was negatively correlated with conscientiousness at -.13. In comparison, the NPI had larger positive associations with these two generally positive characteristics, .41

with extraversion and .14 with conscientiousness. In addition, the Dirty Dozen was positively associated with Neuroticism (.14); whereas the NPI was negatively associated with this undesirable trait (-.29). The Dirty Dozen's correlations with personality traits may also explain why it has the strongest negative relations when used to assess EI's relationships to psychopathy and Machiavellianism. The Dirty Dozen is associated with callous affect ($r = .49$) and coldheartedness ($r = .38$) (Miller, Few, Seibert, Watts, Zeichner, & Lynam, 2012), and thus should be negatively related to the empathic dimensions of EI. However, until more research on EI and the Dark Triad traits is undertaken at the subscale level the exact cause of the differences between the scales remains unverified.

There were also moderation effects according to the type of EI scale used. However, there were not consistent results across the three dark characteristics. For narcissism, there was no differences by EI scales. For Machiavellianism, the SEIS was significantly more negatively related than was the TEI-Que, although it was not significantly different from the MSCEIT. For psychopathy, the SEIS was not significantly different from the other scales. Only the EQ-i was significantly different from any of the other scales, and its results were based on only 2 studies, with a combined sample of 308. The other four EI scales were not significantly different from each other in their relationships to psychopathy. Thus, there is only weak and mixed support for EI scales differences with regard to the Dark Triad.

Limitations and Future Directions

Although our meta-analysis provided answers to our primary research questions regarding the dark sides of EI, there still exist several limitations. First, the $Var_{art}\%$ values are still small across most of the meta-analytic distributions. According to Schmidt and Hunter's recommendations, when this value is less than 75%, there should be heterogeneity in meta-

analytic distributions and one should suspect the potential existence of moderators. Clearly, a series of the meta-analytic distributions in the present study have $Var_{art}\%$ values less than 75%. Thus, one thing that our meta-analysis indicates is that future research needs to explore how unidentified moderators operate and influence the relationship between EI and Dark Triad traits.

Second, although we detected some significant moderator effects, there still exist a series of non-significant moderators. The non-significant moderator effects might be caused by sizable second-order sampling error and low statistical power because the number of samples for EI – narcissism and EI – Machiavellianism meta-analytic distributions is not very large. In addition, moderator test in meta-analysis is a low power test (Steel & Kammeyer-Mueller, 2002), thus increasing the difficulty to detect the presence of moderators. In spite of this limitation, the way we performed our moderator analyses is still consistent with the best practices in meta-analysis. For example, we performed subgroup analyses to test moderators because this method has higher statistical power to detect moderator effects than other moderator analyses in meta-analysis (Wang, Oh, Courtright, & Colbert, 2011). In addition, prior research demonstrated that at least 10 samples would be needed for each main meta-analytic distribution to ensure the stability of moderator results (Kirca, Hult, Deligonul, Perry, & Cavusgil, 2012). Clearly, all of our three main meta-analytic distributions (i.e., EI – narcissism, EI – Machiavellianism, and EI – psychopathy meta-analytic distributions) have more than 10 samples. In sum, we encourage readers to exercise caution in interpreting our moderator results.

Third, our meta-analysis may be influenced by the included studies that used self-reported ratings of EI and Dark Triad traits. Although this issue may be less relevant to ability EI which is a maximum performance test (like how cognitive intelligence is measured), this same issue could be of concern to researchers who use self-report measures of EI and Dark Triad traits.

Self-reported ratings here may result in response distortion, such as socially desirable responding (O'Boyle, Forsyth, Banks, & Story, 2013). For example, one may over-report EI and under-report Dark Triad traits, which are particularly prevalent in high-stake settings. These problems could be further exacerbated if subjects engage in extreme responding, which might add more construct-irrelevant variance to their responses (Batchelor & Miao, 2016). However, the fact that there were no differences between ability EI measures and the self-report trait EI measures suggests that problems due to self-reports may not be too serious. In addition, studies in other areas suggest that self-reports even of undesirable behaviors may not jeopardize research results. For example, counterproductive work behavior self-reports are not unduly biased compared to others' reports, and relationships with other variables remained unaffected by rating sources (Berry, Carpenter, & Barratt, 2012). Future studies are encouraged to use observer ratings to further examine these issues.

Fourth, we only analyzed how two different types of EI (ability and trait) are associated with Dark Triad traits. Recently, there is a new stream of EI, which is conceptualized in terms of observable behaviors and is thought to be a more powerful predictor of real-world outcomes than cognitive ability and personality (Boyatzis, 2016). Future research may explore the relationship between this behavioral approach and Dark Triad traits.

Fifth, future studies may investigate whether there is a "too much of a good thing" effect of EI. According to self-regulation perspectives, an optimal amount of resources should be consumed to a specific target and any additional resources beyond that level would be wasted and lead to deleterious outcomes (Le et al., 2011). For example, individuals extremely high in the EI emotion perception ability may be too aware of negative emotions in themselves and/or others, which could lead to psychological discomfort (Davis & Nichols, 2016). Future research

should explore the possibilities of curvilinear relationships by following the best practices as recommended by Pierce and Aguinis (2013).

Sixth, there have been debates over the construct overlap among different Dark Triad components (Vize, Lynam, Collison, & Miller, 2018) and over the construct redundancy between Dark Triad traits and some other personality traits (e.g., O'Boyle et al., 2015). Research findings have shown that the nomological networks of Machiavellianism and psychopathy overlap substantially (e.g., Vize et al., 2018). For example, Miller and his colleagues found in two studies that Machiavellianism and psychopathy “manifested nearly identical empirical profiles” (Miller, Hyatt, Maples-Keller, Carter, & Lynam, 2017, p. 439). Moreover, they showed that expert ratings of the Five-Factor Model traits prototypical of people high on Machiavellianism did not match empirical ratings, thus showing a mismatch between the theory and the measures. It is theoretically important to go beyond univariate meta-analysis to examine whether there is construct redundancy between EI and Dark Triad traits or if Dark Triad traits augment the prediction of outcome variables above and beyond EI. This line of research is beyond the scope of the present study. We hence call for future studies to further delve into these issues via multivariate analyses.

Seventh, another major limitation is the lack of information about the relationships between subscales of the Dark Triad and EI measures. Research has demonstrated that the Dark Triad constructs are multidimensional, and in many cases total scores should not be used without at least examining subscale relations (Miller, Dir, Gentile, Wilson, Pryor, & Campbell, 2010; Watts et al., 2016). For example, Miller and his colleagues (Miller et al., 2010) found that the two factors of psychopathy have considerably different correlations with Five Factor Model traits. Directly relevant to our study, research has found that subscales of psychopathy have different

relations with EI (Watts et al., 2016). Thus, in the future EI researchers should use measures that assess psychopathy and the other two Dark Triad constructs in a multidimensional manner. This will mean avoiding scales, such as the Dirty Dozen, that have been shown to omit important aspects of psychopathy (Miller, Few, Seibert, Watts, Zeichner, & Lynam, 2012) and narcissism (e.g., Maples, Lamkin, & Miller, 2014).

Conclusion

The favorable relationship between EI and positively-oriented outcomes is not ambiguous. However, the relationship between EI and negatively-oriented outcomes has been debated, because some scholars have claimed that EI has a dark side, and that people high on EI can use their emotional skills to manipulate others. Specifically, scholars exploring EI and the Dark Triad personality traits—narcissism, Machiavellianism, and psychopathy—have put forth competing views. Our meta-analysis clarifies the literature and shows, clearly, that the links are negative (Machiavellianism and psychopathy) or non-significant (narcissism). In other words, people high on EI are less likely to be high on Machiavellianism and psychopathy. Our results are consistent with prior meta-analyses that have found that EI is associated with prosocial behavior. In addition, EI measures and measures of narcissism, Machiavellianism, and psychopathy exhibited some significant moderator effects that influence the strength of these links. That, however, is not the end of the story. Our work clearly indicates that there may be more unidentified moderators at work here, and thus our work sets the stage for multiple areas of intriguing future research related to all the various types of EI, relevant boundary conditions, and negative outcomes.

References²

² A list of the references for the studies included in the present meta-analysis has been uploaded as online supplementary materials.

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