

Common, nonsexual masochistic preferences are positively associated with antisocial personality traits

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Abstract

Objective: Based on prior research linking masochism and antisocial behavior to sensation seeking, we hypothesized that masochistic and antisocial preferences are positively correlated. Besides sensation seeking, we tested whether disgust sensitivity (due to its inhibitory function) and shared social values (e.g., stimulation) accounted for the masochistic-antisocial link. We additionally examined the link in relation to broad personality factors.

Method: Six online and laboratory studies ($N = 2,999$) with US-American and European samples.

Results: We consistently found positive correlations between masochistic enjoyment (e.g., enjoying the burn of spicy food, disgusting jokes, pounding heart, painful massage) and antisocial traits such as subclinical psychopathy, everyday sadism, and low Honesty-Humility. We observed behavioral correlations in that experienced pleasure of a painful event was positively related to causing another person to feel pain. Shared sensation seeking, low disgust sensitivity, and endorsement of social values such as social power, hedonism, and a stimulating life partially accounted for the masochistic-antisocial link.

Conclusion: The extent to which a person enjoys threatening stimuli on the self is reliably related to how much a person enjoys and evokes others' suffering. Future research could explore the common core that underlies common masochistic and antisocial preferences beyond the mediators tested here.

KEYWORDS

antisocial personality traits, benign masochism, disgust sensitivity, sensation seeking, social values

1 | INTRODUCTION

Humans experience pleasure in various aversive activities—a feature that distinguishes us from all other animals. We find aesthetic pleasure in sad music, eat food so spicy that our eyes start tearing, and drink strong alcohol that burns in our throat. We seek fear by watching horror movies and riding

rollercoasters, exhaust ourselves by running marathons, and enjoy painfully strong massages or hot showers. A common tendency for these diverse preferences has recently been introduced as the personality trait *benign masochism* (Rozin, Guillot, Fincher, Rozin, & Tsukayama, 2013), originating in Paul Rozin's extensive study of the liking of the chili pepper (e.g., Rozin & Schiller, 1980). Benign, because there is no

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actual danger involved and we have a constant meta-awareness of that. In fact, knowing that there is no serious threat is one of the prerequisites for benign masochists to experience pleasure (Baumeister, 1991; Rozin et al., 2013).

Here, we examine this uniquely human characteristic in relation to antisocial personality traits such as the Dark Tetrad. The Dark Tetrad refers to subclinical expressions of four overlapping yet distinct antisocial traits: Machiavellianism (manipulative pursuit of one's own interest), narcissism (grandiose self-perception), psychopathy (callous and remorseless aggression), and sadism (enjoying others' suffering) (Paulhus, 2014). Originally, the constellation included only Machiavellianism, narcissism, and psychopathy ("the Dark Triad", Paulhus & Williams, 2002), but in the last decade, everyday sadism emerged as a fourth malevolent trait (Buckels, Jones, & Paulhus, 2013). Considering prominent exemplars of antisocial personality such as everyday sadists, who enjoy and invest effort to make other people suffer (Buckels et al., 2013), one may wonder what types of experiences such individuals prefer for themselves. Although the two concepts have received joint attention in the past (Freud, 1920; Krafft-Ebing, 1892), no research has examined how masochistic tendencies are related to antisocial traits, or even to broad personality models. Intuitively, one may assume that enjoying harm on the self as opposed to on other people are opposite ends of a continuum, which is corroborated by scientific approaches to sadomasochism in sexual contexts that emphasize the power differential between the involved individuals (Cross & Matheson, 2006). By contrast, we theorize that more benignly masochistic¹ individuals exhibit *more* antisocial preferences.²

There are data offering indirect support for the notion that masochistic and antisocial preferences are positively associated. For example, sensation seeking is positively related to masochism (Rozin et al., 2013) and predicts delinquency (Harden, Quinn, & Tucker-Drob, 2012), risk taking (Popham, Kennison, & Bradley, 2011), and antisocial behavior (Mann et al., 2017). Sensation seeking may thus emerge as shared personality variance of individuals with masochistic and antisocial tendencies. Specifically, masochistic and antisocial tendencies may both be driven by a need for intense sensory experiences. Moreover, both masochistic and antisocial behaviors are related to fearlessness. Indeed, antisocial behavior is linked to a lack of harm avoidance (Krueger, Hicks, & McGue, 2001) as well as to impulsivity (Jones & Paulhus, 2011)—traits that are conceptually similar to a masochistic approach to apparently dangerous activities.

A second common core of masochistic and antisocial preferences may be disgust sensitivity. Disgust is closely linked to morality (Haidt, Rozin, McCauley, & Imada, 1997; Tybur, Lieberman, & Griskevicius, 2009). How sensitive an individual is to perceiving disgust is positively related to prosocial personality traits such as Agreeableness, Conscientiousness,

and Honesty-Humility and negatively related to antisocial traits such as psychopathy, sadism, and Machiavellianism (e.g., Meere & Egan, 2017; Olatunji et al., 2007; Tybur & de Vries, 2013; Tybur et al., 2009). Masochism has not yet been empirically related to disgust sensitivity. Yet, three aspects suggest that disgust sensitivity is likely to be inversely related to masochistic preferences. First, one of masochism's facets is the enjoyment of disgusting stimuli, which should be lower the more easily an individual feels disgusted. Second, disgust sensitivity is negatively correlated with sensation seeking (Haidt, McCauley, & Rozin, 1994), which in turn is positively correlated with benign masochism. Third, masochism is largely characterized by physical threat simulation. Considering that disgust functions as a defensive emotion that triggers withdrawal and avoidance from potentially life-threatening stimuli (Miller, 2004), simulated threat should be enjoyed substantially less by more disgust sensitive individuals.

A further hint that masochistic and antisocial preferences are positively associated stems from research on social values. Social values are universally "shared conceptions of what is good, right, and desirable" (Knafo, Roccas, & Sagiv, 2011, p. 178). Today, there are 10 central social values that are studied in the social sciences (European Social Survey, 2019; Schwartz, 1992). The extent of endorsement of each of these values speaks to the motivational underpinnings of the individual. For example, for individuals who strongly endorse the value of security, it is important to live in secure surroundings, to avoid danger, and to rely on the government to provide safety against threat. The value of stimulation, for example, is characterized by a pursuit of novel and exciting experiences, a search for adventure and everyday risks. Other values include hedonism (e.g., gratification of desires), power (e.g., social power, authority, wealth), achievement (e.g., success, ambition), and benevolence (e.g., being helpful and honest) (Schwartz, 1992). Antisocial traits are characterized by a strong endorsement of power, achievement, hedonism, and stimulation, and low endorsement of security, benevolence, and universalism (Kajonius, Persson, & Jonason, 2015). Masochism is likely to share many of these values. Specifically, we expect masochists to strongly endorse stimulation, achievement, and power, and to show low endorsement of security. Yet, it is unlikely that masochism reveals such low endorsement of benevolence as does the Dark Tetrad. In sum, the social value profiles will shed more light on the commonalities and differences between masochistic and antisocial tendencies.

1.1 | Overview of research

The central aim of this research is to study masochistic preferences in relation to antisocial preferences. In doing so,

we consider two trait constellations: First, the Dark Tetrad (Paulhus, 2014), and second, the Honesty-Humility factor of the HEXACO personality model (Lee & Ashton, 2004). The HEXACO model is based on the prominent five-factor model (Costa & McCrae, 2009), but includes the morality-relevant sixth factor termed Honesty-Humility (Ashton & Lee, 2005; Hilbig, Glöckner, & Zettler, 2014). Honesty-Humility itself consists of four facets: Sincerity (e.g., genuineness), Fairness (e.g., avoiding fraud and corruption), Greed Avoidance (e.g., little interest in luxury and wealth), and Modesty (e.g., perceiving oneself as an ordinary person) (Lee & Ashton, 2004, p. 334).

With disgust sensitivity, sensation seeking, and social values, we test three variables that may account for the masochistic-antisocial link. A relevant follow-up question to establishing this link is whether this correlation is also evident at a behavioral level. Using the example of pain, we will examine the relationship between masochistic pleasure and antisocial behavior. The more individuals find pleasure in experiencing pain, the more they should make another person feel pain. Additionally, we will compare trait masochism and antisocial personality traits as predictors of these behaviors. If empirically separable phenomena, trait masochism should be the strongest predictor of masochistic preference while antisocial traits should be the strongest predictor of antisocial behavior.

2 | METHOD

Altogether, we carried out six separate studies. Yet, because the central personality measures are used in each of the studies, we report summarized methodology subsections across all six studies.

2.1 | Participants

Participants in Studies 1, 3, and 5 were German-speaking students and adults of a community sample. Participants in Studies 2, 4, and 6 were US-American community samples recruited via amazon's Mechanical Turk (MTurk;

Buhrmester, Talaifar, & Gosling, 2018). Except for Study 1, all studies included at least one instructional manipulation check (Oppenheimer, Meyvis, & Davidenko, 2009) to test for participants' attention and humanness. An overview of the samples' characteristics is given in Table 1.

2.2 | Procedure

Studies 1, 2, 4, and 6 were online studies. Participants received a link to complete the survey (measures to assure data quality were undertaken, see Supplementary Information). Study 3 was a mixed online and laboratory study. Participants were invited via the university mailing list to complete the personality measures and were then invited to come to the lab in the upcoming weeks for a short additional study where they would also receive their payment. Seventy-one percent kept their appointment. Study 5 was a laboratory study for which participants were recruited on campus. All participation with the exception of Study 1 was monetarily compensated (see SI for details).

2.3 | Materials

All studies contained self-report-based questionnaires to measure trait masochism and personality. Study 3 included additional behavioral measures of masochism and antisocial tendencies. Study 4 included a behavioral choice measure for masochistic stimuli, and Study 5 included liking of sampled bitter drinks.

2.3.1 | Benign masochism

All studies used the same measure of benign masochism. We assessed liking of initially aversive experiences and used the collection of activities and bodily states proposed by Rozin et al. (2013). The questionnaire consists of eight different domains of suffering: Sad (e.g., sad movies, crying in response to sad movies or novels), Burn (e.g., spicy food, sweating when you eat spicy foods), Disgust (e.g., disgusting jokes,

TABLE 1 Participant demographics

Characteristics	Study 1 (<i>n</i> = 801)	Study 2 (<i>n</i> = 474)	Study 3 (<i>n</i> 1 = 335) [<i>n</i> 2 = 238]	Study 4 (<i>n</i> = 463)	Study 5 (<i>n</i> = 452)	Study 6 (<i>n</i> = 474)
Gender (<i>n</i>)						
Female	609	278	222 [163]	242	263	222
Male	192	192	109 [73]	221	189	250
Other/not indicated		4	4 [2]			2
<i>M</i> _{Age} (<i>SD</i>)	24.61 (6.93)	37.32 (11.30)	22.57 (3.95) [22.71; 3.84]	39.94 (11.89)	22.75 (3.35)	37.60 (11.97)

pinching pimples), Fear (e.g., thrill rides, pounding heart in response to frightening experiences or movies), Pain (e.g., massages which produce some pain, flashes of cold pain), Alcohol (e.g., scotch), Exhaust (e.g., the feeling of being physically exhausted, after extended effort”), and Bitter (e.g., bitter foods). Participants indicated the extent to which they enjoyed each of the 26 items on 10-point (Studies 1 and 5) Likert-type scales from 1—*not at all* to 10—*as much as I like anything* or by typing a number between 0 and 100 into a text field (Studies 2–4, 6; see Rozin et al., 2013; α range = .71–.92).

2.3.2 | The Dark Tetrad

We used a variety of well-established measures for the Dark Tetrad. Studies 1–3, 5, and 6 measured the Dark Triad (Machiavellianism, narcissism, and psychopathy) with the Short Dark Triad (SD3) measure (Jones & Paulhus, 2014) and everyday sadism with the Assessment of Sadistic Personality (ASP; Plouffe, Saklofske, & Smith, 2017). Answers for both questionnaires are given on 5-point scales (1 = *strongly disagree*, 5 = *strongly agree*). The SD3 is a 27-item questionnaire, assessing each facet with nine items. Sample items for Machiavellianism (α range = .75–.86) are “It’s not wise to tell your secrets” and “Make sure your plans benefit you, not others.” For narcissism (α range = .66–.81), “People see me as a natural leader” and “I feel embarrassed if someone compliments me” (reverse scored), and for psychopathy (α range = .63–.85), “I like to get revenge on authorities” and “I have never gotten into trouble with the law” (reverse scored). The ASP is a 9-item measure. Sample items for sadism are “I have made fun of people so that they know I am in control,” “I get pleasure from mocking people in front of their friends,” and “I think about hurting people who irritate me” (α range = .80–.92).

In Study 5, we used the Dirty Dozen (Jonason & Webster, 2010), a 12-item Dark Triad measure. It assesses the three traits with four items each: Machiavellianism (α = .76; e.g., “I tend to manipulate others to get my way.”), narcissism (α = .73; e.g., “I tend to want others to pay attention to me.”), and psychopathy (α = .48; e.g., “I tend to be callous or insensitive.”). Answers are given on 9-point scales ranging from 1—*Disagree strongly* to 9—*Agree strongly*. Everyday sadism was assessed with the Varieties of Sadistic Tendencies (VAST; Buckels et al., 2013; Paulhus & Jones, 2015). This measure assesses verbal (e.g., “I enjoy making jokes at the expense of others.”), physical (e.g., “I enjoy physically hurting people.”), and vicarious everyday sadism (e.g., “In professional car-racing, it’s the accidents that I enjoy most.”), with 18 items in total (α = .84). Answers are given on 5-point scales from 1—*Strongly disagree* to 5—*Strongly agree*.

2.3.3 | Broad personality factors

In Studies 2–4, we used the 60-item HEXACO-Personality Inventory (PI-R) by Ashton and Lee (2009). Each factor is assessed with 10 items on 5-point scales (1—*strongly disagree*, 2—*disagree*, 3—*neutral (neither agree nor disagree)*, 4—*agree*, 5—*strongly agree*). Facet scales can also be created but factors are calculated based on the individual items. Scale reliabilities of the factor scales ranged from Honesty-Humility: α = .77–.79; Emotionality: α = .78–.82; Extraversion: α = .81–.86; Agreeableness: α = .73–.83; Conscientiousness: α = .77–.81; Openness to Experience: α = .71–.80). In Study 5, we assessed personality with the 10-item personality inventory (TIPI; Gosling, Rentfrow, & Swann, 2003), a very brief measure of the Big Five personality dimensions. It assesses each factor with two items (7-point scales; scale anchors 1—*Disagree strongly* to 7—*Agree strongly*). Internal consistency scores were expectedly very low for some of the scales (Extraversion: α = .63; Agreeableness: α = .33; Conscientiousness: α = .61; Emotional stability: α = .57; Openness: α = .27).

2.3.4 | Sensation seeking

From the HEXACO items (Studies 2–4), we also calculated a sensation seeking score based on the formula presented in previous research (de Vries, Vries, & Feij, 2009) that combines a number of differently weighted HEXACO facet scales: $3 * (6 - \text{Fearfulness}) + 2 * \text{Unconventionality} + 2 * \text{Creativity} + 2 * (6 - \text{Fairness}) + 2 * (6 - \text{Prudence}) + \text{Boldness} + \text{Sociability} / 13$. In factor terms, the sensation seeking score consists of three parts Emotionality, four parts Openness to Experience, and two parts each of Honesty-Humility, Conscientiousness, and Extraversion. Note that because the sensation seeking score is based on HEXACO facets, we never included sensation seeking in regression analyses.

2.3.5 | Disgust sensitivity

In Study 2, disgust sensitivity was assessed with the 25-item Disgust Scale (DS-R) developed by Haidt et al. (1994) and modified by Olatunji et al. (2007). The first 13 items ask participants to indicate their agreement (0—*Strongly disagree (very untrue about me)*, 1—*Mildly disagree (somewhat untrue about me)*, 2—*Neither agree nor disagree*, 3—*Mildly agree (somewhat true about me)*, 4—*Strongly agree (very true about me)*) with a number of statements describing potentially disgusting situations (e.g., “It bothers me to hear someone clear a throat full of mucus,” and “I never let any part of my body touch the toilet seat in a public washroom.”).

In the second half of the questionnaire, participants indicate how disgusting (0—*Not disgusting at all*, 1—*Slightly disgusting*, 2—*Moderately disgusting*, 3—*Very disgusting*, 4—*Extremely disgusting*) they would find scenarios such as “You see maggots on a piece of meat in an outdoor garbage pail” and “You accidentally touch the ashes of a person who has been cremated.” (overall disgust sensitivity: $\alpha = .88$). In Study 3, we used a similar measure of disgust sensitivity, which is based on the scale that we used in Study 2 but was extended and validated on a German-speaking sample (Schienle, Walter, Stark, & Vaitl, 2002). The scale contains 37 items ($\alpha = .90$).

2.3.6 | Behavioral measures

Study 1 and 5 assessed bitter taste preferences. In Study 1, we asked participants about their liking of five different bitter foods and drinks and about their general preference for bitter foods ($M = 3.49$, $SD = 1.18$; scale range: 1–7). In Study 5, participants tasted grapefruit juice, black unsweetened instant coffee, and tonic water, and three samples of sweet drinks in randomized order, and then rated their liking of each stimulus ($M_{\text{bitter}} = 3.67$, $SD = 1.37$; scale range: 1–7).

In Study 3, we measured masochistic and antisocial behavior in the lab. Participants held their hand in 4°C cold water for 15 s and were asked to rate how much they liked it and how much pleasure they experienced (response sliders ranging from 0—*not at all* to 100—*very much*). We calculated a mean behavioral masochism score for the two items assessing pleasantness of the ice water experience ($M = 30.60$, $SD = 22.52$; Spearman-Brown³ $\rho = .87$). As a measure of aggression, participants then determined how long (0 to 90 s) a later participant would need to hold his or her hand in the water (Litt, 1988). Participants assigned on average 23.15 ($SD = 18.30$) seconds. Participants also indicated how painful the ice water task felt ($M = 46.90$, $SD = 24.47$). These measures were embedded in a cover story (see SI).

In Study 5, participants learned that they were to select five video clips that they would watch and rate at the end of the survey. The selection task (see SI) included 10 options to choose from. We created 10 scene descriptions that would match the designated categories (five negative film clips: 2 × disgust, 2 × suspense, 1 × sadness; five positive film clips: 2 × romance, 2 × documentary, 1 × humor) and included a related photograph as an ostensible screenshot as well as a rating of the scene. For example, one designated suspense scene was described as “a person is chased through the woods at night and finally hides while the hunting stranger almost finds her.” The number of negative affective film clips chosen was our 6-point dependent variable, ranging from 0 (none selected) to 5 (all selected).

2.3.7 | Social values

In Study 6, we measured social values with the Short Schwartz's Value Survey (Lindeman & Verkasalo, 2005). This questionnaire includes 1 item per value with keywords in parentheses (e.g., “Stimulation [daring, a varied and challenging life, an exciting life]”; “Security [national security, family security, social order, cleanliness, reciprocation of favors]”). Participants rated the importance of this value on a 9-point scale from 0—*opposed to my principles*, 1—*not important* to 8—*of supreme importance*.

3 | RESULTS

3.1 | The association of masochistic and antisocial preferences

An overview of the correlations of benign masochism with all personality measures across the six studies is given in Table 2. We found consistent positive correlations between benign masochism and the Dark Tetrad and broad personality factors associated with antisocial behavior and low morality such as low Honesty-Humility, low Agreeableness, and low Conscientiousness (see Tables S2–S7 for detailed intercorrelations). Figure 1 illustrates the point-by-point correlations between benign masochism and selected antisocial variables across all studies. Of the Dark Tetrad trait constellation, benign masochism was most reliably and strongly correlated with everyday sadism (mean $r_{\text{Olkin \& Pratt}} = .30$) and psychopathy (mean $r_{\text{Olkin \& Pratt}} = .28$), revealing significant positive correlations in each of the studies. Correlations with Machiavellianism (mean $r_{\text{Olkin \& Pratt}} = .17$) and narcissism (mean $r_{\text{Olkin \& Pratt}} = .19$) were smaller on average, but also quite consistent. We found significant positive correlations in all but Study 3. Of antisocial traits within broad personality factors, masochism revealed negative correlations with Honesty-Humility (mean $r_{\text{Olkin \& Pratt}} = -.15$), particularly with its facet Fairness (mean $r_{\text{Olkin \& Pratt}} = -.19$). Clearly, individuals with masochistic preferences are more likely to enjoy and induce other people's suffering.

3.1.1 | Sex differences

We replicated Rozin et al.'s (2013) pattern of sex differences in benign masochism, with women scoring higher on preferences for sadness than men and lower or similarly on the other domains. We examined sex as a moderator in all studies, but it never significantly moderated any of the links. We also entered it as a control variable in partial correlations: the correlations of masochism and antisocial traits remained significant. Sex is thus not considered further in any of the analyses.

TABLE 2 Correlations of trait benign masochism with personality variables across studies

	Machiavellianism	Narcissism	Psychopathy	Sadism	Disgust sensitivity	Sensation seeking	Honesty-Humility	Emotionality ^a	Extraversion	Agreeableness	Conscientiousness	Openness
Study 1	.17***	.26***	.40***	.39***	–	–	–	–	–	–	–	–
Study 2	.17***	.18***	.32***	.26***	–.28***	.30***	–.21***	–.16***	.05	–.13***	–.07	.21***
Study 3	–.01	.00	.18**	.19***	–.26***	.34***	–.05	–.15**	.01	.04	–.14**	.20***
Study 4	–	–	–	–	–	.35***	–.18***	–.18***	.07	–.10*	–.12*	.22***
Study 5	.25***	.18***	.21***	.37***	–	–	–	–.09	.14**	–.18***	–.20***	.11*
Study 6	.28***	.37***	.32***	.36***	–	–	–	–	–	–	–	–

Note: When no correlation coefficient is reported, these variables were not assessed.

^aIn Study 5, broad personality factors were assessed with a 10-item Big Five measure, in which emotionality corresponds to emotional stability.

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

3.2 | Behavioral expressions of masochism and antisocial personality traits

3.2.1 | Pain

In Study 3, participants rated how pleasant and enjoyable they found holding their hand in ice water, and subsequently were asked to assign an unknown person to the same task (antisocial behavior). Confirming the masochistic-antisocial link at a behavioral level, the more individuals enjoyed the painful experience of holding their hand in ice water, the more seconds they assigned, $r(236) = .31$, $p < .001$. Perceived pain and pleasure were negatively correlated, $r(236) = -.42$, $p < .001$, as were pain and antisocial behavior, $r(236) = -.26$, $p < .001$. Yet, lower pain perception did not explain why participants' experienced pleasure was associated with increased antisocial behavior. The correlation remained significant when controlling for pain, $r(236) = .24$, $p < .001$.

Next, we examined how the behavioral measures related to the trait measures. The enjoyment of ice water-induced pain was positively correlated with trait masochism, $r = .34$, $p < .001$ (see Figure S1 for a point-by-point illustration) and negatively correlated with disgust sensitivity, $r = -.17$, $p = .009$. Ice water pleasure was predicted only by trait masochism, $\beta = .30$, $r_{(\text{semi-partial})} = .28$, $t = 4.52$, $p < .001$. The overall regression was significant, $R^2 = .15$, $F(12, 225) = 3.17$, $p < .001$, but no other predictor reached significance. Of the morality-related personality variables, the average amount of seconds assigned to another person correlated positively with Machiavellianism, $r = .23$, $p < .001$, psychopathy, $r = .28$, $p < .001$, and sadism, $r = .24$, $p < .001$, and negatively with Honesty-Humility, $r = -.29$, $p < .001$. The correlation with masochism was positive but small, $r = .12$, $p = .082$. Antisocial behavior was significantly predicted by psychopathy, $\beta = .23$, $r_{(\text{semi-partial})} = .16$, $t = 2.69$, $p = .008$, and negatively by Honesty-Humility, $\beta = -.19$, $r_{(\text{semi-partial})} = -.14$, $t = -2.23$, $p = .027$, and Openness, $\beta = -.15$, $r_{(\text{semi-partial})} = -.14$, $t = -2.37$, $p = .018$. The overall model was significant, $R^2 = .17$, $F(11, 226) = 4.05$, $p < .001$. In sum, pain preferences are a valid expression of trait masochism and causing another person to feel pain is a valid expression of antisocial personality traits. More importantly, the more people enjoy pain on themselves, the more likely they are to make another person experience pain, extending the masochistic-antisocial link to a behavioral level. Notably, while prior research found that everyday sadism and psychopathy predict less pain perception in suffering targets (Buckels, Trapnell, Andjelovic, & Paulhus, 2018), we found no link between experiencing pain oneself and the Dark Tetrad characteristics.

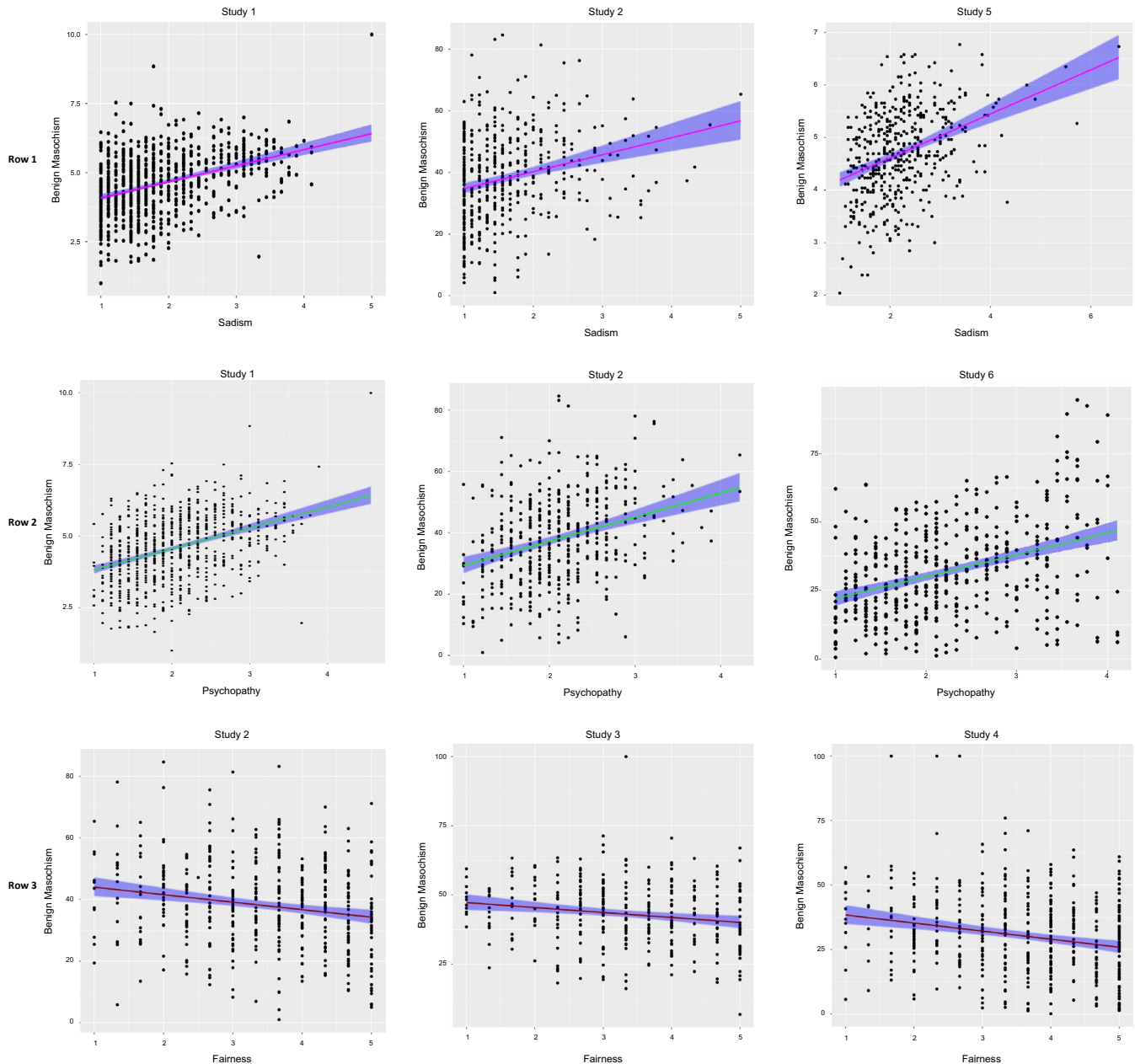


FIGURE 1 All graphs display benign masochism on the y axis in relation to sadism (Row 1), psychopathy (Row 2), and Honesty-Humility: Fairness (Row 3) on the x axis, respectively. Note that in Studies 1 and 5, benign masochism was assessed on a scale from 1 to 10. In Study 5, sadism was assessed on a scale from 1 to 7, and psychopathy was assessed on a scale from 1 to 9. In all other studies, benign masochism was assessed on a scale from 0 to 100, and sadism, psychopathy, and fairness were assessed on a scale from 1 to 5. Scales are curtailed in each plot to better highlight the relevant section of the observed values. The line represents the linear regression line with 95% confidence interval [Color figure can be viewed at wileyonlinelibrary.com]

3.2.2 | Disgust, fear, and sadness

Choosing to watch masochistic short movies with disgusting, scary, and sad content (Study 4) was positively correlated with trait masochism, $r = .21$, $p < .001$, sensation seeking, $r = .22$, $p < .001$, and negatively correlated with Honesty-Humility, $r = -.20$, $p < .001$, Emotionality, $r = -.14$, $p = .003$, and Conscientiousness,

$r = -.13$, $p = .005$. Masochistic choice was best predicted by masochism, $\beta = .19$, $r_{(\text{semi-partial})} = .18$, $t = 3.95$, $p = .001$. Further traits emerged as significant predictors: Honesty-Humility, $\beta = -.14$, $r_{(\text{semi-partial})} = -.12$, $t = -2.71$, $p = .007$, Openness, $\beta = -.12$, $r_{(\text{semi-partial})} = -.11$, $t = -2.56$, $p = .011$, and Emotionality, $\beta = -.10$, $r_{(\text{semi-partial})} = -.09$, $t = -2.04$, $p = .042$. The overall regression was significant, $R^2 = .10$, $F(7, 455) = 7.32$, $p < .001$. Aversive entertainment content thus seems to be an expression of

a number of traits, including masochistic and antisocial tendencies.

3.2.3 | Bitter taste

In Study 1, mean bitter taste preferences were positively correlated with benign masochism, $r = .50$, $p < .001$, and the Dark Tetrad (Machiavellianism: $r = .06$, $p = .082$; Narcissism: $r = .14$, $p < .001$; Psychopathy: $r = .21$, $p < .001$; Sadism: $r = .17$, $p < .001$). Predicting bitter taste preferences with trait masochism and the Dark Tetrad showed that only masochism significantly predicted bitter taste preferences, $\beta = .50$, $r_{(\text{semi-partial})} = .45$, $t = 14.75$, $p < .001$. None of the dark traits were a significant predictor (all $\beta < .05$, all $p > .23$). The overall regression was significant, $R^2 = .26$, $F(5, 795) = 54.36$, $p < .001$. To improve the validity of our taste preference measure, we had participants actually sample three different bitter drinks in the lab (Study 5). Mean liking of bitter drinks was significantly positively correlated with trait masochism, $r = .31$, $p < .001$ (see Figure S3), psychopathy, $r = .13$, $p = .007$, sadism, $r = .10$, $p = .032$, Extraversion, $r = .12$, $p = .010$, and Openness, $r = .18$, $p < .001$, and negatively with Conscientiousness, $r = -.10$, $p = .043$. Trait masochism best predicted bitter taste preferences, $\beta = .26$, $r_{(\text{semi-partial})} = .23$, $t = 5.19$, $p < .001$. Openness was the only other significant predictor of bitter taste preferences, $\beta = .14$, $r_{(\text{semi-partial})} = .12$, $t = 2.74$, $p = .006$. The overall regression was significant, $R^2 = .13$, $F(10, 441) = 6.39$, $p < .001$. Bitter taste is thus clearly an expression of an overall masochistic tendency. We also assessed sweet taste preferences, to which trait masochism was negatively correlated, $r = -.17$, $p < .001$.

3.2.4 | Summary

We confirmed the masochistic-antisocial link in the context of pain. More masochistic pleasure is associated with increase in antisocial behavior. We further identified three behavioral expressions of benign masochism, lending validity to the trait measure that has been reported in only one published article (Rozin et al., 2013). Antisocial behavior and trait masochism revealed a small positive correlation, which disappeared when controlling for antisocial traits. Choosing short movies that will induce disgust, fear, or sadness is an expression of both masochistic and antisocial tendencies, possibly because not only the self is induced to feel these emotions, but also the fictional protagonist is experiencing them (cf. vicarious sadism; Buckels et al., 2013). Bitter taste preferences are the most distinct of the masochistic preferences. They showed strong correlations with trait masochism as well as with antisocial traits, but the latter

correlations disappear when controlling for trait masochism (cf. Sagioglou & Greitemeyer, 2016). They thus appear to be the best representative for trait masochism of the categories tested here. Notably, trait masochism was negatively correlated with sweet taste preferences, suggesting that masochism is not simply positively correlated with intense stimuli of any type.

3.3 | Masochism and antisocial preferences in relation to sensation seeking and disgust sensitivity: overlap and differences

Both masochistic and antisocial preferences have overlap with sensation seeking and disgust sensitivity. Table 3 shows correlations of benign masochism with each of the HEXACO facets. As can be seen, benign masochism is correlated with many facets that constitute the HEXACO

TABLE 3 Correlations of benign masochism with the HEXACO facet scales (Studies 2–4)

	Study 2 (<i>n</i> = 474)	Study 3 (<i>n</i> = 334)	Study 4 (<i>n</i> = 463)
H: Sincerity	-.14**	-.02	-.11*
H: Fairness ^a	-.19***	-.17**	-.21***
H: Greed	-.12*	.15**	-.01
H: Modesty	-.15***	.03	-.12**
E: Fearfulness ^a	-.10*	-.20***	-.20***
E: Anxiety	-.04	-.08	-.08
E: Dependence	-.19***	-.09	-.11*
E: Sentimentality	-.15**	-.06	-.13**
X: Self Esteem	.00	-.09	-.02
X: Boldness ^a	.07	.03	.11*
X: Sociability ^a	.05	.01	.04
X: Liveliness	.00	.04	.00
A: Forgiveness	-.12**	.07	.04
A: Gentleness	-.13**	.06	-.11*
A: Flexibility	-.06	-.05	-.13**
A: Patience	-.07	.06	-.08
C: Organization	-.07	-.13*	-.17***
C: Diligence	.04	-.11	-.02
C: Perfectionism	-.01	-.05	.00
C: Prudence ^a	-.13**	-.16**	-.17***
O: Aesth. Appreciation	.07	.13*	.13**
O: Inquisitiveness	.15***	.06	.18***
O: Creativity ^a	.17***	.18**	.13**
O: Unconventionality ^a	.21***	.19***	.23***

^aFacet scales that comprise the HEXACO-based sensation seeking scale.

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

sensation seeking scale. Most notably, trait masochism and sensation seeking share low Fearfulness, low Fairness, low Prudence, and high Unconventionality and Creativity. Yet, there are also notable differences: Masochism has a far more in depth relation to Honesty-Humility and Emotionality facets, and no relation to Extraversion (Boldness and Sociability). Masochism is thus not simply a form of sensation seeking, although the two traits share meaningful overlap that is at times likely to guide behavior in similar ways (e.g., risk taking, thrill seeking) (Rozin et al., 2013).

In a series of partial correlations, we then tested whether sensation seeking or disgust sensitivity would account for any of the shared variance between trait masochism and the Dark Tetrad (Studies 2 and 3). In general, sensation seeking accounted for more covariance than did disgust sensitivity (see Table 4). The correlations of masochism with psychopathy and sadism remained significant in all but one case, where psychopathy and masochism were no longer significantly correlated after controlling for sensation seeking (Study 3). It can be concluded that a need for stimulation and decreased sensitivity to disgusting stimuli partially explain why people who enjoy masochistic experiences also have a tendency to be mean to others.

3.4 | Social values: overlap and differences

In Study 6, we examined the extent to which masochism and the Dark Tetrad traits have overlap that is based on shared social values. The Dark Triad has previously been related to Schwartz' universal social values, with strong positive correlations with power, achievement, hedonism, and stimulation, and strong negative correlations with benevolence and universalism (Kajonius et al., 2015). Based on the size of the correlations between masochism and sensation seeking, Openness, and low emotionality, we expected masochism to be positively related to stimulation, achievement, and power, and negatively to security, tradition, and conformity. Figure 2 displays correlations of trait masochism and the Dark Tetrad with all 10 values. As expected, there is substantial overlap in that masochistic and antisocial individuals both have high values on stimulation, power, and achievement. Masochism also overlaps with the Dark Tetrad on hedonism. Examining whether shared social values account for covariance between masochism and the Dark Tetrad revealed that they do, but only partially so. The correlation with narcissism dropped to $r = .10$, $p = .026$, but all other correlations remain strong ($>.25$) when controlling for social values (see Table 4).

Although masochism is less strongly associated with power and hedonism than is the Dark Tetrad, the more notable differences are those where the direction of association is divergent. This can be observed for universalism and benevolence, where

TABLE 4 Partial correlations of benign masochism with the Dark Tetrad

	Benign masochism (Study 2)		Benign masochism (Study 3)		Benign masochism (Study 6)	
	Zero order	Control variable: sensation seeking	Zero order	Control variable: sensation seeking	Zero order	Control variables: Social values
Machiavellianism	.17***	.09	-.01	-.04	.32***	.25***
Narcissism	.26***	.06	-.00	-.09	.28***	.10*
Psychopathy	.32***	.22***	.18**	.08	.37***	.27***
Sadism	.26***	.18***	.19***	.13*	.36***	.29***

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

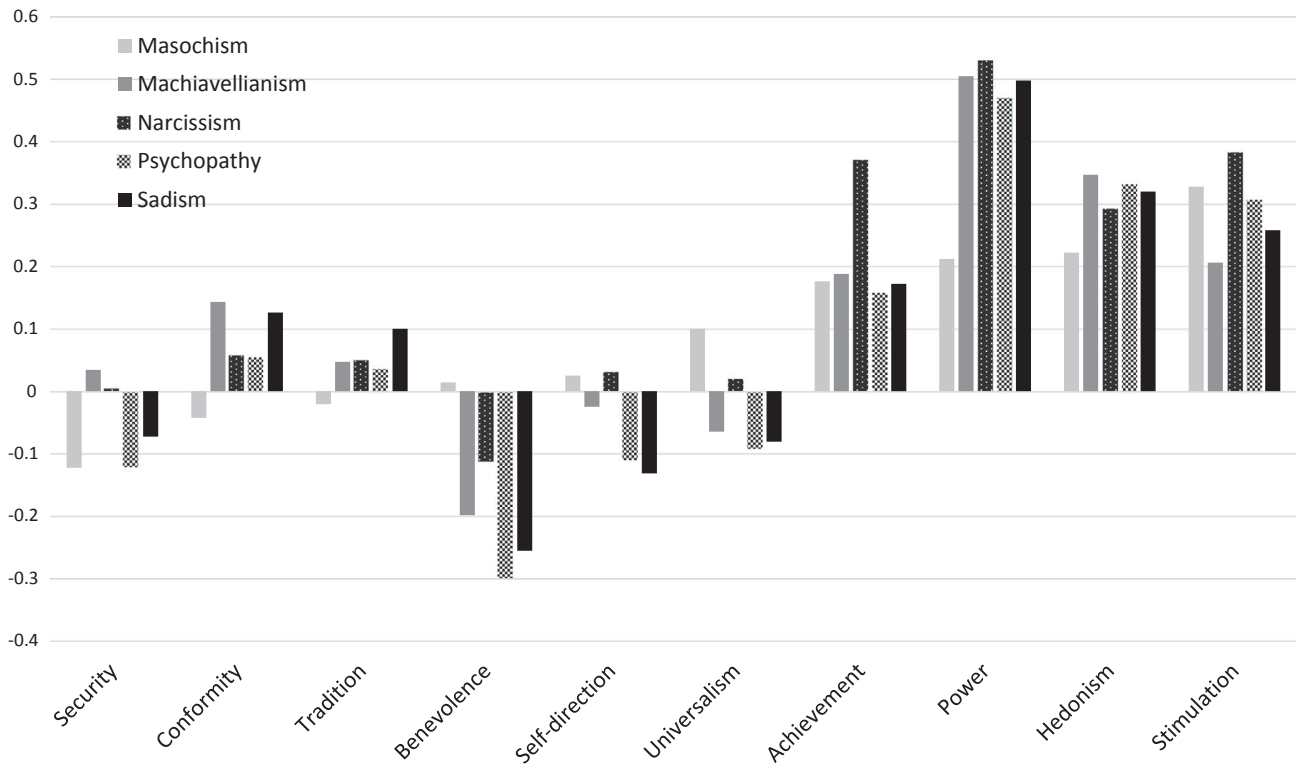


FIGURE 2 Correlations of benign masochism and the Dark Tetrad with Schwartz's social value scale. $r > .09$ are significant at $p < .05$; $r > .16$ are significant at $p < .001$

masochism revealed positive and zero correlations, respectively, whereas the Dark Tetrad revealed negative correlations. In fact, the largest divergence of masochism from the Dark Tetrad can be observed for benevolence. Fisher's z test for dependent correlations showed that the correlation of masochism and benevolence differs from all Dark Tetrad correlations with benevolence (all $p < .023$). The correlation of masochism with universalism is significantly different from all Dark Tetrad traits (all $p < .002$) except narcissism. In sum, the social value profile of masochism and antisocial traits has overlap, but masochism is most strongly related to stimulation, and far less strongly associated with power than is the Dark Tetrad. Moreover, masochism shows slight endorsement of universalism and no relation to benevolence. In contrast, antisocial traits are related to slight rejection of universalism and strong rejection of benevolence.

4 | DISCUSSION

In six studies with large samples from different countries and populations, we provided consistent evidence for a positive association between the enjoyment of negative sensations on the self and a tendency to enjoy and cause suffering in other people. We repeatedly confirmed the masochistic-antisocial link with regard to the Dark Tetrad constellation and the traits related to antisocial behavior of the HEXACO and Big Five models for broad personality factors. Largest correlations were observed

for everyday sadism and psychopathy, but masochistic preferences were also consistently correlated with Machiavellianism, narcissism, and Honesty-Humility. We further extensively validated trait masochism with behavioral choice and preference measures, lending further validity to the trait construct and its empirical distinctiveness. At behavioral level, we see that masochistic expressions such as bitter taste preferences and aversive movie preferences, but not enjoyment of pain, are positively correlated with antisocial traits. Yet, these behavioral preferences are best predicted by trait masochism. Masochistic preference is thus not merely a manifestation of antisocial tendencies turned against the self. It is empirically related to but distinguishable from both antisocial traits and broad personality factors. Neither trait constellation (i.e., the Dark Tetrad or HEXACO) sufficiently captures such self-directed aversive affinity. Examining masochistic and antisocial behavior within the pain domain showed that irrespective of pain sensitivity, more masochistic pleasure is associated with more antisocial behavior.

In addition, we identified three constructs that account for some of the overlap between masochistic and antisocial preferences. First, we found that a need for arousal and stimulation partially manifests in self-exposure to negative stimuli, but also in antisocial behavior toward other people. Second, two studies confirmed that being sensitive to disgust-evoking stimuli keeps individuals from exposing themselves to aversive experiences and from behaving hostile toward other people.

More disgust-sensitive individuals also reported less pleasure when experiencing ice water-induced pain. Third, pursuing a challenging, daring, and exciting life, and valuing gratification of desires, self-indulgence, social power, and authority are shared motivational characteristics of masochistic and antisocial traits. Yet, we see that despite this varied overlap, the common core persists when controlling for these constructs. Methodologically, it is important to note that in four of the six studies, masochism was assessed differently (by typing a number into a textbox) than were the dark traits (on Likert-type scales). It is thus unlikely that the correlations were inflated by response biases.

4.1 | Limitations and future directions

We measured sensation seeking via a combination of differently weighted HEXACO facet scores (de Vries et al., 2009) and found that it partially accounted for the masochistic-antisocial link. Using the original sensation seeking scale (Zuckerman, 1979) as did Rozin and colleagues (2013) may shed more light on its role in the masochistic-antisocial link. The original scale contains the facets thrill seeking, experience seeking, disinhibition, and boredom susceptibility, of which disinhibition revealed a moderate correlation with both benign masochism ($r = .35$; Rozin et al., 2013) and Honesty-Humility ($r = -.33$ to $-.41$; de Vries et al., 2009), whereas boredom susceptibility was uncorrelated with benign masochism but reliably negatively correlated with Honesty-Humility. Focusing on the nuanced similarities and differences of masochistic and antisocial tendencies in sensation seeking may reveal more about when one person does and does not unite both self-directed and other-directed harmful tendencies within herself.

A further limitation is that there is high empirical overlap of everyday sadism assessed with the ASP and psychopathy measured with the SD3, which applies to four of our studies. In fact, correlation coefficients range from .57 to as high as .85. Accordingly, masochism reveals similarly large and reliable correlations with both sadism and psychopathy. Yet, in trying to understand the link between masochistic and antisocial tendencies, it is crucial to empirically differentiate between different antisocial constructs. Future research may thus employ improved measures of psychopathic and sadistic tendencies that have better discriminatory power. This would more clearly reveal whether masochism is more strongly linked to psychopathic or sadistic tendencies or similarly to both.

One approach to better understand the connection between masochistic and antisocial tendencies may be by exploring their psychological function. Most notably, Baumeister (1988) offered a social psychological theoretical framework for understanding the paradox of sexual masochism. He

argued that sexual masochism is a means by which people escape self-awareness, just as they do through alcohol consumption or other recreational activities (Baumeister, 1991). Although self-awareness can lead to positive states such as when individuals feel proud of a personal achievement, it often confronts individuals with mistakes and deviance from their ideal self. Indeed, escaping self-awareness was argued to be a common human desire (Wicklund, 1975). The present and past research on masochism (Rozin et al., 2013) lend empirical support to Baumeister's theory in that people who enjoy one form of aversive activity are more likely to prefer other such activities. Yet, whether and how a desire to escape self-awareness is also related to increase in antisocial behavior remains an open empirical question.

Put simply, both masochistic and antisocial preferences are characterized by an affinity toward aversive states. Future research could investigate the extent of positive evaluative reactions that they are associated with. Implicit measures that detect underlying, possibly unaware preferences with reaction times may shed more light on a possible contra-hedonic conditioning of aversive stimuli. Indeed, Rozin et al. (2013) argued that masochistic pleasures are essentially hedonic reversals in that we grow up disliking most of the stimuli (e.g., bitterness, pain) and learn to like them throughout our lives. Possibly, dark traits are characterized by a parallel form of moral-evaluative reversals. The common core of the traits' overlap could become most evident at such an implicit level.

There are a variety of activities that are potentially related to the present construct of benign masochism. Whereas we focused on nonsexual experiences, the original, prototypical form of masochism refers to gaining *sexual* pleasure from pain and humiliation. It is conceivable that they are positively related, because both provide a way to escape self-awareness. At the same time, sexual masochism is less prevalent and more confined than, for example, enjoying sad art or eating spicy food (Baumeister, 1989; Spence, 2018). Possibly, many sexual masochists also gain nonsexual pleasure from intense negative stimuli but not vice versa. Moreover, the present experiences are essentially harmless, simulating threat or danger while involving a very low actual risk level. Yet, particularly in the fear domain, there are other activities that have a higher inherent level of danger. For example, engagement in arousal-inducing extreme sports such as wingsuit flying or mountaineering carries a realistic death risk through participation. Whether preferences for activities involving actual danger are an extreme expression of the benign masochism studied here, or whether they are a qualitatively distinct phenomenon remains for future research to discover. Nevertheless, due to their link to sensation seeking (Kerr, 1991), it seems likely that such preferences are also positively associated with antisocial tendencies.

5 | CONCLUSION

We presented empirical data suggesting that benign masochism, conceptualized as the enjoyment of aversive psychological (e.g., fear, disgust) and bodily states (e.g., burning mouth, sweating, pain), is positively related to antisocial personality traits, especially those that involve being mean to others, treating others in a callous and cold way, as well as behaving unfairly as long as it goes unnoticed. Although these traits share endorsement of specific social values, a positive association with sensation seeking and a negative association with disgust sensitivity, their common core persists beyond these mediating influences. Questions that arise from these findings are whether there is a common core to be discovered that could explain why individuals who enjoy intense negative stimuli on themselves also have a tendency to enjoy other people going through such experiences. Possibly, this could further our understanding of the development of antisocial personality traits and inform interventions. Thus far, the development of socially malevolent traits has been studied in children and adolescents, but young people's masochistic preferences have been overlooked in mainstream psychology. Yet, examining masochistic tendencies over the life span could lead to crucial insights into how antisocial tendencies develop and vice-versa. Overall, we hope that the questions this research answers as well as those that it raises spark numerous investigations into this uniquely human characteristic of enjoying aversive stimuli for their own sake.

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CONFLICT OF INTERESTS

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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ENDNOTES

¹Henceforth, we will use the terms "masochism" or "masochistic" to refer to the outlined phenomenon of nonsexual "benign" masochism. Reference to other forms of masochism (e.g., sexual) will be explicitly noted.

²Terms such as antisocial personality, antisocial traits, and antisocial preferences will be used to refer to socially malevolent dispositions.

³*Spearman-Brown ρ* refers to the Spearman-Brown reliability coefficient, which was identified as the most appropriate determinant of reliability of two-item tests (e.g., Eisinga, de Grotenhuis, & Pelzer, 2013).

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.

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