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Actors of the most fiendish character: Explaining the associations between the Dark Tetrad and conspiracist ideation

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ABSTRACT

It remains unclear why those scoring high on certain aspects of the Dark Tetrad (i.e., Machiavellianism, narcissism, psychopathy, and sadism) are more inclined to believe in conspiracy theories. The present study ($N = 474$) aimed to clarify this issue by investigating the associations between the facets of the Dark Tetrad traits and conspiracist ideation in the context of five potential mediators. At least one facet of every Dark Tetrad trait was associated with conspiracist ideation, and nearly every association could be attributed, in part, to the tendency for those with aversive personalities to entertain odd beliefs, be fatalistic, and distrust others. Contrary to what the prior research might suggest, these results indicate that the conspiracist ideation found among those scoring high in the Dark Tetrad traits is the result of some shared feature of the traits rather than a feature that is unique to each trait.

1. Introduction

Conspiracy theories may, at first glance, appear relatively benign, but they have been linked to serious real-world consequences. Exposure to and belief in conspiracy theories has been associated with holding antisemitic beliefs (Jolley et al., 2020); being apprehensive of vaccines (Jolley & Douglas, 2014); being less motivated to vote (Butler et al., 1995); and being less inclined to stop climate change (Van der Linden, 2015). To develop interventions to combat these beliefs, it will be crucial to understand, not only the types of people that are drawn to these theories, but also *why* they are drawn to these theories.

Previous research has suggested that the Dark Tetrad—a constellation of personality traits, including manipulative and misanthropic Machiavellianism (Christie & Geis, 1970); grandiose and entitled narcissism (Ackerman et al., 2011); antisocial, callous, and egocentric psychopathy (Levenson et al., 1995; Sellbom, 2011); and cruel and abusive sadism (Buckels et al., 2013)—is associated with the tendency to believe in conspiracy theories (Kay, 2020; March & Springer, 2019). Some additional work has attempted to explain the association between the Dark Tetrad traits and conspiracist ideation (e.g., Cichocka et al., 2016; Douglas & Sutton, 2011), but such efforts have had two primary limitations. First, they have generally treated the traits as unidimensional, thereby providing a relatively unnuanced understanding of the association between the Dark Tetrad traits and conspiracist ideation. Second, they have often focused on a single mediator, making it impossible to compare the ability of different mediators to account for the relationship between the Dark Tetrad traits and conspiracist ideation. This is unfortunate, as there is reason to believe that the various facets of the individual Dark Tetrad traits would be differentially associated with conspiracist ideation and for different reasons. To that end, the present study considers the relationship between the facets of the Dark Tetrad traits and conspiracist ideation in the context of five mediators, including the tendency to (1) entertain odd beliefs, (2) be fatalistic, (3) desire control, (4) distrust others, and (5) feel a need to be unique.

1.1. Machiavellianism and conspiracist ideation

Machiavellianism can be broken down into at least two lower-order factors: *Machiavellian tactics* (i.e., the propensity to behave deceptively and dishonestly to achieve one's goals) and *Machiavellian views* (i.e., the propensity to have a cynical or misanthropic view of the world) (Monaghan et al., 2016). Turning first to Machiavellian tactics, researchers have previously theorized that the manipulation and deception characteristic of Machiavellianism is born out of a need to establish a sense of control over a world that the person perceives as being increasingly out of control (Mudrack, 1989). According to Douglas et al. (2017), the tendency to believe in conspiracy theories is also partly driven by a need

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to feel in control. It is, therefore, plausible that people scoring high on measures of Machiavellian tactics would believe in conspiracy theories for the very same reason that they manipulate and deceive: They see it as a way to augment or amplify a diminished sense of agency. As it happens, Machiavellianism has been linked to conspiracist ideation (March & Springer, 2019), and this relationship is explained by a person's willingness to conspire (Douglas & Sutton, 2011).

Subsequent research has, however, indicated that a person's level of Machiavellian views but *not* their level of Machiavellian tactics is associated with endorsing COVID-19 conspiracy theories (Kay, 2020). It could very well be the case that those who are cynical and misanthropic (i.e., those scoring high in Machiavellian views) are more prone to feeling a lack of control over their lives and, in turn, more likely to endorse conspiracy theories.

There is, nevertheless, a second and potentially more direct route from Machiavellian views to conspiracist ideation. If the distrust common to Machiavellianism views means a person is also distrustful of those in power, the person might adopt theories that reflect this incredulity. For example, if a person is suspicious of the US government, it would only seem to increase the chance that they would also believe the US government orchestrated the 9/11 terrorist attacks. Indeed, being suspicious (Swami et al., 2016), distrustful of the government (Imhoff & Lamberty, 2018), and politically cynical (Swami et al., 2011) have all been linked to endorsing conspiracy theories.

Given these theoretical links, the association between Machiavellian views and conspiracist ideation should be explained by three of the five mediators noted above. Specifically, being fatalistic (i.e., feeling little control over one's life), desiring control, and distrusting others should mediate the association between Machiavellian views and conspiracist ideation.

1.2. Narcissism and conspiracist ideation

A second reason people may believe in conspiracy theories is, according to Douglas et al. (2017), a desire to maintain a favourable impression of the self and one's in-group. As such, narcissistic individuals may be more likely to believe in conspiracy theories because it helps them reinforce their grandiose sense of self. For instance, conspiracy theories would allow them to believe that they, not only figured out something that others (even prominent scientists) were incapable of figuring out, but also that they are in possession of valuable and potentially life-saving knowledge. Consistent with this line of thinking, narcissism does appear to be associated with wanting to feel unique (e.g., Emmons, 1984), and wanting to feel unique has, in turn, been associated with endorsing conspiracy theories (Lantian et al., 2017). It is, therefore, conceivable that a need to feel unique would mediate the association between narcissism—particularly the grandiose exhibitionism factor of narcissism—and conspiracist ideation.

It is, likewise, possible that narcissistic people would be more inclined to believe in conspiracy theories because they are prone to having paranoid thoughts. As described by Cichocka et al. (2016), narcissistic individuals are often excessively concerned with how others see them, and this excessive concern can foster paranoia and, subsequently, conspiracist ideation. In fact, the researchers showed that paranoia fully mediates the association between grandiose narcissism and conspiracist ideation. To the extent that the presence of unusual beliefs overlaps with paranoia, odd beliefs may also account for the association between narcissism and conspiracist ideation. This should be the case for all three factors of narcissism (i.e., leadership/authority, grandiose exhibitionism, and entitlement/exploitativeness), as each has been shown to be positively correlated with unusual beliefs (Gentile et al., 2013).

However, it is worth noting, while some researchers have consistently found associations between narcissism and conspiracist ideation (Cichocka et al., 2016), others have not. For example, Kay (2020) found little evidence for a relationship between narcissism and COVID-19 conspiracist ideation even when considered at the zero-order level. Since the present methodology is closest to that used by the latter, the most likely outcome for the present study is that narcissism will not be associated with conspiracist ideation.

1.3. Psychopathy and conspiracist ideation

There is relatively little research investigating the association between psychopathy and the tendency to believe in conspiracy theories, and the research that has been conducted has produced somewhat mixed results. March and Springer (2019) found that the more egocentric and callous aspects of psychopathy were associated with greater conspiracist ideation, while the more antisocial aspects of the construct were not. In contrast, Kay (2020) found that the antisocial aspects of psychopathy were associated with greater conspiracist ideation, while the egocentric and callous aspects of the construct were not.

One potential explanation for this difference is that March and Springer (2019) controlled for a person's tendency to have odd beliefs while Kay (2020) did not. Those scoring high in psychopathic antisociality may be more likely to believe in conspiracy theories *because* they are more likely to entertain odd beliefs. Controlling for odd beliefs would, therefore, obscure the relationship between antisociality and conspiracy beliefs. The more antisocial aspects of psychopathy do seem to be linked to schizotypy (e.g., Miller et al., 2008)—marked, in part, by the presence of odd beliefs—and the presence of odd or unusual beliefs has been further linked to conspiracist ideation (e.g., Barron et al., 2018). The present study will test whether a predisposition towards odd beliefs explains the relationship between psychopathic antisociality and believing in conspiracy theories by including odd beliefs as a potential mediator.

1.4. Sadism and conspiracist ideation

The only previous study to look at the relationship between sadism and conspiracist ideation was in the context of COVID-19 conspiracy theories and only found an association between the two constructs when not accounting for knowledge about COVID-19 (Kay, 2020). The author did, however, argue that sadism may be associated with conspiracist ideation because sadistic individuals are distrustful of others. To test whether this is, in fact, the case, the propensity to trust others was examined as a potential mediator of the relationship between all three subscales of everyday sadism—physical sadism, verbal sadism, and vicarious sadism (Buckels & Paulhus, 2014)—and conspiracist ideation.

1.5. The current study

Although the Dark Tetrad traits are highly intercorrelated (Buckels et al., 2013; Paulhus & Williams, 2002), the existing literature would suggest that different aspects of the Dark Tetrad are associated with conspiracist ideation for mostly different reasons. Based on the research discussed above, the relationship between Machiavellian views and conspiracist ideation should be explained by the sense that one lacks control and an attendant desire to reestablish that control, as well as a general tendency to distrust others. The association between Machiavellian tactics and conspiracist ideation—to the extent that such a relationship exists—should, likewise, be explained by the sense that one lacks control and the desire to regain that control. The association between grandiose narcissism and conspiracist ideation should, in contrast, be primarily mediated by a desire to feel unique and the tendency to entertain odd beliefs. Finally, psychopathic antisociality should be linked to conspiracist ideation through the tendency to have odd beliefs, and everyday sadism should be linked to conspiracist ideation through the propensity to distrust others. To test these potentialities, the present study examines whether the tendency to entertain odd beliefs, be fatalistic, desire control, distrust others, and feel a need to be unique explain the associations between the facets of the Dark Tetrad traits and conspiracist ideation.

2. Method

2.1. Participants and procedures

Five hundred undergraduate students were awarded course credit for completing a one-hour online survey that included the measures described below. Students who completed the survey in under 10 min ($n = 9$), showed low variability in their responses (i.e., response SDs under 0.5[1]; $n = 11$), or straight-lined large parts of the survey (i.e., provided the same response to over 30 items in a row; $n = 6$) were excluded from analysis. The resulting sample comprised 474 students (M age = 19.66; SD age = 2.32; 66.46% women; 32.49% men). A power analysis indicated that a sample of this size would have a 90.93% possibility of detecting a slight-to-moderate effect when such an effect existed.

2.2. Materials

Unless otherwise stated, participants responded to all measures using a 5-pt Likert scale (1 = "strongly disagree"; 5 = "strongly agree").

2.2.1. The Dark Tetrad traits

Machiavellianism was measured using the 20-item *Mach-IV* (Christie & Geis, 1970) but was scored according to the procedure suggested by Monaghan et al. (2016). This alternative scoring procedure provides an index of a person's levels of Machiavellian tactics (e.g., "Honesty is the best policy in all cases (*Reversed*)"; $\alpha = 0.61$) and Machiavellian views (e.g., "Anyone who completely trusts anyone else is asking for trouble"; $\alpha = 0.60$). Although the Cronbach's alphas for the subscales—a measure of their internal consistency—were lower than the traditionally desired value of 0.70 (Nunnally, 1978), they were generally consistent with previous values reported for this scale (e.g., Monaghan et al., 2016).

Grandiose narcissism was assessed using the 13-item version (Gentile et al., 2013) of the *Narcissistic Personality Inventory* (Raskin & Hall, 1979). Unlike other short-form versions of the Narcissistic Personality Inventory (e.g., the NPI-16; Ames et al., 2006), the 13-item version of the inventory allows researchers to measure narcissism in terms of the three factors identified by Ackerman et al. (2011): Leadership/authority (e.g., "I have a strong will to power"; $\alpha = 0.56$), grandiose exhibitionism (e.g., "I like to show off my body"; $\alpha = 0.58$), and entitlement/exploitativeness (e.g., "I expect a great deal from other people"; $\alpha = 0.34$). Participants responded to the NPI-13 by selecting either a narcissistic or non-narcissistic statement. As with the measure of Machiavellianism, the Cronbach's alphas for the respective subscales were lower than desired but generally consistent with prior work (e.g., Gentile et al., 2013).

To assess their levels of psychopathy, participants completed the 26-item *Levenson Self-Report Psychopathy Scale* (Levenson et al., 1995). Although psychopathy is generally conceptualized as comprising two factors (Salekin et al., 2014), the three-factor solution (Sellbom, 2011) was used here to provide a more granular understanding of the relationship between psychopathy and conspiracist ideation. The three-factor solution splits psychopathy into psychopathic egocentricity (e.g., "Making a lot of money is my most important goal"; $\alpha = 0.80$), callousness (e.g., "Cheating is not justified because it is unfair to others (*Reversed*)"; $\alpha = 0.54$), and antisociality (e.g., "I quickly lose interest in tasks I start"; $\alpha = 0.64$). Again, the Cronbach's alphas were generally consistent with prior work (e.g., Sellbom, 2011).

The *Comprehensive Assessment of Sadistic Tendencies* (Buckels & Paulhus, 2014) was used to assess everyday sadism and its three attendant subscales: Physical sadism (e.g., "I enjoy physically hurting people"; $\alpha = 0.70$), (2) verbal sadism (e.g., "I enjoy making jokes at the expense of others"; $\alpha = 0.76$), and (3) vicarious sadism (e.g., "In video games, I like the realistic blood spurts"; $\alpha = 0.88$). All three subscales achieved adequate internal consistency.

2.2.2. Conspiracist ideation

Conspiracist ideation was measured using three scales. The tendency to believe in specific conspiracy theories was assessed using the *Belief in Conspiracy Theories Inventory* (BCTI; Swami et al., 2011) (e.g., "The Apollo moon landings never happened and were staged in a Hollywood film studio"; $\alpha = 0.92$). The tendency to believe in broader, more generalized conspiracy theories was assessed using the *Generic Conspiracist Beliefs Scale* (GCB; Brotherton et al., 2013) (e.g., "Groups of scientists manipulate, fabricate, or suppress evidence in order to deceive the public"; $\alpha = 0.89$). Finally, a general predisposition towards believing in conspiracy theories was assessed using the *Conspiracy Mentality Questionnaire* (CMQ; Bruder et al., 2013) (e.g., "I think that government agencies closely monitor all citizens"; $\alpha = 0.64$). All conspiracy scales had adequate or close-to-adequate internal consistency. Participants responded to the BCTI using a nine-point scale that ranged from "completely false" to "completely true".

2.2.3. The mediators

The tendency to have unusual beliefs was assessed using the *Odd Beliefs or Magical Thinking* subscale from the *Schizotypal Personality Questionnaire* (Raine, 1991) (e.g., "I've had experiences with the supernatural"; $\alpha = 0.82$). The items were adapted from their original yes/no format to a Likert-response format. The propensity to feel a lack of control over one's future was assessed using the *Present-Fatalistic* subscale of the *Time Perspective Inventory* (Zimbardo & Boyd, 1999) (e.g., "My life path is controlled by forces I cannot influence"; $\alpha = 0.72$). The tendency to desire control was assessed using the *Desirability of Control* scale (Burger & Cooper, 1979) (e.g., "I enjoy making my own decisions"; $\alpha = 0.72$). The propensity to trust others was measured using the *Trust* subscale of the *Propensity to Trust Survey* (Evans & Revelle, 2008) (e.g., "I believe that people seldom tell you the whole story (*Reversed*)"; $\alpha = 0.65$). Finally, a need to feel unique was assessed using Lantian et al.'s (2017) 4-item version of the *Self-Attributed Need for Uniqueness Scale* (Lynn & Harris, 1997) (e.g., "Being distinctive is important to me"; $\alpha = 0.77$). All mediators showed adequate or close-to-adequate internal consistency.

3. Results

Descriptive statistics, gender comparisons, zero-order correlations, and regression models predicting scores on the individual conspiracy measures from the subscales of each of the Dark Tetrad traits can be found in the Supplementary materials.

To examine whether the five mediators can account for the relationship of the eleven facets of the Dark Tetrad traits with the tendency to believe in conspiracy theories, eleven mediation models were constructed. Scores on the BCTI, GCB, and CMQ were entered as indicators of a conspiracist ideation latent factor, representing the common variance among the conspiracy measures. The five mediators were added to all eleven models and allowed to covary. Bootstrapping with 100,000 replications was used to estimate the standard errors.

Table 1 includes the standardized total, direct, and indirect path coefficients for all models. In the interest of brevity, only those traits that demonstrated a significant total effect with the conspiracist ideation latent factor are discussed here. It should also be noted that, given the number of paths tested, it is possible that some of the significant results may be false positives (i.e., Type 1 errors).

Machiavellian views (Fig. 1) exhibited a moderate association with the conspiracist ideation latent factor, $\beta = 0.27$, 95% CI [0.17, 0.36], p

[1] A response standard deviation of less than 0.5 means participants showed less response variability than selecting "strongly agree" for half of their responses and "agree" for the other half. The response standard deviations were calculated across all items except for those from the 13-item Narcissistic Personality Inventory and the Belief in Conspiracy Theories Inventory, given that these measures used different response scales.

Table 1
Standardized total, direct, and indirect effects of the Dark Tetrad on conspiracist ideation.

	Total		Direct		Indirect (odd beliefs)		Indirect (fatalism)		Indirect (control)		Indirect (trusting)		Indirect (uniqueness)	
	β	95% CI	*β*	95% CI	*β*	95% CI	*β*	95% CI	*β*	95% CI	*β*	95% CI	*β*	95% CI
Machiavellianism														
Tactics	−0.01	[−0.11, 0.09]	−0.07	[−0.16, 0.01]	0.01_{ab}	[−0.04, 0.05]	0.01_{a}	[−0.00, 0.03]	-0.02_{b}*	[−0.04, −0.00]	0.06_{c}*	[0.03, 0.10]	-0.00_{ab}	[−0.01, 0.01]
Views	0.27*	[0.17, 0.36]	0.10	[−0.00, 0.20]	0.05_{abc}*	[0.00, 0.09]	0.05_{ab}*	[0.01, 0.08]	0.00_{c}	[−0.01, 0.01]	0.07_{a}*	[0.02, 0.13]	0.00_{bc}	[−0.02, 0.02]
Narcissism														
LA	0.18*	[0.09, 0.27]	0.07	[−0.01, 0.15]	0.05_{a}*	[0.01, 0.09]	0.01_{b}	[−0.01, 0.02]	0.03_{ab}*	[0.00, 0.06]	0.02_{ab}*	[0.00, 0.04]	0.00_{ab}	[−0.02, 0.03]
GE	0.05	[−0.05, 0.14]	0.02	[−0.06, 0.10]	0.02_{a}	[−0.02, 0.06]	0.00_{a}	[−0.01, 0.02]	0.01_{a}	[−0.00, 0.02]	-0.01_{a}	[−0.03, 0.01]	0.00_{a}	[−0.01, 0.02]
EE	0.12*	[0.04, 0.21]	−0.04	[−0.12, 0.03]	0.05_{a}*	[0.01, 0.09]	0.03_{ab}*	[0.01, 0.06]	0.01_{b}	[−0.01, 0.02]	0.07_{a}*	[0.03, 0.12]	0.00_{b}	[−0.01, 0.02]
Psychopathy														
Egocentricity	0.22*	[0.12, 0.32]	0.03	[−0.07, 0.12]	0.07_{a}*	[0.03, 0.12]	0.06_{a}*	[0.01, 0.10]	-0.01_{b}	[−0.03, 0.00]	0.07_{a}*	[0.03, 0.12]	0.00_{b}	[−0.01, 0.01]
Callousness	0.01	[−0.09, 0.11]	−0.03	[−0.11, 0.06]	-0.00_{abc}	[−0.04, 0.04]	0.02_{a}*	[0.00, 0.04]	-0.03_{b}*	[−0.05, −0.00]	0.05_{a}*	[0.02, 0.08]	-0.00_{c}	[−0.01, 0.01]
Antisociality	0.23*	[0.13, 0.33]	0.02	[−0.08, 0.12]	0.09_{a}*	[0.05, 0.14]	0.06_{a}*	[0.02, 0.10]	-0.02_{b}*	[−0.04, −0.00]	0.08_{a}*	[0.04, 0.13]	0.00_{c}	[−0.00, 0.00]
Sadism														
Physical	0.22*	[0.13, 0.31]	−0.02	[−0.10, 0.07]	0.12_{a}*	[0.07, 0.16]	0.05_{b}*	[0.02, 0.09]	-0.01_{c}	[−0.02, 0.00]	0.07_{ab}*	[0.03, 0.11]	0.00_{c}	[−0.00, 0.01]
Verbal	0.13*	[0.04, 0.23]	−0.03	[−0.12, 0.06]	0.07_{a}*	[0.03, 0.11]	0.04_{a}*	[0.01, 0.07]	-0.01_{b}	[−0.02, 0.01]	0.06_{a}*	[0.03, 0.10]	-0.00_{b}	[−0.00, 0.00]
Vicarious	0.14*	[0.04, 0.23]	0.01	[−0.08, 0.10]	0.05_{a}*	[0.00, 0.09]	0.03_{a}*	[0.01, 0.06]	-0.01_{b}	[−0.02, 0.00]	0.05_{a}*	[0.02, 0.08]	0.00_{b}	[−0.00, 0.00]

Note. * $p < .05$. Coefficients in the same row that do not share a subscript are significantly different from one another.

$< .001$. The tendency to have odd beliefs ($\beta = 0.05$, 95% CI [0.00, 0.09], $p = .043$), be fatalistic ($\beta = 0.05$, 95% CI [0.01, 0.08], $p = .019$), and distrust others ($\beta = 0.07$, 95% CI [0.02, 0.13], $p = .011$), all explained part of the relationship between Machiavellian views and conspiracist ideation. After accounting for these variables, the association between Machiavellian views and conspiracist ideation became non-significant ($\beta = 0.10$, 95% CI [−0.00, 0.20], $p = .053$), an instance of full mediation.

The leadership/authority ($\beta = 0.18$, 95% CI [0.09, 0.27], $p < .001$) and entitlement/exploitativeness ($\beta = 0.12$, 95% CI [0.04, 0.21], $p = .005$) facets of narcissism showed a positive association with conspiracist ideation (Fig. 2). The tendency to have odd beliefs ($\beta = 0.05$, 95% CI [0.01, 0.09], $p = .014$), desire control ($\beta = 0.03$, 95% CI [0.00, 0.06], $p = .036$), and distrust others ($\beta = 0.02$, 95% CI [0.00, 0.04], $p = .013$) fully mediated the association between leadership/authority and conspiracist ideation, such that the relationship became non-significant when accounting for the mediators ($\beta = 0.07$, 95% CI [−0.01, 0.15], $p = .109$). The tendency to have odd beliefs ($\beta = 0.05$, 95% CI [0.01, 0.09], $p = .014$), be fatalistic ($\beta = 0.03$, 95% CI [0.01, 0.06], $p = .020$), and distrust others ($\beta = 0.07$, 95% CI [0.03, 0.12], $p < .001$) fully explained this association between entitlement/exploitativeness and conspiracist ideation, such that the effect became non-significant when accounting for the mediators ($\beta = -0.04$, 95% CI [−0.12, 0.03], $p = .269$).

Psychopathic egocentricity ($\beta = 0.22$, 95% CI [0.12, 0.32], $p < .001$) and antisociality ($\beta = 0.23$, 95% CI [0.13, 0.33], $p < .001$) were both positively associated with conspiracist ideation (Fig. 3). The tendency to have odd beliefs ($\beta = 0.07$, 95% CI [0.03, 0.12], $p < .001$), be fatalistic ($\beta = 0.06$, 95% CI [0.01, 0.10], $p = .009$), and distrust others ($\beta = 0.07$, 95% CI [0.03, 0.12], $p = .001$) fully mediated the association between egocentricity and conspiracist ideation, with the relationship becoming non-significant when accounting for the mediators ($\beta = 0.03$, 95% CI [−0.07, 0.12], $p = .568$). The tendency to have odd beliefs ($\beta = 0.09$, 95% CI [0.05, 0.14], $p < .001$), be fatalistic ($\beta = 0.06$, 95% CI [0.02, 0.10], $p = .006$), and distrust others ($\beta = 0.08$, 95% CI [0.04, 0.13], $p < .001$) also fully mediated the association between antisociality and conspiracist ideation, with the relationship becoming non-significant when accounting for the mediators ($\beta = 0.02$, 95% CI [−0.08, 0.12], $p = .714$). Interestingly, the indirect effect of antisociality on conspiracist ideation through a desire for control was negative ($\beta = -0.02$, 95% CI [−0.04, −0.00], $p = .023$). In other words, antisociality was negatively associated with a desire for control which was, in turn, positively associated with conspiracist ideation.

Physical ($\beta = 0.22$, 95% CI [0.13, 0.31], $p < .001$), verbal ($\beta = 0.13$, 95% CI [0.04, 0.23], $p = .007$), and vicarious ($\beta = 0.14$, 95% CI [0.04, 0.23], $p = .005$) sadism were all associated with conspiracist ideation (Fig. 4). The associations of all three facets with conspiracist ideation were mediated by the tendency to have odd beliefs (Physical: $\beta = 0.12$, 95% CI [0.07, 0.16], $p < .001$; Verbal: $\beta = 0.07$, 95% CI [0.03, 0.11], $p = .001$; Vicarious: $\beta = 0.05$, 95% CI [0.00, 0.09], $p = .028$), be fatalistic (Physical: $\beta = 0.05$, 95% CI [0.02, 0.09], $p = .005$; Verbal: $\beta = 0.04$, 95% CI [0.01, 0.07], $p = .008$; Vicarious: $\beta = 0.03$, 95% CI [0.01, 0.06], $p = .013$), and distrust others (Physical: $\beta = 0.07$, 95% CI [0.03, 0.11], $p < .001$; Verbal: $\beta = 0.06$, 95% CI [0.03, 0.10], $p < .001$; Vicarious: $\beta = 0.05$, 95% CI [0.02, 0.08], $p = .001$). After accounting for the mediators, the association of physical ($\beta = -0.02$, 95% CI [−0.10, 0.07], $p = .725$), verbal ($\beta = -0.03$, 95% CI [−0.12, 0.06], $p = .548$), and vicarious ($\beta = 0.01$, 95% CI [−0.08, 0.10], $p = .795$) sadism with conspiracist ideation became non-significant. As such, the mediators fully accounted for the relationship between the sadism facets and conspiracist ideation.

4. Discussion

The purpose of the present study was to examine the potential reasons that those with aversive personality traits are more likely to believe in conspiracy theories. To do so, five plausible mediators of the relationship between the facets of the individual Dark Tetrad traits and conspiracist ideation were considered, including the tendency to (1)

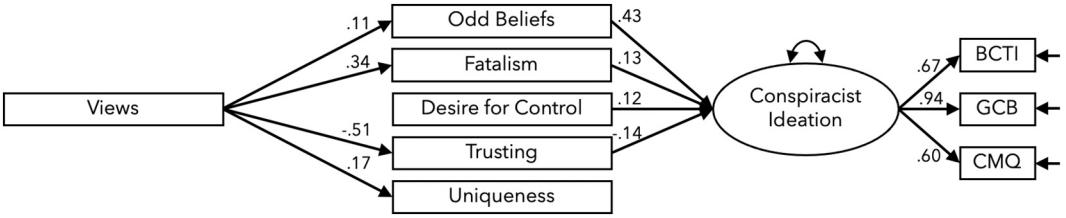

Fig. 1. Multiple mediation structural equation model for Machiavellian Views, $\chi^2(12, N = 474) = 44.65$, $p < .001$, CFI = 0.97, RMSEA = 0.076, 90% CI = [0.053, 0.100], SRMR = 0.038. All coefficients are standardized. For legibility, non-significant paths and covariance paths among the mediators are not shown.

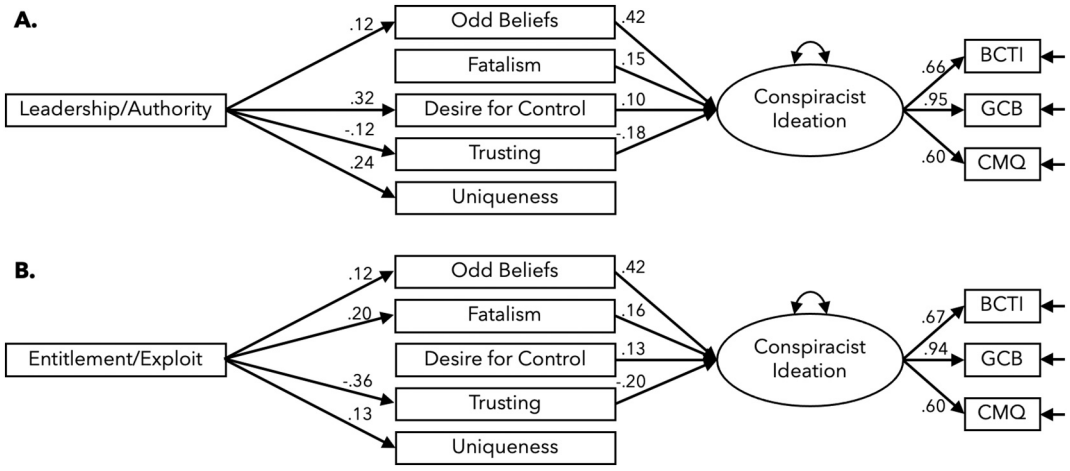

Fig. 2. Multiple mediation structural equation models for narcissistic leadership/authority (A; $\chi^2(12, N = 474) = 54.58$, $p < .001$, CFI = 0.96, RMSEA = 0.087, 90% CI = [0.064, 0.110], SRMR = 0.038) and narcissistic entitlement/exploitativeness (B; $\chi^2(12, N = 474) = 43.68$, $p < .001$, CFI = 0.97, RMSEA = 0.075, 90% CI = [0.052, 0.099], SRMR = 0.037). All coefficients are standardized. For legibility, non-significant paths and covariance paths among the mediators are not shown.

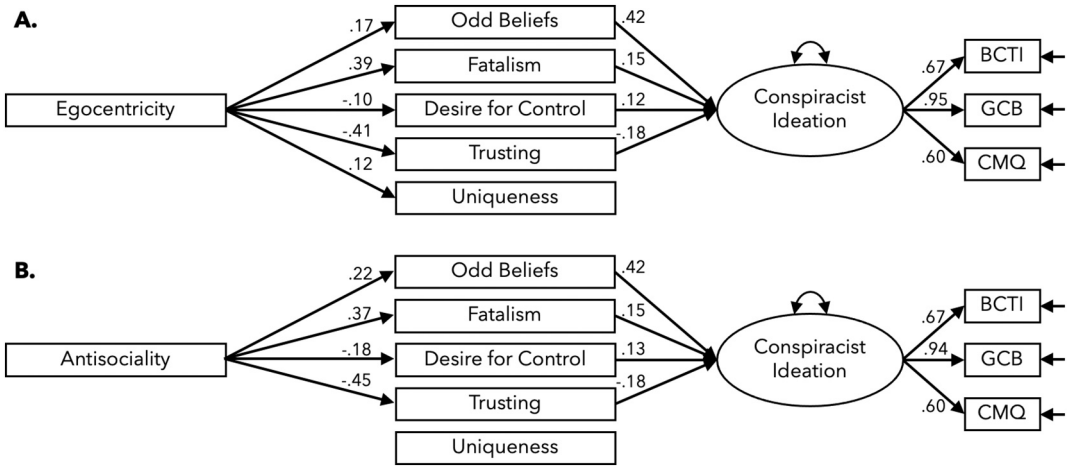

Fig. 3. Multiple mediation structural equation models for psychopathic egocentricity (A; $\chi^2(12, N = 474) = 47.62$, $p < .001$, CFI = 0.97, RMSEA = 0.079, 90% CI = [0.056, 0.103], SRMR = 0.038) and antisociality (B; $\chi^2(12, N = 474) = 51.33$, $p < .001$, CFI = 0.96, RMSEA = 0.083, 90% CI = [0.061, 0.107], SRMR = 0.038). All coefficients are standardized. For legibility, non-significant paths and covariance paths among the mediators are not shown.

entertain odd beliefs, (2) be fatalistic, (3) desire control, (4) distrust others, and (5) feel a need to be unique.

Overall, the results provided evidence that aspects of all four of the Dark Tetrad traits are associated with conspiracist ideation. Moreover, nearly all of the associations were attributable to the tendency for those with aversive personalities to hold odd or unusual beliefs, be fatalistic, and distrust others. Below, these results are first discussed with respect to their implications for each of the Dark Tetrad traits and then discussed with respect to their implications for the Dark Tetrad as a whole.

4.1. Machiavellianism and conspiracist ideation

Consistent with previous research (Kay, 2020), Machiavellian views but not Machiavellian tactics was positively associated with conspiracist ideation. Moreover, the association between Machiavellian views and conspiracist ideation was partially mediated by a person's tendency to have odd beliefs, be fatalistic, and distrust others. Odd beliefs being a mediator was unexpected but, in hindsight, not particularly surprising. People scoring high in Machiavellianism may believe in conspiracy theories partly because they are prone to paranoia (e.g., Christoffersen &

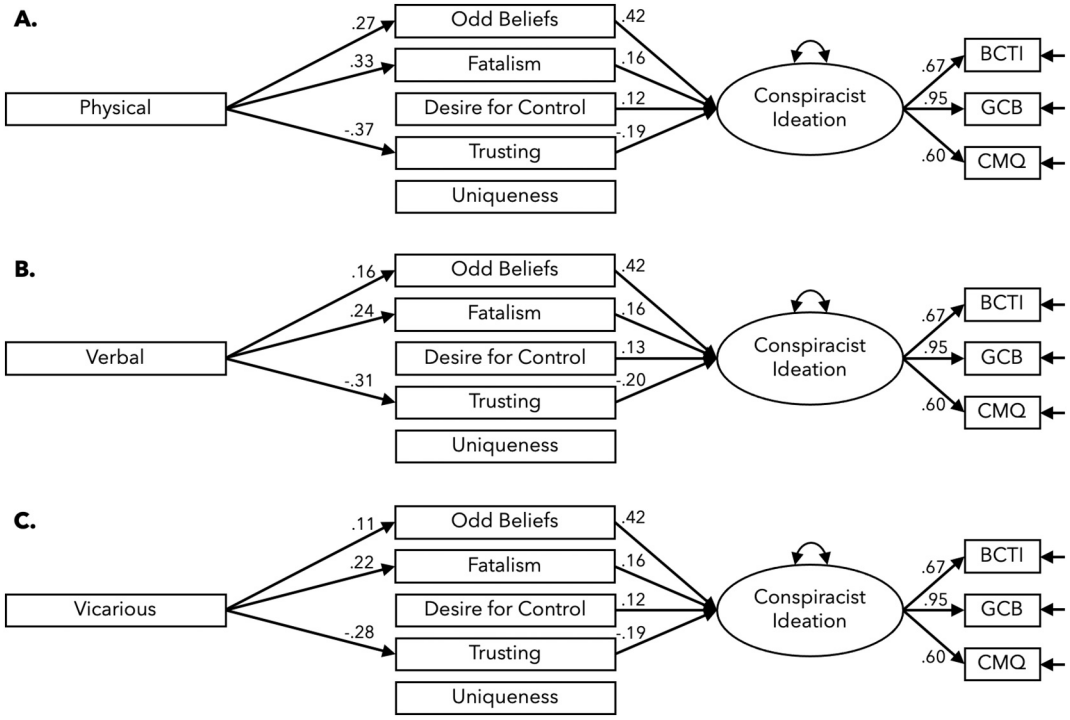

Fig. 4. Multiple mediation structural equation models for physical (A; $\chi^2(12, N = 474) = 47.12$, $p < .001$, CFI = 0.97, RMSEA = 0.079, 90% CI = [0.056, 0.103], SRMR = 0.039), verbal (B; $\chi^2(12, N = 474) = 44.80$, $p < .001$, CFI = 0.97, RMSEA = 0.076, 90% CI = [0.053, 0.100], SRMR = 0.038), and vicarious (C; $\chi^2(12, N = 474) = 45.73$, $p < .001$, CFI = 0.96, RMSEA = 0.077, 90% CI = [0.054, 0.101], SRMR = 0.038) sadism. All coefficients are standardized. For legibility, non-significant paths and covariance paths among the mediators are not shown.

Stamp, 1995), which the measure of odd beliefs may be picking up on. Future research will be needed to ascertain a clearer picture of this relationship but, for now, it appears that the tendency to have odd beliefs explains some of the relationship between Machiavellian views and conspiracist ideation.

Fatalism being a mediator of the relationship between Machiavellian views and conspiracist ideation supports the notion that Machiavellian individuals endorse conspiracy theories as a way of asserting control. This aligns with both the idea that people scoring high in Machiavellianism feel a lack of control over their lives (Mudrack, 1989) and the idea that conspiracy theories can be used to reclaim a sense of control (see Douglas et al., 2017). That said, it is important to note that desiring control did not mediate the association between Machiavellian views and conspiracist ideation. This would suggest that it is a sense of being out of control and not necessarily the pursuit of control that links a Machiavellian outlook to conspiracist ideation.

Finally, and as expected, the propensity to distrust others explained some of the association between Machiavellian views and conspiracist ideation. People with a Machiavellian outlook may be more distrustful of others and, therefore, more likely to believe that members of the government and other elite organizations are engaged in nefarious acts. This accords with research suggesting that being wary of the government (Imhoff & Lamberty, 2018; Swami et al., 2011) and generally suspicious (Swami et al., 2016) are both associated with believing in conspiracy theories.

4.2. Narcissism and conspiracist ideation

The results also suggest that—consistent with the findings from Cichocka et al. (2016)—narcissism *is* associated with conspiracist ideation, but that this association is localized to the more leadership and exploitative aspects of the construct. The finding for leadership/authority is especially noteworthy, given that leadership/authority is typically believed to include the more "adaptive" aspects of narcissism (Ackerman et al., 2011). It could be the case that, unlike Machiavellian individuals, those scoring high in leadership/authority believe in conspiracy theories because conspiracy theories satisfy their need for control (see Douglas et al., 2017). Indeed, the relationship between leadership/authority and conspiracist ideation was explained, in part, by a desire for control. In contrast, the relationship between entitlement/exploitativeness and conspiracist ideation was mediated by fatalism but not a desire for control. Similar to Machiavellianism, it may be the sense of being out of control and not necessarily the pursuit of control that links entitlement/exploitativeness to conspiracist ideation.

Both leadership/authority and entitlement/exploitativeness were also mediated by the tendency to have odd beliefs. Again, this association may be due to the overlap between odd beliefs and paranoia. Leadership/authority and entitlement/exploitativeness (but not grandiose exhibitionism) do appear to be associated with paranoia (Gentile et al., 2013), and this paranoia may, in turn, result in greater conspiracist ideation (Imhoff & Lamberty, 2018). Cichocka et al. (2016) have, in fact, previously demonstrated that people scoring high in grandiose narcissism seem to endorse conspiracy theories because they show elevated levels of paranoia.

Prior research has, likewise, suggested that a need for uniqueness is associated with conspiracist ideation (Lantian et al., 2017). This was true with respect to the zero-order correlations in the present study: A need for uniqueness was positively correlated with the individual conspiracist ideation measures. It was not true, however, of the relationship between a need for uniqueness and the conspiracist ideation latent factor when taking into account the other mediators. In this case, it seems that a need for uniqueness did not mediate the relationship between narcissism and conspiracist ideation because it was not a unique predictor of conspiracist ideation.

4.3. Psychopathy and conspiracist ideation

Egocentricity and antisociality showed positive associations with

conspiracist ideation. This is in contrast to the results from March and Springer (2019), who only found a positive association for the more egocentric aspects of psychopathy, and the results from Kay (2020), who only found a positive association for the more antisocial aspects of psychopathy. As noted in the introduction, one possible explanation for the difference in the results for antisociality is that Kay did not account for unusual beliefs in their model while March and Springer did. Compatible with this explanation, the tendency to have odd beliefs accounted for a significant proportion of the association between the antisocial aspects of psychopathy and conspiracist ideation. It appears that people scoring high in antisociality may believe in conspiracy theories, in part, because they are also more likely to entertain odd or unusual beliefs.

A predisposition towards fatalism and distrust also mediated the association of psychopathic egocentricity and psychopathic antisociality with conspiracist ideation. This makes quite a bit of sense if one considers the possible reasons a person may be egocentric and antisocial. Akin to Machiavellianism, it is easy to imagine that a person might behave in selfish, manipulative, and antisocial ways if they (1) believe other people are behaving in selfish, manipulative, and antisocial ways (i.e., they distrust others) and (2) believe others have robbed them of their agency (i.e., they are fatalistic). Said another way, people scoring high in egocentricity and antisociality may believe in conspiracy theories because they are prone to being suspicious of others and feeling that forces greater than themselves are exerting control over their lives.

4.4. Sadism and conspiracist ideation

Physical, verbal, and vicarious sadism were all associated with conspiracist ideation. Counter to the expectation that a propensity to distrust others would be the greatest mediator of the relationship between sadism and conspiracist ideation, the tendency to have odd beliefs, be fatalistic, and distrust others all accounted for approximately equal parts of the association. Similar to the other Dark Tetrad traits, it appears that those scoring high in everyday sadism are prone to odd beliefs, fatalism, and distrust—potentially as prerequisites for deriving pleasure from inflicting harm on others—and these tendencies, in turn, lead to a greater endorsement of conspiracy theories.

4.5. Theoretical implications

Taken together, the results suggest that, overall, people with aversive personalities are more willing to believe in conspiracy theories, but that this association is only found with respect to certain aspects of the Dark Tetrad traits. Moreover, in contrast to what the previous literature would suggest, it appears that those with aversive personality traits believe in conspiracy theories for mostly the same reasons. Conspiracist ideation may, therefore, arise from some shared feature of these traits rather than a feature that is unique to each trait. One possible candidate is low agreeableness (i.e., antagonism; Lynam & Miller, 2019). Some researchers (e.g., Vize et al., 2019; Vize et al., 2020) have argued that the dark personality traits are united by low agreeableness, and other researchers have found evidence that low agreeableness is associated with conspiracist ideation (Swami et al., 2010; Swami et al., 2011; Swami & Furnham, 2012). As such, it is plausible that each of the Dark Tetrad traits is associated with conspiracist ideation because each of the traits contains aspects of low agreeableness. This account does, however, require further investigation, as a recent meta-analysis has called into question the association between agreeableness and conspiracist ideation (Goreis & Voracek, 2019).

A second possibility is that conspiracist ideation is a consequence of the type of life history strategy pursued by those with aversive personalities. The Dark Triad (i.e., the Dark Tetrad minus everyday sadism; Paulhus and Williams (2002) is believed to be an instantiation of a fast life strategy (Jonason et al., 2010; Jonason & Tost, 2010), which involves placing a focus on immediate rewards and current reproductive opportunities. Potentially, those scoring high on the Dark Tetrad believe in conspiracy theories because fatalism and distrust are common to those pursuing a fast life strategy (Jonason et al., 2018; Stamos et al., 2019).

Although preliminary, the present results may also be informative when it comes to developing interventions to combat conspiracist ideation and its harmful consequences (e.g., voter apathy; vaccine apprehension; Butler et al., 1995; Jolley & Douglas, 2014). Personality traits are generally considered to be stable (Caspi et al., 2005). As such, any intervention intended to reduce conspiracist ideation by trying to reduce a person's levels of the Dark Tetrad traits is unlikely to be successful. The present results suggest a promising alternative. By targeting a person's odd beliefs, fatalistic outlook, and sense of distrust, interventions could effectively reduce conspiracist ideation among those with aversive personalities without having to change the person's underlying disposition.

4.6. Limitations

There are several limitations of the present study that should be noted. First, the sample is a prototypical WEIRD sample (Henrich et al., 2010), which limits the generalizability of the results. Second, it is conceivable that some of the observed associations between the Dark Tetrad traits and conspiracist ideation are due to those with aversive personalities being more willing to admit to having socially undesirable beliefs, such as believing in conspiracy theories (Lantian et al., 2018). Third, although the choice of the five mediators included in the present study was driven by theory, there are other mediators that could also be considered (e.g., an intolerance of uncertainty). Fourth, all mediators were allowed to covary. Although removing these paths had little effect on the observed relationships, it is possible that—by controlling for the other mediators—each mediator represents something different than the intended construct. Fifth, as with all correlational studies that employ mediation, the directionalities of the paths in the present study were informed by theory. For example, the personality traits were treated as predictors and the tendency towards odd beliefs, fatalism, a desire for control, distrust, and a need to be unique were treated as mediators because it was believed that the traits are relatively stable and influence the more transient states of the mediators. This is, of course, not a belief that would be shared by everyone. Future studies using experimental designs could provide valuable information about the causal relations among the Dark Tetrad traits and conspiracist ideation.

5. Conclusion

The purpose of the present study was to provide an understanding of what leads people with aversive personality traits to believe in conspiracy theories. At least one aspect of every Dark Tetrad trait was associated with conspiracist ideation, and the majority of these associations were explained by a person's tendency towards odd beliefs, fatalism, and distrust. Although additional research needs to be done, these findings suggest that the Dark Tetrad traits may be linked to conspiracist ideation, not because of features that are unique to each of the traits, but because of features that are shared among the traits.

CRediT authorship contribution statement

Cameron S. Kay: Conceptualization, Methodology, Formal analysis, Investigation, Writing - original draft, Writing - review & editing, Visualization, Project administration.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.paid.2020.110543.

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