Running head: SADISM AND SCHADENFREUDE

**Sadism is a Lower-Order Facet of Schadenfreude**

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SADISM AND SCHADENFREUDE

2

**Abstract**

Sadism represents a predisposition towards enjoying the suffering that we cause others.

However, this conceptualization of Sadism closely abuts that of schadenfreude—the

tendency to find pleasure in others’ suffering. The relationship between trait Sadism and

trait schadenfreude has gone understudied. Using latent construct modeling with a

cross-sectional and diverse sample of 322 undergraduate participants, we found that

the bi-factor model of Sadism and schadenfreude that best fit the data articulated

Sadism as a sub-facet of schadenfreude. Sadism was more strongly related to physical

aggressiveness, anger, and antagonism than schadenfreude, suggesting a distinct

nomological profile. Future research should seek to identify the mechanisms that

translate a passive, schadenfreudic disposition into actual acts of Sadistic aggression.

Keywords: Sadism, schadenfreude, personality, bi-factor modeling

SADISM AND SCHADENFREUDE

3

**Sadism is a Lower-Order Facet of Schadenfreude**

*Pleasure is sweetest when 'tis paid for by another's pain. – Ovid*

Sadism reflects the tendency for some people to enjoy the harm that they inflict

upon others (Foulkes, 2019). Research into this topic has resulted in significant

progress but also some inconsistency in the conceptualization of what traits are and are

not central to Sadism. The present study combined a novel factor analytic approach

with bi-factor models to bring clarity to this literature by empirically examining (I)

whether dominance-seeking and callous-unempathic responding belong in the core

Sadism construct, (II) whether vicarious Sadism is redundant with schadenfreude, and

(III) whether Sadism is a lower-order facet of schadenfreude.

**Sadistic Personality**

Sadism, first conceptualized as a form of psychopathology and criminal behavior

outlined in the Diagnostic and Statistical Manual of Mental Disorders revised third

edition (American Psychiatric Association, 1987), was once considered a purely sexual

phenomena (i.e., sexual Sadism), and indeed its very name comes from Marquis de

Sade, who wrote sexually explicit fiction depicting extreme violence and suffering.

Modern conceptualizations of Sadism, however, have broadened the definition to “the

deliberate infliction of pain for the sake of enjoyment” (Nell, 2006, p. 227). Sadism was

previously considered a psychiatric disorder, and Sadistic personality disorder was

included in the revised third edition of the diagnostic and statistical manual of mental

SADISM AND SCHADENFREUDE

4

disorders (American Psychiatric Association, 1987). However, more recently

researchers have conceptualized Sadism as a broader personality trait, and have

demonstrated the existence of sub-clinical, so-called “everyday,” Sadism that exists

within the broader population (e.g., Buckels et al., 2013; Paulhus & Dutton, 2016).

Sadism is of key interest to researchers, clinicians, policy-makers, and the

American legal system, as it shows some of the strongest relationships among

personality traits with acts of aggression (Chester et al., 2019). The relationship

between Sadism and aggression depends upon the perceived suffering of target.

Greater perceived harm then leads to greater pleasure derived from the act (Chester et

al., 2019).

At its core, Sadism represents a predisposition towards enjoying the suffering of

others. However, other conceptual approaches to Sadism expand this construct to

include other psychological traits and tendencies. Specifically, the Assessment of

Sadistic Personality (Plouffe et al., 2017) includes domination (i.e., a disposition towards

seeking power over others) and callousness (i.e., an unemotional disposition towards

the feelings of others) facets of Sadism within its model of Sadism. Sadistic individuals

may indeed also be predisposed towards dominating others and having a callous

response to others’ suffering. However, it remains unseen whether these constructs are

inherent aspects of the Sadism construct or if they are correlated but ultimately distinct

traits.

Other conceptualizations of Sadism (e.g., those manifested in the

Comprehensive Assessment of Sadistic Tendencies; Buckels & Paulhus, 2013) include

separate constructs describing the direct inclination to cause harm for enjoyment (i.e.,

SADISM AND SCHADENFREUDE

5

direct sadism) and the passive enjoyment of the suffering of others while not inflicting

the harm directly (i.e., vicarious sadism). Though such vicarious Sadism is put forth in

this model as a core facet of Sadism, it may also be closely related to—if not directly

redundant with—the construct of schadenfreude.

**Sadism and Schadenfreude**

Schadenfreude reflects the pleasure people experience from the suffering of

others (Van Dijk et al., 2011) and has been compared to Sadism in the past. Trait

Sadism has been previously linked to greater momentary experiences of schadenfreude

(Lee, 2019; Schumpe & Lafrenière, 2016). However, the relationship between

schadenfreude and Sadism as personality traits remains understudied. At a *prima facie*

level, there is clear overlap between Sadism and schadenfreude—both involving joy

derived from other’s suffering. Indeed, there may be grounds to claim that these may

have a nested relationship rather than a mere correlational one. Sadism, as a trait, may

be nested under a broader disposition towards schadenfreude.

Schadenfreude has also been conceptualized as a context-specific response to a

situation. Individuals are likely to experience schadenfreude when they have some

instrumental or emotional gain from the victim’s suffering (e.g., positive self-esteem from

downward comparison), when the other deserves their harm, or when individual envies

the victim (e.g., Smith et al., 1996; Smith et al., 2009; Wang et al., 2019). These

conditions are not necessarily unique to schadenfreude as individuals high in Sadism

are still likely to receive pleasure from these same scenarios. However, most definitions

of Sadism emphasize that the pleasure that a Sadistic individual gains from harm is an

end unto itself, and does not rely on situational context (e.g., Chester et al., 2019). This

SADISM AND SCHADENFREUDE

6

non-contextual “harm for the sake of harm” may differentiate schadenfreude from

Sadistic pleasure and propel Sadistic individuals to directly cause the harm they enjoy.

Furthermore, the influence of these situational factors does not preclude stable

dispositions towards experiencing schadenfreude. Schadenfreude, like all affective

states occurs both momentarily and dispositionally. Indeed, there is clear evidence for

trait schadenfreude. Crysel and Webster (2018) developed and validated a measure of

stable dispositions towards experiencing schadenfreude. This scale showed adequate

test-retest reliability and stability over time, clearly indicating that individuals have a

stable disposition towards or away from experiencing schadenfreude. This measure of

trait schadenfreude was positively correlated with Machiavellianism, psychopathy,

Narcissism, physical aggression, anger and hostility. However, the relationship between

trait schadenfreude and trait Sadism remains empirically unexamined.

The key distinction between schadenfreude and Sadism may lie in the tendency

to passively experience the suffering of another versus the tendency to be actively

involved in causing that suffering. Indeed, Sadism inherently entails the active

perpetration of harm (Chester et al., 2019), whereas schadenfreude does not. Whereas

individuals high in schadenfreude may enjoy passively watching someone slip on a

banana peel, Sadistic individuals may only enjoy this person’s suffering if they were the

one who actively placed the banana peel in the path of their hapless victim. But this

distinction does not entail that schadenfreude and Sadism are inherently alienated from

one another. Instead, they may still share an intimate conceptual connection. It may be

that Sadism is best defined as an *active form* of schadenfreude.

**Present Study**

SADISM AND SCHADENFREUDE

7

The first aim of the present study was to empirically examine the conceptual core

1

of Sadism.

More specifically, we used a novel latent construct modeling technique to

examine Sadism’s relation to its more peripheral facets: dominance, callousness, and

vicarious Sadism.

Our preregistered hypotheses were as follows:

*H1: Including Sadistic subjugation with dominance will show better model fit*

*compared to including Sadistic subjugation items with Sadism.*

*H2: Including Sadistic callousness with callousness will show better model fit*

*compared to including Sadistic callousness with Sadism.*

*H3: Including vicarious Sadism items with schadenfreude will show better model*

*fit compared to including vicarious Sadism items with Sadism items.*

The second aim of the present study was to clarify the relationship between

Sadism and schadenfreude, specifically investigating if these constructs were

empirically redundant, or if they might be nested within one another. We predicted that:

*H4: The bi-factor model including Sadism and schadenfreude as a general factor*

*and Sadism as a lower-order facet factor should show the best fit, suggesting*

*that trait Sadism can be considered a lower-order facet of trait schadenfreude.*

Finally, we aimed to clarify the nomological networks of Sadism and

schadenfreude, we also conducted and compared their bivariate correlations with

several theoretically-relevant personality constructs, including the Big 5 personality

dimensions, aggression, behavioral approach and inhibition, and a tendency towards

1

The preregistered plan for data collection, preprocessing, and analysis, as well as the deidentified

dataset, and code for this study can be found at

https://osf.io/jdh8t/.This preregistration was registered

prior to data collection.

SADISM AND SCHADENFREUDE

8

holding contradictory responses with others’ emotions (i.e., affective dissonance). We

did not have specific predictions concerning these correlations.

**Method**

**Statistical Power Statement**

Sample size was derived via a power analysis using the *semPower* package in R

version 1.2.0 (Moshagen, 2021) for a S-1 bi-factor model (i.e., model 6) with an

expected *RMSEA* of .07, *α* = .05, and 80% power. Due to the large number of items in

each scale of the intended model, we preregistered using the 16 component subscales

as indicators instead of raw items. This power analysis suggested a minimum of 219

participants. In order to add account for a possibly inflated effect size in our power

analysis and to ensure sufficient power, we over-recruited to 322 participants. This

decision was made prior to accessing any data.

**Participants**

Participants consisted of 322 undergraduates from a large southeastern

university in the United States. Demographic information for the sample can be found in

Table 1.

*Table 1. Sample demographic information*

Demographic information

*M*

*SD*

Range

Age

19.80

2.86

18-42

Race

Percentage

White

38.89%

Asian

21.91%

Black

18.32%

Non-white Hispanic/Latinx

6.17%

Middle-Easter/Arabic

4.94%

Native American

0.93%

Pacific Islander/Native Hawaiian

0.62%

“Other racial identity”

5.56%

SADISM AND SCHADENFREUDE

9

Did not disclose

2.66%

Gender identity

Percentage

Cisgender women

65.74%

Cisgender men

22.53%

Non-binary/other gender identity

3.09%

Prefer to self-describe

2.16%

Transgender women

0.62%

Transgender men

0.31%

Did not disclose

5.55%

**Materials**

***Sadism Scales***

**Assessment of Sadistic Personality (ASP; Plouffe et al., 2017).** The ASP is a

nine-item scale assessing trait Sadism consisting of three subscales: *subjugation* (three

items; e.g., “I never get tired of pushing people around”), *pleasure-seeking* (four items;

e.g., “When I mock someone, it is funny to see them get upset), and *unempathic* (two

items; e.g., “I think about hurting people who irritate me”). Participants were asked to

rate the degree to which they agree or disagree with each statement on a scale from 1

(*Strongly disagree*) to 5 (*Strongly agree*).

**Short Sadistic Impulse Scale (SSIS; O’Meara et al., 2011).** The SSIS is a 10-

item scale of dispositional Sadism (e.g., “I would enjoy hurting someone physically,

sexually, or emotionally”). Participants were asked to rate the degree to which they

agree or disagree with each statement on a scale from 1 (*Strongly disagree*) to 5

(*Strongly agree*).

**Comprehensive Assessment of Sadistic Tendencies (CAST; Buckles &**

**Paulhus, 2014).** The CAST is a measure of trait Sadism, and is comprised of three

subscales, two measuring direct Sadism: *verbal* (six items; e.g., “I have purposely

SADISM AND SCHADENFREUDE

10

tricked someone and laughed when they looked foolish”) and *physical* (five items; e.g.,

“I enjoy physically hurting people”) and one subscale measuring *vicarious* Sadism

(seven items; e.g., “In video games, I like the realistic blood spurts”). Participants were

asked to rate the degree to which they agree with each statement on a scale from 1

(*Strongly disagree*) to 7 (*Strongly agree*).

***Secondary Construct Scales***

**Computerized Adaptive Test of Personality Disorder (CAT-PD; Simms et al.,**

**2011).** The CAT-PD is a measure of personality disorders based on the Diagnostic and

Statistical Manual of Mental Disorders fifth edition (DSM-V). It contains 33 subscales,

but only the *domineering* subscale (six items; e.g., “I like having authority over others.”)

and *callousness* (seven items; e.g., “I do not care how my actions affect others.”) were

used in the present study. Participants were asked to respond to each item on a scale

from 1 (*Very untrue of me*) to 5 (*Very true of me*).

**Trait Schadenfreude Scale (Crysel & Webster, 2018).** The Crysel and

Webster (2018) Schadenfreude Scale measures trait dispositions towards experiencing

pleasure from viewing others’ pain. This scale contains two theoretically-derived

subscales of *benign* schadenfreude, in which the harm done to the target was minimal

(six items; e.g. “I have laughed at someone who has fallen before helping them up”),

and *malicious* schadenfreude, in which serious harm to the target occurred (six items;

e.g. “I like to see someone successful get fired”). Participants were asked to rate the

degree to which they agree or disagree with each statement on a scale from 1 (*Strongly*

*disagree*) to 9 (*Strongly agree*).

***Discriminant Validity Scales***

SADISM AND SCHADENFREUDE

11

**Affective and Cognitive Measure of Empathy (ACME; Vachon & Lynam,**

**2016).** The ACME is a 36-item self-report measure of empathy that includes 3

subscales, however, only the 12-item *affective dissonance* (e.g., “I get a kick out of

making other people feel stupid”) was used in the present study. Participants were

asked to rate the degree to which they agree or disagree with each statement on a

scale from 1 (*Disagree strongly*) to 5 (*Agree strongly*).

**Behavioral inhibition system/Behavioral activation system Scale (BIS/BAS;**

**Carver & White, 1994).** The BIS/BAS scale was designed to measure individual

sensitivities to two affective/behavioral motivation systems, the behavioral inhibition

system (BIS; i.e., regulation of aversive motivations) and the behavioral activation

systems (BAS; i.e., regulation of appetitive motivations). The BIS/BAS consists of four

subscales: *BAS drive* (four items; e.g., “If I see a chance to get something I want I move

on it right away”), *BAS fun-seeking* (four items; e.g., “I will often do things for no other

reason than that they might be fun”), *BAS reward responsiveness* (five items; e.g.,

“When I'm doing well at something I love to keep at it”), and *BIS* (seven items; e.g., “I

feel worried when I think I have done poorly at something important”). Participants were

asked to rate the degree to which they agree or disagree with each statement on a

scale from 1 (*Very true of me*) to 4 (*Very false of me*).

**Buss-Perry Aggression Questionnaire (BPAQ; Buss & Perry, 1992).** The

BPAQ is one of the most widely used trait aggression questionnaires among non-clinical

populations. It is comprised of four subscales: *physical aggression* (nine items; e.g.,

“once in a while I can’t control the urge to strike another person”), *verbal aggression*

(five items; e.g., “I can’t help getting into arguments when people disagree with me”),

SADISM AND SCHADENFREUDE

12

*anger* (seven items; e.g., “I have trouble controlling my temper”), and *hostility* (eight

items; “I know that ‘friends’ talk about me behind my back”). Participants were asked to

respond to each item from 1 (*Extremely uncharacteristic of me*) to 5 (*Extremely*

*characteristic of me*).

**International Personality Item Pool NEO-60 (IPIP-NEO-60; Goldberg, 1999;**

**Goldberg et al., 2006).** The IPIP NEO-60 is a 60-item scale measuring the Big Five

model of personality traits: agreeableness (e.g., “I sympathize with the homeless”),

conscientiousness (e.g., “I like order”), extraversion (e.g., “I love large parties”),

neuroticism (e.g., “I get irritated easily.”), and openness to experience (e.g., “I prefer

variety to routine”). Participants were asked to rate the degree to which they agree or

disagree with each statement on a scale from 1 *(Strongly disagree*) to 5 (*Strongly*

*agree*).

**Procedure**

Participants were recruited through a university participant pool system. After

signing up for the study through the system, they were directed to an online Qualtrics

survey. After consenting, participants were asked to complete the study questionnaires

in a random order, randomized by Qualtrics, in order to reduce possible order effects.

They then read a full debriefing form through the online survey describing the purpose

of the study, the initial withholding of hypotheses, and were referred to the first and

second authors if they had any questions or concerns.

**Data Analytic Strategy**

***Data Preparation***

SADISM AND SCHADENFREUDE

13

In accordance with our preregistration, missing data were replaced with multiple

imputation predictive mean metric using the *mice* package version 45i03 (van Buuren &

Groothuis-Oudshoorn, 2011) in R version 4.0.5 (R Core Team, 2021). We then created

indices for each applicable Sadism and schadenfreude subscale (e.g., benign

schadenfreude, physical Sadism) for use as indicators within our latent models by

converting all individual item scores into Z-scores and then averaging appropriate items

together. All subsequent analyses were performed with R version 4.0.5 (R Core Team,

2021), including the *lavaan* package version 0.6-11 (Rossel, 2012).

***“Dance Partner” Construct Modeling***

Several facets of Sadism, which conceptually extend past the core feature of

Sadistic pleasure, have been put forth (i.e., subjugation or dominance, unempathicness

or callousness, and vicarious Sadism). However, these traits may not necessarily be

intrinsic parts of Sadism. We applied a novel factor analytic approach to empirically

estimate whether these peripheral traits truly belong within the Sadism construct or

not—a technique we term “dance partner modeling.”

We conducted three sets of latent variable analyses (please see Figure 1 for a

conceptual example diagram; Models 1-3). Within each of the three sets were two

models that modeled the same two latent factors. The first latent factor was labeled

Sadism and was indicated by all available Sadism subscales. The second latent factor

changed for each set of models, reflected the given construct of interest (e.g.,

dominance), and was indicated by a measure of that construct of interest (e.g., the

Dominance subscale of the CAT-PD). The first model within each set modeled the

construct of interest’s (e.g., dominance) corresponding Sadism subscale (e.g., ASP

SADISM AND SCHADENFREUDE

14

subjugation) as an indicator for the Sadism factor. The second model within each set

modeled the construct of interest’s (e.g., dominance) corresponding Sadism subscale

(e.g., ASP subjugation) as an indicator for the factor that reflected the construct-of-

interest (e.g., dominance). These models used maximum likelihood estimation and set

the loading of the first indicator for each factor to one, in order to set the scale of each

latent factor. Error terms were left uncorrelated and latent factors were allowed to

correlate. In accordance with our preregistration plan, we inferred that a model had

*2*

superior fit to another model if the *χ*

difference test was statistically significant and the

comparative fit index (CFI) increased by at least .02.

*Figure 1. Example conceptual diagram of Dance Partner Modeling technique*

*Note: CAST = Comprehensive Assessment of Sadistic Tendencies, SSIS = Short*

*Sadistic Impulse Scale, ASP = Assessment of Sadistic Personalities, CAT-PD =*

*Computerized Adaptive Test of Personality Disorder. Subj = Subjugation, Pleasure =*

*Pleasure-seeking, Phys = Physical, Verb = Verbal, Vica = Vicarious.*

SADISM AND SCHADENFREUDE

15

By comparing model fit between two competing models, we can examine if (for

example) subjugation is a “better dancer” when it is partnered with Sadism or when it’s

partnered with items from a similar construct (i.e., dominance). If model fit is better

when Sadistic subjugation items are loaded onto a dominance factor rather than a

Sadism factor, it implies that dominance is not an inherent part of Sadism, and should

thus be excluded from the Sadism construct and measures thereof.

***Bi-factor Models***

Bi-factor models are useful for testing hypotheses that one construct is

subsumed under another. By separating the variance into a general effect (G) and a

number of lower-order specific effects, we can understand nested relationships of

constructs. However, commonly used symmetrical bi-factor models may be biased

towards the bi-factor model, favoring it over competing models (Bonifay et al., 2017).

Other studies have shown that symmetrical bi-factor models often produce impossible

or unusual results such as small or negative factor variances (Heinrich et al., 2020).

Instead, S-1 bi-factor models, which sets one of the specific factors as a reference

factor compared to the other specific factors, have been shown to reduce this bias and

produce more easily interpretable results (e.g., Heinrich et al., 2020). We used S-1 bi-

factor modeling to examine if Sadism is a facet of schadenfreude. In order to do this, we

constructed four different models (Models 4-7; Figure 2). Models 4 and 5 were set as

baseline models, showing Sadism and schadenfreude as orthogonal or correlated

factors, respectively. We then test two empirical S-1 bi-factor models. Model 6 tested

our hypothesis that Sadism can be understood as a facet of schadenfreude, including

all facets of schadenfreude and Sadism in the overall *G* factor, and Sadism alone in the

SADISM AND SCHADENFREUDE

16

specific factor. Finally, Model 7 tested an alternative hypothesis that schadenfreude is a

facet of Sadism, including all facets of schadenfreude and Sadism in the overall *G* factor

and schadenfreude alone in the specific factor. In accordance with our preregistration

2

plan, we inferred that a model had superior fit to another model if the χ

difference test

was statistically significant and the comparative fit index (CFI) was larger by at least .02.

*Figure 2. Conceptual diagrams of bi-factor models used for models 4, 5, 6, and 7.*

SADISM AND SCHADENFREUDE

17

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*Pleasure-seeking, Phys = Physical, Verb = Verbal, Vica = Vicarious.*

***Discriminant Validity***

Finally, we conducted bivariate correlations between Sadism and schadenfreude

and several antagonistic traits. In order to compare Sadism and schadenfreude, we

created a composite Sadism index by standardizing scores from the CAST, SSIS, and

ASP into z-scores, then averaging those scores. We further used the overall Crysel and

Webster (2018) Schadenfreude scale, rather than the benign and malicious subscales

SADISM AND SCHADENFREUDE

18

separately. We used Fisher’s *r*-to-*Z* transformation to then test the difference in strength

between these correlation coefficients in order to get a better sense of discriminant

validity.

**Results**

Descriptive statistics and reliability for model indicators can be found in Table 3

and model fit parameters can be found in Table 4. Although our preregistration specified

that we would use the component subscales of each measure as our model

parameters, we were unable to establish adequate fit for any model using this subscale-

level approach (*RMSEA*s > .10). Thus, we deviated from our preregistered plan and

used individual items instead of subscales as indicators for each latent factor. Full factor

loadings and residual variances for each item from each model can be found in

supplemental materials (S1).

*Table 3. Descriptive statistics for model parameter scales.*

Std.

Variable

Min

Max

Mean

Dev

Skew

Kurtosis

a

CAST Physical

1.00

5.40

1.62

0.87

1.77

2.83

0.74

CAST Verbal

1.00

6.17

2.43

1.20

0.63

-0.47

0.76

CAST Vicarious

1.00

6.71

2.50

0.98

1.05

1.04

0.73

SSIS

1.00

3.67

1.40

1.55

1.80

4.09

0.83

ASP Pleasure-

seeking

1.00

4.25

1.59

0.71

1.26

0.90

0.75

ASP Unempathic

1.00

5.00

2.18

1.07

0.50

-0.67

0.36

ASP Subjugation

2.67

5.67

3.02

0.61

2.18

4.55

0.73

Benign

schadenfreude

1.00

9.00

3.76

1.87

0.44

-0.39

0.81

Malicious

schadenfreude

1.00

6.50

1.72

1.01

1.79

3.13

0.81

CAT-PD

Dominance

1.00

4.67

1.83

0.76

0.84

0.21

0.85

CAT-PD

Callousness

1.00

3.86

1.95

0.49

1.10

0.96

0.66

SADISM AND SCHADENFREUDE

19

*Note: CAST = Comprehensive Assessment of Sadistic Tendencies, SSIS = Short*

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*Computerized Adaptive Test of Personality Disorder*

**Hierarchical Construct Models**

***Model 1: Dominance and Sadistic Subjugation.***

Our first model examined whether model fit was better when ASP subjugation

was included with Sadism (Model 1a) measures or with another dominance measure

(Model 1b). Both Model 1a and Model 1b showed adequate fit by *RMSEA* but not by

2

*CFI.* Due to the same degrees of freedom, we were unable to interpret the χ

difference

test, however, the difference in CFI between exceeded our established threshold, with

greater CFI in Model 1a than Model 1b. Thus, model fit was better when Sadistic

subjugation was included with Sadism than when paired with dominance.

***Model 2: Callousness and Sadistic Unempathicness****.*

Our second model compared model fit when ASP unempathicness was included

with other Sadism items (Model 2a) and when it is included with other callousness items

(Model 2b). Model 2a and Model 2b had adequate fit by *RMSEA* but not by *CFI*. Due to

2

the same degrees of freedom in each model, we were unable to interpret the χ

difference test. However, the difference in *CFI* between exceeded our established

threshold, with greater *CFI* in Model 2a than Model 2b. This suggests that

unempathicness is better when paired with Sadism than when paired with callousness.

***Model 3: Schadenfreude and Vicarious Sadism.***

Our third model compared model fit when CAST vicarious Sadism was included

with other Sadism items (Model 3a) and when it is included with trait schadenfreude

(Model 3b). Model 3a and Model 3b both adequate fit by RMSEA but not by CFI. Due to

SADISM AND SCHADENFREUDE

20

the degrees of freedom being equal in each model, we were unable to calculate a chi-

square difference test. In addition, the difference in CFI between models did not exceed

our threshold, suggesting that vicarious Sadism is just as good when paired with

Sadism as it is when paired with schadenfreude.

**Bi-Factor Models**

The relationship between trait Sadism and schadenfreude has gone

understudied, and may be deeper than previously suggested. It may be that Sadism

and schadenfreude are not merely correlated, but represent a nested hierarchical

structure. That is to say, trait Sadism is a facet under a broader umbrella of

schadenfreude that captures not only a tendency towards enjoying the pain of others,

but an inclination to directly cause it. Our bi-factor models investigated this.

Our first baseline model (Model 4)—setting Sadism and schadenfreude as

orthogonal—had adequate by *RMSEA* but not by CFI. Our second baseline model

(Model 5)—setting Sadism and schadenfreude as correlated but separate constructs—

showed adequate by *RMSEA* but not by *CFI.* Model 5 showed improved fit over Model

2

4, χ

difference (1) = 211.89, *p* < .001. This was expected, as other research has shown

that individuals high in trait Sadism are more likely to experience schadenfreude (e.g.,

Schumpe & Lafrenière, 2016). Model 6, setting Sadism as a facet of schadenfreude,

showed adequate fit by *RMSEA* but not by *CFI*, as did Model 7, setting schadenfreude

as a facet of Sadism. Most important for our hypothesis, Model 6 had significantly better

2

2

fit compared to Model 4, χ

difference (33) = 356.06, *p* < .001, Model 5, χ

difference

2

(32) = 144.17, *p* < .001, and Model 7, χ

difference (21) = 65.29, *p* < .001. Model 7

2

showed significantly better fit compared to Model 4, χ

difference (12) = 290.76, *p* <

SADISM AND SCHADENFREUDE

21

2

.001, and Model 5, χ

difference (11) = 78.88, *p* < .001. These results suggest that

Sadism is best considered as a facet of trait schadenfreude.

*Table 4. Summary of model fit parameters for dance partner models and bi-factor*

*models*

2

Models

χ

(df)

*p*

*RMSEA (90% CI)*

*CFI*

Latent

inter-factor

correlations

***Dance Partner Models***

**Model 1**

Model 1a

2471.63 (818)

<.001

.08 (.08, .08)

.72

.59

Model 1b

2696.17 (818)

<.001

.09 (.08, .09)

.68

.75

**Model 2**

Model 2a

2137.66 (739)

<.001

.08 (.07, .08)

.72

-.54

Model 2b

2230.10 (739)

<.001

.08 (.08, .08)

.70

-.60

**Model 3**

Model 3a

2847.13 (944)

<.001

.08 (.08, .08)

.69

.78

Model 3b

2857.42 (944)

<.001

.08 (.08, .08)

.69

.81

***Bi-factor Models***

Model 4

3059.01 (945)

<.001

.08 (.08, .09)

.65

.00

Model 5

2847.13 (944)

<.001

.08 (.08, .08)

.69

.78

Model 6

2702.96 (912)

<.001

.08 (.08, .08)

.71

.00

Model 7

2768.25 (933)

<.001

.08 (.08, .08)

.70

.00

**Discriminant Validity**

Reliability and descriptive statistics for discriminant validity measures can be

found in Table 5 and bivariate correlations between schadenfreude, Sadism, and our

discriminant validity measures can be found in Table 6.

*Table 5. Descriptive statistics for discriminant validity scales.*

Std.

Scale

Min

Max

Mean

Dev

Skew

Kurtosis

a

Affective dissonance

1.00

3.92

1.53

0.65

1.52

1.69

0.90

Agreeableness

2.42

4.92

3.84

0.54

-0.32

-0.55

0.72

Anger

1.14

7.57

3.33

1.20

0.80

-0.02

0.57

BAS Drive

1.00

4.00

2.26

0.57

0.03

-0.18

0.73

BAS Fun-seeking

1.00

3.75

1.96

0.55

0.16

-0.41

0.64

SADISM AND SCHADENFREUDE

22

BAS Reward

responsiveness

1.00

3.40

1.54

0.47

0.97

1.04

0.76

BIS

1.00

3.29

1.83

0.47

0.32

-0.36

0.71

Conscientiousness

1.75

5.00

3.71

0.61

-0.38

-0.19

0.81

Extraversion

1.50

5.00

3.47

0.64

-0.32

0.25

0.80

Hostility

1.00

7.00

3.60

1.27

0.06

-0.47

0.81

Neuroticism

1.50

4.67

3.11

0.64

-0.14

-0.42

0.77

Openness

2.08

4.42

3.34

0.39

-0.16

0.09

0.68

Physical aggression

1.00

7.00

2.73

1.16

0.65

-0.02

0.82

Sadism aggregate

-0.59

2.00

0.00

0.59

1.42

1.47

0.93

Verbal aggression

1.00

7.00

3.37

1.26

0.30

-0.25

0.74

*BAS = Behavioral Activation System, BIS = Behavioral Inhibition System.*

Both Sadism and schadenfreude fit within a common antisocial nomological

network: both were positively correlated with affective dissonance—a predisposition

towards experiencing the opposite emotional and psychological states as others (e.g.,

pleasure from another’s pain and pain from another’s pleasure)—and all facets of trait

aggression, and negatively correlated with agreeableness and conscientiousness.

However, schadenfreude and Sadism diverged on several traits. Sadism was more

strongly correlated than schadenfreude with physical aggression, trait anger,

agreeableness, BAS reward responsivity, and BIS. In addition, schadenfreude was

significantly correlated with neuroticism, while Sadism was not, although this difference

was not significant. This pattern of correlations suggests that Sadism can be

differentiated from its broader construct of schadenfreude by inclinations towards direct

aggression, greater anger, lower agreeableness, responsiveness towards rewards, and

an ability to inhibit behavior.

SADISM AND SCHADENFREUDE

23

*Table 6. Bivariate correlations between Sadism, schadenfreude, and discriminant*

*validity scales.*

Sadism

Schadenfreude

Z-score

Scale

aggregate

total

comparison

\*\*\*

Sadism aggregate

1.00

.65

Affective dissonance

\*\*\*

\*\*\*

.75

.75

0.00

Agreeableness

\*\*\*

\*\*\*

\*\*\*

-.58

-.36

5.45

Anger

\*\*\*

\*\*\*

\*\*\*

.43

.25

4.10

BAS Drive

-.04

.03

-1.48

BAS Fun-seeking

-.07

-.08

0.21

BAS Reward

\*\*\*

\*\*

responsiveness

.15

.02

2.76

BIS

\*\*\*

\*\*\*

.22

.05

3.63

Conscientiousness

\*\*\*

\*\*\*

-.26

-.19

1.52

Extraversion

.01

-.02

0.63

Hostility

\*\*\*

\*\*\*

.41

.40

0.24

Neuroticism

\*\*

.10

.16

-1.28

Openness

.04

.06

-0.42

Physical aggression

\*\*\*

\*\*\*

\*\*\*

.57

.33

5.87

Verbal aggression

\*\*\*

\*\*\*

.42

.35

1.63

*Note: \*\* p < .01, \*\*\* p < .001; BAS = Behavioral Activation System, BIS = Behavioral*

*Inhibition System.*

**Discussion**

The current project attempted to investigate the relationship between Sadism and

schadenfreude, as well as to clarify whether three facets of Sadism truly belonged in the

core of Sadistic personality. Given Sadism’s strong relations to real-world aggression

(Chester et al., 2019), it is of critical importance to understand its nomological network

of Sadism. By identifying Sadism as a facet of schadenfreude, future interventions may

be able to address when the passive enjoyment of harm propels the future perpetration

of aggression.

**The Structure of Sadism**

SADISM AND SCHADENFREUDE

24

Our attempts to tease apart the callous, dominant, and vicarious facets of sadism

via dance partner modeling were unsuccessful. Against our predictions, it appears that

these three ingredients are required in the recipe for the broad Sadism construct. The

disposition towards enjoying the suffering of others would also include the enjoyment of

dominating others. In order to overcome the natural empathic reaction to another

person being harmed, individuals high in Sadism would need to be callous to their

victim’s suffering. This supports the inclusion of these constructs in further Sadism

studies. Furthermore, it is natural that an individual who enjoys harming others would

experience a similar degree of joy from passively seeing others harmed. However,

contrary to our predictions, vicarious Sadism was not redundant with schadenfreude.

This is somewhat surprising given our further findings that Sadism is a facet of

schadenfreude. It may be that the specific facet of vicarious sadism captured by the

CAST is qualitatively different from that captured by the schadenfreude scale.

**The Relationship Between Sadism and Schadenfreude**

In line with our predictions, our findings imply that Sadism can best be

considered as a facet of a broader schadenfreude. These results may help distinguish

trait schadenfreude as more passive—experiencing joy from others pain but not

necessarily being the cause of it—as opposed to more direct Sadism—enjoying actively

harming others, as others have suggested (e.g., Ben-Ze’ev, 2014). Indeed, although

both Sadism and schadenfreude were positively correlated with trait aggression,

Sadism was more strongly correlated with physical aggression and anger than

schadenfreude was, suggesting that it is Sadism that propels direct aggression. This

SADISM AND SCHADENFREUDE

25

was further supported by Sadism’s correlation with reward responsiveness and

schadenfreude’s relationship with neuroticism.

From the above research, it is clear that Sadism is a facet of trait schadenfreude.

To put it another way, Sadism is a disposition towards experiencing a certain kind of

schadenfreude. However, Sadism does not fit into any of the pre-existing perspectives

of schadenfreude. Within the body of scientific literature, there are three broad

perspectives of why and when schadenfreude occurs: justice (e.g., Berndsen &

Tiggemann, 2020), envy (e.g., Van Dijk et al., 2015), and group identity (e.g., Combs et

al., 2009). Although some have found that Sadism is linked to malicious envy (e.g.,

Dinic & Brankovic, 2022) and dominance is a part of Sadism (e.g., Plouffe et al., 2017),

the Sadistic enjoyment of harm is not contingent on envying the target, nor is the

ultimate goal of the harm dominance over another—but rather the pure hedonism

gained through aggression. Thus, new conceptualizations of schadenfreude are needed

to unify these constructs.

How, why, and when do individuals who experience schadenfreude decide to

directly pursue Sadistic harm? Future research should leverage longitudinal designs to

investigate schadenfreude as a risk factor or predispositional precursor to Sadism.

Experimental and computational approaches might further the study of these topics by

disentangling the mechanisms that differentially motivate and reinforce Sadism and

schadenfreude. Such studies might allow us to prevent a person prone to the passive

enjoyment of others’ suffering from seeking to inflict such suffering themselves.

**Limitations and Future Directions**

SADISM AND SCHADENFREUDE

26

An obvious limitation in the current study is its sample characteristics. Although

the sample was relatively racially and ethnically diverse, it still consisted of

undergraduate students in the United States, and a majority of participants were

cisgender women. Although there is little evidence to suggest that the core construct of

Sadism or its relationship with schadenfreude would differ by age, it could very well

differ by gender identity and cultural context. In this study, we found that men were

higher than women on all facets of Sadism besides Sadistic subjugation and were

higher than women on malignant schadenfreude. Individuals in collectivist cultures, or

cultures with different social display rules than the United States may experience or

report schadenfreude differently. Future research should thus use cross cultural

samples. Furthermore, the present study only investigated these constructs at the trait

level, and not at the experiential or behavioral levels, and cannot necessarily comment

on the experience of schadenfreude nor the perpetration of Sadistic aggression.

**Conclusion**

Sadism is arguably the most malevolent personality trait studied within

psychology, showing the strongest links to aggression (e.g., Chester et al., 2019), and is

of critical importance to understand. The present study suggested that Sadism is a facet

of schadenfreude. By situating the active perpetration of harm for the sake of pleasure

within the broader context of the passive enjoyment of harm, we hope that our findings

help researchers, policy-makers, and practitioners to understand the nuanced ways in

which pleasure can lead to the infliction of pain.

SADISM AND SCHADENFREUDE

27

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28

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29

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30

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