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The Dark Triad traits through the lens of Reinforcement Sensitivity Theory☆

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ABSTRACT

In two studies ($N = 504$) we looked through the lens of Reinforcement Sensitivity Theory to understand the Dark Triad traits (i.e., narcissism, psychopathy, and Machiavellianism). In Study 1, the Dark Triad traits were correlated with negative affectivity, reward sensitivity, the fight system, and dysfunctional impulsivity. In Study 2, the Dark Triad traits were associated with a fight response. Sex differences in the Dark Triad traits were present in Study 1 but proved more allusive in Study 2, but were mediated by individual differences in fight systems (Study 2) and reward and punishment sensitivity (Study 1). Narcissism was associated with Behavioral Activation and Inhibition Systems across studies and measures. Results are consistent with the adaptive coordination expected by evolutionary psychologists who study the Dark Triad traits.

1. Introduction

The Dark Triad traits (Paulhus & Williams, 2002) are characterized by entitlement, superiority, dominance (i.e., narcissism), glib social charm, manipulativeness (i.e., Machiavellianism), callous social attitudes, impulsivity, and interpersonal antagonism (i.e., psychopathy). One reason for the recent explosion of work on these traits by academics and the media is their integration into an evolutionary paradigm (Jonason, Li, Webster, & Schmitt, 2009; Jonason & Tost, 2010). While useful, work on the Dark Triad traits using this paradigm has failed to address what are the underlying motivational systems that inform personality variance; motivational systems that may be directly related to neurological systems that facilitate survival. In two studies, we examine the utility of Reinforcement Sensitivity Theory (Gray, 1982), or, more importantly, Revised Reinforcement Sensitivity Theory (Corr, 2004) in understanding the Dark Triad traits.

As originally described, Reinforcement Sensitivity Theory (Gray & McNaughton, 2000) postulates that there are two primary neurological differences between people that result in the various individual differences researchers concern themselves with; the Behavioral Activation System or approach system (BAS) and the Behavioral Inhibition System or avoidance system (BIS). These neurological differences are thought to be the motivational mechanisms that cause the behavioral patterns described by personality psychologists. The theory has since been modified (Jackson, 2003; Smillie, 2008) to include three other motivational systems in people's behavior; Fight/Flight/Freeze Systems (FFFS). Fighting (e.g., defending offspring), fleeing (e.g., criminal escaping capture), and freezing (e.g., rape victims avoiding further damage) all can enable survival (Blanchard & Blanchard, 1990) and, thus, should have been selected for in organisms. For instance, hedgehogs freeze in response to attacks by foxes whereas lions will fight off hyena (i.e., between-species variance). Moreover, even a fighting species like a lion, may flee when confronted with overwhelming numbers of hyena (i.e., within-species variance). All of these systems are considered fundamental differences in how organisms react to various inputs, have evolutionary relevance, and are consistent with contemporary biology and animal learning (Gray & McNaughton, 2000). It seems like a reasonable extension to research conducted by evolutionary psychologists who study the Dark Triad traits.

As a brief review, the BAS describes an approach orientation that is sensitive to rewards (Torrubia, Avila, Caseras, & Molto, 2001). The BIS is essential to resolve goal conflicts between the BAS and the FFFS (Corr, 2004) and is associated with anxiety, arousal, hypersensitivity to threat, and cautious approach to determine if the threat is real (Smillie, Pickering, & Jackson, 2006). The FFFS mediates a fear response to tangible, aversive stimuli in three ways. Fight concerns a frenzied and

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vociferous response to threat or pain that is unescapable (Smillie et al., 2006). Fight reflects both defensive (Harmon-Jones & Sigelman, 2001) and offensive aggression (Smillie et al., 2006) to proximal threats. Flight concerns escape and freezing concerns non-action when presented with distal threats (DeYoung, 2010). These systems are an integrative framework for the neurobiology of personality (Corr, 2016) and we extend this to understand the Dark Triad traits.

From an evolutionary perspective the Dark Triad traits may reflect an exploitive and opportunistic approach to social (Jonason & Webster, 2012) and sexual (Jonason et al., 2009) relationships as part of coordinated cheater strategy (Mealey, 1995). However, doing so presents a serious challenge; people try to detect and punish cheaters. Those who engage in such a social style should have a coordinated system of traits that would enable their success if these are specialized adaptations. For instance, limited empathy may be one system that makes those high on the Dark Triad trait deaf, dumb, and blind to the suffering of their victims (Jonason, Lyons, Bethell, & Ross, 2013). Three other systems are proposed here: negative affectivity, reward to sensitivity, and a fight disposition. All three may enable those high on the Dark Triad traits to "take" what they want from the world. Being predisposed to negative feelings (i.e., being disagreeable) may enable one to take advantage of others. Being sensitive to rewards may enable perseverance in light of failures which may be likely. And, being predisposed to fighting may be an effective strategy to get what one wants from others in a competitive world (Jonason, 2015). That said, given the short timeline those high on the Dark Triad traits operate on (Jonason & Tost, 2010) they may have some dysfunctional impulsivity (Jones & Paulhus, 2011).

An important question is why men are more narcissistic, Machiavellian, and psychopathic than women are (Jonason et al., 2009). Men are generally more aggressive than women are (Wilson & Daly, 1985) and the Dark Triad traits are related to various measures of aggression (Jonason, 2015; Jonason & Webster, 2010). It may be that sex differences in the Dark Triad traits are artifacts of—driven by—sex differences in fight systems. Males—including human men, gorilla, and lions—may have, overly evolutionary time (and even today), benefited more from being physically aggressive than females did. If evolutionary psychologists (back to Darwin) are correct, there should be correlated psychological differences that may come in the form of individual differences in the Dark Triad traits. Therefore, we test for whether sex differences in the Dark Triad traits are mediated by individual differences in people's fight systems.

The Dark Triad traits are the "new kids on the personality psychology block". As such, many questions remain unanswered regarding what they lead to and what underlies them. In two studies, we examine both of these through the lens of Reinforcement Sensitivity Theory (Corr, 2016). We examine the associations between measures used in this paradigm, whether sex differences in the Dark Triad traits might be the result of particular cognitive biases, and whether the Dark Triad traits account for sex differences in men's tendency to be oriented toward fighting.

2. Study 1

In Study 1, we tackle two tasks. First, we provide a wide account[1] of how the Dark Triad traits fit within the Reinforcement Sensitivity Theory paradigm. Second, we test for mediation of sex differences in the Dark Triad traits by individual differences in Reinforcement Sensitivity Theory. Given the large number measures we include, we use the briefest measure of the Dark Triad, the Dirty Dozen (Jonason & Webster, 2010) despite criticisms (Miller et al., 2012).

[1] We do so to address the discrepancies in the various measures available in Reinforcement Sensitivity Theory research (Corr, 2016).

3. Method

3.1. Participants and procedure

Three hundred people (74% female) aged 17–53 years ($M = 23.94$, $SD = 6.87$) participated in an online study concerning the Dark Triad traits. Seventy-two percent of the sample was of European descent with 14% Asian, and 9% of Middle-eastern descent with the rest being of some "other" ethnic descent. Seventy-nine percent of the sample was Australian undergraduates who received partial course credit and the remainder was collected through snowball sampling from Facebook postings as volunteers. Only those participants who completed the measures from unique IP addresses were included. Participants were informed of the nature of the study and were asked to give consent if they wished to participate; only those who gave consent have been included. They progressed through a series of self-report measures that assessed the variables of interest. At the end of the study, participants were debriefed and thanked.

3.2. Measures

To measure the Dark Triad traits, the Dark Triad Dirty Dozen (Jonason & Webster, 2010) was used. Participants were asked how much they agreed (1 = *Not at all*; 5 = *Very much*) with statements such as: "I tend to want others to admire me" (i.e., narcissism), "I tend to lack remorse" (i.e., psychopathy), and "I have used deceit or lied to get my way" (i.e., Machiavellianism). Items were averaged together to create an index of narcissism (Cronbach's $\alpha = .82$), Machiavellianism ($\alpha = .82$), and psychopathy ($\alpha = .69$).[2]

We measured the BIS/BAS (Carver & White, 1994). It is composed of dimensions for Behavioral Inhibition and Behavioral Activation. Participants were asked how much they agreed (1 = *Not at all*; 5 = *Very much*) with each item and we averaged the corresponding items to create scales measuring Behavioral Inhibition ($\alpha = .83$), Behavioral Activation by Rewards ($\alpha = .83$), Behavioral Activation by Drive ($\alpha = .89$), and Behavioral Activation by Fun-Seeking ($\alpha = .83$).

We measured functional and dysfunctional impulsivity (Dickman, 1990). Participants were asked their agreement (1 = *Not at all*; 5 = *Very much*) with items such as "I often say and do things without considering the consequences" (i.e., dysfunctional) and "Most of the times I can put my thoughts into words very rapidly". The corresponding items were averaged to create indexes of functional ($\alpha = .80$) and dysfunctional ($\alpha = .82$) impulsivity.

We measured Revised Reinforcement Sensitivity Theory with the Jackson-5 (Jackson, 2008). The scale measures individual differences in all of the purported systems discussed above. Participants were asked their agreement (1 = *Not at all*; 5 = *Very much*) with the statements and the corresponding items were averaged to create indexes of Behavioral Activation System ($\alpha = .81$), the Behavioral Inhibition System ($\alpha = .80$), the Fight response ($\alpha = .82$), the Flight response ($\alpha = .77$), and the Freeze response ($\alpha = .72$).

We measured sensitivity to rewards and punishment with the Sensitivity to Punishment Sensitivity to Reward Questionnaire (Torrubia et al., 2001). Participants were asked whether or not they agree (yes/no) with items such as "Do you spend a lot of your time on obtaining a good image?" (i.e., reward sensitivity; $\alpha = .80$) and "Are you easily discouraged in difficult situations?" (i.e., punishment sensitivity; $\alpha = .88$) and the items were summed to create their respective indexes.

Last, we used the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988) to measure positive and negative affectivity. Participants were asked their agreement (1 = *Not at all*; 5 = *Very much*) as to whether a series of adjectives described her/himself.

[2] Machiavellianism was correlated with psychopathy ($r(298) = .61, p < .01$) and narcissism ($r(298) = .62$, $p < .01$), and narcissism was correlated with psychopathy ($r(298) = .37, p < .01$).