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## **Self-disgust and the dark triad traits: the role of expressive suppression**

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**Abstract**

This study examined whether the dark triad personality traits were related to the experience of self-disgust, and whether these relationships were mediated by emotion regulation deficits. A sample of (N=620) individuals completed measures of emotion regulation, dark triad traits and self-disgust. Correlational analysis determined that self-disgust was significantly related to increased psychopathy and Machiavellianism, but not narcissism. Parallel multiple mediation analyses evidenced an indirect effect of self-disgust on psychopathy through expressive suppression but not cognitive reappraisal. In contrast, emotion regulation strategies did not mediate the relationship between self-disgust and Machiavellianism. The current observations provide contributions to research in self-disgust and the dark triad personality traits. Addressing negative self-appraisal and related emotional difficulties may benefit individuals displaying anti-social personality traits.

## 1. Introduction

The dark triad traits are considered aversive personality traits (Kowalski, 2001) comprised of three dimensions: Machiavellianism, psychopathy, and narcissism (Jonason et al., 2013). Machiavellian individuals are generally manipulative, callous, superficial, and strategic, yet their self-presentation is positively orientated to be perceived as charming and attractive in terms of personality (Jonason et al., 2013). In contrast, psychopathic individuals lack self-control, are highly impulsive, adventurous, present deficits in affect (i.e. callousness) and interpersonal antagonism. That said, both traits encompass reduced empathy, agreeableness and conscientiousness (Del Gaizo & Falkenbach, 2008). Narcissistic individuals typically crave positive attention and present increased entitlement, superiority, dominance, self-love and an egocentric attitude (Jonason et al., 2013). Evidence highlights the dark triad traits to be associated with antisocial behaviour and aggression in children and young adults (e.g., Muris, et al., 2013); violent tendencies and bullying (Baughman, Dearing, Giammarco, & Vernon, 2012; Carton & Egan, 2017; Pailing et al., 2014); risk taking and sensation-seeking activities (Crysel et al., 2013); an evening chronotype disposition (Jonason et al., 2013); and psychiatry difficulties including insomnia, anxiety and depression (Akram et al., 2018, 2019).

Difficulties in emotion regulation refer to inflexible strategies that interfere with social, cognitive or interpersonal functioning (Gratz & Roemer, 2004). These difficulties are considered key mechanisms which underlie the dark triads, and are commonly evidenced in this population (Cairncross, et al., 2013; Jonason et al., 2013). Specifically, deficits in impulse control, emotional awareness and acceptance, and limited access to adequate emotion regulation strategies are related to increased reports of dark triad traits (Jonason & Krause, 2013; Pollock et al., 2016). Furthermore, diminished cognitive and affective empathy and an inability to describe and understand one's own emotions (i.e. alexithymia: Nemih & Sifneos, 1970) also appear to be prominently related the dark triad traits (Del Gaizo & Falkenbach, 2008; Jonason & Krause, 2013; Swart et al., 2009).

Self-disgust refers to an enduring self-conscious emotion of disgust and revulsion directed towards the self in a way which manifests as physical (e.g. I find myself repulsive) and/or behavioral (e.g. I often do things I find revolting) in nature (Overton et al., 2008). Whilst sharing characteristics of other self-conscious emotions (e.g. guilt, shame), self-disgust is comprised of distinct phenomenological, expressive and evaluative properties (Overton, et al., 2008; Powell et al., 2014). Theoretically, it is considered to be the result of an interaction between an evolved predisposition to experience disgust, the eventual internalization of socially comparative processes (e.g. how other people see me) initiated during early developmental stages, and changes in self-concept which occur over time that may activate an individual's notion of disgust (Whelton & Greenberg, 2005; Powell et al., 2015; Ypsilanti et al., 2019). Psychopathic and Machiavellian individuals present deficits in self-conscious emotions, particularly guilt and shame (e.g., Giammarco & Vernon, 2015; Lanciano & Curcu, 2019;). Despite this, self-disgust is yet to be examined in relation to the dark triad traits.

Psychopathic and Machiavellian individuals appear to display increased sensitivity of outward disgust (Meere & Egan, 2017), whereas psychoticism, hostility and interpersonal sensitivity are strong predictors of self-disgust in a clinical sample (Ille et al., 2014). To that end, it is plausible that the dark triad personality traits are associated with the experience of self-disgust. Furthermore, considering expressive suppression and cognitive reappraisal deficits are associated with self-disgust amongst individuals with trait like impulsivity (Lazuras et al., 2019), these emotional difficulties may possibly mediate the relationship between self-disgust and the dark triads. The present exploratory study examined, for the first time, whether: i) specific

dark triad personality traits were independently related to increased reports of self-disgust (hypothesis 1); any emerging relationships were mediated by emotion regulation deficits (hypothesis 2).

## **2. Method.**

### **2.1 Sample and Procedure**

Ethical approval was granted by the [Masked\_for\_review] University Research Ethics Committee. This experiment was conducted in accordance with the Declaration of Helsinki, and all participants gave their informed consent before participation. A cross-sectional online questionnaire-based study was implemented comprised of questions assessing emotion regulation, dark triad traits and self-disgust. Upon completion, participants were debriefed about the nature of the study. Participants were recruited via university participant pool software and advertisement to the general public. This resulted in a sample of N=717 individuals who either began or clicked on a hyperlink to the survey delivered using the Qualtrics platform. Only complete cases were used in the analysis due to the ethical right to withdraw from the survey at any time. The data was also examined for duplicate responses based on IP addresses, where none were found. Therefore, N= 620 respondents ( $M_{\text{age}}=22.67\pm 8.55_{\text{years}}$ , range=16-75, 64.4% British, 80% female, 84.4% student) providing complete data (response rate = 86%) were entered into the final analysis.

### **2.2 Measures**

#### **2.2.1 The Dark Triad**

The Dark Triad was measured using the Dirty Dozen (DD; Jonason & Webster, 2010), a 12-item short self-report measure of the Dark Triad, with four items per subscale. Respondents were asked to indicate their level of agree using a 9-point Likert scale ranging from 1 (Strongly agree) to 9 (Strongly disagree) with statements such as “I have a natural talent for influencing people”, “I tend to manipulate others to get my way”, and “I tend to lack remorse.” This measure has shown good reliability, ranging from .84 to .92 for each subscale (Jonason & Webster, 2010). Cronbach’s  $\alpha$  for the present sample were as follows: narcissism (.81), Machiavellianism (.83), and psychopathy (.81).

#### **2.2.2 Self-Disgust**

The Self Disgust Scale (SDS; Overton et al., 2008) is an 18-item self-report measure assessing cognitions and emotions towards the self across three subscales: appearance, general self-concept, and behaviour. Respondents were asked to rate items using a 7-point Likert scale ranging from 1 (Strongly agree) to 7 (Strongly disagree). The SDS has demonstrated high internal consistency ( $\alpha = .91$ ) and good test-retest reliability (Overton et al., 2008). The Cronbach’s  $\alpha$  for the present sample was .93.

#### **2.2.3 Emotion Regulation**

The Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) assessed emotion regulation strategies using two subscales: cognitive reappraisal (6 items, e.g., “When I want to feel less negative emotion, I change the way I’m thinking about the situation”) and expressive suppression (4 items, e.g., “I keep my emotions to myself”). Respondents were asked to rate items using a 7-point Likert scale ranging from 1 (Strongly disagree) to 7 (Strongly agree). This measure has been shown to have good internal consistency with Cronbach’s  $\alpha$  values greater than .80 for both subscales (Gratz & Roemer, 2004). The Cronbach’s  $\alpha$  of the reappraisal and suppression subscales for the present sample were .84 and .78, respectively.

### **2.3 Data Analyses**

SPSS 26.0 was used for the descriptive analysis of raw data and first order correlations among all variables. Mediation analysis were conducted to test the indirect effects model suggesting that the association between self-disgust and dark triad (Machiavellianism, psychopathy, and narcissism) tendencies may be due, at least in part, emotion regulation strategies. More specifically, we tested Parallel multiple mediation analyses (PMMA) with a single predictor, two mediators, and single outcome and age and gender were entered as control variables. To accomplish this, a bootstrapping approach was used (e.g., Hayes, 2009; Preacher & Hayes, 2004).

For the current study, bootstrapping was set to 10,000 samples and a 95% confidence interval for determining statistical significance. An SPSS Macro (i.e., PROCESS; Hayes, 2013) was used to conduct the mediation analyses. PMMA were conducted using PROCESS model 4. In all models, age and gender were entered as control variables. When conducting PMMA, no mediator is modelled as influencing another mediator in the model and allowing for the estimation of a simultaneous test of both mediators, while accounting for shared variance between them. We hypothesised that self-disgust would directly influence Dark Triad traits (Machiavellianism and psychopathy) via emotion regulation strategies (cognitive reappraisal and expressive suppression). Significance was considered at the  $p < .05$  level.

### 3. Results

Means and standard deviations of variables are reported in Table 1. The assumption of normality was tested for all subscales of included measures. Results from the Kolmogorov-Smirnov test for normality indicated that all subscales did not significantly deviate from a normal distribution. To test for differences between the student and general population samples, a series of Welch two-sample t-tests were conducted. All results were not significant (all  $p$ 's  $> .05$ ) except for psychopathy,  $t(1,121)=6.05$ ,  $p=.015$ , with the general population sample exhibiting significantly higher levels of psychopathy ( $11.22 \pm 7.97$ ) than students ( $9.11 \pm 6.47$ ). Inspection of the correlation matrix revealed that self-disgust was significantly related to increased psychopathy ( $r=.22, p=.001$ ), Machiavellianism ( $r=.13, p=.001$ ), expressive suppression ( $r=.32, p=.001$ ), and reduced cognitive reappraisal ( $r= -.40, p=.001$ ). Psychopathy was associated with reduced levels of cognitive reappraisal ( $r= -.40, p=.001$ ) and increased expressive suppression ( $r=.32, p=.001$ ). Finally, Machiavellianism ( $r=.10, p=.014$ ) and narcissism ( $r= -.09, p=.021$ ) were differentially related to expressive suppression. All other correlations are presented in Table 1.

#### Insert-Table-1

The DVs of the mediation models were determined from preliminary bivariate correlations between all variables. As such, only two PMMA models were conducted. The summary statistics for the mediation models are presented in Table 2, with the graphical depictions illustrated in Figure 1. The models for self-disgust explained: 5% of the variance in Machiavellianism ( $R^2 = .05$ ,  $F [4, 611] = 5.31$ ,  $p < .001$ ) and 13.5% of the variance in psychopathy ( $R^2 = .13$ ,  $F [4, 611] = 23.81$ ,  $p < .001$ ). The total effects indicated that self-disgust was positively associated with Machiavellianism and psychopathy. Furthermore, the mediation models suggest there is an indirect effect of self-disgust on psychopathy through the emotion regulation strategy expressive suppression.

#### Insert-Table-2

To examine the direct and indirect effects of self-disgust on Machiavellianism and psychopathy via emotion regulation strategies, two parallel multiple mediator analyses were conducted (Table 2; Figure 1). In the first

model, the total effect of self-disgust on Machiavellianism was significant,  $b=0.07$ , 95% CI [0.03, 0.11]. The direct effect was significant,  $b=0.07$ , 95% CI [0.03, 0.11], indicating that self-disgust explains a significant proportion of variance. The regression coefficients indicated that neither cognitive reappraisal or expressive suppression were significant mediators of this relationship ( $p's >.05$ ). In the second model, the total effect of self-disgust on psychopathy was significant,  $b = 0.11$ , 95% CI [ 0.08, 0.14]. The direct effect was significant,  $b=0.07$ , 95% CI [0.04, 0.11], indicating that self-disgust significantly explains additional variance over that explained by the mediator (expressive suppression;  $b=0.03$ , 95% CI [0.01, 0.04]).

#### Insert-Figure-1

#### 4. Discussion

This study examined whether the dark triad personality traits were related to the experience of self-disgust, and whether these relationships were mediated by emotion regulation deficits. In support of the first hypothesis, we evidenced significant relationships between self-disgust and specific aspects of the dark triad personality traits. More specifically, psychopathy and Machiavellianism were each related to increased reports of self-disgust. Furthermore, in partial support of the second hypothesis, the relationship between self-disgust and psychopathy was mediated by expressive suppression but not cognitive reappraisal. In contrast, emotion regulation did not mediate the relationship between self-disgust and Machiavellianism.

The present findings contribute to our understanding of self-disgust and psychological mechanisms which serve to explain specific aspects of the dark triad traits. Self-disgust is an emotional schema which shares features with other forms of self-conscious emotions (e.g. guilt, shame) whilst comprising of a unique expressive and phenomenological profile (Powell et al. 2015). Previous studies reliably demonstrate deficits in self-conscious emotions amongst those with psychopathic and Machiavellian tendencies (Giammarco & Vernon, 2015; Lanciano & Curcu, 2019). In particular, these individuals self-report increased shame but reduced levels of guilt (Lanciano & Curcu, 2019) and present deficits in the ability to differentiate events which elicit either guilt or shame (Djeriouat & Trémolière, 2017). Of particular note, psychopathy and Machiavellianism have been related to the experience of self-hate guilt, where self-critical evaluation (manifesting in negative thoughts about guilt and shame) emerges following extreme and persistent critical evaluation from a significant other who also displays hatred and contempt for the individual, typically a parent (Giammarco & Vernon, 2015). Considering these observations, it perhaps makes sense that these particular dark triad traits are associated with increased reports of self-disgust. Indeed, self-disgust stems from an interaction between an evolutionary predisposition and internalization of socially comparative processes occurring in the early developmental stages (Whelton & Greenberg, 2005; Powell et al, 2015). Self-disgust is also evidenced to mediate previous relationships between dysfunctional cognition and consequentially maladaptive behaviour (e.g., Chu et al., 2015; Overton et al., 2008). Considering this, the manifestation of self-disgust in relation to Machiavellianism may theoretically serve to alleviate shame associated with socially competitive behaviour.

Emotional difficulties are commonly observed amongst individuals presenting dark triad personality traits (e.g., Birkas et al., 2016). The present outcomes found increased expressive suppression and reduced cognitive reappraisal in those experiencing self-disgust and increased psychopathic tendencies. Similarly, Machiavellianism was significantly related to increased levels of expressive suppression. These outcomes are in line with previous observations of emotion regulation difficulties amongst those presenting dark triad personality traits (Jonason & Krause, 2013; Lazuras et al., 2019). In the present study, the relationship

between self-disgust and psychopathy was mediated by expressive suppression but not cognitive reappraisal. Expressive suppression and cognitive reappraisal deficits have been previously associated with self-disgust in those exhibiting trait-like impulsivity (Lazarus et al., 2019). Given the impulsive nature of psychopathic individuals (Jonason et al., 2013) and relationships between self-disgust and expressive suppression (Lazarus et al., 2019), the currently observed mediational outcomes appear consistent with literature to date.

Several limitations of the current work should be noted. The present study consisted primarily of a female and student sample which limits the generalisability of the current findings. In addition, the present study may be subject to an inflation bias when considering the small proportion of variance explained by the mediation models. Interestingly, Giammarco and Vernon (2015) reported the mediating effect of rumination in the relationship between Machiavellianism and self-hate, a mechanism which may be present in the present study. Further research examining the role of rumination would be beneficial to understanding these associations between variables. Despite these caveats, the current study is the first to examine the relationships between self-disgust, emotion regulation and the dark triad traits. Here, the current observations add an important and unique contribution to research concerning both self-disgust and the dark triad personality traits. Future research should focus on the potential role of screening for and possibly correcting emotion regulation strategies and negative self-appraisal amongst individuals displaying psychopathic personality traits within a clinical setting.

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