

THE PSYCHOLOGY OF EVERYDAY SADISM

by

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Abstract

Although psychological conceptions of sadism have traditionally viewed it as a clinical-forensic disorder, there is emerging scientific interest in the view that sadism extends to the normal range of personality. Sadistic personality is defined as an enduring tendency to enjoy cruelty toward others. To capture the full scope of this trait, I constructed and validated a self-report questionnaire—the Comprehensive Assessment of Sadistic Tendencies (CAST)—designed to assess three overlapping, but distinct facets of sadism, covering enjoyment of physical violence, verbal aggression, and violent media consumption. As part of the psychometric evaluation and validation process (Chapter 2), I administered the CAST to multiple samples of university students and community adults (total $N = 5,553$). Results from exploratory and confirmatory factor analyses supported the CAST’s three-factor structure. The instrument produced excellent internal consistency and test-retest reliability estimates. Overall CAST scores were positively associated with other malevolent traits (including aggression and the Dark Triad of personality: psychopathy, narcissism, and Machiavellianism), and negatively associated with prosocial traits such as empathy. Convergent validity was demonstrated by high correlations between CAST scores and those of alternative unidimensional sadism measures. Discriminant validity was evident in the CAST’s lack of association with theoretically unrelated constructs such as emotional stability. Subsequent research (Chapters 3-5) demonstrated the predictive and incremental validity of the CAST, including the unique contributions of the three subscales. In Chapter 3 (total $N = 2,779$), sadism was a strong positive predictor of online trolling behavior (which was, in turn, distinguishable from cyberbullying). In Chapter 4 ($N = 412$), sadism predicted a pattern of inaccurate and negative interpersonal perceptions, with effects emerging for both sadistic perceivers and sadistic targets. In Chapter 5 (total $N = 540$), sadism predicted

tendencies to underestimate others' suffering and minimize culpability for harm; both effects were statistically explained by positive affect. Taken together, the results support the construct validity of sadistic personality, and the inclusion of sadism in new "Dark Tetrad" of personality.

Lay Summary

Sadism refers to the enjoyment of cruelty. Historically, sadism was viewed as a sexual disorder exclusive to criminals, but there is accumulating evidence that sadistic tendencies can be observed in normal (i.e., non-criminal/non-clinical) samples. In this dissertation, I review the psychological research on sadism (Chapter 1). I then construct and evaluate a self-report questionnaire to assess sadistic personality: The Comprehensive Assessment of Sadistic Tendencies (CAST). The CAST permits the separation of three facets of sadism (Chapter 2). I present evidence that sadism predicts cruel Internet behaviors (online trolling; Chapter 3) and draws negative impressions in face-to-face interactions (Chapter 4). I show that sadism predicts abnormal judgments about harm, and the effects are due to sadistic pleasure (Chapter 5). Across all studies, I find consistent evidence that sadism predicts outcomes independently of overlap with other malevolent tendencies. Sadism is a personality trait that is meaningful, measurable, and worthy of further investigation.

Preface

The research described in this dissertation received ethical approval from the University of British Columbia's Behavioural Research Ethics Board (certificates H12-02453 and H06-03996).

Authorship Notes

Chapter 1: I wrote this chapter in full, with minor edits from my advisor.

Chapter 2: I wrote this chapter in full, with minor edits from my advisor. I created Tables 1-7 and Figures 1-2.

Chapter 3: This chapter is based on research reported by Buckels, Trapnell, and Paulhus (2014) and Buckels, Trapnell, Andjelovic, and Paulhus (2018), in addition to unpublished results. Figure 3 and Table 8 are reproduced with permission from Buckels et al. (2014). Table 9 is modified from Buckels et al. (2018).

Chapter 4: This chapter is based on research reported by Rogers, Le, Buckels, Kim, and Biesanz (2018). I shortened and edited the content for the purposes of this dissertation. Tables 12 and 13 are modified from tables reported in that manuscript.

Chapter 5: This chapter is based on research reported by Buckels et al. (2018). Tables 14-16 and Figures 4-5 are reproduced with modifications from that manuscript.

Chapter 6: I wrote this chapter in full, with minor edits from my advisor.

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CHAPTER 1: Introduction

In his published memoirs, Clarence Darrow famously wrote: “I have never killed anyone, but I have read some obituary notices with great satisfaction” (Darrow, 1932/1996, p. 86). Darrow was a criminal lawyer who opposed the death penalty in the United States. Despite his strong objections to the inhumane treatment of criminals, he admitted to personal gratification from human suffering. He likened his affective returns to the pleasure experienced by killers, and he reasoned that he was not the only person to feel this way. In 1926, Darrow testified at a congressional hearing by stating, “We’re all killers at heart” (Shapiro, 2006, p. 186).

I will word that allegation more cautiously—instead arguing that the human appetite for cruelty is more universal than polite society would have it. This dissertation posits that *sadism* (defined as pleasure from cruelty) is not limited to criminals, but also occurs in ‘normal’ people (Baumeister, 1997; Paulhus & Dutton, 2016), albeit not always to the same degree. From a personality perspective, there are meaningful, and measurable, individual differences in behavioral tendencies that persist over time and situation. I argue that sadism is no exception.

Indeed, recent empirical work suggests that the strength of dispositional sadism varies dramatically in normal populations, with some individuals reporting and exhibiting reliably stronger sadistic tendencies than others (e.g., Buckels, Jones, & Paulhus, 2013; Paulhus & Jones, 2015). The more common variants of sadism (involving, for instance, enjoyment of verbally humiliating others or playing violent video games) may lack sexual or criminal features, but they involve pleasure from cruelty all the same. To emphasize their commonplace nature, such tendencies have been labeled, *everyday sadism* (Paulhus & Dutton, 2016).

This dissertation delves into the psychology of everyday sadism. In Chapter 1, I review scholarly theory and research on sadism. As most sadism research has employed a clinical-

forensic lens, my literature review covers both disordered and everyday varieties, with a particular focus on definition and assessment. In the chapters that follow, I conceptualize sadism as a personality construct and develop a self-report questionnaire containing three facets of sadistic tendencies (covering enjoyment of physical cruelty, verbal cruelty, and cruel forms of media entertainment). I validate the new sadism measure using a combination of survey and behavioral research techniques. Evidence from the new measure, and other available measures, is marshaled to build a nomological network around the sadistic personality. Finally, I evaluate the appropriateness of adding sadism to a comprehensive taxonomy of dark dispositions (Paulhus, 2014), and consider the implications of sadism for the prevalence of cruelty in everyday life.

1.1. Background Theory and Research on Sadism

Philosophical origins. Why is cruelty rewarding to some, but abhorrent to others? This question figures centrally in psychological theories of sadism, and its philosophical roots run surprisingly deep. Philosophers of ancient Greece were among the first scholars to discuss the hedonic rewards of malevolence. Their concept of *epichairekakia* (ἐπιχαιρεκακία; meaning to delight in evil) is arguably equivalent to sadism. Attested by Aristotle in 350 BC (*Nicomachean Ethics*), this dark delight was theorized to be a powerful motivation for harm. In short, sadism has intrigued scholars for most of written history.

Early psychological theories. Sadism's namesake is Count Donatien Alphonse François de Sade (better known as the Marquis de Sade), an 18th century French aristocrat with an irrepressible appetite for forced sex and torture that dominated his writing, fantasies, and personal life (see Freeman, 2002). To many, de Sade was an aberration requiring explanation.

How could a civilized person take pleasure in such horrendous acts? Medical professionals were among the first to tackle that question: Krafft-Ebing (1886) coined the term *sadism*, which he interpreted as a paraphilia to be added to a list that included fetishism and pedophilia.

Freud went further to view sadism as a natural feature of the human condition. Early in his career, he referred to sadism as *active algolagnia*¹ (Freud, 1905), which he considered to be a remnant of cannibalistic lust involving the mental apparatus for domination and mastery (*bemächtigungstribe*). Later in his career, Freud (1930/2010) described sadism as a dangerous combination of Eros (the life force) and Thanatos (the death force). In his letter to Einstein (Einstein & Freud, 1932), he argued that it is possible to channel the death force inward (introversion of the death instinct, or *masochism*) or outward (*sadism*: the pleasurable alternative); he also noted that some introversion of the death drive was necessary for moral conscience.

After the horrors of World War II, Fromm (1973) postulated the existence of a sadistic personality type that had a passion for controlling others. Fromm identified three different types of sadism (physical, sexual, and mental) that were rooted in character flaws of insecurity and social impotence. Fromm believed that sadists were stimulated exclusively by the weak and helpless, and they could derive no pleasure from harming powerful individuals. Fromm's theory represents an early and influential perspective on the existence of sadistic personality traits.

Evolutionary accounts. From an evolutionary perspective, the origin of human cruelty follows the standard account: Cruelty is an adaptation. It must have conferred reproductive benefits on our ancestors, for example, by facilitating success in fighting and hunting (Nell,

¹ *Passive algolagnia* refers to pleasure in harming oneself (masochism).

2006). As a result, humans evolved a motivational architecture to reinforce such behaviors (see Chester, 2017; Pinker, 2011). In support of this view, animal research reveals the presence of a neural reward system implicated in predatory aggression that is not involved in affective/hostile aggression (Fuchs, Dalsass, Siegel, & Siegel, 1981; McEllistrem, 2004; Shaikh, Lu, MacGregor, & Siegel, 1991). Animals will exert effort to obtain the brain stimulation associated with predatory aggression (Panksepp, 1971), suggesting that it is pleasurable and appetitive under normal conditions. Thus sadism may have a biological basis in predatory aggression.

One angle on predatory aggression in humans has focused on revenge-seeking behavior (Chester, 2017). Anger and retaliatory aggression are associated with reward and approach motivation in the brain (Carver & Harmon-Jones, 2009; Chester & DeWall, 2016a); and violence is arousing in humans and non-humans alike (Elbert, Weierstall, & Schauer, 2010; Nell, 2006; Rubenking & Lang, 2014), both for participants and spectators (Anderson & Bushman, 2001; Barlett, Harris, & Bruey, 2008; Goldstein, 1998). In fact, some individuals find the smell of blood appealing (Moran et al., 2015), suggesting that the sights, sounds, and tastes of physical violence may have positive and motivating properties (cf. Weierstall & Elbert, 2011; Moran, Weierstall, & Elbert, 2014).

In sum, the account from evolutionary psychology is that sadistic tendencies have maintained a presence in the gene pool because they confer a reproductive advantage. This account is not incisive about the wide variation observed in sadistic tendencies and makes no assumptions about the pathological or sexual nature of sadistic behaviors.

Modern clinical-forensic accounts. As with research on other socially-undesirable traits, a recurring issue is the tension between views of sadism as an abnormal psychological phenomenon, versus a normal feature that varies in normal samples. Clinical-forensic research

has, for the most part, embraced the view that sadism is abnormal and requires treatment and/or punishment. Out of the clinical tradition come the designations of the official bodies tasked with organizing mental illness: (1) *sexual sadism disorder* from the Diagnostic and Statistical Manual of Mental Disorders (DSM-5)(American Psychiatric Association, 2013), (2) *sadomasochism* from the International Statistical Classification of Diseases and Related Health Problems (ICD-10)(World Health Organization, 1992), and (3) *sadistic personality disorder* from the earlier DSM-III (American Psychiatric Association, 1980).

Sexual sadism. Sexual sadism and sadomasochism both involve sexual arousal to cruelty (or simulated cruelty). From a modern clinical perspective, a preference for bondage, domination, sadism, and masochism (BDSM) among consenting adults is viewed as a non-pathologized sexual fetish. Indeed, sadistic fetishes are surprisingly commonplace in the general population. One review of the literature (Longpré, Guay, & Knight, 2017) yielded prevalence estimates such that 13-60% of men in the general population have domination fantasies, 39-50% have bondage fantasies, and 23-30% have rape fantasies. Likewise, in a survey of undergraduates, approximately 65% of male respondents admitted to having at least one sexually-sadistic fantasy in their lifetime; far fewer admitted acting out that fantasy (Williams, Cooper, Howell, Yuille, & Paulhus, 2009). Newly available is the sadomasochism checklist (Weierstall & Giebel, 2017) designed to assess consensual sadomasochistic practices in non-offender populations.

When fantasy is turned into reality with non-consenting victims, or the fantasies become too intense to suppress, then normal fetishes become disordered behavior. Sexual sadism was classified as a paraphilic disorder in the DSM-5, which remains the most authoritative source. The diagnostic criteria for sexual sadism are:

(a) over a period of at least 6 months, the individual experiences recurrent and intense sexual arousal from the physical or psychological suffering of another person, as manifested by fantasies, urges, or behaviors and (b) the individual has acted on these sexual urges with a nonconsenting person, or the sexual urges or fantasies cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

It is notable that, under the DSM-5 criteria, a person with sadistic tendencies may be diagnosed with sexual sadism even if they have never acted on their sexual urges/fantasies, so long as these urges have caused problems for the patient. The ICD-10 definition of the sadomasochism paraphilia is more focused on behavior: “A preference for sexual activity which involves the infliction of pain or humiliation, or bondage.” Researchers may use DSM-5 or ICD-10 diagnostic criteria to separate sexual offenders into sadistic and non-sadistic groups.

One extreme subtype of sexual sadism is homicide performed for sexual pleasure (e.g., Higgs, Carter, Tully, & Browne, 2017; James & Proulx, 2016; Myers, Husted, Safarik, & O'Toole, 2006). There is a relatively large forensic literature on sexual homicide, both serial and non-serial varieties (for a recent review, see James & Proulx, 2016). Sexual killers share many of the characteristics of non-homicidal sexual aggressors (Stefanska, Beech, & Carter, 2016). Others have argued that the label ‘sadistic’ should not be applied unless the homicide involved purposeful and extended enactment of cruelty (Baeza & Turvey, 1999).

Forensic assessment. Most relevant to forensic conceptions are attempts to objectively quantify the sadistic elements of a crime scene. Two current instruments show promise in permitting inferences about the sadistic nature of the perpetrator by scoring the crime scene residue. First is the Severe Sexual Sadism Scale (SESAS)(Mokros, Schilling, Eher, & Nitschke,

2012). The SESAS consists of 11 objective behavioral markers drawing from work by Marshall and colleagues (W. L. Marshall & Hucker, 2006; W. L. Marshall, Kennedy, & Yates, 2002). SESAS items cover sexual arousal, exercise of power/control/domination, humiliation/degradation, torture/cruelty, mutilation of sexual and non-sexual parts, gratuitous violence, trophies, abduction/confinement, ritualism, and insertion of objects into bodily orifices. Empirical research with offenders supports the validity of the SESAS (Longpré, Proulx, & Brouillette-Alarie, 2016; Mokros et al., 2012; Nitschke, Mokros, Osterheider, & Marshall, 2013). Notably, SESAS scores predict repeat offending among sexual offenders (Eher et al., 2016).

A competing measure is the MTC sadism scale (MTCSS)(Longpré et al., 2017), a 15-indicator rating scale that taps instrumental aggression, expressive aggression, torture/mutilation, cruelty to people or animals, and insertion of objects. Longpré and colleagues (2017) evaluated the MTCSS using classical test theory and two-parameter item response theory, and found support for its psychometric properties. MTCSS scores are higher among rapists than child molesters, and are positively correlated with antisocial behaviors in adolescence and adulthood. The MTCSS authors argue for the existence of an agonistic continuum, with sexual sadism at the end point, preceded by consenting BDSM and sexual coercion (Knight, 2010; Knight, Sims-Knight, & Guay, 2013).

Sadistic personality disorder. Although most clinical accounts of sadism involve both sex and criminality, some clinicians recognize that sadistic tendencies need not be sexualized, and cruelty is often subtler than criminal-level violence. Prior to its fourth edition, the DSM included a diagnostic category of sadistic personality disorder (sadistic PD), which was focused on a non-sexual manifestation of sadistic urges (Millon, Millon, Meagher, Grossman, & Ramnath, 2012). The DSM-III-R criteria were as follows:

A. A pervasive pattern of cruel, demeaning, and aggressive behavior, beginning by early adulthood, as indicated by the repeated occurrence of at least four of the following:

(1) Has used physical cruelty or violence for the purpose of establishing dominance in a relationship (not merely to achieve some non-interpersonal goal, such as striking someone in order to rob him/her). (2) Humiliates or demeans people in the presence of others. (3) Has treated or disciplined someone under his/her control unusually harshly. (4) Is amused by, or takes pleasure in, the psychological or physical suffering of others (including animals). (5) Has lied for the purpose of harming or inflicting pain on others (not merely to achieve some other goal). (6) Gets other people to do what he/she wants by frightening them (through intimidation or even terror). (7) Restricts the autonomy of people with whom he or she has a close relationship, e.g., will not let spouse leave the house unaccompanied. (8) Is fascinated by violence, weapons, injury, or torture.

B. The behavior in A has not been directed toward only one person (e.g., spouse, one child) and has not been solely for the purpose of sexual arousal (as in sexual sadism).

Note that the diagnostic criteria covered both physical aggression (e.g., inflicting pain and punishment) and verbal/psychological aggression (e.g., humiliating, controlling, and terrorizing others). The criteria were also suggestive of more vicarious interests, such as a fascination with weapons (cf. Gonzalez & Greitemeyer, 2018).

Millon (e.g., Millon et al., 2012) is recognized for his work on sadistic PD, which he divided into four subtypes (tyrannical, spineless, explosive, and enforcing sadism, respectively). Although sadistic PD was omitted from subsequent editions of the DSM, its omission does not necessarily reflect scientific consensus on the existence of non-sexual sadistic traits (e.g., Meloy, 1997). Yet without an official diagnosis, it was not feasible to conduct further research on

sadistic PD.

Fortunately, personality psychologists have begun to recognize the importance of sadistic traits in the explanation of human aggression (Buckels et al., 2013; Jones & Paulhus, 2017), and this research generated scholarly interest in reconceiving sadism as a normal personality construct (Paulhus, 2014; Paulhus & Dutton, 2016; Plouffe, Saklofske, & Smith, 2017).

Conceptualized as a normal personality dimension, sadistic tendencies exist on a behavioral continuum that ranges from minor to severe intensity. Disordered sadism—as manifest in sadistic PD and severe sexual sadism—represents one possible endpoint of that continuum, but there may be also be additional manifestations not previously considered.

1.2. Subclinical Approaches to Sadistic Personality

To date, three overlapping but distinct traits have dominated the empirical literature on malevolent dispositions (Furnham, Richards, & Paulhus, 2013; Paulhus, 2014): Psychopathy, narcissism, and Machiavellianism. Together, they comprise the so-called *Dark Triad* of personality (Paulhus & Williams, 2002). All three traits are considered subclinical; they are observed to vary in broad samples such as student and community surveys. In brief, the subclinical psychopath is an impulsive thrill-seeker; the narcissist is a grandiose attention-seeker; the Machiavellian, a strategic manipulator. The Dark Triad members are disparate in their conceptual origins and unique characteristics, but they share a callous disregard for the well-being of others: That is, they lack empathy (Frick & Ray, 2015). Moreover, they all fall at the low end of the broad factor known as honesty-humility (Book et al., 2016; Book, Visser, & Volk, 2015; Lee & Ashton, 2005). Despite significant overlap, behavioral differences emerge in experiments designed to differentiate these traits (Jones & Paulhus, 2010, 2017), making it clear

that there is not just one way to be ‘bad.’

The sadistic personality (sadism, for short) has recently been added to the taxonomy of malevolent dispositions (Chabrol et al., 2009; Paulhus, 2014). Scholarly attention to sadism as a personality construct was spurred by recent behavioral evidence that sadistic tendencies exist at subclinical levels: Buckels et al. (2013) found that sadistic personality traits predicted cruel behaviors in the laboratory (i.e., bug crunching and unprovoked aggression), and they did so even when controlling for overlap with the Dark Triad. Importantly, sadism was the only predictor of costly aggression toward a non-aggressive target. Only sadists were willing to expend time and effort to aggress when unprovoked, presumably because they received pleasure from doing so.

The behavioral demonstrations by Buckels and colleagues (2013) provide preliminary evidence for the validity of the sadistic personality construct. Although positively related to the Dark Triad, sadism appears to be its own ‘beast.’ That conclusion is broadly consistent with the importance of sadism in clinical and forensic research, as reviewed previously. Sadism is a construct with approximately the same conceptual breadth of the Dark Triad traits, but it has received far less empirical research attention in personality research. Fortunately, efforts are underway to formalize this personality construct and scrutinize its measurement.

Measurement of sadistic personality. Currently, there are three published measures of sadistic personality available for research with non-clinical samples: The Short Sadistic Impulse Scale (SSIS)(O'Meara, Davies, & Hammond, 2011), the Assessment of Sadistic Personality scale (ASP)(Plouffe et al., 2017), and the Varieties of Sadistic Tendencies scale (VAST)(Paulhus & Jones, 2015). Each measure has unique strengths and limitations.

Short Sadistic Impulse Scale (SSIS). Earliest of this trio of sadism measures was the

SSIS (O'Meara et al., 2011), a 10-item measure with a unidimensional structure. The scale is based on definition of sadism that was generated through a series of qualitative studies (Davies & O'Meara, 2007); the initial item pool was generated in consultation with psychologists who work with sadistic offenders (O'Meara et al., 2011). Example items include, "*Hurting people would be exciting*" and "*I have hurt people because I could*". Inspection of the final item set (see Appendix A) reveals that the SSIS is a relatively narrow-band measure of reported enjoyment of hurting others.

In developing their scale, O'Meara et al.'s analysis of endorsement frequencies in a sample of 407 Irish undergraduates revealed that 6.9% considered themselves to be "sadistic," while a slightly smaller percentage of people (5.6%) actually admitted to enjoying hurting others (O'Meara, Davies, & Barnes-Holmes, 2004). O'Meara et al. (2011) reported that the SSIS items involving anger-motivated and instrumental use of hurting were endorsed most frequently, while the less popular items involving fantasy, enjoyment, and gratification from hurting were endorsed only by those with high total SSIS scores.

Preliminary validation work (O'Meara et al., 2011) documented negative associations between SSIS and empathy quotient scores, and positive associations with dysfunctional attachments in childhood and a dominant/tyrannical interpersonal style. Other research supports the instrument's convergent and predictive validity: SSIS scores are correlated positively with cold-hearted interpersonal traits (Southard, Noser, Pollock, Mercer, & Zeigler-Hill, 2015), and negatively with affective empathy (Pajevic, Vukosavljevic-Gvozden, Stevanovic, & Neumann, 2018; Sest & March, 2017), emotion recognition ability (Pajevic et al., 2018), and disgust sensitivity (Meere & Egan, 2017). SSIS sadism predicts positive reactions to videos of people hurting themselves (Burriss & Leitch, 2017; Schumpe & Lafrenière, 2016), past experience with

pranking others (Burriss & Leitch, 2017), revenge-seeking tendencies (Chester & DeWall, 2017), and such antisocial internet behaviors as cyberstalking (Smoker & March, 2017) and online trolling (Buckels et al., 2014; Craker & March, 2016; March, Grieve, Marrington, & Jonason, 2017; Sest & March, 2017).

Laboratory research by Chester and DeWall (2016b) indicates that SSIS scores predict aggressive behavior in two different aggression paradigms. Interestingly, in their research, a social rejection manipulation increased participants' mean sadism scores; this pattern suggests that chronic social rejection might facilitate dispositional sadism. In other work, Burriss and Leitch (2016, 2017) proposed that sadistic aggression is best conceptualized as misplaced aggression that is prompted by previous insults by others. They documented positive associations between SSIS sadism and a combination of chronic disrespect sensitivity and anger-rumination tendencies (Burriss & Leitch, 2017). Finally, Trémolière & Djeriouat (2016) provided evidence that SSIS sadism is accompanied by abnormal moral judgments due to positive affect from harm. Together, these findings converge on the picture of an everyday sadist who is callous and vicious (perhaps due to social rejection and past grievances), with a twisted moral compass that supports the pursuit of pleasure via cruel means.

Assessment of Sadistic Personality (ASP) scale. A competing uni-dimensional measure is the ASP scale (Plouffe et al., 2017), a brief (9-item) indicator of sadistic tendencies. The ASP was designed to have broader content coverage than the SSIS. ASP items cover subjugation of others (e.g., “*I have made fun of people so that they know I am in control*”), pleasure-seeking (e.g., “*When I mock someone, it is funny to see them get upset*”) as well as callous tendencies (e.g., “*I think about hurting people who irritate me*”). Results reported by Plouffe and colleagues (2017) as well as Plouffe, Smith, and Saklofske (2018) indicate that ASP scores are

positively correlated with other dark traits and aspects of disordered personality, and negatively correlated with trait emotional intelligence and positive personality dimensions more broadly (i.e., honesty-humility, agreeableness, extraversion, emotionality, and conscientiousness). Balakrishnan, Plouffe, and Saklofske (2017) found that ASP sadism was positively correlated with the egocentric life values of power-respect/control and achievement, and negatively correlated with prosocial values of benevolence and tradition-humility, as assessed by the Portrait Values Questionnaire (Schwartz et al., 2001).

One benefit of the ASP scale is that it matches the format of the Short Dark Triad questionnaire (SD3)(Jones & Paulhus, 2014). The ASP items are easily administered alongside that Dark Triad measure, having the same number of items to assess each dark trait with comparable reliability (Plouffe et al., 2017). Thus the ASP optimizes the quick and accurate assessment of a new *Dark Tetrad* of personality: Subclinical sadism, psychopathy, Machiavellianism, and narcissism (Chabrol, Van Leeuwen, Rodgers, & Séjourné, 2009; Paulhus, 2014). Recently, the authors reported that a four-factor solution for the Dark Tetrad is tenable when combining the items contained in the SD3 and ASP measures (Plouffe et al., 2017; Plouffe et al., 2018). Although the fit was marginal, many ASP items separated onto a factor that was positively related to, but factorially distinct from, the Dark Triad.

One limitation of the ASP is that the subjugation and callousness items do not specifically reference enjoyment, and thus, the measure is confounded with other motivations for aggression, including dominance, instrumental gains, and retaliatory motivations. A purer measure would omit these peripheral aspects of sadism and focus exclusively on pleasure from cruelty. The ASP authors argue that the expanded content coverage is an advantage of the ASP (Plouffe et al., 2018). However, there is no known evidence that the ASP predicts sadistic

outcomes more strongly than the SSIS; in fact, there is minimal evidence for external correlates. Hence it is unclear whether the wider-sampling of content improves measurement and prediction.

An alternative strategy to broaden the bandwidth of sadism measures is to consider additional contexts in which cruelty could be enjoyed, while still retaining the pleasure-seeking content throughout. The authors of the VAST measure (Paulhus & Jones, 2015) take this alternative approach.

Varieties of Sadistic Tendencies (VAST). The VAST (Paulhus & Jones, 2015) was developed in line with a proposed distinction between *direct* and *vicarious* forms of sadism (Paulhus & Dutton, 2016). Direct sadism refers to a tendency to enjoy harming others directly and in-person, while vicarious sadism refers to a tendency to enjoy simulated and/or fantasized harm—for example, in playing violent video games, watching horror movies, and fans of violent sports. As reasoned by others (Baumeister, 1997; Baumeister & Campbell, 1999), the VAST authors argue that sadism is apparent in the entertainment value of violence; and that enjoyment of cruelty is sadistic, regardless of whether or not one perpetrates the suffering directly. The 16-item VAST measure contains two subscales to assess each variety of sadistic tendencies. Example items include, “*I enjoy physically hurting people*” (direct sadism), and “*I enjoy watching cage fighting (or MMA), where there is no escape*” (vicarious sadism).

Empirical work summarized by Paulhus and Dutton (2016) indicates that scores on the direct and vicarious subscales are highly correlated. In other words, people who enjoy hurting others also like to watch others get hurt. Paulhus and Dutton also reported that while the VAST correlates positively with partner abuse, sadism scores were unrelated to adjustment measures or self-harm—suggesting that everyday sadists are not emotionally disturbed or masochistic in

nature, and that sadistic personality is not abnormal in a clinical sense.

Research from other laboratories further supports the predictive validity of the VAST. Experiments by Pfattheicher and colleagues indicate that direct sadism is positively related to aggressive behavior in a public goods game (Pfattheicher, Keller, & Knezevic, 2017). This link is strongest when participants are instructed to assume an intuitive thinking style (Pfattheicher et al., 2017), or receive a threatening mortality salience induction (Pfattheicher & Schindler, 2015). Like the Dark Triad, VAST sadism is positively associated with a short-term mating orientation (Book et al., 2016) and bullying behaviors in real life and on the Internet (van Geel, Goemans, Toprak, & Vedder, 2017).

The VAST represents an advance for research on everyday sadism. It broadens the conceptualization of sadism to include violent interests, and permits more subtle assessment of sadistic tendencies; in short, not all items reference direct aggression. Violent media preferences are likely easier to admit to than are sadistic proclivities in real life. Yet despite its apparent conceptual value, there is no current evidence that vicarious and direct sadism predict distinct outcomes. Most researchers have avoided the facet distinction altogether and only reported results for VAST total scores. Thus the empirical value of the vicarious sadism construct is yet to be demonstrated.

1.3. The Current Research

To recap, the goal of this dissertation is to explore the sadistic personality in its more commonplace manifestation, that is, *everyday sadism*. Although cruel behavior can arise for other reasons, the dispositional tendency to be cruel can be seen in a wide spectrum of socially acceptable behavior. This notion represents a challenge to historical assumptions that sadism

always has a sexual and/or criminal nature (e.g., Baeza & Turvey, 1999).

My research program was guided by four overarching research questions. The first question: *Can cruelty be linked to personality dispositions?* I define cruelty in line with Taylor (2009), that is, a voluntary behavior that causes foreseeable suffering to others. People vary dramatically in their use of cruelty: Many of those who frequently exhibit such behavior seem to enjoy it, and the term sadism applies. The motivation is appetitive and based in evolved reward structures in the brain (Chester & DeWall, 2016a; Nell, 2006; Pinker, 2011). Importantly, sadistic motivation contrasts with instrumental and extrinsic motivations for cruel behavior.

Confirming the existence of this personality disposition will require building an empirical scaffold of *construct validity* (Cronbach & Meehl, 1955). The challenge will involve a conceptual cleavage between non-sexual sadistic tendencies observed in normal populations and the sexual and criminal tendencies found in forensic populations. To facilitate research on this question, I seek to provide additional self-report and behavioral evidence for the sadism personality construct.

The second research question: *What varieties of sadistic tendencies exist?* Past theorizing and research point to a theoretical distinction between direct and vicarious sadism (Paulhus & Dutton, 2016; Nell, 2006). There is also an additional, and unaddressed, distinction between direct physical and direct verbal cruelty that is implied by the structure of trait aggression measures (Buss & Perry, 1992). Sadistic tendencies may emerge in both physical and verbal interactions. To test this hypothesis, I constructed a measure of sadistic personality with items referring to enjoyment of cruelty in three different contexts: physical behavior, verbal behavior, and entertainment preferences. I examined the factor analytic evidence that these three varieties of sadistic tendencies are related but distinct.

The third question: *How does overall trait sadism differ, conceptually and empirically, from other dark personality constructs?* This question concerns the viability of sadism as a distinct trait construct, and ultimately, the feasibility of adding sadism to the taxonomy of dark personalities (Paulhus, 2014). To address this question, I conducted correlational and behavioral validation research—examining sadism in the prediction of cruel behavior in online and face-to-face contexts. I compared sadism associations with those of other dark personality traits, testing the incremental validity of sadism in the explanation of cruel behavior. To the extent that sadism predicts unique variance in outcomes of interest, there is evidence for the sadistic personality construct as a trait in its own right.

A final research question: *Are everyday sadists equipped with psychological justification processes that permit them to reconcile their cruel behaviors with a positive self-view?* This question addresses how a normal person, like a subclinical sadist, avoids feeling guilty for their cruel behavior (Paulhus, Fridhandler, & Hayes, 1997). A complex interplay between pleasure and rationalization processes may underscore the psychology of everyday sadism.

CHAPTER 2: CAST Scale Development and Evaluation

Although past research suggests that sadism is a viable trait construct, most of that research has viewed it as a unidimensional trait. Researchers have limited their investigations to criterion associations with total scores, even when employing a sadism questionnaire with broad content. In this chapter, I develop and evaluate a multidimensional view of sadism. I construct a new measure of sadistic personality, drawing on Paulhus and Jones' (2015) VAST measure (and their distinction between direct and vicarious sadism). Then, taking the view that there is an important distinction between verbal and physical contexts for aggression—a distinction that is well-established in the trait aggression literature (Buss & Perry, 1992)—I split the direct sadism subscale into two distinct components (one involving physical cruelty and the other verbal cruelty), and evaluate whether a three-factor model of sadism is tenable.

To improve sadism assessment, I omitted some of the ancillary content that plagues other measures, and instead focused exclusively on pleasure from cruelty. The SSIS is confounded by content related to anger-motivated aggression and hurting to establish dominance in relationships. The ASP is confounded by similar dominance/subjugation/control motives that do not necessarily involve pleasure, and by generic callousness, which is thought to be common to most (if not all) dark personality traits (Jones & Figueredo, 2013). I argue that sadism reflects an appetitive motivation for cruelty where hurting is craved for the sake of hurting alone. Thus all facets of a sadism measure should involve pleasure. I construct and validate a sadism measure in line with this thinking. The resulting self-report questionnaire was labeled, the *Comprehensive Assessment of Sadistic Tendencies* (CAST).

2.1. Research Goals and Hypotheses

The first step in my research program was to build a reliable and valid measure: A comprehensive index of sadistic tendencies with item content capturing chronic enjoyment of physical violence, verbal aggression, and violent media consumption. I evaluated the psychometric properties of the CAST scale and located sadism in its nomological network of related personality constructs (Cronbach & Meehl, 1955). As evidence of its convergent validity, I expected total CAST scores to demonstrate strong positive correlations with scores on other sadism measures, and those of trait aggression. Furthermore, if sadism shares the callous core of the Dark Triad (Jones & Figueredo, 2013), CAST scores should be positively correlated with those of psychopathy, narcissism, and Machiavellianism; and negatively correlated with empathy measures (which represent the inverse of trait callousness).

As the CAST was designed to assess non-disordered sadistic tendencies, there was no reason to expect CAST scores to covary with those of high neuroticism (or low emotional stability). Thus, as evidence of the CAST's discriminant validity, I expected to find no significant associations with the Big Five dimension of emotional stability. Finally, I predicted that CAST sadism scores would display a pattern of trait associations similar to those of other dark personality traits (like subclinical psychopathy), but also distinct in meaningful ways.

2.2. Method and Results

2.2.1. Item generation

My initial item set was drawn from the 16-item VAST measure (Paulhus & Jones, 2015). That choice ensured the basic distinction between direct and vicarious sadism. I then augmented the scale with additional content. Additions focused primarily on the concept of verbal sadism. The initial pool contained 27 potential items.

2.2.2. Exploratory factor analysis (undergraduate sample)

Participants were 2958 Psychology students who completed an online survey in exchange for partial course credit at the University of British Columbia (UBC). A total of 31.4% identified as male, 67.5% as female, and 1.1% identified as neither or did not respond. Mean age was 20.07 years ($SD = 2.88$). The ethnicity breakdown was 38.0% East Asian, 30.1% Caucasian, 14.7% Southeast Asian, 3.4% Middle Eastern, and 13.7% of various other ethnicities or chose not to answer. Participants responded to the initial pool of 27 sadism items, rated on 5-point scales from 1 (*strongly disagree*) to 5 (*strongly agree*). The questionnaire was administered online as part of a larger survey conducted at the beginning of the year.

Following the screening and removal of deficient items, I subjected scores on 23 items to a principal components analysis with a Promax rotation. This analysis identified three components with Eigenvalues greater than 1.0 (8.04, 1.82, 1.48, accounting for 34.9%, 7.9%, and 6.4% of the variance, respectively). Factor loadings are displayed in Table 1. As seen in Table 1, the first component was composed of items involving enjoyment of physical cruelty toward others (e.g. “I enjoy physically hurting people”), and was labeled *physical sadism*. The second component comprised items involving enjoyment of cruelty in movies, sports, and video games (e.g., “In video games, I like the realistic blood spurts”); this component was labeled *vicarious sadism*. Finally, the third component was comprised of items capturing enjoyment of the humiliation of others and the perpetration of psychological cruelty (e.g., “I enjoy making jokes at the expense of others”), thus it was labeled *verbal sadism*. A parallel analysis with principal components extraction and raw data permutation confirmed the three-component solution (see Figure 1). Three eigenvalues were greater than the means of the randomly permuted data, indicating that a three-factor solution was appropriate.

Table 1

Principal Components Analysis of 23 Preliminary CAST Items

	Component		
	1	2	3
I enjoy tormenting people.	.87	-.04	-.06
I enjoy physically hurting people.	.84	.06	-.12
I amuse myself by giving people bad advice and watching them get into trouble.	.78	.00	-.05
I'm skilled at making people cry.	.57	-.08	.26
I enjoy hurting my partner during sex (or pretending to).	.57	.10	-.06
I have the right to push certain people around.	.53	-.07	.33
I have dominated others using fear.	.49	.06	.20
In video games, I like the realistic blood spurts.	-.09	.79	.02
I enjoy watching cage fighting (or MMA), where there is no escape.	-.01	.79	-.01
I love the YouTube clips of people fighting.	.02	.74	.07
In professional car-racing, it's the accidents that I enjoy most.	.19	.58	-.05
There's way too much violence in sports. (R)	-.51	.57	.24
I sometimes replay my favorite scenes from gory slasher films.	.37	.54	-.22
I would prefer to be a famous fighter than a famous scientist.	.15	.53	.05
I enjoy playing the villain in games and torturing other characters.	.32	.52	-.03
I was purposely mean to some people in high school.	.08	-.09	.72
I enjoy making jokes at the expense of others.	.06	.12	.65
I never said mean things to my parents. (R)	-.34	-.09	.61
When making fun of someone, it is especially amusing if they realize what I'm doing.	.20	.01	.60
I have purposely tricked someone and laughed when they looked foolish.	.09	.08	.58
Perhaps I shouldn't have, but I never got tired of mocking certain classmates.	.22	-.01	.58
It is satisfying to humiliate others and put them in their place.	.30	.03	.53
I would never purposely humiliate someone. (R)	-.16	.11	.51

Note. $N = 2958$ UBC undergraduate students. Principal components analysis with a Promax rotation. Loadings $> .30$ are bolded.

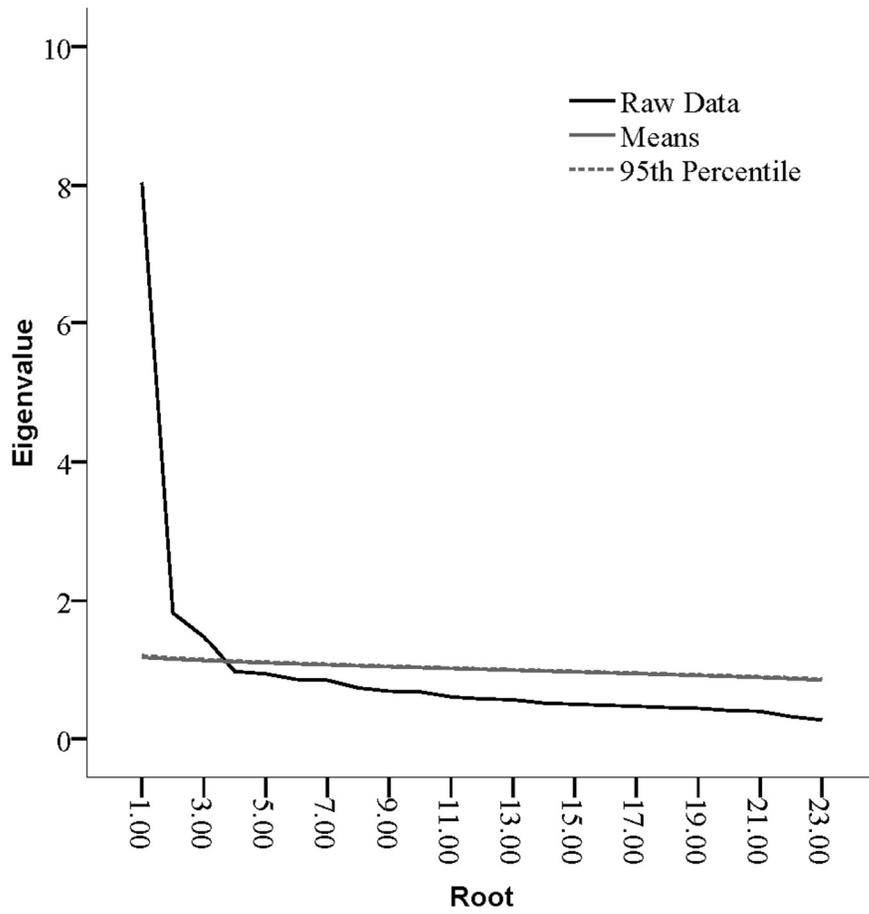


Figure 1. Parallel analysis with principal components extraction and raw data permutation.

2.2.3. Exploratory factor analysis (community sample)

Participants were 345 community adults from the United States who were recruited on Mechanical Turk (MTurk) to complete an online survey (MTurk Sample A; 45.2% female; M age = 34.36, SD = 12.68). Based on the previous analyses, a total of 18 sadism items were selected to comprise the final CAST measure. Scores on these 18 items were subjected to an exploratory analysis with principal axis factoring and a Promax rotation. Three factors were extracted (eigenvalues 6.90, 2.04, 1.24), accounting for a combined 56.57% of the total variance. The expected factor loadings emerged with minimal cross-loadings (see Table 2).

Table 2

Exploratory Factor Analysis of the 18-item CAST Questionnaire

Item	Factor		
	1	2	3
vb1 I was purposely mean to some people in high school.	.84	-.11	-.16
vb2 I enjoy making jokes at the expense of others.	.70	.02	-.04
vb3 I have purposely tricked someone and laughed when they looked foolish.	.65	.09	.00
vb4 When making fun of someone, it is especially amusing if they realize what I'm	.56	.11	.17
vb5 Perhaps I shouldn't have, but I never got tired of mocking certain classmates.	.54	-.06	.24
vb6r I would never purposely humiliate someone. (R)	.53	-.03	-.03
vc1 In video games, I like the realistic blood spurts.	-.09	.86	-.17
vc2 I love to watch YouTube clips of people fighting.	-.07	.70	.16
vc3 I enjoy watching cage fighting (or MMA), where there is no escape.	-.01	.62	.09
vc4 I sometimes replay my favorite scenes from gory slasher films.	-.01	.58	.18
vc5r There's way too much violence in sports. (R)	-.03	.57	-.24
vc6 I enjoy playing the villain in games and torturing other characters.	.22	.52	-.01
vc7 In professional car-racing, it's the accidents that I enjoy most.	.12	.46	.03
ph1 I enjoy physically hurting people.	-.24	-.03	1.11*
ph2 I enjoy tormenting people.	.04	-.16	.86
ph3 I have the right to push certain people around.	.31	-.04	.57
ph4 I have dominated others using fear.	.29	.06	.46
ph5 I enjoy hurting my partner during sex (or pretending to).	.09	.23	.33

Note. $N = 345$ MTurk participants. Principal axis factoring with Promax rotation and Kaiser normalization. Loadings $> .30$ are bolded.

*Loadings > 1 are possible when using an oblique rotation.

2.2.4. Confirmatory factor analysis

I administered the final 18-item CAST questionnaire to a separate sample of MTurk participants (MTurk Sample B; 394 adults; 49.2% female; M age = 35.09, SD = 12.55) and subjected the data to a confirmatory factor analysis with maximum likelihood estimation—specifying one higher order factor and three subfactors. The analysis was performed using the structural equation modelling package for R (Fox, 2006). The factor variances were fixed to 1. Estimated parameters included 21 loadings and 18 error variances. That model did not fit by most standard criteria: $\chi^2(132) = 537.61$, $p < .001$; RMSEA = 0.08, CFI = 0.87; NNFI = 0.84, SRMR = 0.06. Modification indexes greater than 20 were used to determine which parameters could be estimated to improve fit. Four within-factor correlated errors were freed in Model 2 (see Figure 2), which led to an acceptable fit, $\chi^2(128) = 352.70$, $p < .001$; RMSEA = 0.06, 95% CI [0.05, 0.07]; CFI = 0.93; NNFI = 0.91; SRMR = 0.05. Model 2 demonstrated a significant improvement in fit over Model 1: $\chi^2(4) = 184.91$, $p < .001$. An alternative 1-factor model did not provide a good fit to the data, $\chi^2(135) = 1014.92$, $p < .001$; RMSEA = .12, CFI = 0.71; NNFI = 0.67; SRMR = 0.09.

2.2.5. Descriptive statistics

CAST total scores were computed as the mean of the 18 items. Descriptive statistics, internal consistencies, and 1-year test-retest reliability estimates are displayed in Table 3. All three CAST facets demonstrated excellent reliability, as did CAST total scores. Men scored higher than women on all subscales (particularly vicarious sadism).

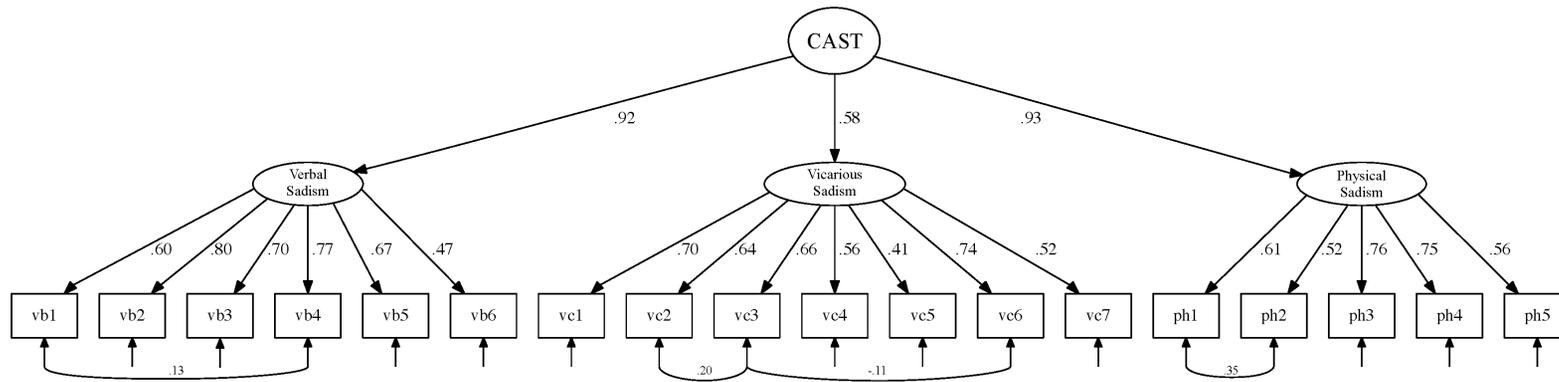


Figure 2. Confirmatory factor analysis of the 18-item CAST questionnaire ($N = 394$ MTurkers).

Table 3

Descriptive Statistics, Gender Differences, and Reliability Estimates for the 18-item CAST Scale

Sadism Scale	No. Items	Descriptives			Gender Differences				Reliability	
		Min.	Max.	<i>M</i> (<i>SD</i>)	Men	Women	<i>t</i>	<i>d</i>	Coefficient <i>α</i>	Test-retest <i>r</i>
Physical Sadism	5	1.00	4.00	1.46 (0.66)	1.59 (0.70)	1.29 (0.48)	4.33***	0.54	.83	.64***
Verbal Sadism	6	1.00	4.17	1.83 (0.77)	2.06 (0.80)	1.59 (0.66)	5.54***	0.66	.81	.69***
Vicarious Sadism	7	1.00	5.00	2.32 (0.84)	2.67 (0.80)	1.95 (0.69)	8.33***	0.98	.82	.78***
CAST Total	18	1.00	3.67	1.91 (0.64)	2.17 (0.61)	1.65 (0.51)	7.94***	0.94	.89	.76***

Note. $N_{men} = 145$, $N_{women} = 156$. Test-retest (1-yr interval): $N = 90$. *** $p < .001$.

Gender difference tests were corrected for unequal variances (Levene's test p 's $< .03$), except in the case of vicarious sadism

2.2.6. Inferential analyses

To examine associations with other individual difference measures, I collected a large repository of CAST data from a variety of sources, including student samples at the University of Winnipeg (N 's = 1134, 236, and 194, for Samples A, B, and C, respectively) and University of British Columbia (Sample D; $N = 202$); and workers on Mechanical Turk ($N = 90$). The studies were administered online with a different questionnaire package in each sample (see the notes in Tables 4-7 for additional details about the methods).

Measures. Dark personality measures included the Short Sadistic Impulse Scale (O'Meara et al., 2011)(SSIS; 10 items, $\alpha = .85$), the Short Dark Triad questionnaire (Jones & Paulhus, 2014)(SD3) to assess psychopathy (α 's ranging between .69 and .75), narcissism (α 's ranging between .65 and .73), and Machiavellianism (α 's ranging between .84 and .85), a 9-item short-form of the Self-report Psychopathy Scale (Paulhus, Neumann, & Hare, 2016)(SRP-9; $\alpha = .77$), the Triarchic Psychopathy Measure (Patrick, 2010; Patrick & Drislane, 2015)(TriPM; $\alpha = .87$), and the Buss-Perry aggression questionnaire (Buss & Perry, 1992)(BPAQ; α 's = .89, .78, .90, .90 for physical, verbal, anger, and hostility, respectively; BPAQ total $\alpha = .95$).

Broad individual difference measures included the Big Five Inventory (John & Srivastava, 1999)(BFI; α 's ranging between .76 and .83 for extraversion, agreeableness, conscientiousness, emotional stability, and openness) and the Revised Interpersonal Adjective Scale (Wiggins, Trapnell, & N. Phillips, 1988).

Motivation-relevant measures included the BIS/BAS scales (Carver & White, 1994)(α 's = .76, .75, .67, and .56 for BIS, BAS-drive, BAS-reward, and BAS-fun, respectively), regulatory focus (Higgins, 1998; Higgins et al., 2001)(α 's = .62 and .65 for promotion and prevention

motives), regulatory mode (Kruglanski et al., 2000)(α 's = .75 and .70 for locomotion and assessment, respectively), Agentic and Communal Life Goals questionnaire (Trapnell, 2013; α 's listed in Appendix A), and life values from the Schwartz Values Taxonomy (Schwartz et al., 2012): Power ($\alpha = .86$), wealth ($\alpha = .81$), and conformity ($\alpha = .83$).

Empathy measures included the empathic concern ($\alpha = .77$) and perspective-taking subscales ($\alpha = .77$) of the Interpersonal Reactivity Index (Davis, 1983), empathic disconnection (Carré, Stefaniak, D'ambrosio, Bensalah, & Besche-Richard, 2013)($\alpha = .82$), and cultural empathy (Wang et al., 2003)($\alpha = .83$).

Finally, responses on various 1-item indexes of behavioral tendencies were available. Two items assessed past experiences with bullying in high school (bully victim: "*Were you ever bullied when you were in school?*") and bully perpetrator: "*Did you ever bully others when you were in school?*"), on 5-point scales from 1 (*Never*) to 5 (*Very often / Many times over several years*). Frequency estimates were also provided for time spent gaming ("*How many hours a week do you typically game?*"), number of cellphone texts sent/received ("*How many cellphone text messages do you probably get or send (whichever is higher, not both, not work related) in a day?*"), gambling ("*How frequently do you engage in any gambling activities [e.g., online gambling, using video lottery...]*"), lifetime concussions ("*To the best of your knowledge, how many concussions have you had in your life?*").

Results. Patterns of association (reported in Tables 4-7) supported the convergent and discriminant validity of the CAST. As seen in Table 4, scores on the CAST physical, verbal, and vicarious subscales were positively correlated, r 's > .51. As expected, CAST and SSIS total scores were strongly positively correlated and were, likewise, positively correlated with scores on the Dark Triad measures (Table 4). Across constructs, the strongest associations emerged

between sadism and psychopathy. Of the three CAST subscales, physical sadism scores overlapped most with those of psychopathy, while vicarious sadism overlapped the least.

As seen in Table 5, CAST total scores correlated highly with total trait aggression scores; but importantly, associations between the three CAST subscales (physical, verbal, and vicarious) and the four aggression subscales (physical, verbal, anger, hostility) were relatively modest in comparison (r 's ranging from .45 to .58). Overall, the association pattern reveals both similarities among, and differences between, the chronic tendencies assessed by these two measures.

Table 4

CAST Associations with SSIS Sadism and the Dark Triad

D4 Measure	CAST Sadism				SSIS	Dark Triad		
	Total	Vicarious	Verbal	Physical	Sadism	Psychop.	Mach.	Narc.
CAST Sadism Total	(.89)							
Vicarious Sadism	.84***	(.76)						
Verbal Sadism	.83***	.52***	(.72)					
Physical Sadism	.83***	.59***	.61***	(.82)				
SSIS sadism	.79***	.59***	.63***	.79***	(.85)			
Psychopathy	.64***	.45***	.51***	.67***	.62***	(.69)		
Machiavellianism	.41***	.25**	.39***	.41***	.47***	.42***	(.84)	
Narcissism	.19*	.12	.18*	.18*	.09	.21**	.17*	(.73)

Note. $N = 202$ UBC Students (Sample D). Tabled values without parentheses are bivariate correlations (r 's); values in parentheses are internal consistency estimates (Cronbach's α). * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 5

Associations between CAST Sadism and BPAQ Trait Aggression.

Predictor Variable	Trait Aggression				
	BPAQ Total	Physical	Verbal	Anger	Hostility
CAST Total	.75	.65	.62	.65	.55
Physical Sadism	.68	.55	.54	.63	.50
Verbal Sadism	.66	.63	.50	.55	.45
Vicarious Sadism	.65	.53	.58	.55	.50

Note. $N = 90$ MTurkers. Tabled values are bivariate correlations. All p 's $< .001$.

Table 6 displays a comparison of sadism and psychopathy associations with personality measures and life goals. In line with their Quadrant II location in the Interpersonal Circumplex (Wiggins, 1995)—a theoretical expectation borne out in recent empirical research (Dowgwillo & Pincus, 2017)—sadism and psychopathy scores were positively correlated with individual differences relevant to agency (e.g., life goals of wealth, power, and fame), and were negatively correlated with individual differences in the communal domain (e.g., agreeableness, empathy, and communal life goals such as compassion, altruism, closeness, family, etc.).

However, notable differences also emerged: Sadism was associated with narcissism far less strongly than was psychopathy ($r = .28$ vs. $.51$). Only sadism was negatively correlated with the life goals of autonomy, knowledge, spirituality, and health. Only psychopathy was positively correlated with extraversion, openness, and hedonism life goals; and negatively correlated with conformity goals. As expected, sadism scores were not significantly associated with the emotional stability domain.

As seen in Table 6, both sadism and psychopathy were positively correlated with experiences bullying others in school. Experiences as a perpetrator and a victim of bullying were positively correlated ($r = .17, p < .001$), but only psychopathy was a significant predictor of victim experiences; sadism was unrelated to victim experiences. When the sadism associations for bullying perpetration were examined at the facet level, results showed that verbal sadism ($r = .47, p < .001$) and physical sadism ($r = .34, p < .001$) were more strongly related to bullying than was vicarious sadism ($r = .22, p < .001$); test of the differences: z 's = 8.87 and 4.50, p 's < .001. A multiple regression analysis with the three sadism facets as predictors of bullying revealed that verbal sadism was a strong unique predictor ($\beta = .43, p < .001$); so too was physical sadism, but to a lesser extent ($\beta = .09, p = .02$); vicarious sadism was not a significant unique predictor of

bullying ($\beta = -.03, p = .31$).

Table 6 also displays sadism and psychopathy associations with behavioral frequency estimates (see the last four rows). Sadism and psychopathy scores were positively associated with lifetime number of concussions and gambling behavior. Among gamers, sadism and psychopathy were positively correlated with time spent playing video games. Only psychopathy was positively correlated with texting use.

Table 6

Comparison of Sadism and Psychopathy Trait Associations

Dependent Measure	Sample	Dark Personality Association	
		Sadism	Psychopathy
Dark Traits			
Psychopathy (SD3)	A	.67***	---
Psychopathy (SRP-9)	A	.64***	---
Psychopathy (TriPM)	C	.66***	---
Machiavellianism (SD3)	C	.49***	.52***
Narcissism (SD3)	C	.28***	.51***
BFI			
Extraversion	A	.02	.13***
Agreeableness	A	-.45***	-.51***
Conscientiousness	A	-.37***	-.40***
Emotional Stability	A	.00	-.05
Openness	A	.05	.11***
Empathy			
Empathic Concern	A	-.49***	-.40***
Perspective-taking	A	-.26***	-.26***
Disconnection	A	.44***	.36***
Cultural Empathy	A	-.37***	-.24***
Life Goals			
Wealth	A	.21***	.21***
Power	A	.38***	.36***
Achievement	A	.03	.06*
Fame	A	.27***	.29***
Image	A	.18***	.19***
Eroticism	A	.12***	.18***
Hedonism	A	-.01	.15***
Autonomy	A	-.10***	.00
Aesthetics	A	-.02	.01
Knowledge	A	-.12***	-.04
Spirituality	A	-.12***	-.04
Morality	A	-.25***	-.23***

Universalism	A	-.19***	-.13***
Compassion	A	-.24***	-.18***
Altruism	A	-.20***	-.13***
Closeness	A	-.25***	-.14***
Family	A	-.24***	-.20***
Safety	A	-.19***	-.15***
Health	A	-.12***	-.04
Conformity	A	-.04	-.09**
Religion	A	-.02	-.04
Life Values			
Power	C	.38***	.55***
Wealth	C	.35***	.42***
Conformity	C	-.37***	-.39***
Interpersonal Circumplex			
Dominance	C	.47***	.59***
Love	C	-.21**	-.18*
Bullying Experiences			
Perpetrator	A	.40***	.38***
Victim	A	.05	.10*
<hr/>			
Frequency Estimates		Sadism	Psychopathy
<hr/>			
Gaming	A	.29***	.18***
Cellphone Texts	A	.05	.11**
Lifetime Concussions	A	.18***	.22***
Gambling	A	.16***	.15***
<hr/>			

Note. Sample A ($N = 1134$; University of Winnipeg students). Sample C ($N = 194$; University of Winnipeg students). Tabled values in the sadism column are bivariate correlations with total CAST scores. Values in the psychopathy column are correlations with a composite of standardized scores on the available psychopathy measures: (SD3 and SRP-9) in Sample A, (SD3 and TriPM) in Sample C. * $p < .05$. ** $p < .01$. *** $p < .001$.

Despite the strong empirical overlap between sadism and psychopathy scores, meaningful differences emerged in their motivational profiles (see Table 7): For example, psychopathy was more strongly (and negatively) associated with a prevention focus than was sadism; test of the difference: $z = -2.93, p = .003$. Meaningful distinctions also emerged between sadism and Machiavellianism: Machiavellianism scores were positively correlated with behavioral inhibition (BIS scores) and assessment regulatory mode; while sadism scores were instead negatively correlated with BIS scores and unrelated to assessment mode. There were some resemblances between the motivational profiles of sadism and narcissism (e.g., lower BIS and higher BAS-drive), but there were also substantial differences (e.g., of the Dark Tetrad, only narcissism was positively correlated with promotion focus and locomotion).

Table 7

Dark Tetrad Associations with BIS/BAS, Regulatory Focus, and Regulatory Mode

D4 Predictor Variable	BIS/BAS				Regulatory Focus		Regulatory Mode	
	BIS	BAS-Drive	BAS-Rew	BAS-Fun	Promotion	Prevention	Locomotion	Assessment
Sadism	-.25**	.25**	-.06	.16*	-.13	-.39***	-.12	.05
Psychopathy	-.20**	.34***	-.07	.22**	-.10	-.55***	-.04	.12
Machiavellianism	.18*	.28***	.10	.18*	-.20**	-.33***	-.14	.30***
Narcissism	-.32***	.32***	.15*	.05	.29***	-.11	.25**	.03

Note. $N = 202$ UBC Students (Sample D). Tabled values are bivariate correlations.

* $p < .05$. ** $p < .01$. *** $p < .001$.

2.3. Discussion

The finalized CAST captures individual differences in everyday sadism with an 18-item, three-faceted questionnaire. It was designed to assess chronic tendencies to enjoy cruelty in three different forms: Direct physical violence, direct verbal aggression, and vicarious observation. Exploratory and confirmatory factor analyses indicated that the three-factor model fit the item inter-correlations reasonably well. CAST total scores were positively correlated with narrow bandwidth indicators of sadistic tendencies (i.e., SSIS hurting scores) and with broader-bandwidth measures such as trait aggression (i.e., chronic aggressive tendencies in which pleasure is unnecessary and negative emotions, like anger, predominate). Also evident were predictably moderate associations with other dark personality traits (i.e., the Dark Triad) and other individual differences tied to dark personality space (high agency, low communion). Of the Dark Triad, psychopathy demonstrated the strongest empirical overlap with sadism, whereas associations with Machiavellianism and narcissism were somewhat lower by comparison.

As evidence of the CAST's discriminant validity, associations with emotional stability were minimal. Also meaningful were differences between Big Five links with CAST scores versus those of sadism's closest conceptual relative, psychopathy. For instance, psychopathy was positively associated with extraversion and openness, while sadism was not. Finally, intriguing differences emerged when comparing correlates of the three CAST subscales. It is notable, for instance, that vicarious sadism overlapped the least with psychopathy scores, while direct sadism (physical and verbal) demonstrated relatively stronger overlap with psychopathy.

2.4. Additional Validity Evidence

Several researchers have incorporated the CAST measure into their studies on everyday

sadism. Their results provide further validity evidence for the CAST. For instance, Greitemeyer and colleagues (Greitemeyer, 2015; Greitemeyer & Sagioglou, 2017) combined the CAST's verbal and physical subscales into a measure of direct sadism, and examined associations with violent video game play (VVGP). In his first study, which employed a cross-sectional research design, Greitemeyer (2015) found that CAST direct sadism scores predicted VVGP even when controlling for overlap with the Dark Triad. Follow-up longitudinal research by Greitemeyer and Sagioglou (2017) revealed a bi-directional relationship between sadism and VVGP, such that sadism predicted greater VVGP six months later, and repeated exposure to violent games predicted increases in sadism scores. The positive association between VVGP and sadism remained significant even when controlling for overlap with trait aggression, the Big Five, and the Dark Triad. It is also notable that in the longitudinal design, CAST direct sadism scores demonstrated solid test-retest reliability ($r = .80$ for a 6-month interval).

In other research, Klann (2017) found that CAST sadism scores were strongly positively associated with sexual coercion, and they remained a significant predictor of sexual coercion when controlling for overlap with the Dark Triad. Likewise, Russell and King (2016) found a direct link between CAST physical sadism and sexual coercion and aggression in a path analysis that included all three of the CAST subscales. In contrast, vicarious sadism was indirectly related to these outcomes through hostility toward women and rape-myth acceptance; and verbal sadism was not significant in those analyses. The pattern implies that physical sadism is more closely related to sexual violence than are the other CAST subscales. Such a pattern is consistent with the content of the physical sadism scale, which includes one item that specifically references sexual aggression. Russell and King (2017) also found that CAST sadism was positively correlated with hostility toward women and rape myth acceptance even among female

participants (Russell & King, 2017), suggesting that everyday sadists have deep-rooted issues with women that are unaffected by the respondent's own gender.

2.5. Conclusion

Having established the psychometric properties of the CAST measure, I turned in Chapters 3-5 to the behavioral tendencies and cognitive processes associated with the sadistic personality. I sought evidence of the incremental validity of sadism in predicting psychological criteria of interest, above and beyond overlap with the Dark Triad of personality. The overarching goal was to evaluate the appropriateness of sadism's inclusion in a new Dark Tetrad of personality (Chabrol et al., 2009; Paulhus, 2014).

I also sought evidence that interest in viewing violent media, video games, and sports (i.e., vicarious sadism) captures behavioral malevolence in a manner similar to, but distinct from, direct sadism. That is, I aimed to behaviorally validate the relevance of vicarious enjoyment to the sadism construct, and to the dark personality space more broadly. Finally, I aimed to demonstrate the predictive utility of self-report measures in predicting apparently sadistic behaviors that are (currently) tolerated by most people, in an effort to extend conceptions of sadism to everyday contexts. My first set of studies examined sadism as a predictor of online trolling behaviors, as described in the next chapter.

CHAPTER 3: Sadistic Personalities of Online Trolls

3.1. Trolls Just Want to Have Fun

Online trolling can be defined as a repetitive behavior of intentionally provoking others and disrupting civil discourse on the Internet (Fichman & Sanfilippo, 2016; W. Phillips, 2015). Over the past decade, the public has become increasingly aware of online trolling (Maltby et al., 2016), a phenomenon that can be traced back to 1990s messaging boards and now proliferated by an energetic minority across all social media (Gammon, 2014). From a lay-perspective, Internet trolls share many characteristics of the classic Joker villain, which is a modern variant of the Trickster archetype from ancient folklore (Hyde, 1998). Trolls operate as so-called ‘agents of chaos’ on the Internet: ‘Stirring the pot’ and exploiting controversial issues to make users appear overly emotional or foolish in some manner. If an unfortunate person falls into their trap, trolling intensifies for further, merciless amusement. This is why novice Internet users were, at one time, routinely admonished, “Do not feed the trolls!” (e.g., W. Phillips, 2013).

Despite public awareness of trolling, there was little empirical research when this research project was started. Only two studies had examined the psychology of trolling: First, Shachaf and Hara (2010) conducted interviews of Wikipedia trolls, finding themes of boredom, attention seeking, revenge, pleasure, and a desire to cause damage to the community among their expressed motivations for trolling. Second, Hardaker (2010) conducted a content analysis of Usenet posts that identified four primary characteristics of trolling: Aggression, deception, disruption, and success.

Personality variables were yet to be investigated in the trolling literature, but the relevance of dark traits was suggested by research linking the Dark Triad to bullying in both adolescents (Fanti & Kimonis, 2013) and adults (Baughman, Dearing, Giammarco, & Vernon,

2012; Jones & Paulhus, 2010; Linton & Power, 2013). Also suggestive was research showing that narcissists (Ljepava, Orr, Locke, & Ross, 2013) and those with antisocial personality disorder (Rosen, Whaling, Rab, Carrier, & Cheever, 2013) use Facebook more frequently than others, thus indicating that dark personalities leave large digital footprints. Of the Dark Tetrad, I expected sadism to prove most germane to trolling. After all, trolling culture embraces a concept virtually synonymous with sadistic pleasure; in troll-speak, “lulz.”

3.1.1. Research goals

The primary goal of this research was to demonstrate a positive association between online trolling and dark personality traits (particularly sadism). Because no other research had examined trait associations with trolling tendencies, I also examined correlations with the Big Five personality dimensions. In Study 1, I focused on predicting enjoyment of trolling, as opposed to other online social activities, such as debating and chatting. I expected that the Dark Tetrad would be positively associated with a tendency to rate trolling as the most favored activity on troll-able websites (defined here as websites that permit users to interact by posting comments). In Study 2, I examined trolling identification, behavior, and enjoyment ratings in a different sample—again with the prediction that the Dark Tetrad traits would be strongly positively associated with trolling, even when controlling for overall Internet use. Finally, I tested the unique contribution of sadism to the prediction of trolling, above and beyond its overlap with scores on the Dark Triad measures. Such a pattern would speak to the incremental validity of sadism and the suitability of its inclusion in the Dark Tetrad of personality.

3.1.2. Method

Participants and procedure. Study 1 respondents were 418 United States residents

(42.4% female; M age = 29.2%, SD = 11.0) who were recruited from Amazon's Mechanical Turk website (MTurk). Study 2 respondents were a combined sample of 188 Canadian psychology students (55% female; M age = 21.15, SD = 3.63) and 609 United States residents recruited on MTurk (43% female; M age = 35.04, SD = 12.98). Student participants received partial course credit and MTurk participants received monetary compensation (e.g., \$0.50) for their time. Questions regarding trolling and other online behaviors were embedded in a larger battery of personality questionnaires.

Study 1 measures.

Personality traits. In Study 1, participants completed the 27-item Short Dark Triad scale (SD3; Jones & Paulhus, 2014; α 's > .71 in this sample) and the 44-item Big Five Inventory (John & Srivastava, 1999; α 's > .77 in this sample). Two measures of sadistic personality were administered: First was the Short Sadistic Impulse Scale (SSIS; O'Meara et al., 2011), containing 10 items to assess a dispositional tendency to enjoy hurting others (e.g., "*Hurting people would be exciting*"; α = .88), rated on five-point scales from 1 (*strongly disagree*) to 5 (*strongly agree*). Second was the Varieties of Sadistic Tendencies scale (VAST; Paulhus & Jones, 2014), containing six items to assess direct sadism, (e.g., "*I enjoy hurting people*"; α = .61) and seven items to assess vicarious sadism (e.g., "*In video games, I like the realistic blood spurts*"; α = .69), rated on seven-point scales ranging from 1 (*not at all*) to 7 (*very much*). The VAST direct sadism subscale is conceptually equivalent to the SSIS, and the scores were highly correlated in this sample (r = .73, p < .001). Hence, I standardized and summed them to create a direct sadism composite score.

Trolling tendencies. The section on Internet behavior asked participants to estimate their overall commenting frequency: "*How many hours per day do you spend posting comments on*

websites (e.g., YouTube, news sites, forums, etc.)?” A second question probed their preferred activity when commenting online: “*What do you enjoy doing most on these comment sites?*” with five response options: “debating issues that are important to you,” “chatting with other users,” “making new friends,” “trolling other users,” and “other (specify).” The order of the first four answer options was randomized. Those participants who indicated that they did not spend any time posting comments were labeled as non-commenters.

Study 2 measures.

Personality traits. The 18-item Comprehensive Assessment of Sadistic Tendencies (CAST) was used to assess physical sadism ($\alpha = .80$), verbal sadism ($\alpha = .81$), and vicarious sadism ($\alpha = .81$); Cronbach’s alpha for CAST total scores was .89. The 27-item Short Dark Triad scale assessed narcissism ($\alpha = .75$), Machiavellianism ($\alpha = .80$), and subclinical psychopathy ($\alpha = .79$).

Trolling tendencies. Participants provided information about their general Internet use (“*How many hours per day do you spend on the Internet?*”). Participants additionally responded to a yes/no question, “*Do you post comments on websites (e.g., YouTube, news sites, forums, etc.)? (even occasionally?)*”; those who answered “yes” (i.e., the commenters) were asked to provide additional information about their posting behavior: “*How many hours per day do you spend posting comments on websites (e.g., YouTube, news sites, forums, etc.)?*” I regressed commenting hours on overall Internet hours and saved the residual scores to create a second index of commenting frequency when controlling for overall Internet use. Finally, commenters rated their enjoyment of each activity used in Study 1 (debating, chatting, trolling, and making friends) on scales from 1 (*not at all enjoyable*) to 7 (*very enjoyable*).

As a second index of trolling, the following four items ($\alpha = .82$) were interspersed in the

other measures: “*I have sent people to shock websites for the lulz,*” “*I like to troll people in forums or the comments section of websites,*” “*I enjoy grieving other players in multiplayer games,*” and “*The more beautiful and pure a thing is, the more satisfying it is to corrupt,*” as rated on 5-point scales from 1 (*strongly disagree*) to 5 (*strongly agree*). Mean responses formed the composite score labeled, *Global Assessment of Internet Trolling (GAIT)*.

3.1.3. Results

Study 1. The mean number of commenting hours per day was 1.07 ($SD = 1.77$)².

Commenting time was associated with lower conscientiousness scores ($r = .16, p < .001$), and higher scores on all Dark Tetrad measures except narcissism: Direct sadism ($r = .12, p = .01$), vicarious sadism ($r = .21, p < .001$), psychopathy ($r = .12, p = .005$), and Machiavellianism, ($r = .16, p < .001$); narcissism ($r = .04, p = .37$).

A total of 23.8% of participants expressed a preference for debating issues, 21.3% preferred chatting, 2.1%³ said they especially enjoy making friends, 5.6% reported enjoying trolling other users, and 5.8% specified another activity; the remaining 41.3% of participants were non-commenters. A multivariate analysis revealed a significant effect of activity preference for the Dark Tetrad: Wilks' $\lambda = 0.97, F(20, 1646.00) = 1.65, p = .03$. Inspection of the pattern depicted in Figure 3 confirmed that, as expected, the Dark Tetrad scores were highest among those who selected trolling as the most enjoyable activity.

Planned orthogonal contrasts indicated that the effect was significant for all Dark Tetrad measures: direct sadism, $t(500) = 3.03, p = .003, d = .27$, vicarious sadism, $t(500) = 2.91, p =$

² To correct for positive skew, I applied a square root transformation to the raw frequency scores, resulting in a transformed mean of 0.72 h of commenting per day, $SD = 0.75$. The transformed scores were used in the analyses that follow.

³ Because of low endorsement rates of the “making friends” option, I combined that category with the “other” category in the analyses that follow.

.004, $d = .26$, psychopathy, $t(500) = 3.09$, $p = .002$, $d = .28$, narcissism, $t(500) = 2.64$, $p = .009$, $d = .24$, and Machiavellianism, $t(500) = 2.78$, $p = .006$, $d = .25$.

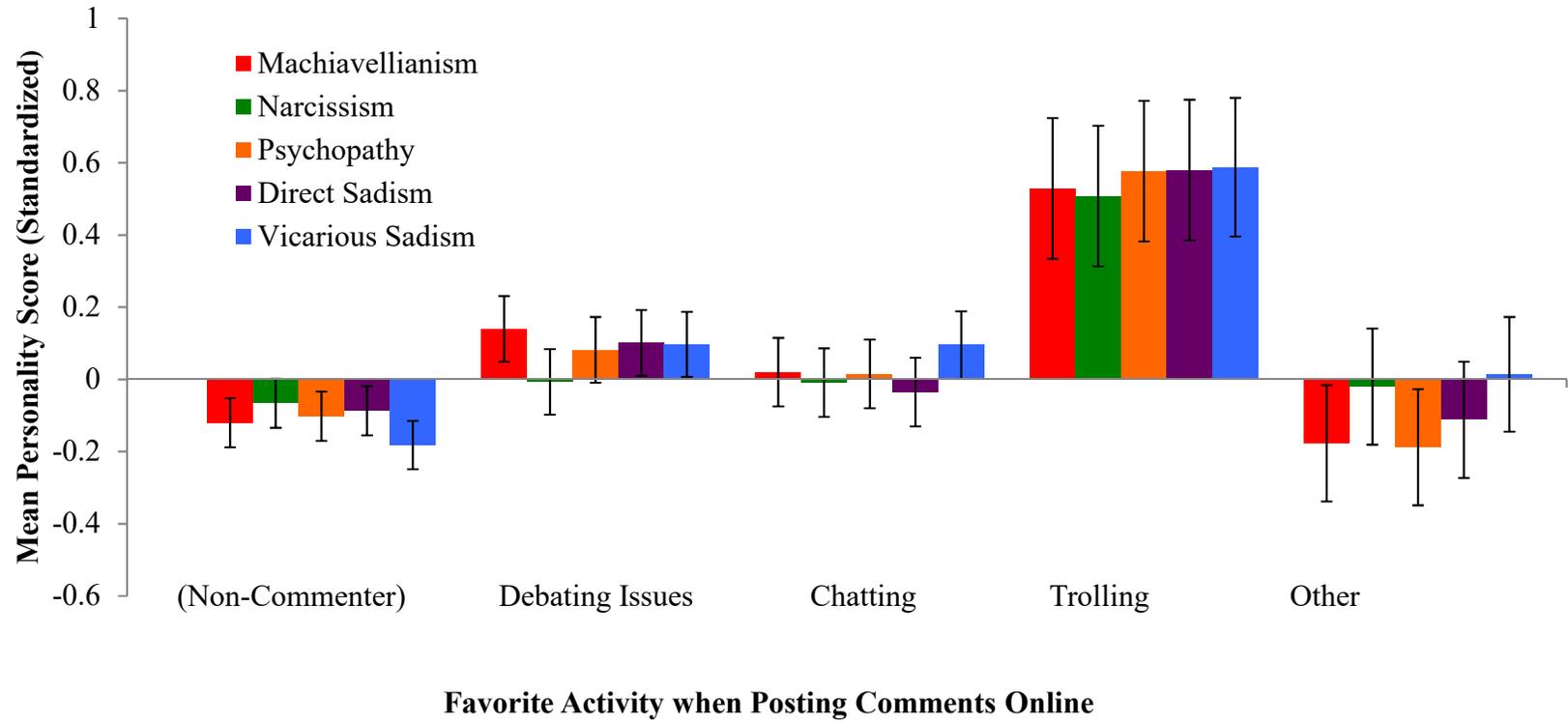


Figure 3. Dark Tetrad scores as a function of favorite online activity in Study 1 of Buckels, Trapnell, & Paulhus, 2014. Error bars represent standard errors.

Study 2. Commenting frequency was strongly positively correlated with scores on the Dark Tetrad measures (see Table 8), even when controlling for overall Internet use. As expected, the strongest trolling associations emerged for sadism. Enjoyment of other online activities (e.g., chatting and debating) was overall unrelated to sadism.

A multiple regression analysis with the Dark Tetrad entered as predictors of trolling enjoyment indicated that sadism, $\beta = .53$, $t(78) = 4.21$, $p = .002$, and Machiavellianism, $\beta = .23$, $t(78) = 2.23$, $p = .03$, were unique predictors of trolling enjoyment. In contrast, when controlling for the other Dark Tetrad scores, narcissism was negatively associated with trolling enjoyment, $\beta = -.30$, $t(78) = -3.30$, $p = .001$, and psychopathy was unrelated to trolling enjoyment, $p = .89$. The pattern of association was unaffected by controlling for overall Internet use.

I conducted an identical analysis for scores on the GAIT scale with data from the full sample in Study 2. As was the case for trolling enjoyment, sadism predicted stronger GAIT scores, $\beta = .61$, $t(735) = 15.41$, $p < .001$, even when controlling for scores on the Dark Triad measures. Psychopathy was also a unique (though weaker) predictor of GAIT scores, $\beta = .10$, $t(734) = 2.43$, $p < .001$, while Machiavellianism and narcissism were not significant, p 's $> .75$.

Mediation analyses. Finally, because the associations between sadism and trolling were particularly strong, I ran a mediation analysis to examine if, among commenters, rated enjoyment of trolling explained the relationship between sadism and GAIT scores. In other words, I sought to test the hypothesis that sadism leads to trolling because those behaviors are pleasurable. Significance was tested with both Sobel's test and a bootstrapped 95% confidence interval for the standardized indirect effect (constructed with 10,000 re-samples and a percentile distribution). Recall that, among commenters, sadism scores were strongly associated with rated trolling enjoyment. A regression analysis indicated that enjoyment of trolling was, in turn,

positively associated with GAIT scores when controlling for sadism, $\beta = .48$, $t(80) = 6.31$, $p < .001$. The mediated effect of sadism through enjoyment was significant, Sobel's $z = 4.10$, $p < .001$; 95% CI = [0.09, 0.45]. It remained significant even when controlling for scores on the Dark Triad, Sobel's $z = 3.44$, $p < .001$; 95% CI = [0.10, 0.51]. The direct effect of sadism was substantially reduced, but remained significant when controlling for trolling enjoyment, $\beta = .40$, $t(80) = 5.07$, $p < .001$, indicating partial mediation. An alternative mediation analysis found no support for the opposite causal direction; the standardized indirect effect of GAIT on sadism via trolling enjoyment was not significant, Sobel's $z = 0.74$, $p = .46$; 95% CI = [0.09, 0.25].

Table 8

Dark Tetrad Associations with Commenting Behavior and Enjoyment

Personality Scale	Commenting Frequency (hrs / day)	Commenting Frequency (Controlling for Overall Internet Use)	Enjoyment Ratings: Types of Commenting Behavior				GAIT Scores
			Trolling	Debating	Chatting	Making Friends	
CAST Sadism	.43***	.40***	.52***	.21	.07	-.12	.68***
Physical Sadism	.35***	.34**	.44***	.19	.04	-.20	.62***
Verbal Sadism	.32**	.33**	.53***	.10	-.02	-.15	.56***
Vicarious Sadism	.39***	.40***	.39***	.25*	.13	-.03	.55***
Psychopathy	.23*	.23*	.38***	.07	-.23*	-.21	.55***
Machiavellianism	.33**	.33**	.37***	-.06	-.10	-.14	.34***
Narcissism	.27*	.30**	-.09	.23*	.19	.21	.18***

Note. * $p < .05$. ** $p < .01$. *** $p < .001$. All tests are two-tailed.

GAIT scores were a composite of four items capturing trolling behavior, enjoyment, and identity.

3.1.4. Discussion

The present research was the first to examine comprehensive personality profiles of Internet trolls. Across two studies and two measures of trolling, the personality projections of trolls emerged in Quadrant II of the Interpersonal Circumplex (Wiggins, 1995), that is, High Agency and Low Communion (Jones & Paulhus, 2011). In other words, they displayed high levels of the Dark Tetrad traits and a BFI profile consistent with those traits. It was sadism, however, that had the most robust associations with trolling of any of the personality measures. Both direct and vicarious sadism were positively associated with online trolling. Sadism associations were specific to trolling; enjoyment of other online activities, such as chatting and debating, was unrelated to sadism.

Subsequent analyses confirmed that Dark Triad associations with trolling were largely due to overlap with sadism. When the unique contributions of the Dark Tetrad were assessed with multiple regression, only sadism predicted trolling on both measures (trolling enjoyment and GAIT scores). In contrast, when controlling for sadism and the other Dark Tetrad measures, narcissism was actually negatively related to trolling enjoyment. Given that controlling for overall Internet use did not affect these results, personality differences in broader tendencies of Internet use and familiarity cannot explain the findings.

In the final analysis of Study 2, I found clear evidence that sadists tend to troll because they enjoy it. When controlling for enjoyment, sadism's impact on trolling was cut nearly in half; and the indirect effect of sadism through enjoyment was substantial, significant, and remained significant when controlling for overlap with the Dark Triad scores. These findings provide a preliminary glimpse into the mechanism by which sadism fosters trolling behavior.

Both trolls and sadists feel sadistic glee at the distress of others. Sadists just want to have fun . . . and the Internet is their playground!

3.2. iTroll Scale Development and Follow-up Research on Trolling

The research described in section 3.1 (and published in Buckels et al., 2014) inspired replication attempts and research from other labs on the personality traits of online trolls. For instance, March and colleagues examined personality predictors of trolling in the context of social media websites like Facebook (Craker & March, 2016; Sest & March, 2017), and dating applications such as Tinder (March et al., 2017), finding evidence of significant associations with sadism, psychopathy, and other negative traits (such as dysfunctional impulsivity, negative social potency, and low affective empathy). Dark personality associations with trolling were also replicated by Seigfried-Spellar and Lankford (2018). Ladanyi and Doyle-Portillo (2017) found that sadism predicted so-called “griefing” tendencies in online role-playing games, which is a disruptive behavior that similar to, but distinct from online trolling. Together, these findings point to an appetitive motivation in which the instigating or observing of others’ distress is rewarding (cf. Foulkes, McCrory, Neumann, & Viding, 2014; Schumpe & Lafrenière, 2016), thereby perpetuating trolling behaviors.

One limitation of this trolling literature is that some researchers have uncritically exploited the GAIT scale, or a slightly modified version, to assess trolling tendencies. This brief trolling measure has not been formally validated or subjected to rigorous psychometric evaluation. Moreover, studies using the SSIS are limited by its unidimensional conception: In particular, it lacks content covering vicarious aspects of sadism. Vicarious sadism is the aspect that overlaps the least with subclinical psychopathy (see Table 4), and thus it is desirable to also

assess these tendencies for a fair and accurate assessment of sadism's incremental validity in predicting trolling behaviors. A final issue is that, given that cyberbullying is also associated with sadistic traits (van Geel et al., 2017), it is possible that cyberbullying tendencies represent a third variable that accounts for the association between sadism and trolling. However, as no known research has examined associations between cyberbullying and trolling, the extent of the confounding remains unclear.

In the present research, I aimed to develop and validate an improved measure of trolling identification, behavior, and enjoyment. Using this newer, longer measure, I attempted to replicate previous results linking trolling to everyday sadism, and to specifically examine vicarious sadism as a predictor of trolling tendencies. To complement the tendencies assessed by the Dark Triad, this study added a measure of callous-unemotional traits (Frick & Ray, 2015) and trait aggression (Buss & Perry, 1992) to the dark personality covariates. Finally, I examined the associations between cyberbullying and trolling, and explored their unique associations with sadistic personality.

3.2.1. Method

Participants were psychology students who completed an online survey at the University of Winnipeg or the University of British Columbia: Sample A ($N= 1134$), Sample B ($N = 236$), and Sample C ($N = 194$ respondents). I generated a pool of 18 self-descriptive statements capturing enjoyment and participation in trolling behavior (e.g. "*I enjoy trolling other people*"), attitudes toward trolling (e.g., "*Trolling behavior should be punished*" [R]), and identification with trolling culture (e.g., "*I identify with trolling culture*"). Data collected from Sample A were used to identify and discard six deficient items. The final 12-item iTroll questionnaire is

presented in Appendix A. Samples B and C responded to this final item set. Internal consistency estimates for iTroll total scores were good in all samples (α 's = .91, .87, and .91).

As part of the validation procedure, participants in Sample A provided trolling enjoyment ratings for five different targets: “*General public / strangers*,” “*Other trolls*,” “*Corporations*,” “*Celebrities*,” and “*People who you know in real life (offline)*,” $\alpha = .87$). Those participants also reported the number of hours per week spent (a) on the Internet (all activities), (b) using social media (e.g., Facebook, Twitter), and (c) trolling. The later rating was used as an index of trolling frequency. Finally, self-perceived competence at trolling was assessed with the item, “*How skilled are you at trolling?*”, on a 5-point scale from 1 (*novice*) to 5 (*advanced/master*).

To assess everyday sadism, participants in Samples A and C completed the 18-item CAST (α 's = .89 and .86); Sample B completed the 10-item Short Sadistic Impulse Scale (SSIS; O'Meara et al., 2011; $\alpha = .88$). Dark personality covariates in Sample B included the 9-item psychopathy subscale of the Short Dark Triad scale (Paulhus & Jones, 2014; $\alpha = .77$), the short-form versions of the Buss and Perry Aggression Questionnaire (Webster et al., 2014; $\alpha = .86$) and the Inventory of Callous-Unemotional Traits (Ray, Frick, Thornton, Steinberg, & Cauffman, 2016; $\alpha = .83$). In Sample C, dark personality covariates included psychopathy ($\alpha = .73$), narcissism ($\alpha = .65$), and Machiavellianism ($\alpha = .85$), as assessed by the 27-item Short Dark Triad Questionnaire (Paulhus & Jones, 2014). Sample C additionally completed the Triarchic Psychopathy Measure (Patrick, 2010; Patrick & Drislane, 2015)(TriPM; $\alpha = .87$), the Cyberbullying Attitudes Measure (CAQ; Barlett, Helmstetter, & Gentile, 2016; $\alpha = .79$), and the Cyberbullying Experiences Questionnaire (Patchin & Hinduja, 2015) to assess both perpetration ($\alpha = .88$) and victimization ($\alpha = .89$).

3.2.2. Results

iTroll psychometric evaluation and validation (Sample A). To examine the factor structure of the iTroll scale, I subjected item scores to an exploratory factor analysis with principal axis factoring and an oblique (direct oblimin) rotation. This analysis identified two factors with eigenvalues greater than one (6.0 and 2.17, accounting for 50.0% and 18.1% of the variance, respectively). As the second iTroll factor was comprised entirely of con-trait (reversed scored) items, the two-factor structure was interpreted as an artifact of item wording. Indeed, when a single factor was requested, all items loaded $> .47$ on that factor. Thus a unidimensional index of trolling tendencies was deemed appropriate.

Mean iTroll scores were 2.27 ($SD = 0.73$), with scores being higher among men ($M = 2.55$, $SD = 0.80$) than women ($M = 2.14$, $SD = 0.67$), $t(483.19) = 8.01$, $p < .001$, $d = 0.73$. Bivariate correlations between iTroll scores, sadism, and the validity measures are displayed in Table 9. Across the entire sample, iTroll scores were positively correlated with enjoyment of trolling, trolling frequency, and perceived trolling skill—consistent with the view that these measures tap a common trolling construct.

Personality associations with trolling (Samples A, B, and C). Personality associations with trolling were consistent with results reported by Buckels et al. (2014). In Sample A, sadism was positively associated with trolling across all indexes, including scores on the iTroll questionnaire (Table 9, lower diagonal). Table 10 presents iTroll associations with the available dark personality scores. In Sample B, iTroll scores were positively associated with sadism, psychopathy, aggression, callous-unemotionality. Results from a multiple regression analysis (also displayed in Table 10, Equation 1) with sadism, aggression, callous-unemotionality, and psychopathy predicting iTroll scores revealed that sadism and psychopathy were each unique

predictors of online trolling.

Table 10 also displays iTroll associations in Sample C. iTroll scores were positively associated with CAST sadism total scores and all three CAST facets. They were, furthermore, positively associated with scores on the Dark Triad measures. A multiple regression analysis with all variables entered as predictors of iTroll scores indicated that CAST vicarious sadism and SD3 psychopathy were each unique predictors of trolling, when controlling for overlap with the other dark personality predictors (see Table 10, Equation 2).

Table 9

iTroll Convergent Validity Associations

Predictor Variable	1	2	3	4	5
1. iTroll		.32***	.42***	.09	.45***
2. Sadism	.46***		.40***	.25*	.38**
3. Trolling enjoyment	.51***	.38***		.20	.54***
4. Trolling frequency	.33***	.30***	.26***		.24
5. Trolling skill	.70***	.58***	.57***	.36***	

Note. Data are from Sample A ($N = 1134$ University of Winnipeg students). Entire sample on lower diagonal; valid N 's = 181-1049 University of Winnipeg students. Self-identifying trolls on upper diagonal (i.e., participants who scored 4 or 5 on iTroll item, "*I consider myself to be a troll*"); valid N 's = 63-71.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 10

Dark Personality Associations with Online Trolling (iTroll Questionnaire)

Predictor Variable	iTroll Association	
	<i>r</i>	β
Equation 1 (Sample B)		
1. Sadism (SSIS)	.44***	.24**
2. Psychopathy	.43***	.23*
3. Aggression	.31***	-.02
4. Callous-Unemotionality	.36***	.11
Equation 2 (Sample C)		
1. Sadism (CAST)	.50***	---
a. Physical sadism	.33***	-.17
b. Verbal sadism	.41***	.16
c. Vicarious sadism	.50***	.35***
2. Psychopathy (SD3)	.47***	.27**
3. Psychopathy (TriPM)	.41***	.06
4. Machiavellianism	.26***	-.03
5. Narcissism	.17*	-.04

Note. Sample B ($N = 236$ University of Winnipeg students). Sample C ($N = 194$ University of Winnipeg students). Tabled values are bivariate correlations (r s) and standardized regression weights when controlling for scores the other measures (β s). * $p < .05$. ** $p < .01$. *** $p < .001$.

Cyberbullying associations (Sample C). Cyberbullying perpetration demonstrated strong positive associations with victim experience ($r = .65, p < .001$), suggesting that frequent victims of cyberbullying also bully others. As in the case of trolling, cyberbullying attitudes and experiences were consistently positively associated with trolling and dark personality traits (see Table 11). Yet trolling was not reducible to cyberbullying (r 's $< .45$ between scores on iTroll and cyberbullying measures; Table 11). Indeed, cyberbully perpetration was unrelated to vicarious sadism (Table 11), which was the CAST subscale most robustly associated with scores on the iTroll questionnaire (see Table 10). A multiple regression analysis indicated that iTroll scores ($\beta = .27, p < .001$) and cyberbullying attitudes ($\beta = .52, p < .001$) were each unique predictors of sadistic tendencies; in contrast, cyberbullying experiences failed to reach significance in that analysis. Overall, the correlation pattern implies that, while related, cyberbullying and trolling are distinct behaviors.

Table 11

Trolling and Dark Personality Associations with Cyberbullying

Predictor Variable	Cyberbullying Attitudes	Cyberbullying Experiences	
		Victim	Perpetrator
Trolling (iTroll)	.44***	.26***	.20**
Sadism (CAST)	.64***	.28***	.23**
Physical sadism	.53***	.33***	.27***
Verbal sadism	.51***	.23**	.25***
Vicarious sadism	.57***	.19**	.09
Psychopathy (SD3)	.59***	.33***	.30***
Psychopathy (TriPM)	.46***	.29***	.30***
Machiavellianism	.45***	.13	.06
Narcissism	.22**	.24**	.29***

Note. Sample C ($N = 194$ University of Winnipeg students). * $p < .05$. ** $p < .01$. *** $p < .001$.

3.2.3. Discussion

The iTroll questionnaire is a psychometrically-sound measure of trolling tendencies that displays the expected positive associations with trolling variables, cyberbullying, and dark personality traits. The most robust personality associations emerged for sadism (especially vicarious sadism) and psychopathy. As in my previous research (Buckels et al., 2014), the unique positive association between trolling and everyday sadism was substantial and significant.

There was enough empirical divergence from the cyberbullying variables to argue that trolling and cyberbullying are not the same construct. At the same time, positive attitudes toward cyberbullying were more robustly associated with dark personality traits (such as sadism) than were trolling tendencies; this is likely due to the overt antisocial language in the cyberbullying items. It is notable that dark traits predicted a greater frequency of “victim” experiences of cyberbullying; the pattern implies that dark folks are both on the giving and receiving ends of these interactions.

In sum, my trolling research provides a clear picture of the everyday sadist in an online context, and provides validity evidence for the CAST as a predictor of online deviance. In the next chapter, I describe a program of research designed to examine the impact of the Dark Tetrad traits (especially sadism) on one aspect of face-to-face interpersonal interactions: Namely, the accuracy and positivity of first impressions.

CHAPTER 4: First Impressions and the Dark Tetrad

We make countless social acquaintances in life: Many of whom are friendly, comprehensible, and pleasant to be around; others may be noxious and of dubious moral character. In social encounters of the latter folks—involving persons with dark personality traits—first impressions carry particularly high stakes. Dispositional malevolence increases the likelihood that an individual will assume a hostile and competitive stance against others (Dowgwillo & Pincus, 2017; Jonason, Li, & Teicher, 2010; Jones & Paulhus, 2010); and in a competitive social exchange, the upper hand is gained by quickly ‘sizing up’ one’s opponent. Given the potentially high stakes on both sides of these interactions, a crucial but unanswered question remains: How do dark personality traits factor into interpersonal impression formation?

Assessing Accuracy and Positivity in Interpersonal Perception

The present research employs the Social Accuracy Model of interpersonal perception (SAM)(Biesanz, 2010) to examine relations between the Dark Tetrad and interpersonal accuracy in first impressions. SAM is a person-centered approach that examines agreement across a number of traits to assess accuracy and bias in impressions. It estimates two components of impressions—normative and distinctive accuracy—for perceivers, targets, and dyads.

Normative accuracy refers to understanding what people, in general, are like. It is assessed by the degree to which one’s impressions of others, on average, map onto the average person’s standing on a given trait (Biesanz, 2010). Being perceived normatively implies being seen more positively, as the average person possesses a socially desirable personality profile (Rogers & Biesanz, 2015; D. Wood & Furr, 2016).

Distinctive accuracy assesses a perceiver’s ability to discern how a specific target individual differs from the average person across personality traits. It is indexed by the strength

of the association between perceiver impressions and a target validity measure. Following the Realistic Accuracy Model (Funder, 1995), distinctive accuracy is achieved when targets make relevant cues to their personality available to a perceiver, who in turn, detects and utilizes these cues appropriately when forming their impression. In other words, distinctive accuracy is influenced by cue availability and relevance, as well as perceiver skill in decoding cues expressed by the target.

Interpersonal Perception and the Dark Tetrad

While no research has examined the influence of the Dark Tetrad on the accuracy of first impressions as operationalized by the SAM model, there is extensive research to inform predictions about dark personality behavior in the interpersonal sphere. With respect to target personality effects: Are scores on the Dark Tetrad related to how accurately (distinctive accuracy) and positively (normative accuracy) a person is perceived by others? There are strong theoretical and empirical reasons to believe that people with dark traits might distort or manipulate impressions by others. For instance, given that dark personality traits are associated with lower honesty-humility (Book et al., 2016) and, in some cases, increased self-monitoring tendencies (Rauthmann, 2011), high scorers may suppress evidence of their malevolent tendencies and/or intentionally convey dishonest information to others—suggesting that the Dark Tetrad will be associated with lower distinctive accuracy (**H1**).

Predictions for the positivity of first impressions (i.e., normative accuracy) are less straightforward. Dark personalities are neither socially desirable nor positive. Yet individuals high in these traits tend to dress to impress (Fowler, Lilienfeld, & Patrick, 2009; Holtzman & Strube, 2013) and are sometimes liked on first impression (Jauk et al., 2016). It is unclear whether the initial liking effect extends to sadism, which is arguably the most interpersonally

noxious trait of the Dark Tetrad. Sadists have an internal motivation to aggress (Buckels et al., 2013), and they may risk a bad reputation for the chance to hurt someone. If non-normative and aggressive tendencies are detected by perceivers, it is likely that the Dark Tetrad (perhaps especially sadism) will be associated with lower normative accuracy (**H2**).

A second research question concerns the effects of a perceiver's personality: Are scores on the Dark Tetrad related to how accurately and positively a person perceives others? Previous research links dark personality traits to a decreased motivation for social connection (Jonason & Ferrell, 2016), a low need for affiliation (Harms, Spain, & Wood, 2014), and an individualistic and competitive orientation (Jonason et al., 2010). As a result, Dark Tetrad high scorers may be too interested in themselves, and too uninterested in others, to detect relevant cues from their interaction partners. There is also some evidence that dark traits are associated with deficits in emotional intelligence and emotion recognition (Pajevic et al., 2018). Emotions are high-quality information for accurate impression formation (Andersen, 1984), and any deficits in decoding emotions would lower perceptive accuracy. In sum, perceivers scoring highly on the Dark Tetrad may be relatively poor judges of personality and thus, the Dark Tetrad traits may be associated with lower distinctive accuracy (**H3**).

High scorers on dark personality traits may also hold a negative other-bias: A general tendency to evaluate other people negatively (Back, Schmukle, & Egloff, 2010), and to view them as weak and vulnerable (Black, Woodworth, & Porter, 2014) and less competent (Rauthmann, 2012). If so, the Dark Tetrad traits would relate negatively to the positivity of first impressions and normative accuracy (**H4**). Of the Dark Tetrad, sadism may be most strongly related to negative perceptions of others, as such perceptions would likely assist in rationalizing cruel behavior.

4.1. Research goals

The purpose of this study was to examine dark personality associations with interpersonal accuracy, operationalized with the social accuracy model (Biesanz, 2010). I aimed to isolate unique effects of sadistic tendencies to provide evidence of sadism's incremental validity in predicting interpersonal perception, above and beyond overlap with the Dark Triad.

4.2. Method

Participants and procedure. Participants ($N = 412$ UBC students; 75.5% female) engaged in naturalistic interactions with a round robin design (groups of 4-12 people). In these brief, three minute, unstructured dyadic interactions, participants were instructed to “*Introduce yourself and try to get to know one another.*” Participants provided Big Five ratings for each interaction partner. They completed self-reports of the Dark Tetrad and the Big Five personality dimensions. Many participants (73%) obtained informant reports from a friend or parent. (The benchmark for interpersonal accuracy was a combination of self-and-informant reports). After each dyadic interaction, participants indicated whether or not they previously knew their interaction partner. Approximately 3% of interactions involved previously acquainted individuals and these interactions were removed from the dataset prior to analyses.

Measures.

Basic personality. Participants provided self- and other- personality ratings using a 24-item abbreviated version of the Big Five Inventory (BFI)(John & Srivastava, 1999) that included three additional items to assess intelligence using a rating scale ranging from 1 (*Disagree Strongly*) to 7 (*Agree Strongly*). A composite created from the average of self- and informant-report BFI scores was used as the benchmark for accuracy for initial impressions.

Dark Tetrad. Participants completed the 27-item Short Dark Triad scale to assess narcissism ($\alpha = .70$), Machiavellianism ($\alpha = .78$), and subclinical psychopathy ($\alpha = .71$). Participants also completed a preliminary 13-item version of the Comprehensive Assessment of Sadistic Tendencies measure containing only physical and verbal sadism items ($\alpha = .85$). All items were rated on a scale from 1 (*Disagree Strongly*) to 7 (*Agree Strongly*).

Dyadic evaluations. After each interaction and the assessment of the personality impression ratings, perceivers provided their impressions of the target on a variety of 1-item dyadic evaluations (e.g., “*is mature*,” “*is high status*,” “*is sarcastic and demanding*,” “*is physically attractive*”), and provided explicit liking (“*How much do you like this person overall?*”) and trust ratings (“*How much do you trust this person?*”) for each interaction partner.

4.3. Analytic strategy

I used the Social Accuracy Model (SAM) to assess the accuracy of impressions and estimate individual differences in perceptive and expressive accuracy. In brief, perceivers’ ratings of each target on each personality item were predicted simultaneously from (a) the target personality validation measure (composite of self- and informant- reports) on that item after subtracting the normative mean for that item and (b) the normative mean on that item. This analysis provides estimates of distinctive and normative accuracy, respectively. Items were not reverse coded prior to analysis to preserve the evaluative range across the items. As SAM represents a crossed-random effects model, each of the dyadic coefficients is decomposed into main effects for perceiver, target, and the latent residual dyadic component. Summary random effects estimates index the overall strength of individual differences in interpersonal accuracy.

Of primary interest is how Dark Tetrad scores moderate random effects for normative

and distinctive accuracy. Effect size estimates were estimated in the standardized mean difference metric (d) and were computed as the predicted change in the respective random effect slope (e.g., perceiver distinctive accuracy) for a 2 SD change in the continuous predictor (e.g., perceiver sadism). More details about the analytic strategy are presented in Appendix C.

4.4. Results

After just three minutes of interaction, significant levels of normative and distinctive accuracy emerged across both perceivers and targets: The unstandardized fixed effects estimates for distinctive accuracy ($\hat{\gamma} = 0.18$, $SE = 0.01$) and normative accuracy ($\hat{\gamma} = 0.85$, $SE = 0.02$) were significant, p 's < .001. Additionally, there were individual differences in the tendency to view others normatively and distinctly, as well as the tendency to be viewed by others normatively and distinctly: Random effects estimates, $\hat{\tau}$'s = 0.06 to 0.37, all p 's < .001.

Dark Tetrad associations⁴ with individual differences in interpersonal accuracy are displayed in Table 12. Both univariate and partial analyses (controlling for overlap among the Dark Tetrad) are displayed in that table. I briefly review these findings in the following sections.

Target personality and interpersonal accuracy. Sadism and Machiavellianism were associated with significantly lower levels of normative and distinctive accuracy. When controlling for overlap with the other dark traits, only sadism was uniquely associated with lower normative accuracy. Dark Tetrad partial relationships failed to reach significance for distinctive accuracy. In sum, sadism predicts a tendency to be viewed (a) negatively by others and (b) less in line with their own unique traits during first encounters. On average, the distinct aspects of sadism—aspects that are not captured by Dark Triad scores—predicted non-normative first

⁴ As scores on the full 18-item CAST were unavailable, I only report overall sadism associations, and leave subscale comparisons to future research.

impressions.

Perceiver personality and interpersonal accuracy. Sadism, psychopathy, and Machiavellianism scores were associated with lower levels of normative accuracy. When controlling for overlap with the other dark traits, Machiavellianism and sadism had unique negative influences on normative accuracy, while narcissism had a unique positive influence on normative accuracy. Sadism and psychopathy scores were also associated with lower levels of distinctive accuracy; when controlling for overlap, psychopathy had a unique negative influence, and narcissism a unique positive influence, on distinctive accuracy.

Dyadic evaluations. Table 13 displays sadism associations with the dyadic evaluations. Of particular interest were the partial associations controlling for overlap with the Dark Triad (also displayed in Table 13). On the target side, sadism emerged as a unique negative predictor of likeability, liking, trust, and physical attraction ratings. It is notable that while all Dark Tetrad traits were significantly associated with lower trust ratings at the univariate level (β 's ranging from -.08 to -.14, p 's < .001), only sadism ($\beta = -.13, p < .001$) and narcissism ($\beta = -.05, p < .05$) remained significant predictors of trust ratings when controlling for overlap with the other dark traits. Furthermore, target sadism was a significant unique negative predictor of ratings of leadership qualities, status, engagement, and respect/admiration.

On the perceiver side, sadism emerged as a unique positive predictor of viewing others as aggressive and unrestrained, sarcastic and demanding, hypocritical, and shortsighted, when controlling for overlap with the Dark Triad. Perceiver sadism also uniquely predicted a tendency to view others as less mature, less engaging, and less respected/admired. Although not significant when controlling for overlap with the Dark Triad, perceiver sadism negatively predicted likeability, liking, and physical attraction ratings at the univariate level.

Table 12

Dark Tetrad Associations with Distinctive and Normative Accuracy in First Impressions

Dark Trait	Distinctive Accuracy		Normative Accuracy	
	Estimate (SE)	<i>d</i>	Estimate (SE)	<i>d</i>
Target Personality Traits				
Univariate Relationships				
Sadism	-0.04(0.02)*	-0.29	-0.06(0.02)***	-0.47
Psychopathy	-0.02(0.01)	-0.18	-0.03(0.02)	-0.21
Machiavellianism	-0.03(0.01)*	-0.25	-0.03(0.01)*	-0.29
Narcissism	0.01(0.01)	0.06	-0.03(0.02)	-0.20
Partial Relationships				
Sadism	-0.03(0.02)	-0.25	-0.08(0.02)***	-0.63
Psychopathy	-0.01(0.02)	-0.06	0.04(0.03)	0.33
Machiavellianism	-0.02(0.01)	-0.17	-0.01(0.02)	-0.11
Narcissism	0.03(0.02)	0.21	-0.02(0.02)	-0.18
Perceiver Personality Traits				
Univariate Relationships				
Sadism	-0.02(0.01)*	-0.51	-0.18(0.02)***	-0.78
Psychopathy	-0.02(0.01)**	-0.66	-0.14(0.02)***	-0.63
Machiavellianism	-0.00(0.01)	-0.01	-0.11(0.02)***	-0.59
Narcissism	0.00(0.01)	0.09	-0.02(0.02)	-0.08
Partial Relationships				
Sadism	-0.01(0.01)	-0.19	-0.13(0.03)***	-0.59
Psychopathy	-0.04(0.01)**	-1.19	-0.07(0.04)	-0.29
Machiavellianism	0.01(0.01)	0.46	-0.05(0.02)*	-0.22
Narcissism	0.02(0.01)*	0.56	0.07(0.03)**	0.41

Note. Effect size estimates (*d*'s) were computed as the predicted change in the respective random effect slope (e.g., perceiver distinctive accuracy) for a 2 *SD* change in the continuous predictor. Partial relationships control for scores on the other three dark personality traits. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 13

Sadism Associations with the Dyadic Evaluations in First Impressions

Interaction Impression	Perceiver Sadism		Target Sadism	
	Univariate β	Partial β	Univariate β	Partial β
<i>I see this person as someone who...</i>				
Is aggressive and unrestrained	0.34***	0.19***	0.05*	0.01
Is bashful and unassuming	0.12**	0.10	0.03	0.03
Is opportunistic and crafty	0.11**	0.06	0.00	0.01
Is sarcastic and demanding	0.29***	0.13*	0.06**	0.04
Is mature	-0.12***	-0.10*	-0.11***	-0.08
Is reasonable	-0.12***	-0.02	-0.09***	-0.04
Is hypocritical	0.28***	0.12*	0.05**	0.01
Is short-sighted	0.33***	0.21***	0.07***	0.03
Is a leader	-0.09**	-0.07	-0.14***	-0.14***
Has high status	-0.05	-0.04	-0.08***	-0.13***
Is engaging	-0.17***	-0.15***	-0.17***	-0.19***
Is respected and admired	-0.14***	-0.10*	-0.13***	-0.12**
Is very likeable	-0.13***	-0.05	-0.18***	-0.20***
Is physically attractive	-0.13***	-0.05	-0.16***	-0.17***
<i>How much do you...</i>				
Like this person overall?	-0.14***	-0.08	-0.18***	-0.18***
Trust this person?	-0.08	0.01	-0.14***	-0.13***

Note. Approximate effect size estimates (β 's) were computed by standardizing sadism scores across participants and the impressions across dyadic impressions. Partial estimates control for scores on the Dark Triad. * $p < .05$. ** $p < .01$. *** $p < .001$.

4.5. Discussion

With the exception of narcissism, the strength of Dark Tetrad traits predicted a consistent pattern of inaccurate interpersonal perception, and they did so both on the target and perceiver sides of personality. Support was found for all hypotheses. Darker personalities viewed others, and were viewed, in turn, less accurately and less positively, relative to lighter personalities. Sadism had especially robust and detrimental effects on normative accuracy.

The Dark Tetrad and Interpersonal Accuracy

The primary findings concerned Dark Tetrad associations with interpersonal accuracy. First, I found that target levels of sadism and Machiavellianism were related to lower levels of distinctive accuracy, suggesting that sadists and Machiavellians are viewed (by others) as less in line with their own distinct traits. Why might this be the case? Previous research suggests that people who behave more in line with their personalities are viewed more accurately in first impressions (Human, Biesanz, Finseth, Pierce, & Le, 2014), thus it may be that targets scoring highly on sadism and Machiavellianism were behaving somewhat out of character. Or perhaps they were disclosing a lower quality or quantity of information, which would also result in less accurate impressions (Human & Biesanz, 2013). In comparison, targets scoring lower on these malevolent traits may provide more honest information about themselves (cf. Book et al., 2016), which would facilitate the formation of accurate first impressions.

Second, despite greater individual differences in target effects, perceiver levels of sadism and psychopathy were associated with lower distinctive accuracy, suggesting that subclinical sadists and psychopaths display deficits in understanding the unique traits of others. Given historical difficulties in identifying the ‘good judge’ of personality (Davis & Krauss, 1997), these

results highlight the need to explore personality traits beyond the Big Five when searching for characteristics that may be helpful (or harmful) in understanding others. Sadistic and psychopathic traits appear harmful to accurate interpersonal perception (cf. Ali, Amorim, & Chamorro-Premuzic, 2009; Pajevic et al., 2018).

Third, sadism and Machiavellianism functioned similarly to promote non-normative (and negative) impressions, both of others and by others. In other words, individuals who scored high on these two traits were perceived negatively by others, and they also viewed others in a negative fashion. The pattern may reflect the cynical worldview and misanthropic orientation that is common to both the sadism and Machiavellianism constructs. It is also notable that sadistic targets were viewed with lower normative accuracy, while psychopathic targets were not. Sadism's negative associations with normative accuracy—evident both for target and perceiver levels of sadism—remained significant when controlling for overlap with the Dark Triad. It seems that everyday sadists stand out from the pack, in a particularly bad way.

The Dark Tetrad and Dyadic Evaluations

The dyadic evaluations revealed further nuanced information about the effects of sadism in impression formation. In line with previous research that dark traits can often be detected with very limited information (Fowler et al., 2009; Holtzman, 2011; Rauthmann, 2012), the negative associations between the Dark Tetrad and dyadic evaluations of trustworthiness suggests that people can detect malevolence in others, even in brief initial social interactions. While perceivers may not be able to clearly differentiate between a high scorer on sadism and a high scorer on psychopathy, those who scored high on any of the Dark Tetrad were generally viewed as untrustworthy. Thus participants' 'darkness detectors' functioned relatively well, even at first acquaintance.

Furthermore, in the dyadic evaluations, sadistic perceivers placed others in the disliked and low-competence (dehumanized) quadrant of Fiske's stereotype content model (Fiske, Cuddy, Glick, & Xu, 2002). At the same time, their interaction partners viewed sadists in a similarly negative and dehumanizing manner (i.e., perceived as having slightly different traits from that exact same quadrant). The pattern suggests that sadism predicts dehumanized social perception in brief first encounters; and these dehumanized impressions may, in turn, facilitate aggression on first acquaintance. When at least one interaction partner was high in sadism, the interaction went badly, and damaging evaluations ensued on both sides.

Finally, this research potentially revealed some tendencies of everyday sadists to project their own characteristics onto others—for example, viewing others as “aggressive and unrestrained.” Although speculative, the pattern suggests that subclinical sadists may blame others for aggressive encounters. Such a bias would allow sadists to aggress in retaliation, without guilt for such actions (because, after all, ‘they started it’). The next chapter describes a program of research designed to further probe the rationalization mechanisms that support the cruel tendencies of subclinical sadists.

Conclusion

In sum, this research revealed robust and meaningful effects of sadistic tendencies on first impressions, both for sadistic perceivers and sadistic targets. The effects could not be explained by overlap with the Dark Triad. Taken together, the findings support the incremental and predictive validity of sadism, and the incorporation of sadism into a Dark Tetrad of personality.

CHAPTER 5: Pleasure and Rationalization in Everyday Sadism

Psychological considerations of sadism emphasize both (a) pleasure derived from the suffering of others and (b) avoidance of guilt (Baumeister, 1997). Theoretically, sadistic pleasure is best consummated when negative emotions do not contaminate the moment. Unfortunately for everyday sadists, in comparison to their criminal counterparts, some semblance of empathy and an understanding of right and wrong may be lurking deep inside. How do everyday sadists avoid feeling guilty from habitual cruelty?

One possibility is that sadists judge the consequences of cruelty differently than do others. Biased judgments occur when directional goals or motives influence the decision-making process (Kunda, 1990). An example is self-deceptive enhancement (Paulhus, 1984; Paulhus, 1998; Paulhus & John, 1998; Paulhus & Trapnell, 2008), where self-serving evaluations override accurate self-judgment (cf. Paulhus & Buckels, 2012). Narcissists are notorious self-enhancers who overclaim their knowledge to uphold their grandiose self-views (Paulhus & Williams, 2002; Paulhus, Harms, Bruce, & Lysy, 2003). Likewise, sadistic individuals may be motivated to arrive at particular conclusions about harm and suffering, due to their appetite for cruelty.

There is some empirical evidence to suggest that judgments about others' suffering are subject to motivated reasoning (Zaki, 2014). Suffering is often minimized. For instance, medical professionals systematically underestimate patient pain (Cheng, Lin, Liu, Hsu, Lim, Hung, & Decety, 2007; Marquié, Raufaste, Lauque, Mariné, Ecoiffier, & Sorum, 2003; Sloman, Rosen, Rom, & Shir, 2007), and there is a general tendency to underestimate the physical suffering of low-status outgroup members (Trawalter, Hoffman, & Waytz, 2012). Personal responsibility for others' suffering appears to increase the likelihood of minimization: Brock and Buss (1962) found that observers judged a target's pain from electric shocks as less intense when

they felt responsible for the shocks. The findings are in line with moral disengagement theory (Bandura, 1999; Bandura, Barbaranelli, Caprara, & Pastorelli, 1996), which holds that ‘regular people’ justify moral atrocities by minimizing others’ suffering. Do everyday sadists rationalize cruelty to themselves and others? I conducted two studies to examine the pleasure and rationalization processes at work in everyday sadism.

5.1. Sadism and Pain Perception

In the first study, I explored the association between sadism and pain perception. Specifically, I examined how sadists evaluate pain intensity in visual representations of others’ suffering (i.e., photos of injuries, physical harm, and facial expressions of pain). Although I suspected a systematic bias in evaluations of these stimuli, I had to consider two competing hypotheses about the direction of that bias. First, given their frequent need to justify harm, everyday sadists may show a habitual tendency to downplay the extent of others’ suffering (e.g., to avoid guilt). This hypothesis suggests a *negative* correlation between sadism scores and perceived pain intensity (**H1a**). The alternative hypothesis is that everyday sadists exaggerate others’ suffering (i.e., engage in sadistic fantasy) to maximize their pleasure. This hypothesis suggests a *positive* correlation between sadism scores and perceived pain intensity (**H1b**).

Second, I evaluated sadism associations with pleasure from suffering, having the prediction sadism would be positively associated with pleasure ratings (**H2**), but that perceived pain intensity would moderate that association (**H3**). Following Buckels et al. (2014), I expected positive affect (i.e., pleasure) to act as a mediator of sadism effects on pain perception (**H4**). To rule out a variety of alternatives, I included measures of the Dark Triad of personality: That is, subclinical psychopathy, narcissism, and Machiavellianism (Paulhus & Williams, 2002). These

hypotheses were tested in an online experiment with a large sample of community adults.

5.1.1. Research goals

The purpose of this research was to evaluate sadism as a trait predictor of biased pain perception and explicit positive affect toward others' suffering. I tested various mediation and moderation models to explore possible mechanisms of sadistic judgment. Most importantly, I expected pleasure ratings to mediate the effect of sadism on pain perception. If significant, that mediation pattern would provide support for the view that sadists' biased perceptions about harm are explained by their tendency to experience pleasure from harm.

5.1.2. Method

Participants were 304 adults (156 women, 145 men; 3 did not specify) from the United States who were recruited on Mechanical Turk to complete a survey online. Mean age was 34.4 years ($SD = 12.69$). The questionnaire package included the 27-item Short Dark Triad scale (Jones & Paulhus, 2014; α 's = .76, .82, and .82 for narcissism, Machiavellianism, and psychopathy, respectively) and the 18-item Comprehensive Assessment of Sadistic Tendencies (CAST; α 's = .81, .83, .82, and .89 for verbal, physical, vicarious, and total scores, respectively).

As part of the online questionnaire, participants were presented with six photographs depicting people in various degrees of physical or emotional pain. These photographs were selected from the International Affective Picture System (Lang, Bradley, & Cuthbert, 2005; see Appendix C). Participants viewed the photos at a pace of their choosing. Two ratings were requested for each photo as it was displayed on the screen: (1) perceived pain intensity ("*How much pain is this person in?*"), from 1 (*no pain*) to 5 (*severe pain*), and (2) obtained pleasure ("*How pleasing [or unpleasing] is this photo?*"), from 1 (*very unpleasing*) to 7 (*very pleasing*).

Pain intensity ($M = 3.70$, $SD = .44$) and pleasure ($M = 2.19$, $SD = .73$) ratings were standardized and composite scores were computed as the mean of standardized ratings across the stimuli (α 's = .39⁵ for pain intensity and .68 for pleasure, respectively).

5.1.3. Results

Table 14 presents bivariate correlations⁶ with the composite pain perception and pleasure ratings. Patterns of association with pain perception and pleasure were highly similar across measures of sadism and psychopathy. Specifically, scores on these trait predictors were (a) negatively associated with perceived pain intensity and (b) positively associated with self-reported pleasure from others' pain. That is, sadists and psychopaths tended to rate others' pain as less intense, and they gleaned greater enjoyment from that pain, than did others. All three CAST subscales were negatively correlated with pain ratings (disattenuated r 's = -.44, -.28, and -.43 for verbal, physical, and vicarious sadism; p 's < .007), and positively correlated with pleasure ratings (disattenuated r 's = .59, .50, and .46; p 's < .001).

Multiple regression analyses examined the Dark Tetrad's unique associations with (a) pain perception and (b) pleasure ratings. These regression analyses (displayed in Table 14) revealed that sadism was a unique negative predictor of pain and positive predictor of pleasure ratings. Psychopathy was also a unique (though weaker) predictor of pleasure, but not pain ratings. No other associations were significant (p 's > .59).

⁵ This low alpha reflects the diversity of the stimuli.

⁶ Because of the low alpha for pain intensity, I also analyzed the results using repeated measures GLM (with sadism split into tertiles; n for sadists = 98, non-sadists = 100). As expected, sadists provided lower pain ratings ($M = 3.57$, $SE = .04$) than did non-sadists ($M = 3.83$, $SE = .04$), $F(1, 196) = 18.83$, $p < .001$. An identical pattern emerged when analyzed via Hierarchical Linear Modeling (with subject entered as a random effects variable and photo set as a random effects variable with six levels).

Table 14

Dark Tetrad Associations with Perceived Pain Intensity and Obtained Pleasure from Pain

Predictor Variable	Perceived Pain Intensity		Pleasure	
	<i>r</i>	β	<i>r</i>	β
Sadism	-.27*** [-.46***]	-.26**	.46*** [.59***]	.35***
Psychopathy	-.23*** [-.40***]	-.03	.42*** [.56***]	.18*
Machiavellianism	-.14* [-.25*]	-.02	.22*** [.31***]	-.01
Narcissism	-.08 [-.17]	-.01	.13* [.18*]	-.03

Note. $N = 345$ MTurkers. Valid $N = 304$. Tabled values are bivariate correlations (r 's) and standardized regression coefficients (β 's).

Values in square parentheses are corrected for attenuation.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Follow-up analyses. Moderation and mediation analyses were conducted using PROCESS for SPSS (Hayes, 2013). All variables were standardized prior to entry. As expected, there was a significant interaction between sadism and perceived pain intensity, $\beta = -.09$, $t(300) = -2.24$, $p = .03$, 95% CI = [-.18, -.01]. Simple slopes analyses indicated that the positive association between sadism and pleasure was stronger among those who perceived less pain (-1 SD), $\beta = .46$, $p < .001$, 95% CI = [.34, .59], as compared to those who perceived greater pain (+1 SD), $\beta = .28$, $p < .001$, 95% CI = [.14, .41].

Mediational analyses probed the associations further. Significance was tested both with Sobel tests, and bootstrapped 95% confidence intervals for the standardized indirect effects (ab) constructed with 10,000 resamples and a percentile distribution. The first mediation model (see Figure 4) examined pleasure as a possible mediator of sadism's negative association with perceived pain intensity. The mediated effect of sadism via pleasure was significant, 95% CI for $ab = [-.27, -.11]$, Sobel's $z = -5.30$, $p < .001$; whereas the direct effect (c') was not significant, $t(301) = -1.64$, $p = .10$, indicating full mediation.

I conducted an alternative mediation analysis with perceived pain intensity as a mediator of the relationship between sadism and pleasure. This analysis indicated that, although significant, the indirect effect via perceived pain intensity was weaker in magnitude and only met the criteria for partial mediation: Perceived pain intensity was negatively associated with pleasure when controlling for sadism scores, $\beta = -.33$, $p < .001$, and the indirect effect via perceived pain intensity was significant, 95% CI for $ab = [.04, .15]$, Sobel's $z = 3.92$, $p < .001$, but so too was the direct effect of sadism, $\beta = .38$, $p < .001$.

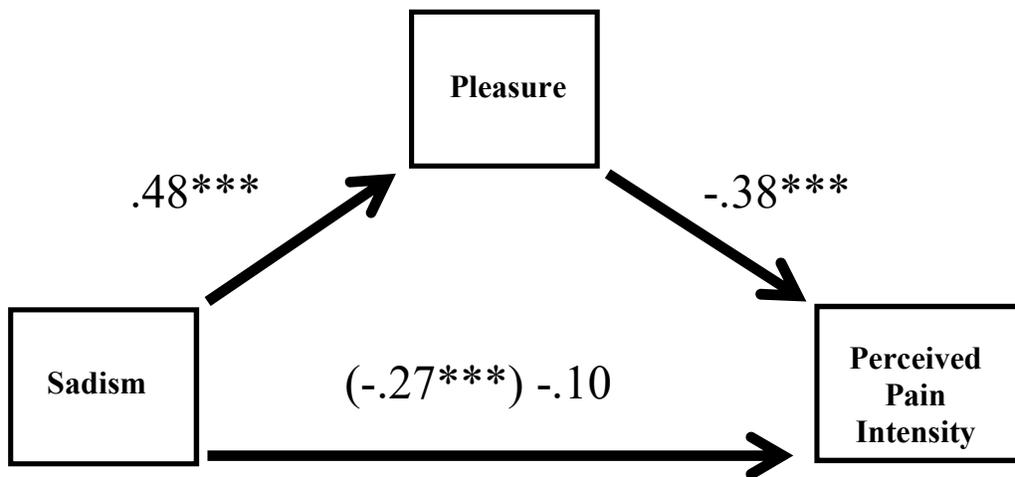


Figure 4. Self-reported pleasure from others' pain as a mediator of the relationships between sadism and perceived pain intensity. Path coefficients are standardized regression coefficients (β 's). Those in parentheses are from the main effects model prior to adding the mediating term. * $p < .05$. *** $p < .001$.

5.1.4. Discussion

In sum, support was found for hypothesis H1a over H1b: Sadism was associated with a unique tendency to *underestimate* the extent of others' suffering. As expected, sadists were "pleased" by visual representations of people in physical/emotional pain. At the same time, they appeared to downplay the magnitude of that pain. There was no evidence that everyday sadists engaged in sadistic fantasy by magnifying others' pain. In fact, a moderation analysis confirmed that sadists glean more pleasure from pain when it is minimized than exaggerated. The pattern suggests that, in a subclinical population, sadistic pleasure is best consummated by downplaying harm severity. Finally, I found that pleasure mediated the relationship between sadism and pain perception. The significant mediation effect suggests that pleasure is the underlying mechanism by which sadism affects judgments of others' suffering.

5.2. Sadism and Moral Judgment

Previous empirical research suggests that the tendency to underestimate others' suffering reflects an automatic perceptual process (Craig, Versloot, Goubert, Vervoort, & Crombez, 2010). I wondered whether rationalization of harming others might also operate at a higher, more cognitive level. If so, it would better implicate moral culpability. To this end, I drew on emerging evidence that antisocial traits such as sadism (Trémolière & Djeriouat, 2016) and psychopathy (J. Marshall, Watts, & Lilienfeld, 2018) are accompanied by deficient moral judgment. Psychological rationalization process may help explain how otherwise average people can reconcile cruel behavior with a positive self-view.

The study by Trémolière and Djeriouat (2016) showed that, unlike non-sadists (who typically use negative emotions such as disgust and anger to guide their moral judgments), those

high in sadism use *positive emotions* (e.g., amusement, excitement) in judging right from wrong. By this standard, behavioral transgressions that are pleasing/funny are judged morally acceptable and deserving of leniency, while unexciting/boring transgressions are unacceptable and punishable. In other words, sadistic moral judgments are guided by pleasure, not pain.

Accordingly, in this study, I attempted to replicate and extend previous findings involving sadism and moral judgment. My predictions were as follows. First, I expected sadism to predict lenient judgments of moral culpability for harm and greater use of positive affect in moral decision-making (**H1**). Second, I expected moral culpability to moderate the association between sadism and positive affect, with the strongest sadism associations with pleasure emerging when culpability was minimized than exaggerated (**H2**). Third, I expected sadism to moderate the associations between positive affect and moral culpability, with positive affect associated with culpability among sadists, but not non-sadists (**H3**). Finally, I expected positive affect to emerge as a statistical mediator of any sadism effects on moral judgment (**H4**). As in my previous research, I assessed subclinical psychopathy to test the specificity of the sadism association. Here, I added trait aggression (Buss & Perry, 1992) and callous/unemotional traits (Frick & Ray, 2015) to the personality package.

5.2.1. Research goals

The purpose of this research was to replicate findings linking everyday sadism to abnormal moral judgments (Trémolière & Djeriouat, 2016) using a more sophisticated analytic strategy (i.e., moderation analyses, rather than a tertile split on sadism scores). I examined the extent to which that association is accounted for by general antisocial tendencies (psychopathy, callous-unemotional traits, and trait aggression). I tested various interaction effects involving

sadism, positive/negative affect, and moral culpability. Then in search of evidence of the pleasure motivation behind sadistic judgments, I tested a mediation model with positive affect as a statistical mediator of the relationship between sadism and culpability judgments; this mediation model paralleled the one tested in the pain perception study.

5.2.2. Method

Participants (Student Sample B; $N = 236$ University of Winnipeg students) responded to moral judgment scenarios used by Trémolière and Djeriouat (2016), which were designed to be relevant to three central determinants of moral judgment (intentionality, causality, and harm) in three different contexts (intentional harm, attempted harm, and accidental harm). Participants were randomly assigned to view three of the nine possible scenarios (including one for each harm variety). See Appendix D for the moral judgment scenarios.

Participants provided three ratings for each scenario: (1) wrongness (“*Was the perpetrator morally wrong in this situation?*”), (2) guilt (“*Should the perpetrator feel guilty in this situation?*”), and (3) punishment (“*Does the perpetrator deserve punishment in this situation?*”), as rated on 5-point scales from 1 (*No*) to 5 (*Yes*). The wrongness, guilt, and punishment ratings were positively correlated ($.39 < r's < .80$), so they were standardized and combined into a composite score to index perceived *perpetrator culpability* (Cronbach’s α ’s = .87, .77, and .71 for the intentional, attempted, and accidental harm conditions, respectively). Higher scores represent harsher judgments.

Affect produced by the scenarios was assessed via a 10-item affect rating scale used by Trémolière and Djeriouat (2016). The key items were interspersed with filler items from the Positive and Negative Affect Schedule (Watson, Clark & Tellegen, 1988). Participants rated the

extent to which these feelings affected their judgment for each scenario. Five items assessed positive affect: *enthusiastic, delighted, excited, cheerful, and joyful* (α 's > .87 across the intentional, attempted, and accidental scenarios). An additional five items assessed negative affect: *sad, disgusted, outraged, downhearted, and loathing* (α 's > .67 across the intentional, attempted, and accidental scenarios).

The personality package included the 10-item Short Sadistic Impulse Scale (O'Meara et al., 2011)(SSIS; $\alpha = .88$), an 18-item short-form version of the Buss and Perry (1992) Brief Aggression Questionnaire (Webster et al., 2014)($\alpha = .86$), a 10-item short-form of the Inventory of Callous-Unemotional Traits (Ray et al., 2016)(callous-unemotionality; $\alpha = .83$), and the 9-item psychopathy subscale of the Short Dark Triad scale (Jones & Paulhus, 2014)(SD3-psychopathy; $\alpha = .77$).

5.2.3. Results

Moral culpability. Moral culpability scores were strongly and positively correlated across the intentional harm and attempted harm conditions ($r = .64, p < .001$), indicating that participants who judged perpetrators of intentional harm more harshly were similarly harsh toward perpetrators of attempted harm. In contrast, culpability scores for the attempted and accidental harm conditions were, overall, uncorrelated ($r = -.13, p = .06$). Interestingly, there was a significant negative correlation between culpability scores for intentional and accidental harm ($r = -.19, p = .005$), indicating that participants who judged accidental harm more harshly were slightly more lenient of intentional harm compared to others, and vice versa.

Table 15 displays personality associations with culpability judgments across the three conditions. As expected, sadism scores were negatively correlated with culpability judgments in

both the intentional and attempted harm conditions; these associations were relatively robust: Sadism remained a negative predictor of culpability scores when controlling for overlap with the other measures. Sadism was a positive predictor of culpability judgment in the accidental harm condition, but the association failed to reach significance when controlling for overlap with the other measures.

Table 15

Predictors of Culpability Judgments within the Intentional, Attempted, and Accidental Harm Conditions

Measure	Association with Moral Culpability					
	Intentional Harm		Attempted Harm		Accidental Harm	
	<i>r</i>	β	<i>r</i>	β	<i>r</i>	β
Sadism	-.28***	-.24**	-.30***	-.25**	.14*	.11
Psychopathy	-.23**	-.13	-.22*	.04	.10	-.01
Aggression	-.17*	.002	-.26***	-.17	.10	.03
Callous-Unemotionality	-.12	.09	-.17*	.02	.09	.02

Note. $N = 236$. Tabled values are bivariate correlations (*r*'s) and standardized regression weights (β 's) controlling for the other predictor variables. * $p < .05$. ** $p < .01$. *** $p < .001$.

Negative affect. As expected, use of negative affect differed across the three harm conditions, $F(2, 410) = 195.45, p < .001$. Pairwise comparisons (with Bonferroni adjustments) indicated that use of negative affect was greatest for intentional harm ($M = 15.52, SD = 4.62$), followed by attempted harm ($M = 13.99, SD = 4.62$) and accidental harm ($M = 9.99, SD = 3.68$), with all comparisons significant, p 's $< .001$. Correlational analyses confirmed the important role of negative affect in moral decision-making: Use of negative affect was positively correlated with culpability scores in the intentional ($r = .25, p < .001$), attempted ($r = .29, p < .001$), and accidental ($r = .30, p < .001$) harm conditions. Overall, participants made harsher judgments when negative affect levels were high, and more lenient judgments when negative affect levels were low.

Individual differences influenced the use of negative affect in culpability judgments: Callous-unemotional scores were negatively correlated with negative affect in both the intentional harm ($r = -.27, p < .001$) and attempted harm ($r = -.17, p = .009$) conditions, and these associations remained significant controlling for overlap with the other measures (β 's = $-.36$ and $-.27$ respectively; p 's $\leq .001$). The sadism associations with negative affect were non-significant in the intentional and attempted harm conditions (r 's = $.10$ and $.004, p$'s = $.14$ and $.95$), and positively associated with negative affect in the accidental harm condition ($r = .16, p = .02$).

Positive affect. As was the case for negative affect, use of positive affect differed across the three harm conditions, $F(2, 442) = 7.86, p < .001$. Pairwise comparisons (with Bonferroni adjustments) indicated that positive affect was strongest in the attempted harm condition ($M = 7.42, SD = 4.29$), as compared to the intentional ($M = 6.76, SD = 3.44$) and accidental harm ($M = 6.70, SD = 3.33$) conditions, p 's = $.007$ and $.005$, respectively. The latter two conditions did not differ on positive affect, $p > .99$. Correlational analyses indicated that use of positive affect was

significantly negatively associated with culpability scores in the intentional ($r = -.46, p < .001$) and attempted ($r = -.30, p < .001$) harm conditions (but not in the accidental harm condition, $r = .09, p = .18$). In other words, participants who reported greater use of positive affect in their moral decision-making were more lenient toward intentional and attempted harm than were others.

Individual differences also influenced the use of positive affect in culpability judgments. Across all conditions (intentional, attempted, and accidental harm), higher sadism and psychopathy scores were correlated with stronger positive affect ratings (see Table 16). Results from a series of multiple regressions (also displayed in Table 16), indicated that sadism was the only significant unique predictor of the use of positive affect in moral decision-making.

Table 16

Predictors of Positive Affect within the Intentional, Attempted, and Accidental Harm Conditions

Measure	Association with Positive Affect					
	Intentional Harm		Attempted Harm		Accidental Harm	
	<i>r</i>	β	<i>r</i>	β	<i>r</i>	β
Sadism	.38***	.39***	.32***	.38***	.38***	.30***
Psychopathy	.22**	-.04	.20**	.08	.28***	.03
Aggression	.15*	-.07	.11	-.08	.17*	-.08
Callous-Unemotionality	.25***	.09	.08	-.14	.25***	.08

Note. $N = 236$. Tabled values are bivariate correlations (r 's) and standardized regression weights (β 's) controlling for the other predictor variables. * $p < .05$. ** $p < .01$. *** $p < .001$.

Moderation analyses (intentional harm). Sadism significantly moderated the association between negative affect and culpability scores (β for Neg.Aff. x Sadism = $-.09$, $p = .03$). Simple slopes analyses indicated that among non-sadists (-1 *SD* on sadism), negative affect was positively associated with culpability scores ($\beta = .40$, $p < .001$). Among sadists ($+1$ *SD* on sadism), however, this association cut nearly in half ($\beta = .22$, $p = .002$).

More importantly, sadism significantly moderated the association between positive affect and culpability judgments, β for Pos.Aff. x Sadism = $-.19$, $p < .001$. Simple slopes analyses indicated that, among sadists ($+1$ *SD* on sadism), positive affect was significantly negatively associated with culpability scores ($\beta = -.48$, $p < .001$), but among non-sadists (-1 *SD* on sadism), there was no significant association between positive affect and perceived culpability ($\beta = -.12$, $p = .20$).

Finally, perceived culpability significantly moderated the association between sadism and positive affect (β for Sadism x Culpability = $-.09$, $p = .01$). Simple slopes analyses ($+1/-1$ *SD* on culpability) indicated that the positive association between sadism and pleasure was stronger when culpability was minimized ($\beta = .32$, $p < .001$) than when exaggerated ($\beta = .18$, $p = .009$).

Mediation analyses (intentional harm). The mediation model (Figure 5) examined positive affect as a mediator of sadism's negative association with culpability scores. The mediated effect of sadism via positive affect was significant, 95% CI for the standardized indirect effect = $[-.24, -.07]$, Sobel's $z = -4.44$, $p < .001$. The direct effect of sadism on culpability judgments was not significant, $t(228) = -1.76$, $p = .08$, which indicates full mediation.

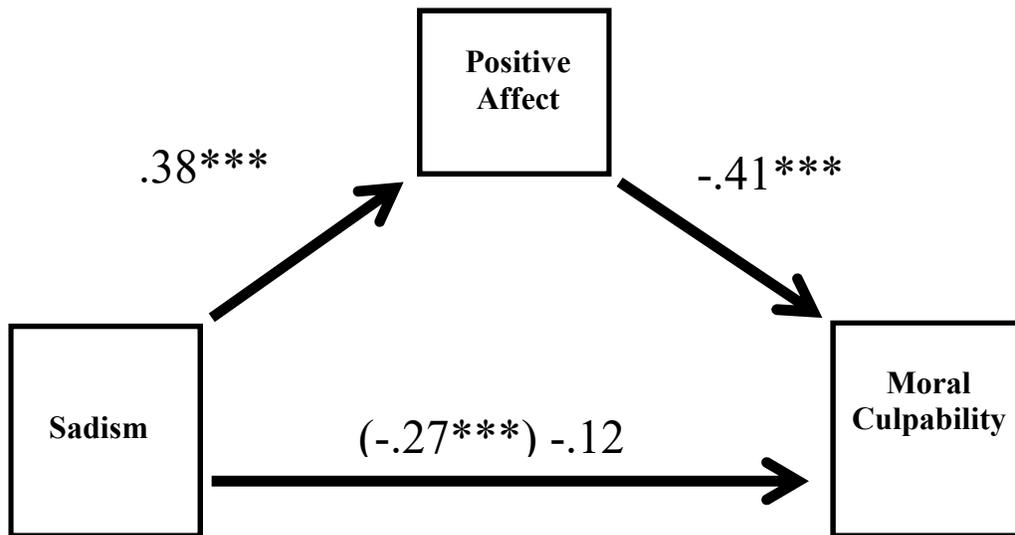


Figure 5. Positive affect as a mediator of the relationship between sadism and culpability judgment in the intentional harm condition. Path coefficients are standardized regression coefficients (β 's). Those in parentheses are from the main effects model prior to adding the mediating term. * $p < .05$. ** $p < .01$. *** $p < .001$.

5.2.4. Discussion

Sadism predicted a tendency to minimize perpetrator culpability, and the normal link between negative affect and moral condemnation was significantly diminished among everyday sadists—who instead demonstrated an association between positive feelings and culpability judgment that was not evident among non-sadists. Sadists were more lenient of intentional harm when they experienced positive feelings, and were harsher when such positive feeling was lacking. Importantly, the association between sadism and positive affect was strongest when the harm was minimized than exaggerated. A mediation analysis indicated that the association between sadism and lower culpability was statistically explained by positive affect. The patterns of association could not be explained by broader forms of antisociality (i.e., trait aggression, callous-unemotionality, and psychopathy scores).

In short, everyday sadists engage in psychological rationalization processes that permit enjoyment of harm with minimal guilt. The fact that sadists minimize perpetrator culpability in judging others' behavior suggests that they likewise do so in judging their own behavior. These findings replicate and extend those of Trémolière and Djeriouat (2016).

5.3. Final Points

Taken together, the results of these two studies reveal interesting paradoxes in the psychology of everyday sadism. First, by minimizing others' suffering, everyday sadists effectively diminish their hedonic returns from that suffering. This research is the first to document such a pattern among everyday sadists. It represents a clear departure from the psychology of disordered sadism, as severe sexual sadists show an opposite tendency to exaggerate others' suffering (Harenski, Thornton, Harenski, Decety, & Kiehl, 2012). The results

may simply reflect a response bias generated by the nature of the rating task. Yet it is possible that the results reflect self-deceptive or perceptual biases that facilitate enjoyment of suffering among everyday sadists—who, unlike their disordered counterparts, presumably require some ‘cognitive gymnastics’ to rationalize pleasure from cruelty.

A similar paradox emerged in the second study. I found that sadism predicted lenient judgments of perpetrators of intentional harm. If not for previous findings, one might actually predict that sadists would be more punitive as compared to others. (After all, is harsh and unreasonable punishment not a form of cruelty?) Indeed, there was a trend for sadists to judge perpetrators of accidental harm as culpable for their actions, and an overall pattern of negative association between culpability scores for accidental harm and intentional harm. Perhaps sadists only enjoy hurting incompetent or interpersonally weak targets, and not other predatory individuals (cf. Fromm, 1973).

In the moral judgment study, sadism associations with negative affect were non-significant in all conditions. This pattern supports the discriminant validity of sadism, as there is no reason to believe that sadism should influence overall negative affect (only positive affect). In the follow-up analyses, however, sadism emerged as a moderator of the association between negative affect and culpability for intentional harm. This pattern suggests that, although sadism does not influence mean levels of negative affect, it does influence how negative affect is used in moral judgments. Specifically, high sadism scores diminished the normal link between negative affect (e.g., anger) and harsh moral judgments. In future research, it would be interesting to examine the temporal development of the misaligned moral compass in everyday sadism. Which aspect of the misalignment comes first? (a) Stronger links between positive affect and culpability, or (b) weaker links between negative affect and culpability? Or do they emerge

together?

One limitation concerns my interpretation of the mediation analyses. Although suggestive, I cannot infer strong causation because I used concurrent measures and collected explicit pleasure ratings. Interpreted cautiously, the significant mediation patterns indicate that self-reported pleasure *statistically explains* sadism associations with the minimization of harm and perpetrator culpability. Interpreted liberally, the significant mediation effects suggest that sadists minimize harm and perpetrator culpability *because* they experience pleasure from harm. Future research is needed to determine whether the causal interpretation is warranted.

In sum, the findings of this research confirm that everyday sadists engage in psychological rationalization by minimizing others' suffering and perpetrator culpability for harm. These two biases may explain how individuals from non-clinical populations avoid guilt and distress when inflicting harm and suffering on others. Barring external punishment for their behavior, everyday sadists may not fully appreciate the negative effects of their behavior. To those with a chronic tendency for cruelty, it is "all in good fun, with no (real) harm done." Sadists are thus primed to reap the benefits of cruelty without internal repercussions.

CHAPTER 6: General Discussion

The present dissertation was directed toward a deeper and more nuanced understanding of the psychology of everyday sadism. Historical conceptualizations of sadism have emphasized sexual and criminal behavior, but there is now extensive evidence that the sadistic impulse is active in less extreme tendencies that are considered more socially acceptable (see Chapter 1). As a personality trait, sadism reflects an enduring tendency to enjoy cruelty in all its forms, as a participant, spectator, or both. My dissertation builds on and extends my earlier work on this topic (Buckels, 2012).

Thus far, personality research on sadism has relied on unidimensional assessment tools like the Short Sadistic Impulse Scale (O'Meara et al., 2011). Yet there is reason to believe that more fine-grained distinctions are possible (Paulhus & Jones, 2015), and that a measure with the ability to distinguish between the enjoyment of physical and verbal acts of cruelty would be useful. To this end, I developed the 18-item Comprehensive Assessment of Sadistic Tendencies (CAST). This self-report questionnaire is a reliable, psychometrically-sound, and multidimensional measure of sadistic personality that indexes enjoyment in cruelty in physical, verbal, and vicarious contexts (see Chapter 2). Using the CAST, I examined sadism's nomological network (Cronbach & Meehl, 1955), and compared it to that of subclinical psychopathy, which may be viewed as sadism's closest conceptual neighbor. As expected, sadism was positively correlated with other dark personality traits and trait aggression. There were many similarities between the trait correlates of sadism and psychopathy, but there were also meaningful differences.

Three dissertation chapters were devoted to behavioral validation and critical exploration of the psychology of sadism. Chapter 3 presented evidence that sadism is highly predictive of

online trolling behavior. Chapter 4 revealed that sadism predicts a pattern of inaccurate and negative interpersonal perceptions on first acquaintance. Chapter 5 presented evidence that subclinical sadists engage in psychological rationalization processes that facilitate sadistic affect. All three chapters presented empirical evidence for the uniqueness of the sadism construct. Together the findings converge on the picture of an everyday sadist who gets along poorly with others, both in real-life and in online contexts, and has a lot of fun doing so. Due to biased and inaccurate perceptions about others, everyday sadists not fully appreciate the trail of harm left in their wake. Even if serious harm occurs, sadists may downplay their culpability. Pleasure is always at the forefront of the sadistic experience.

6.1. Strengths and Limitations of the CAST

The primary contribution of this dissertation is the construction and validation of the CAST measure. With respect to the bandwidth-fidelity tradeoff in personality research (e.g., Briley & Tucker-Drob, 2012; Ones & Viswesvaran, 1996; Paunonen, 1999), the multidimensional CAST provides the best of both worlds. Researchers may choose to use the high-fidelity, narrow facets when predicting a specific criterion; or they may sum all items to generate a broad-bandwidth indicator of sadistic tendencies. The CAST's predictive utility is maximized by allowing researchers a choice between broad and narrow conceptualizations of sadism. As such, it represents an advance in the assessment of sadism.

One limitation of the CAST is that it produces sadism scores that are strongly correlated with those of psychopathy measures, a problem that plagues all current sadism scales. The overall means are also too low, making range restriction and skewed distributions a possible limiting factor. To address these issues, my research collaborators and I are currently pretesting

items for a Short Dark Tetrad (SD4) questionnaire to assess sadism in tandem with the Dark Triad. Preliminary SD4 scale development research indicates that it is possible to reduce sadism-psychopathy correlations (to under $r = .50$) with careful item selection. Further refinement of dark personality measures should be a priority in future research.

A second limitation is that evidence for the unique predictive utilities of the CAST subscales is currently limited. The strongest evidence for discrimination among the subscales was in regard to associations with online trolling and cyberbullying (Chapter 3). I found that online trolling was most robustly associated with vicarious sadism, in comparison to verbal and physical sadism. Vicarious sadism predicted trolling even when controlling for overlap with the other CAST subscales and the Dark Triad. Vicarious sadism was also unrelated to cyberbullying perpetration; while, in contrast, physical and verbal sadism were each positively correlated with cyberbullying. Taken together, the pattern suggests that (a) the unique relationship between sadism and trolling is primarily due to the tendencies assessed by the CAST vicarious subscale, and (b) vicarious sadism is most closely linked to playful forms of cyberdeviance (trolling) than to aggressive forms of cyberdeviance (cyberbullying); the latter is more closely associated with direct physical/verbal sadism and psychopathy.

Additional evidence of discrimination among the CAST subscales is necessary to justify the multidimensional view of sadism. At the same time, the fact that the CAST facets often predict identical outcomes is actually reassuring. Despite varied content spanning different domains, sadism emerges as a unitary construct with a consistent pattern of associations, regardless of the particular CAST subscale examined.

6.2. Implications for the Dark Tetrad Model

The first impressions research described in Chapter 4 represents some of the strongest and most convincing evidence for the construct validity of everyday sadism. It is notable for two reasons. First, effects of sadism emerged in real-life, naturalistic encounters among regular university students. In other words, scores on self-report measures of sadism converged with external outcomes in a normal population. Second, differences emerged between the effects of sadism and the Dark Triad even in the univariate associations. For instance, target sadism was negatively associated with normative and distinctive accuracy (suggesting that sadistic targets are viewed less positively and less in line with their own unique traits); yet despite strong overlap with sadism, target psychopathy did not emerge as a significant predictor of accuracy. Thus, the CAST captures behavioral tendencies that are, (a) meaningful for interpersonal perception, and (b) not well-represented by psychopathy measures. And while target levels of Machiavellianism were associated with similar outcomes to those of sadism, only sadism emerged as a significant predictor of normative accuracy in the partial associations. The results suggest that the inclusion of sadism in the dark personality measures was critical to revealing effects on interpersonal perceptions.

Throughout this dissertation, I have presented results from multiple regression analyses as evidence of sadism's incremental validity, above and beyond overlap with the Dark Triad. I have argued that significant partial associations when controlling for overlap with the Dark Triad indicates that sadism contributes unique variance to the prediction of important outcomes. As such, sadism deserves a place in the taxonomy of dark dispositions. Yet some critics have pointed to potential problems with the interpretation of partial correlations. As argued by Sleep, Lynam, Hyatt, and Miller (2017), partialing may substantially alter the nature of the predictor

variables. For example, if the core of dark personality traits is callousness, removing overlap between sadism and the Dark Triad changes the sadism variable to something akin to “sadism without callousness.” It is unclear how to interpret that new variable. Additionally, because the Dark Tetrad variables are strongly correlated, there is the potential for collinearity among the predictors to interfere with the estimation of regression coefficients. Of course, this critique is controversial to say the least. It is tantamount to indicting the value of regression analyses central to a large fraction of personality research.

Nonetheless, results from multiple regression equations are useful evidence that the sadism construct is adding predictive value to the dark personality domain. Taken together with the differences that emerged at the univariate level, I feel confident that the Dark Tetrad model is viable and that sadistic personality is a dark personality trait in its own right, worthy of further research attention.

6.3. Directions for Research on Sadism

Sadistic behaviors in the laboratory. More laboratory experiments are necessary to quell concerns that high scorers of sadism measures are not simply reporting a propensity for cruelty, but also demonstrate a propensity for cruelty in real-life. Behavioral measures that permit assessment of different types of aggression (e.g., proactive/premeditated and reactive/impulsive aggression) may assist in differentiating sadism from other dark traits. Sadism should be uniquely associated with proactive aggression (but not reactive or hostile aggression) due to the intrinsic rewards experienced by sadists (cf. Buckels et al., 2013). Note that proactive aggression loosely corresponds to the concept of predatory aggression (or quiet biting attack) in animal research, which was discussed previously in relation to evolutionary

arguments for the rewards of cruelty.

Discreet assessment of sadistic tendencies, such as implicit measures of attitudes and affect (Međedović, 2016) and physiological indicators of pleasure and arousal, may be especially helpful in providing validity evidence for sadism self-reports. In particular, experimental techniques to disentangle aesthetic enjoyment of stimuli from their reward value or incentive salience (Sprengelmeyer, Lewis, Hahn, & Perrett, 2013) may assist in assessing appetitive motivation in sadism. Studies employing incentive salience measures may reveal that sadistic tendencies are best conceptualized as the chronic incentive salience of cues of physical harm (e.g., blood and gore) or emotional harm (e.g., facial expressions of distress and sadness) in others.

Motivational dynamics. Previous research suggests that unconscious self-enhancement and self-protection motives drive human behavior: People are motivated to retain a positive self-view and defend against threats to that positive self-view (e.g., Alicke & Sedikides, 2009, 2011; Paulhus & Buckels, 2012). The current research revealed unique motivational dynamics present in the psychology of everyday sadism. I found that sadists are primed to be cruel to others because they experience pleasure from cruelty; sadists also rationalize cruelty because it is pleasurable. The rationalization processes revealed in this research may, theoretically, operate in service of self-protection motives. Specifically, a psychological bias to minimize others' suffering and culpability for harm may protect everyday sadists from developing negative self-views.

The relations between everyday sadism and pain perception are theoretically meaningful and arguably warrant further investigation. Future research should attempt to replicate the sadism effects on pain perception, and further explore their role in supporting cruel behaviors.

The development of a large and validated photo stimuli set would be beneficial for research on this topic. Alternatively, stimuli may exist in the neuroscience research literature that could be appropriated for follow-up studies. An open question is whether sadists also minimize *their own* pain and suffering? It is also possible that sadists minimize the suffering of certain targets more than others. The boundary conditions for the pain perception bias should be explored in detail.

Beyond a tendency to minimize harm and moral culpability, what other motivational processes are at work in everyday sadism? Burriss and Leitch (2016, 2017) argue that sadistic tendencies are best explained by a combination of dispositional sensitivity to disrespect and a tendency to ruminate in anger. From their perspective, sadistic behavior is displaced aggression that resolves the negativity of previous insults and slights. In support of this view, Burriss and Leitch (2017) documented evidence that sadism is strongly positively correlated with disrespect sensitivity and ruminative anger. The pattern suggests that the motivational underpinnings of sadism may be similar to that of narcissism, as narcissists possess prickly egos and aggress when provoked by insults (e.g., Jones & Paulhus, 2010). It is therefore curious that sadism is least strongly correlated with narcissism, as compared to other dark traits of Machiavellianism and psychopathy (see Chapter 2). Burriss and Leitch's view of sadism as reactive to ego-threats also contrasts with the self-perceptions of online trolls: These individuals view themselves as immune to insults and provocation—at least in online contexts. Future research might explore similarities and differences between the ego sensitivities present in narcissism and sadism.

Research employing the Thematic Apperception Test (TAT)(Murray, 1943) may prove fruitful for illuminating the unconscious motives present in sadism. There are validated scoring algorithms to index the strength of unconscious motives—such need for power and need for affiliation—in people's responses to the ambiguous stimuli in the TAT. It may also be possible

to analyze writing samples for evidence of unconscious motives using software such as LIWC (Pennebaker, Boyd, Jordan, & Blackburn, 2015). Research employing these methods may reveal a unique motivational profile for sadism, as compared to other dark personality traits.

Properties of the affective experience. The type and timing of sadistic pleasure is an important issue that should be explored in future research. Do sadists experience pleasure before, during, or after they engage in cruelty? Recently, Gard, Gard, Kring, and John (2006) developed a self-report measure to assess dispositional tendencies relevant to anticipatory pleasure (e.g., “*When something exciting is coming up in my life, I really look forward to it*”) and consummatory pleasure (e.g., “*The smell of freshly cut grass is enjoyable to me*”). Although the two types of pleasure are interconnected, they are also distinguishable from each other: Some people experience a stronger anticipatory response to rewards, while others display stronger consummatory response. Between these two aspects of reward responsiveness, anticipatory pleasure is most closely linked to appetitive motivation—for instance, trait anticipatory pleasure predicts effort to attain monetary rewards in behavioral experiments, while consummatory pleasure does not (Geaney, Treadway, & Smillie, 2015; Smillie, Geaney, Duke, Pickering, & Cooper, 2014). It may be possible to develop a similar measure in the context of sadistic pleasure.

Certain types of pleasure from cruelty may be more (or less) typical of sadistic tendencies, as compared to other dark personality traits. Given its theoretical focus on an appetitive desire for cruelty (Buckels et al., 2013), sadism may be uniquely predictive of anticipatory pleasure, while consummatory pleasure may be common to all dark personality traits. At the same time, the prediction that sadism is positively associated with anticipatory pleasure from cruelty may conflict with the anger-rumination interpretation of sadism, as trait

rumination is linked to diminished anticipatory responses to reward (anhedonia) at the neural level (Kocsel et al., 2017). Presumably, there would be differences in the types of rewards that are appealing to sadists, as compared to non-sadists. Future research could compare and contrast Dark Tetrad associations with anticipatory and consummatory pleasure with respect to both prosocial and antisocial outcomes.

Additional aspects of the pleasure experience could also be examined in the context of sadism, such as savoring (J. V. Wood, Heimpel, & Michela, 2003), and pleasure from memories and stimuli associated with past harm. Past research has demonstrated evidence for the so-called contagion heuristic, whereby individuals avoid objects associated with undesirable people (e.g., Adolf Hitler's shirt) for fear of contamination (Nemeroff & Rozin, 2000). These tendencies may be diminished, or even reversed, among sadists because they admire such figures of historical cruelty.

BSDM and sadistic personality. The development of the CAST measure of everyday sadism may help resolve the debate over the sadistic or theatric nature of BDSM practices. Although the current version of the DSM makes it clear that individuals with sadomasochistic fetishes are qualitatively different from those with a sexual sadism disorder, it is an open question as to whether or not sadomasochistic fetishes are linked to sadistic traits in the normal range of personality. Some researchers (e.g., Cross & Matheson, 2006) maintain that BDSM preferences have nothing to do with antisocial tendencies, and that the behaviors simply represent ritualized roleplay: A game for the sexually adventurous to partake in for mutual pleasure. In other words, BDSM sadists enjoy humiliating and inflicting pain on their consenting partners in the bedroom, but they would not enjoy being cruel in other contexts. That claim could be put to the test by examining the associations between BDSM fetishes and sadistic

personality in all its facets (i.e., everyday sadism, as assessed by the CAST). From a personality perspective, sadistic tendencies in one domain (such as sexual preferences) should be positively correlated with sadistic tendencies in other domains. Indeed, as I have shown, sadistic tendencies are positively correlated across physical, verbal, and vicarious contexts for cruelty. Thus sadistic fetishes may be more indicative of broader antisocial tendencies than BDSM practitioners would care to admit (cf. Connolly, 2008, for evidence of a positive link between BDSM and narcissistic traits).

Moderators of sadistic tendencies. Future research could also examine the environmental conditions that facilitate (or hinder) the expression of sadistic tendencies. It is an unfortunate fact that group norms and traditions can sometimes legitimize and normalize cruelty. In fraternities and sororities, for example, sadistic aggression may be directed toward newcomers under the guise of hazing (Burris & Leitch, 2016). Social endorsement by one's peers is likely to release sadistic behavior in those with a proclivity for cruelty. The broad societal sanctions against cruelty can be overridden by ingroup norms.

Likewise, rigid social hierarchies may promote the expression of sadistic tendencies because social subordinates are 'easy pickings' to those in power. As such, sadism may be especially problematic in social-power professions such as the military and police. These professions may appeal to everyday sadists looking for opportunities to aggress without penalty. Moreover, there is empirical evidence for a connection between sadism and fascination with weapons (Gonzalez & Greitemeyer, 2018; Hagger-Johnson & Egan, 2010). Once situated in these organizations, those with sadistic tendencies may take advantage of their position, and indulge their sadistic appetites with cruelty toward subordinates and the general public. Frequent high-profile cases suggest that current selection tools and monitoring may be ineffective at

weeding out problem individuals in these professions. I sincerely hope that such organizations would consider use of the CAST to cull sadistic applicants before they impair the efficacy and reputation of their essential service to society.

6.4. Conclusion

In conclusion, my research suggests that sadistic personality is a viable trait construct that extends to everyday behavior, and is best assessed with facets covering enjoyment of physical violence, verbal aggression, and violent media consumption. The fact that cruelty is chronically enjoyable to some, but not to others, is evidence of individual differences in sadistic tendencies. I have presented evidence that my new self-report measure, the CAST, predicts a suite of undesirable tendencies that are not considered antisocial enough to warrant intervention. Nonetheless, such tendencies loom large in Internet behavior and can even be detected in brief social interactions. They are maintained psychologically by defensive reasoning about harm and suffering. This dissertation is a modest step in confirming the surprisingly broad impact of sadistic tendencies in everyday life.

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Appendix A: Self-report Measures

1. Comprehensive Assessment of Sadistic Tendencies (CAST)

Physical sadism

1. I enjoy physically hurting people.
2. I enjoy tormenting people.
3. I have the right to push certain people around.
4. I have dominated others using fear.
5. I enjoy hurting my partner during sex (or pretending to).

Verbal sadism

1. I was purposely mean to some people in high school.
2. I enjoy making jokes at the expense of others.
3. I have purposely tricked someone and laughed when they looked foolish.
4. When making fun of someone, it is especially amusing if they realize what I'm doing.
5. Perhaps I shouldn't have, but I never got tired of mocking certain classmates.
6. I would never purposely humiliate someone. (R)

Vicarious Sadism

1. In video games, I like the realistic blood spurts.
2. I enjoy watching cage fighting (or MMA), where there is no escape.
3. I love to watch YouTube clips of people fighting.
4. I sometimes replay my favorite scenes from gory slasher films.
5. There's way too much violence in sports. (R)
6. I enjoy playing the villain in games and torturing other characters.
7. In professional car-racing, it's the accidents that I enjoy most.

2. Other Sadism Measures

Assessment of Sadistic Personality (Plouffe et al., 2017)

1. I have made fun of people so that they know I am in control.
2. I never get tired of pushing people around.
3. I would hurt somebody if it meant that I would be in control.
4. When I mock someone, it is funny to see them get upset.
5. Being mean to others can be exciting.
6. I get pleasure from mocking people in front of their friends.
7. Watching people get into fights excites me.
8. I think about hurting people who irritate me.
9. I would not purposely hurt anybody, even if I didn't like them. (R)

Short Sadistic Impulse Scale (O'Meara et al., 2011)

1. Hurting people would be exciting
2. I have hurt people because I could.
3. I wouldn't intentionally hurt anyone. (R)
4. I have hurt people for my own enjoyment.
5. I have humiliated others to keep them in line.
6. I would enjoy hurting someone physically, sexually or emotionally.
7. I enjoy seeing people hurt.
8. I have fantasies which involve hurting people.
9. Sometimes I get so angry I want to hurt people.
10. People would enjoy hurting others if they gave it a go.

Varieties of Sadistic Tendencies (Paulhus & Jones, 2015)

Vicarious sadism

1. In video games, I like the realistic blood spurts.
2. I sometimes replay my favorite scenes from gory slasher films.
3. I enjoy watching cage fighting (or MMA), where there is no escape.
4. I sometimes look away in horror movies. (R)
5. In car-racing, it's the accidents that I enjoy most.
6. There's way too much violence in sports. (R)
7. I love the YouTube clips of people fighting.

Direct Sadism

1. I enjoy physically hurting people.
2. I was purposely cruel to someone in high school.
3. I would never purposely humiliate someone. (R)
4. I enjoy hurting my partner during sex (or pretending to).
5. I dominate others using fear.
6. I enjoy seeing people suffer.
7. I enjoy mocking losers to their face.
8. I never said mean things to my parents. (R)
9. I enjoy tormenting animals - especially the nasty ones.

3. Dark Personality Measures

Aggression Questionnaire (Buss & Perry, 1992)

*Items with asterisk are included in the short-form version administered in Chapter 5.

Physical aggression

1. *Once in a while I can't control the urge to strike another person.
2. *Given enough provocation, I may hit another person.
3. *If somebody hits me, I hit back.
4. *I get into fights a little more than the average person.
5. *If I have to resort to violence to protect my rights, I will.
6. *There are people who pushed me so far that we came to blows.
7. *I can think of no good reason for ever hitting a person. (R)
8. *I have threatened people I know.
9. *I have become so mad that I have broken things.

Verbal aggression

1. *I tell my friends openly when I disagree with them.
2. I often find myself disagreeing with people.
3. *When people annoy me, I may tell them what I think of them.
4. I can't help getting into arguments when people disagree with me.
5. *My friends say that I'm somewhat argumentative.

Anger

1. I flare up quickly but get over it quickly.
2. When frustrated, I let my irritation show.
3. I sometimes feel like a powder keg ready to explode.
4. *I am an even-tempered person. (R)
5. Some of my friends think I'm a hothead.
6. *Sometimes I fly off the handle for no good reason.
7. *I have trouble controlling my temper.

Hostility

1. I am sometimes eaten up with jealousy.
2. At times I feel I have gotten a raw deal out of life.
3. *Other people always seem to get the breaks.
4. I wonder why sometimes I feel so bitter about things.
5. I know that "friends" talk about me behind my back.
6. I am suspicious of overly friendly strangers.
7. *I sometimes feel that people are laughing at me behind me back.
8. *When people are especially nice, I wonder what they want.

Callous-Unemotional Traits (Frick & Ray, 2015), short-form

1. I feel bad or guilty when I do something wrong. (R)
2. I do not care about being on time.
3. I am concerned about the feelings of others. (R)
4. I do not care about doing things well.
5. I always try my best. (R)
6. I apologize to persons I hurt. (R)
7. I try not to hurt others' feelings. (R)
8. I work hard on everything I do. (R)
9. I do things to make others feel good. (R)
10. I care about how well I do at school or work. (R)

Self-report Psychopathy Scale, short-form (SRP-9)

1. I enjoy doing wild things.
2. People sometimes say that I'm cold-hearted.
3. I admit that I often mouth off without thinking.
4. It's fun to see how far you can push people before they get upset.
5. A lot of people are suckers and can easily be fooled.
6. I can talk people into anything.
7. I have tricked someone into giving me money
8. I've often done something dangerous just for the thrill of it.
9. I don't enjoy taking risks. (R)

Short Dark Triad Questionnaire (Jones & Paulhus, 2014)

SD3 Psychopathy

1. I like to get revenge on authorities.
2. I avoid dangerous situations. (R)
3. Payback needs to be quick and nasty.
4. People often say I'm out of control.
5. It's true that I can be mean to others.
6. People who mess with me always regret it.
7. I have never gotten into trouble with the law. (R)
8. I'll say anything to get what I want.
9. I enjoy having sex with people I hardly know.

SD3 Machiavellianism

1. It's not wise to tell your secrets.
2. I like to use clever manipulation to get my way.
3. Whatever it takes, you must get the important people on your side.
4. Avoid direct conflict with others because they may be useful in the future.
5. It's wise to keep track of information that you can use against people later.
6. You should wait for the right time to get back at people.
7. There are things you should hide from other people because they don't need to know.
8. Make sure your plans benefit you, not others.
9. Most people can be manipulated.

SD3 Narcissism

1. People see me as a natural leader.
2. I hate being the center of attention. (R)
3. Many group activities tend to be dull without me.
4. I know that I am special because everyone keeps telling me so.
5. I like to get acquainted with important people.
6. I feel embarrassed if someone compliments me.
7. I have been compared to famous people.
8. I am an average person. (R)
9. I insist on getting the respect I deserve.

Triarchic Psychopathy Measure (Patrick, 2010; Patrick & Drislane, 2015)

1. I'm optimistic more often than not. (R)
2. How other people feel is important to me. (R)
3. I often act on immediate needs.
4. I have no strong desire to parachute out of an airplane. (R)

5. I've often missed things I promised to attend.
6. I would enjoy being in a high-speed chase.
7. I am well-equipped to deal with stress.
8. I don't mind if someone I dislike gets hurt.
9. My impulsive decisions have caused problems with loved ones.
10. I get scared easily. (R)
11. I sympathize with others' problems. (R)
12. I have missed work without bothering to call in.
13. I'm a born leader.
14. I enjoy a good physical fight.
15. I jump into things without thinking.
16. I have a hard time making things turn out the way I want. (R)
17. I return insults.
18. I've gotten in trouble because I missed too much school.
19. I have a knack for influencing people.
20. It doesn't bother me to see someone else in pain.
21. I have good control over myself. (R)
22. I function well in new situations, even when unprepared.
23. I enjoy pushing people around sometimes.
24. I have taken money from someone's purse or wallet without asking.
25. I don't think of myself as talented. (R)
26. I taunt people just to stir things up.
27. People often abuse my trust.
28. I'm afraid of far fewer things than most people.
29. I don't see any point in worrying if what I do hurts someone else.
30. I keep appointments I make. (R)
31. I often get bored quickly and lose interest.
32. I can get over things that would traumatize others.
33. I am sensitive to the feelings of others. (R)
34. I have conned people to get money from them.
35. It worries me to go into an unfamiliar situation without knowing all the details. (R)
36. I don't have much sympathy for people.
37. I get in trouble for not considering the consequences of my actions.
38. I can convince people to do what I want.
39. For me, honesty really is the best policy. (R)
40. I've injured people to see them in pain.
41. I don't like to take the lead in groups. (R)
42. I sometimes insult people on purpose to get a reaction from them.

43. I have taken items from a store without paying for them.
44. It's easy to embarrass me. (R)
45. Things are more fun if a little danger is involved.
46. I have a hard time waiting patiently for things I want.
47. I stay away from physical danger as much as I can. (R)
48. I don't care much if what I do hurts others.
49. I have lost a friend because of irresponsible things I've done.
50. I don't stack up well against most others. (R)
51. Others have told me they are concerned about my lack of self-control.
52. It's easy for me to relate to other people's emotions. (R)
53. I never worry about making a fool of myself with others.
54. It doesn't bother me when people around me are hurting.
55. I have had problems at work because I was irresponsible.
56. I'm not very good at influencing people. (R)

4. Online Trolling Measures

Global Assessment of Internet Trolling (GAIT)

1. I have sent people to shock websites for the lulz.
2. I like to troll people in forums or the comments section of websites
3. I enjoy griefing other players in multiplayer games.
4. The more beautiful and pure a thing is, the more satisfying it is to corrupt.

iTroll Questionnaire

1. I consider myself to be a troll.
2. I enjoy watching other people get trolled.
3. Trolling behavior makes me angry. (R)
4. Trolls share my perspective on life.
5. Trolling behavior is both cruel and unnecessary. (R)
6. My online personality is typical of a troll.
7. I enjoy trolling other people.
8. I dislike trolls. (R)
9. Trolling behavior should be punished. (R)
10. I share the political views of online trolls.
11. We need more safeguards to prevent online trolling. (R)
12. I identify with trolling culture.

5. Empathy Measures

Basic Empathy Scale (BES) - Disconnection (Carré et al., 2013)

1. My friends' emotions don't affect me much.
2. I don't become sad when I see other people crying.
3. Other peoples' feeling don't bother me at all.
4. Seeing a person who has been angered has no effect on my feelings.
5. I am not usually aware of my friends' feelings.
6. My friend's unhappiness doesn't make me feel anything.

Interpersonal Reactivity Index (Davis, 1983)

Empathic concern

1. I often have tender, concerned feelings for people less fortunate than me.
2. Sometimes I don't feel very sorry for other people when they are having problems. (R)
3. When I see someone being taken advantage of, I feel kind of protective towards them.
4. Other peoples' misfortunes do not usually disturb me a great deal. (R)
5. When I see someone being treated unfairly, I sometimes don't feel very much pity for them. (R)
6. I am often quite touched by things that I see happen.
7. I would describe myself as a pretty soft-hearted person.

Perspective-taking

1. Before criticizing somebody, I try to imagine how I would feel if I were in their place.
2. When I'm upset at someone, I usually try to "put myself in his shoes" for awhile.
3. I try to look at everybody's side of a disagreement when I make a decision.
4. I sometimes find it difficult to see things from the "other guy's" point of view. (R)
5. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments. (R)
6. I believe that there are two sides to every question and I try to look at them both.
7. I sometimes try to understand my friends better by imagining how things look from their perspective.

Scale of Ethnocultural Empathy – Short Form (Wang et al., 2003)

1. I feel annoyed when people do not speak standard English (R).
2. I do not understand why people want to keep their indigenous racial or ethnic cultural traditions instead of trying to fit into the mainstream. (R)
3. I don't care if people make racist statements against other racial or ethnic groups. (R)
4. It is difficult for me to put myself in the shoes of someone who is racially and/or ethnically different from me. (R)
5. It is difficult for me to relate to stories in which people talk about racial or ethnic discrimination they experience in their day to day lives. (R)
6. I am not likely to participate in events that promote equal rights for people of all racial and ethnic backgrounds. (R)
7. It is easy for me to understand what it would feel like to be a person of another racial or ethnic background other than my own.
8. I share the anger of those who face injustice because of their racial and ethnic backgrounds.
9. When I hear people make racist jokes, I tell them I am offended even though they are not referring to my racial or ethnic group.
10. When other people struggle with racial or ethnic oppression, I share their frustration.
11. I can see how other racial or ethnic groups are systematically oppressed in our society.
12. I am aware of how society differentially treats racial or ethnic groups other than my own.

6. Motivation-relevant Measures

Agentic and Communal Goals Questionnaire* (Trapnell, 2013)

Unpublished Measure. Alphas are from UW Student Sample A ($N = 1134$)

Achievement ($\alpha = .73$)

1. To achieve recognition and renown in my work.
2. To rise to the top, to be the best.
3. To be very successful.
4. To be outstanding at what I do, to excel.

Aesthetics ($\alpha = .88$)

1. To promote and support artistic activities and the fine arts.
2. To develop my knowledge or ability in a creative art.
3. To create good artistic works (art, writing, music, etc).

Autonomy ($\alpha = .72$)

1. To be uniquely myself, authentic, true to myself.
2. To choose what I do, instead of being pushed along by life.
3. To do my own thing, to pursue what I wish to pursue.
4. To act and decide freely, based on my what I want.

5. To feel that I am the cause of my own actions, rather than feeling that external forces or pressures are the cause of my actions.

Care ($\alpha = .68$)

1. To help others in need.
2. To work to promote the welfare of others.
3. To make sacrifices for the sake of others happiness.

Closeness ($\alpha = .85$)

1. To share my life with someone I love.
2. To have committed, intimate relationships.
3. To feel that there are people who really love me, and whom I love.
4. To have a satisfying marriage/relationship.

Conformity ($\alpha = .82$)

1. To adapt to the proper expectations of society.
2. To respect the rules and customs of society.
3. To have a stable, conventional lifestyle.
4. To fit in responsibly to my society.
5. To live up to the expectations of my society.

Compassion ($\alpha = .74$)

1. To take part in volunteer community and public service.
2. To work for the betterment of society.
3. To work to make the world a better place.

Eroticism ($\alpha = .86$)

1. To experience a great deal of sensual pleasure.
2. To have a really good sex life.
3. To have strong erotic passion in my life.

Family ($\alpha = .78$)

1. To have children.
2. To honour and respect my family and my group.
3. To ensure the health, safety, and security of my family.
4. To have harmonious relationships with my parents and siblings.
5. To maintain close family ties.

Fame ($\alpha = .79$)

1. To have my name known by many people.
2. To be famous.
3. To be admired by lots of different people.

Health ($\alpha = .85$)

1. To protect my physical health, to maintain healthy habits.
2. To be physically healthy.
3. To feel good about my physical fitness.

Hedonism ($\alpha = .77$)

1. To have fun.
2. To have many new and different experiences.

3. To seek adventure.
4. To have an exciting lifestyle.

Image ($\alpha = .79$)

1. To have people comment often about how attractive I look.
2. To achieve the look I've been after.
3. To have an image that others find appealing.

Knowledge ($\alpha = .78$)

1. To grow and learn new things.
2. To gain increasing insight in to why I do the things I do.
3. To deepen my understanding of life.
4. To find real purpose and meaning in life.

Morality ($\alpha = .67$)

1. To live my life with genuine integrity.
2. To lead an ethical, principled life.
3. To be a moral human being.

Power ($\alpha = .78$)

1. To have executive authority over others.
2. To have status and power.
3. To be important, to have influence.
4. To triumph over my rivals.

Religion ($\alpha = .89$)

1. To encourage submission to one God.
2. To loyally obey and defend religious tradition.
3. To obediently serve the will of God.
4. To uphold and defend traditional values.

Safety ($\alpha = .63$)

1. To be able to live in relative safety and security.
2. To feel that our nation, our citizens, and our way of life are well-protected and safe.
3. To have few threats to my physical safety.
4. To have a life that feels safe and secure.

Spirituality ($\alpha = .92$)

1. To discover and explore my own spirituality.
2. To develop my inner, individual spirituality.
3. To constantly spiritually grow, develop, and change.
4. To devote attention to my spiritual life.

Universalism ($\alpha = .76$)

1. To promote equality and social justice.
2. To conserve and protect nature and the environment.
3. To promote cultural diversity in society.
4. To improve something for future generations.

Wealth ($\alpha = .86$)

1. To be a very wealthy person.
2. To be financially successful.
3. To be rich.

Behavioral Inhibition and Behavioral Activation Scales (BIS/BAS) (Carver & White, 1994)

BIS

1. Even if something bad is about to happen to me, I rarely experience fear or nervousness.
2. Criticism or scolding hurts me quite a bit.
3. I feel pretty worried or upset when I think or know somebody is angry at me.
4. If I think something unpleasant is going to happen I usually get pretty "worked up."
5. I feel worried when I think I have done poorly at something important.
6. I have very few fears compared to my friends.
7. I worry about making mistakes.

BAS drive

1. I go out of my way to get things I want.
2. When I want something I usually go all-out to get it.
3. If I see a chance to get something I want I move on it right away.
4. When I go after something I use a "no holds barred" approach.

BAS reward responsiveness

1. When I'm doing well at something I love to keep at it.
2. When I get something I want, I feel excited and energized.
3. When I see an opportunity for something I like I get excited right away.
4. When good things happen to me, it affects me strongly.
5. It would excite me to win a contest.

BAS fun-seeking

1. I'm always willing to try something new if I think it will be fun.
2. I will often do things for no other reason than that they might be fun.
3. I often act on the spur of the moment.
4. I crave excitement and new sensations.

Portrait of Life Values Questionnaire (Schwartz et al., 2012)

Power values

1. That people do what s/he says they should.
2. To have the power to make people do what s/he wants.
3. To be the one who tells others what to do.

Wealth values

1. To have the money to protect her/his interests.
2. To be wealthy.
3. To own expensive things that show her/his wealth.

Conformity values

1. Never to violate rules or regulations.
2. To follow rules even when no-one is watching.
3. To obey all the laws.

Regulatory Focus (Higgins, 1998; Higgins et al., 2001)

Promotion

4. Compared to most people, are you typically unable to get what you want out of life? (R)
5. How often have you accomplished things that got you "psyched" to work even harder?"
6. Do you often do well at different things that you try?
7. When it comes to achieving things that are important to me, I find that I don't perform as well as I ideally would like to do. (R)
8. I feel like I have made progress toward being successful in my life.
9. I have found very few hobbies or activities in my life that capture my interest or motivate me to put effort into them. (R)

Prevention

1. Growing up, would you ever "cross the line" by doing things that your parents would not tolerate? (R)
2. How often did you obey rules and regulations that were established by your parents?
3. Did you get on your parents' nerves often when you were growing up? (R)
4. Growing up, did you ever act in ways that your parents thought were objectionable? (R)
5. Not being careful enough has gotten me into trouble at times. (R)

Regulatory Mode (Kruglanski et al., 2000)

Locomotion

1. I don't mind doing things even if they involve extra effort.
2. I am a "workaholic."
3. I feel excited just before I am about to reach a goal.
4. I enjoy actively doing things, more than just watching and observing.
5. I am a "doer."
6. When I finish one project, I often wait a while before getting started on a new one. (R)
7. When I decide to do something, I can't wait to get started.
8. By the time I accomplish a task, I already have the next one in mind.
9. I am a "low energy" person. (R)
10. Most of the time my thoughts are occupied with the task that I wish to accomplish.
11. When I get started on something, I usually persevere until I finish.
12. I am a "go-getter."

Assessment

1. I never evaluate my social interactions with others after they occur. (R)
2. I spend a great deal of time taking inventory of my positive and negative characteristics.
3. I like evaluating other people's plans.
4. I often compare myself with other people.
5. I don't spend much time thinking about ways others could improve themselves. (R)
6. I often critique work done by myself and others.
7. I often feel that I am being evaluated by others.
8. I am a critical person.
9. I am very self-critical and self-conscious about what I am saying.
10. I often think that other people's choices and decisions are wrong.
11. I rarely analyze the conversations I have had with others after they occur. (R)
12. When I meet a new person, I usually evaluate how well he or she is doing on various dimensions (e.g., looks, achievements, social status, clothes).

Appendix B: SAM Analytic Strategy

I used the *Social Accuracy Model* (SAM; Biesanz, 2010) to assess the accuracy of impressions and estimate individual differences in perceptive and expressive accuracy (for another example of SAM and more details on the model see Rogers & Biesanz, 2015).

The specific analytical model is represented by Equation (1).

$$Y_{ijk} = \gamma 0_{ij} + \gamma 1_{ij} V_{jk} + \gamma 2_{ij} \bar{V}_k + e_{ijk} \quad (1)$$

Here Y_{ijk} is perceiver i 's rating (impression) of target j on item k .

V_{jk} is target j 's validity measure on item k , and \bar{V}_k is the average validity measure on item k .

V_{jk} is centered within item (i.e., $E(V_{jk}) = 0$ across targets for a given trait). The validity measure is an average of all available personality assessments (self, peer, and parent) for that item.

The two regression slope coefficients in this model are of primary interest and represent distinctive and normative accuracy, respectively. Specifically, for each dyad,

$\gamma 1_{ij}$ is the level of distinctive accuracy for perceiver i with target j . This estimates the relationship between how target j is different from the average person on the validity measures across a series of traits and perceiver i 's impressions of the target on those same traits. Distinctive accuracy assesses the perceiver's ability to discern the unique characteristics of the other individual.

$\gamma_{2_{ij}}$ is the level of normative accuracy for perceiver i with target j . This estimates the relationship between the average target on the validity measures across a series of traits and the perceiver's impressions of the target on those same traits. Normative accuracy is highly related to the positivity of impressions as the average level of each trait (\bar{V}_k) correlates .80 – .90 with the social desirability of that trait (Rogers & Biesanz, 2015). Normative accuracy provides a reliable estimate of evaluative tendencies.

As SAM represents a crossed-random effects model, each of the dyadic coefficients in Equation (1) is decomposed into main effects for perceiver, target, and the latent residual dyadic component as illustrated by the unconditional SAM model in Equation (2).

$$\begin{aligned}
 \gamma_{0_{ij}} &= \gamma_{00} + u_{0i} + u_{0j} + u_{0_{ij}} \\
 \gamma_{1_{ij}} &= \gamma_{10} + u_{1i} + u_{1j} + u_{1_{ij}} \\
 \gamma_{2_{ij}} &= \gamma_{20} + u_{2i} + u_{2j} + u_{2_{ij}}
 \end{aligned}
 \tag{2}$$

The random effects in Equation (2) are estimated for perceiver (u_i), target (u_j), and residual dyadic components (u_{ij}). These random effect estimates are presented as summary statistics in the model with ($\hat{\tau}$) as the estimated standard deviation of u . The random effects have mean 0 and the intercepts ($\hat{\gamma}$) represent the average estimated effect across perceivers and targets.

Of primary interest here are the estimates of how scores on measures of sadism, psychopathy, narcissism, and Machiavellianism are related to distinctive and normative accuracy. For instance, to examine the relationship between perceiver sadism and the accuracy of interpersonal

perceptions, this measure is introduced in Equation (2) as a moderator, as illustrated in Equation (3)

$$\begin{aligned}\gamma_{0ij} &= \gamma_{00} + \gamma_{01} \text{Sadism}_i + u_{0i} + u_{0j} + u_{0ij} \\ \gamma_{1ij} &= \gamma_{10} + \gamma_{11} \text{Sadism}_i + u_{1i} + u_{1j} + u_{1ij} \\ \gamma_{2ij} &= \gamma_{20} + \gamma_{21} \text{Sadism}_i + u_{2i} + u_{2j} + u_{2ij}\end{aligned}\tag{3}$$

Here γ_{11} represents the relationship between sadism for perceiver i and distinctive accuracy (e.g., do perceivers scoring higher on sadism generally form more or less distinctively accurate impressions of others?). Similarly γ_{21} represents the relationship between perceiver sadism and normative accuracy (e.g., do perceivers scoring higher on sadism generally form more or less positive impressions of others?). Equation (3) is examined for each of the Dark Tetrad traits, separately, for both targets and perceivers, to provide estimates of the univariate relationships for each of the traits. Effect size estimates, following Gelman (2008), were estimated in the standardized mean difference metric (d) and were computed as the predicted change in the respective random effect slope (e.g., perceiver distinctive accuracy) for a 2 SD change in the continuous predictor (e.g., perceiver sadism). All four Dark Tetrad traits, for both targets and perceivers, were also entered simultaneously in Equation (3) to estimate the partial relationships for each of these dark traits.

To examine the relationship between scores on the Dark Tetrad traits and perceiver dyadic evaluations, the following multilevel model (Equation 4) was estimated separately for each evaluation.

$$DE_{ij} = \gamma_0 + u_i + u_j + e_{ij} \quad (4)$$

Here DE_{ij} represents perceiver i 's dyadic evaluation of target j , and u_i and u_j the perceiver and target random effects, respectively. Perceiver and target scores on the Dark Tetrad traits were then entered into Equation (4) individually to estimate the univariate relationships for both perceiver and target Dark Tetrad traits. Perceiver and target scores, respectively, on the Dark Tetrad traits were also entered simultaneously into Equation (4) to estimate the partial relationships for both perceiver and target Dark Tetrad traits. Approximate standardized effect size estimates (β) were provided by standardizing the Dark Tetrad trait across participants and the evaluations across dyadic impressions.

Appendix C: Pain Perception Study Stimuli



Appendix D: Moral Judgment Scenarios

Intentional Harm

1. Mike is taking a sculpture class. He is assigned to work with a partner to weld together pieces of metal. Mike intends to burn his partner's hand. Mike thinks that if he welds a piece of metal that his partner is holding, the heat will travel down the metal and burn his partner's hand. Mike welds the metal which burns his partner's hand.
2. Leo is eating at a diner when a man challenges him to a game of darts. The man throws his darts well and gets a very high score. Leo intends to hit the man's hand with a dart and pierce it. Leo thinks that the man is about to reach toward the dart board to collect his darts, and Leo thinks that if he throws his dart he will hit the man's hand and pierce it. Leo throws his dart, the man reaches out, and the dart hits his hand and pierces it.
3. Mark's cousin is over for dinner. Mark knows that his cousin is allergic to peanuts and intends to hurt his cousin. He decides to add peanuts to the dish so as to poison him. Mark grinds up the peanuts, adds them in, and serves his cousin. His cousin eats the dish, has an allergic reaction, and is hospitalized.

Attempted Harm

1. Jonathan is taking a sculpture class. He is assigned to work with a partner to weld together pieces of metal. Jonathan intends to burn his partner's hand. Jonathan thinks that if he welds a piece of metal that his partner is holding, the heat will travel down the metal and burn his

partner's hand. Jonathan welds the metal, but his partner happens to let go and is not burned at all.

2. Kevin is eating at a diner when a man challenges him to a game of darts. The man throws his darts well and gets a very high score. Kevin intends to hit the man's hand with a dart and pierce it. Kevin thinks that the man is about to reach toward the dart board to collect his darts, and Kevin thinks that if he throws his dart he will hit the man's hand and pierce it. Kevin throws his dart, the man reaches out, but the dart does not hit his hand and the man is not injured at all.
3. Paul's cousin is over for dinner. Paul knows that his cousin is allergic to peanuts and intends to hurt his cousin. He decides to add peanuts to the dish so as to poison him. Paul grinds up the peanuts, adds them in, and serves his cousin. It turns out that he is wrong and that his cousin is not allergic to peanuts. His cousin eats the dish, and does not have an allergic reaction.

Accidental Harm

1. Zack is taking a sculpture class. He is assigned to work with a partner to weld together pieces of metal. Zack asks his partner to hold a part of the piece to make easier the weld of the piece. Unfortunately, Zack does not know that the heat will travel down the metal and burn his partner's hand. Zack welds the piece of metal, and his partner's hand is burned.
2. Kevin is eating at a diner when a man challenges him to a game of darts. The man throws

his darts well and gets a very high score. Kevin decides to train a couple of minutes. While the man reaches toward the dart board to collect his darts, Kevin unintentionally drops the dart in his direction. The man reaches out, and the dart hits his hand and pierces it.

3. Bruce's cousin is over for dinner. Bruce has no idea that his cousin is allergic to peanuts and has no intention to hurt him. He decides to add peanuts to the dish because they really bring out the flavor for him. Bruce grinds up the peanuts, adds them in, and serves his cousin. His cousin eats the dish, has an allergic reaction, and is hospitalized.