Seeing the world in black or white: The Dark Triad traits and dichotomous thinking

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ABSTRACT

In contrast to work examining motivational and affective biases, we examined potential cognitive biases, in the shape of dichotomous thinking (i.e., a tendency to see the world as black or white), linked to the Dark Triad traits. In Study 1 ($N = 712$), Japanese participants revealed that the latent variance—the ostensible "adaptive" competent of the Dark Triad traits—was linked to a tendency to see the world as black or white. In Study 2 ($N = 1489$), we replicated effects from Study 1 using a multinational sample and structural equation modeling and revealed some moderation by participants' sex and country in the relationship between the Dark Triad traits and dichotomous thinking. We discuss our results in terms of life history theory, contending black and white thinking might be part of the cognitive adaptations that make the Dark Triad traits function.

In the epic lightsaber battle between Obi Wan Kenobi and, the soon-to be Darth Vader (spoiler alert), Anakin Skywalker in the Star Wars movie—*Revenge of the Sith*—Obi Wan points out that only the Sith (the evil Jedi) talk in ultimatums like "you are either with us or against us." While this line was likely a subtle poke at former President George W. Bush's stance in relation to dealing with terrorists from the 9–11 attack in New York City, it may also reflect something about the likely thinking patterns associated with antisocial personality traits. Such a way of thinking may facilitate antagonistic social and reproductive strategies. In this study, we conceptualize the dark side of human nature as individual differences in the Dark Triad traits (i.e., narcissism, psychopathy, and Machiavellianism) and we conceptualize individual differences in black-and-white thinking as assessed by the Dichotomous Thinking Inventory (i.e., preferences for dichotomies, dichotomous beliefs, and profit-and-loss thinking; Oshio, 2009). We assess the correlations between each in one study drawn from just Japan and a second from four countries; we test whether these correlations are stable across participant's sex (Studies 1 and 2) and country (Study 2 only); and compare the contributions of the unique and shared variance by testing measurement invariance using structural equation modeling.

There has been a recent spate of interest in the Dark Triad traits (see Furnham, Richards, & Paulhus, 2013). The Dark Triad traits are characterized by grandiosity and self-centeredness (i.e., narcissism),

manipulation and cynicism (i.e., Machiavellianism), and callous social attitudes and impulsivity (i.e., psychopathy). While typically viewed as pathologies (Cleckley, 1964), some work suggests these traits may merely be characterized by different motivational, emotional, and cognitive biases than most people have. For instance, the traits appear to be linked to motivational biases towards status, prestige, and power (Semenya & Honey, 2015), aggression (Jonason & Webster, 2010), and limited empathy (Jonason, Lyons, Bethell, & Ross, 2013), all of which may enable the active exploitation of conspecifics.

One type of bias that has not been well studied in relation to the Dark Triad traits are cognitive in nature. A tendency to see the world in simplistic, black-and-white terms might be one that characterizes the Dark Triad traits and facilitates the exploitive behavior those high in the Dark Triad traits engage in (Furnham et al., 2013). For instance, seeing the world in "shades of grey" may foster deliberation which may waste time in the expedient accrual of resources (Richardson & Hardesty, 2012) making overt, deliberative processing potentially maladaptive because of missed opportunity costs. Those high in the Dark Triad traits may have had sufficiently harsh and unpredictable childhoods (Jonason, Icho, & Ireland, 2016) that make nuanced thinking problematic and unlikely, which may be why they engage in the various socially undesirable behaviors they are noted for. These behavioral strategies may be associated with underlying

Table 1

Descriptive statistics and zero-order correlations between the Dark Triad traits and individual differences in dichotomous thinking in Japan (Study 1).

	1	2	3	4	5	6
1. Machiavellianism	–	0.61**	0.58**	0.23**	0.26**	0.15*
2. Narcissism		–	0.41**	0.24**	0.17**	0.17**
3. Psychopathy			–	0.16**	0.22**	0.12
4. Preference for dichotomy				–	0.57**	0.69**
5. Dichotomous beliefs					–	0.34**
6. Profit-and-loss thinking						–
Mean (SD)	2.53 (0.87)	2.83 (0.87)	2.69 (0.72)	3.05 (0.72)	2.55 (0.81)	3.41 (0.74)

$*$ $p < 0.05$.

$**$ $p < 0.01$.

cognitive processes which help to quickly identify critical resources and threats, and, therefore, the Dark Triad traits may be associated with a reliance on quick and automatic processing as seen in black-and-white thinking.

To link the Dark Triad traits to individual differences in black-and-white thinking we assessed people's tendencies to think in terms of dichotomies (Oshio, 2009, 2012). The higher-order construct of dichotomous thinking may be composed of individual differences in (1) preferences for dichotomy (i.e., a thinking style that leads to a preference for distinctness rather than ambiguity), (2) dichotomous beliefs (i.e., the notion that anything can be divided into all-or-nothing categories), and (3) profit-and-loss thinking (i.e., the motivation to gain access to benefits and avoid disadvantages). There is some empirical evidence suggesting that these cognitive biases might be associated with the Dark Triad traits. For instance, dichotomous thinking is associated with Cluster B (i.e., antisocial, borderline, narcissistic, and histrionic) personality disorders (Oshio, 2012), aggression (Oshio, Mieda, & Taku, 2016), and subclinical narcissism (Oshio, 2009). Such a cognitive bias may also link to substance use (Richardson & Hardesty, 2012), as the Dark Triad also are linked to (Stenason & Vernon, 2016). Therefore, we expect all the Dark Triad traits to be associated with dichotomous thinking and the correlations should be rather stable across participants' sex and country.[1]

We present here the first set of studies to examine one potential cognitive bias in the Dark Triad traits; dichotomous or black-and-white thinking. We expect all three of the Dark Triad traits to be unified (the shared variance) by a tendency to see the world in black or white terms as such dichotomous thinking styles should facilitate swift action and undermine more measured cautious/nuanced approaches to the world. In so doing, we advance a position that what is represented in personality traits—at least the Dark Triad—are systematic and organized biases that color the way people orient themselves to the world and others.

1. Study 1

In Study 1, we sampled exclusively participants from Japan as there were validated and published measures of both at the time of collection. We also tested for potential sex differences in dichotomous thinking and the Dark Triad traits. And, we compared the correlations in men and women and analysed whether sex differences in the Dark Triad traits might be a function of individual differences in dichotomous thinking.

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[1] We test for measurement invariance to ensure the constructs have the same meaning across the groups.

1.1. Method

1.1.1. Participants and procedure

Participants were 712 Japanese (453 females, $M_{age} = 21.42$, $SD_{age} = 1.38$, *Range* = 18–25) undergraduate college students who participated in an online survey. They were recruited from 2.3 million members of comprehensive internet survey panels through an online survey research company in Japan (Rakuten Research, Inc.). We provided the participants with an informed consent. Participants completed the questionnaires below (and others not reported here). Upon completion, they were debriefed and thanked for their participation, and received a small monetary compensation.

1.1.2. Measures

We used the Japanese version of the Dark Triad Dirty Dozen (Tamura, Oshio, Tanaka, Masui, & Jonason, 2015), which is a psychometrically validated (i.e., structural and nomological network) Japanese translation of the English version (Jonason & Webster, 2010). Participants were asked how much they agreed (1 = *Not at all*; 5 = *Very much*) with statements (in Japanese) 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 indexes of Machiavellianism (Cronbach's $\alpha = 0.84$), psychopathy ($\alpha = 0.61$), and narcissism ($\alpha = 0.80$).

The Dichotomous Thinking Inventory (Oshio, 2009) was used to assess individual differences in an all-or-nothing thinking style. The scale consists of 15 items and has a three-factor structure (Oshio, 2009), measuring preferences for dichotomy (e.g., "all things work out better when likes and dislikes are clear"), dichotomous beliefs (e.g., "There are only 'winners' and 'losers' in this world"), and profit-and-loss thinking (e.g., "I want to clearly distinguish what is safe and what is dangerous"). Items were averaged to obtain an index of individual differences in all three scales (α's = 0.75, 0.82, 0.79, respectively).

1.1.3. Results and discussion

Table 1 contains descriptive statistics and correlations among the Dark Triad traits and individual differences in dichotomous thinking (SPSSv22). As expected (1) the Dark Triad traits were correlated with each other, (2) individual differences in dichotomous thinking were correlated with each other, and (3) the Dark Triad traits were all weakly (rs = 0.17 to 0.28) correlated with individual differences in the dichotomous thinking. Given this, we built a structural equation model (AMOSv22) to examine the covariance among the constructs. This model (Fig. 1) indicated a reasonable fit ($\chi^2(8) = 50.69$, $p < 0.001$, CFI = 0.97, RMSEA = 0.09, 90%CI [0.07, 0.11]) and the covariance between the latent Dark Triad and the latent dichotomous thinking was significantly positive, suggesting the shared variances in each were well correlated.

To examine sex differences, we conducted measurement invariance using multi-group confirmatory factor analysis (Vandenberg & Lance, 2002) using AMOS (v22). For the analysis, we tested a (1) model with no equivalence hypothesized across men and women, and there were no constraints on the variables ($\chi^2(16) = 91.77$, $p < 0.001$, CFI = 0.97, RMSEA = 0.08, 90%CI [0.07, 0.10], AIC = 167.77); a (2) model with the same factor loadings hypothesized, and factor loadings from each factor on observed variables were equalized across the sexes ($\chi^2(20) = 97.33$, $p < 0.001$, CFI = 0.97, RMSEA = 0.07, 90%CI [0.06, 0.09], AIC = 165.33); a (3) model with scalar invariance and item intercepts constrained to be equal across the sexes in addition to Model 2 ($\chi^2(24) = 106.49$, $p < 0.001$, CFI = 0.97, RMSEA = 0.07, 90%CI [0.05, 0.08], AIC = 166.49); a (4) model with strict invariance and item residual variances constrained to be equal across the sexes in addition to Model 3 ($\chi^2(30) = 114.10$, $p < 0.001$, CFI = 0.97, RMSEA = 0.06, 90%CI [0.05, 0.07], AIC = 162.10); and a (5) model where covariances between the latent variables were constrained to be the same in each