A bifactor model of meanness, coldheartedness, callousness, and sadism

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A B S T R A C T

Although callous/unemotional or mean psychopathic traits overlap with sadism, there may be specific aspects differentiating sadism from this component of psychopathy. The factor structure of eight scales that assess sadism or the meanness component of psychopathy was examined using confirmatory factor analysis in two independent samples: an Amazon MTurk sample (n = 338) and an undergraduate sample (n = 626). Compared to single-factor and two-factor models, a bifactor model that includes a general Antagonistic factor and specific Sadism factor best fit the data for both samples. The results suggest that, although mean or callous/unemotional psychopathic traits and sadism share commonality, sadism is characterized by unique features. Specifically, measures of sadism assess the tendency to derive pleasure from the suffering of others, a feature not covered by most psychopathy measures. These findings suggest that although people high in sadism are likely to be callous/ unemotional, callous/unemotional people may not be sadistic.

People generally assume that psychopathic individuals are evil and sadistic (Smith, Edens, Clark, & Rulseh, 2014). The association between psychopathy and sadism may, however, be more complex. For example, Cleckley (1941/1982) did not include sadism on his list of 16 characteristics of the psychopath, and none of his case examples in *The Mask of Sanity* describe sadistic patients. Sadism is defined as a pattern of cruel behavior toward others, a tendency toward purposeful humiliation of others, and the intentional infliction of physical, sexual, or psychological pain or suffering on others to assert dominance or derive pleasure (O'Meara, Davies, & Hammond, 2011). Although there is no generally agreed on definition of psychopathy, the triarchic model of psychopathy (Patrick, Fowles, & Krueger, 2009), which has become highly influential in the field, describes psychopathy as the confluence of boldness, disinhibition, and meanness. Meanness is the component of psychopathy that would most likely account for the putative overlap between psychopathy and sadism. A review of (a) the various traits and measures that are associated with the dispositional construct of meanness and (b) the association between psychopathy and sadism, will provide the rationale for testing a bifactor model of meanness and sadism.

1. Meanness and associated traits

Patrick et al. (2009) posited that meanness is characterized by a propensity toward low empathy and excitement-seeking tendencies that independently contribute to callousness, exploitative behavior, and instrumental aggression. They described meanness as agentic dis-affiliation, a motivational style characterized by actively seeking pleasure and satisfaction without regard for and at the expense of others. This conceptualization reflects McCord and McCord's (1964) description of psychopaths as cold, predatory, guiltless, and lacking in social conscience. More recently, Lynam and Widiger (2007) proposed that callousness, manipulation, exploitation, and affective disaffiliation are central to psychopathy.

Coldheartedness (Lilienfeld & Widows, 2005) and callous-unemotional (CU) traits (Frick, O'Brien, Wooten, & McBurnett, 1994) are other psychopathy-related traits that overlap with or may be subsumed by meanness. Coldheartedness is the Psychopathic Personality Inventory-Revised (PPI-R; Lilienfeld & Widows, 2005) scale that evaluates lack of guilt, lack of sentimentality, and a propensity toward callousness. Thus, coldheartedness is characterized by a lack of empathic concern, emotional deficiency, and affective detachment (Berg, Hecht, Latzman, & Lilienfeld, 2015). Similarly, the CU traits, callousness, unemotionality, and uncaring, are characterized by a diminished capacity for empathy, guilt, and emotional expression (Frick, 2003). The Inventory of Callous Unemotional Traits (ICU; Frick, 2003) was developed to assess callous, unemotional, and uncaring tendencies in adolescents. Like meanness and coldheartedness, callousness is characterized by a lack of empathy (Frick et al., 1994) and predicts aggressive behavior (Kimonis et al., 2008). Unemotionality is characterized by muted emotional functioning and lack of feeling toward others. Uncaring captures the lack of concern for one's performance in life and for others (Kimonis et al.,

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2008).

There is considerable overlap across meanness, coldheartedness, callousness, unemotionality, and uncaring. The Triarchic Personality Measure (TriPM; Patrick, 2010) Meanness scale yields medium-to-large correlations with both the ICU total score and the PPI-R Coldhearted-ness scale (Drislane, Patrick, & Arsal, 2014; Sellbom & Phillips, 2013). These correlations indicate significant, but not complete, overlap among meanness, coldheartedness, and callousness. Diminished affect and empathy may account for some overlap, but interpersonal detachment, exploitativeness, and aggression may account for uniqueness among these meanness-related traits.

2. Sadism and psychopathy

Like the meanness-related traits, sadism is associated with a lack of emotional empathy (Buckels, Jones, & Paulhus, 2013). Baumeister (1997) argued that true sadists use their capacity for cognitive empathy to exploit others' weaknesses and inflict pain. Such exploitation entails a cognitive understanding of, but lack of concern for, another's feelings. Thus, sadism encompasses a similar lack of concern for others that characterizes meanness-related tendencies. However, the capacity for cognitive empathy and use of others' emotions for manipulation and exploitation may be unique to sadism.

Previous studies have not examined the association between sadism and these meanness-related traits. Instead, much of the research on the association between sadism and psychopathy has been conducted in the context of the "dark tetrad" (psychopathy, narcissism, Machiavellianism, & sadism). These studies reported medium or large correlations between self-reported sadism and broad self-report measures of psychopathy that primarily tap into a blend of meanness and disinhibition (e.g., Book et al., 2016; Buckels et al., 2013; Chabrol, Van Leeuwen, Rodgers, & Séjourné, 2009). Despite robust correlations between sadism and psychopathy, these studies have found that measures of sadism can explain variance in conceptually-relevant outcomes beyond the variance explained by psychopathy. For example, sadism predicted delinquent behavior in high school boys, (Chabrol et al., 2009), and enjoyment of internet trolling by college students and Mturk participants (Buckels, Trapnell, & Paulhus, 2014), even when controlling for the other dark tetrad traits. Similarly, among college students, sadism predicted a preference for killing bugs in a modified spice grinder over other unpleasant tasks (e.g., cleaning toilets) even when controlling for psychopathy (Buckels et al., 2013). In a second study, college students higher in sadism (again while controlling for psychopathy and the other dark traits) worked harder at a boring task in order to get the opportunity to blast their opponents with a painfully loud noise (Buckels et al., 2013).[1] These studies suggest that although sadism and psychopathy are strongly associated, some antisocial behavior and the enjoyment of harming others may be unique to sadism.

3. The current study

Bifactor models are well-suited for testing constructs that encompass distinct facets because they assume that one factor accounts for the common variance shared by the indicators. A bifactor model produces a general factor that accounts for commonality among all indicators and specific factors that account for unique variance in indicators of a particular domain over and beyond the variance accounted for by the general factor (Brown, 2015). The general factor represents a conceptually broad construct; the specific factors represent conceptually narrower domains of that construct (Reise, 2012). Although most bifactor models have been conducted at the item-level, researchers have used bifactor models with subscale-level data to examine the structure of intelligence tests (e.g., Staffaroni, Eng, Moses,

Zeiner, & Wickham, 2018) and this approach can be extended to applying bifactor models at the scale level.

Meanness-related traits and sadism overlap conceptually because they share such characteristics as antagonism, low empathy, and the disregard for others' suffering. However, there are possibly unique aspects to each of these sets of traits, with meanness (but not sadism) perhaps involving a deficit in cognitive empathy and sadism (but not meanness) involving experiencing pleasure from others' pain. Consequently, we hypothesized that the relationship between meanness and psychopathy may be best characterized by a bifactor model in which a higher order antagonism factor accounts for the shared variance between measures of meanness and sadism, but specific meanness and sadism factors explain the differences between these constructs.

In contrast, a single-factor model conceptualizes the meanness dimension of psychopathy and sadism as aspects of a single construct. Therefore, we hypothesized that a single-factor model would demonstrate poor fit. A two-factor model may demonstrate better fit than a single-factor model because it models the distinction between meanness and sadism, but we hypothesized that it would be inferior to a bifactor model because it does not address a shared general factor (even if the factors are allowed to correlate).

4. Method

4.1. Participants

4.1.1. Sample 1

Data were collected from 362 adults through Amazon MTurk. Inclusion was restricted to English-speaking U.S. citizens 18 years of age or older. Respondents provided informed consent and were compensated $0.75. Data collection was exempted by the university Institutional Review Board (IRB). Twenty-four responses were excluded because of validity concerns related to completion times faster than 2 min, less than 50% item completion, response patterns indicative of careless responding or obvious response sets (e.g., alternating between two values), or scores above 25 on the PPI-R Deviant Responding scale. Ultimately, 338 responses were analyzed. Ages ranged from 16 to 69 ($M = 33.30$, $SD = 11.16$). Ninety-three respondents (27.5%) did not disclose their gender or race. Of those who reported these demographics, 113 (46.1%) identified as female, 129 (52.7%) identified as male, and 3 (1.2%) identified as other. Most participants identified as White (176; 71.8%), Asian (24; 9.8%) or African American (16; 6.5%).

4.1.2. Sample 2

Data were collected from 694 undergraduate students recruited through the university psychology department subject pool at a state university. All respondents provided informed consent. Respondents completed questionnaires electronically via Qualtrics. Students received research credit as compensation. Data collection was approved by the university IRB. Sixty-eight responses were excluded from analysis according to the same criteria as Sample 1. Ultimately, 626 responses were analyzed. Ages ranged from 18 to 48 ($M = 20.32$, $SD = 2.84$). Most participants identified as female (486; 77.6%), followed by men (138; 22.0%) and other (2; 0.3%). Most participants identified as Caucasian (424; 67.7%), followed by Hispanic (71; 11.3%), Asian (45; 7.2%), or African American (41; 6.5%).

4.2. Measures

4.2.1. Psychopathic Personality Inventory – Revised Coldheartedness Scale (PPI-R-CH; Lilienfeld & Widows, 2005)

Participants respond to each of the 16 items on the PPI-R-CH scale by rating how much that statement describes them on a 4-point scale ranging from 1 to 4. Lilienfeld and Widows (2005) reported acceptable internal consistency for a combined community/undergraduate sample ($\alpha = 0.78$). Evidence for the validity of scores on this scale comes

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[1] No bugs or opponents/confederates were harmed in these studies.