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## Vol. 14(1)/2020

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Suggested Citation:

APA: Bondü, R., & Birke, J. (2020). Links between aggressive sexual fantasies and presumably non-consensual aggressive sexual behavior when controlling for BDSM identity. *International Journal of Conflict and Violence*, 14(1), 1-18. doi: 10.4119/ijcv-3777

Harvard: Bondü, Rebecca, Birke, Joseph. 2020. Links between Aggressive Sexual Fantasies and Presumably Non-Consensual Aggressive Sexual Behavior when Controlling for BDSM Identity. *International Journal of Conflict and Violence* 14(1): 1-18. doi: 10.4119/ijcv-3777



# Links between Aggressive Sexual Fantasies and Presumably Non-Consensual Aggressive Sexual Behavior when Controlling for BDSM Identity

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Recent research provides evidence that aggressive sexual fantasies predict aggressive sexual behavior in the general population. However, sexual fantasies including fantasies about the infliction of pain and humiliation, should be frequent and often consensually acted upon among individuals with sadomasochistic likings. The question arises whether sexual fantasies with aggressive content still predict presumably non-consensual aggressive sexual behavior in individuals with sadomasochistic likings, given that BDSM encounters are generally considered consensual. To investigate this question, we conducted a questionnaire survey of sexual fantasies, assessing the frequency of seventy sexual fantasies involving non-aggressive, masochistic, and aggressive acts. Our sample (N = 182) contained 99 respondents who self-identified as sadist, masochist, or switcher; 44 reported no such identification. For respondents reporting BDSM identification, we replicated a factor structure for sexual fantasies similar to that previously found in the general population, including three factors reflecting fantasies about increasingly severe aggressive sexual acts. Fantasies about injuring a partner and/or using weapons and fantasies about sexual coercion predicted presumably non-consensual sexual behavior independently of other risk factors for aggressive sexual behavior and irrespective of BDSM identification. Hence, severely aggressive sexual fantasies may predispose to presumably non-consensual sexual behavior in both individuals with and without BDSM identification.

Keywords: aggressive sexual fantasies, BDSM, sexual aggression, psychopathy

Acknowledgement: The authors thank Marie-Luise Heidrich for the data collection.

Aggressive sexual fantasies may be defined as imaginations of intentionally harming a person within a sexual context and resulting in sexual arousal (Baron and Richardson 1994; Bondü and Birke 2020). Although these fantasies are rare in comparison to other sexual fantasies (Person et al. 1989), research yielded evidence for high prevalence rates even in the general population (Bondü and Birke 2020; Joyal 2017; Joyal, Cossette, and Lapierre 2015; Williams et al. 2009). Because aggressive sexual fantasies are prevalent in sex offenders (Bartels and Gannon 2011; Beauregard et al. 2008; Carabellese et al. 2011; Langevin, Lang, and

Curnoe 1998; Maniglio 2010; Woodworth et al. 2013), and sadistic behavior, sexual coercion, and the likelihood to rape in case of impunity in the general population (Bondü and Birke 2020; Gold and Clegg 1990; Greendlinger, and Byrne 1987; Knight and Sims-Knight 2011, 2003), they are often considered an important risk factor for aggressive sexual behavior and sexual coercion (Bartels and Beech 2016; Bartels and Gannon 2011 for an overview; Burgess et al. 1986; Dean and Malamuth 1997).

Empirical research, however, is sparse and was for a long time almost exclusively limited to North Amer-

ican clinical or offender samples with small numbers of items on aggressive sexual fantasies (Ahlers et al. 2011; Burgess et al. 1986; Williams et al. 2009; Wilson and Lang 1981; Woodworth et al. 2013). Two recent studies in the German general population introduced a broader measure of aggressive sexual fantasies, for example including items on verbal and relational sexual aggression. Both found high prevalence rates for these fantasies, identified/replicated three subscales of aggressive sexual fantasies (slightly painful and/or potentially consensual [for example scratching the sexual partner], coercive [for example intimidating the sexual partner], and extremely violent [for example killing somebody during sexual intercourse]), and related aggressive sexual fantasies to measures of aggressive sexual behavior (Bondü and Birke 2020). Aggressive sexual fantasies were the strongest predictor of sadistic behavior. When they were included in the regression analysis in the last step, the amount of explained variance ( $R^2$ ) increased from .263 to .488 ( $F=231.228^{***}$ ), even when controlling for a range of other risk factors for aggressive sexual behavior (including consumption of violent pornography, general aggression, psychopathy, and rape myth acceptance). The three aggressive fantasy subscales predicted this behavior independently from one another and when combined into a total score. This is in line with previous research showing aggressive sexual fantasies to be an important risk factor for sexual coercion in the general public beyond other risk factors (Knight and Sims-Knight 2003).

One limitation of previous research is its failure to take into account and control for participants' potential BDSM likings. That would, for two related reasons, appear important when examining the links between aggressive sexual fantasies and accordant behavior: First, sexual fantasies including the infliction of pain and humiliation and other aspects of aggression should be common among individuals with sexual preferences including sadomasochistic or BDSM practices (Simula, 2019). Second, these fantasies should generally be acted upon consensually within the BDSM community, therefore not fulfilling the definition of aggression. Hence, it should be particularly interesting to examine the relations between aggressive sexual fantasies and aggressive sexual be-

havior while controlling for BDSM likings, in order to find out whether they are similar to those in the general population or reflect a different understanding of consensuality and aggression.

The present study, therefore, examined the frequency and factor structure of aggressive sexual fantasies in an unselected sample of German-resident participants with BDSM self-identification (self-identified as sadist, masochist, or switcher). It also investigated whether these fantasies predict presumably non-consensual aggressive sexual behavior beyond other risk factors when controlling for BDSM identification. Thus, our primary interest was to examine whether we could replicate previous findings in samples from the general public in samples with an affinity for BDSM practices. We were also interested in similarities and differences between participants with and without BDSM self-identification in order to learn more about the link between fantasy and behavior.

### 1 Possible Links between BDSM Likings and Aggressive Sexual Fantasies

BDSM is a term that describes forms of sexual activity including *Bondage and Discipline, Dominance and Submission*, as well as *Sadism and Masochism* (Simula 2019). Research on BDSM practices is still rather sparse, with surveys frequently limited to small and highly selective groups; therefore, empirical knowledge about the group is somewhat limited. When examining the relation between aggressive sexual fantasies and aggressive sexual behavior, however, controlling for BDSM identification seems necessary for several reasons. First, it is generally agreed that BDSM practices include not only a physical, but also a strong psychological dimension (Weinberg, Williams, and Moser 1984). This dimension is characterized by a power exchange staged in different forms of role play during sexual encounters (Martin, Smith, and Quirk 2016). Sexual fantasies are therefore considered a particularly important part of BDSM, a valuable aspect of sexuality, and a driving force when acting on these sexual preferences: Fantasies provide the rationale for and may guide the planning and organization of BDSM encounters or sessions as well as legitimate enactments of power exchange and role-play (Martin et

al. 2016). Fantasies including the infliction of pain, humiliation, or other aspects of aggression are expected to be particularly frequent and important among individuals with BDSM preferences. In line with this reasoning, individuals with BDSM preferences should not only frequently report sexual fantasies including these aspects, but also positive attitudes towards sexual fantasies in general.

Second, the liking for BDSM practices should also be accounted for because encounters including BDSM practices are often considered as consensual and mutually agreed upon (Simula 2019). In this case, these encounters would not meet the definition of aggressive behavior that requires the actor to intend to harm another person and the supposed victim of the aggressive act to be motivated to avoid this harm. It might even be argued that the dominant part in these encounters is actually acting upon or at least in accordance with the submissive part's wishes and needs. Hence, the behavior involved in BDSM sexual encounters must not necessarily be considered aggressive and should clearly be distinguished from sexual coercion (Martin et al. 2016). In line with this reasoning, research has found only small differences in social functioning (Sandnabba, Santtila, and Nordling 1999) and psychopathological factors (such as depression, obsessive compulsion, personality disorders, or accentuations) between individuals who do and do not practice BDSM (Connolly 2006; Martin et al. 2016).

Following from this reasoning, two potential relations of aggressive sexual fantasies and aggressive sexual behavior among individuals with BDSM likings could be assumed: On the one hand, aggressive sexual fantasies among individuals with BDSM likings may be limited to consensual encounters that involve the infliction of pain or humiliation on a partner only if the partner has agreed to this. If this were the case, aggressive sexual fantasies should only show small if any relations with measures of (presumably) non-consensual aggressive sexual behavior among individuals with BDSM likings.

On the other hand, one may assume that aggressive sexual fantasies are a risk factor for (presumably) non-consensual aggressive sexual behavior regardless of sexual likings. There are several reasons underpinning

this assumption: First, the links between aggressive sexual fantasies and accordant behavior have been consistent and strong in different samples from the general population and samples of sex offenders in previous research (Bondü and Birke 2020; Dean and Malamuth 1997; Knight and Sims-Knight 2003), making it unlikely that there would be no links whatsoever in samples including participants with BDSM likings. This reasoning is supported by research that has yielded little evidence for differences between individuals with and without such likings (Connolly 2006; Martin et al. 2016). Second, fantasies are thought to mark sexual preferences that are difficult or impossible to alter. If an individual has a preference for sexual encounters and/or fantasies involving the infliction of pain, humiliation, and other aspects of aggression, it seems unlikely that these fantasies can be willfully controlled to be limited to consensual encounters alone, particularly among individuals with strong sadistic tendencies that may even reflect sadistic disorder. Third, it can be assumed that fantasies tend to press for implementation with increasing frequency and intensity (Prentky et al. 1989). Considering all the arguments outlined above as well as previous research findings, we expected aggressive sexual fantasies to predict presumably non-consensual aggressive sexual behavior even when controlling for BDSM identification.

### 1.1 The Present Research

In the present study we asked a sample from the German-resident general population including participants with and without self-ascribed BDSM identity to report the frequency of seventy (aggressive) sexual fantasies most of which had already been tested in previous research in the general population. Our interest was to examine whether we could replicate the same or a similar factor structure of sexual fantasies in a BDSM sample. We did not have any particular hypothesis about the exact factor solution, although we expected aggressive, non-aggressive, and masochistic fantasies to be distinct from one another in this sample too. If we were able to replicate the factor structure of the general population, we expected participants with BDSM identity to report higher levels of sexually aggressive and masochistic fantasies than

participants without BDSM identity (Hypotheses 1a and b). We did not expect differences in non-aggressive sexual fantasies (Hypothesis 1c, indicating an altogether higher number of sexual fantasies among the group with BDSM identity). In addition, we expected participants with BDSM identity to show more positive attitudes towards their sexual fantasies than participants without BDSM identity (Hypothesis 2). Finally, we expected aggressive sexual fantasies to positively predict presumably non-consensual aggressive sexual behavior even when controlling for the BDSM identity and other risk factors for aggressive sexual behavior (including general physical aggression, hostility, and psychopathy; Hypothesis 3a). If the factor structure for the general population could be replicated for participants with BDSM identity, we expected coercive and extremely violent aggressive fantasies to predict presumably non-consensual aggressive sexual behavior, but slightly painful and/or potentially consensual fantasies to not add to these predictions (Hypotheses 3b–d).

## 2 Method

### 2.1 Sample

We had  $N = 182$  participants rate the frequency of their aggressive sexual fantasies. Participants were recruited via personal contact and websites with BDSM content. 143 participants reported whether they had any BDSM identity. 99 participants (69.2 percent) reported self-identifying as sadist (30 participants), masochist (29 participants), or both/switcher (40 participants); and were included in the group of participants with a BDSM identity. 44 participants reported no BDSM identity. The mean age was 37.78 years ( $SD = 11.66$ ; range: 18–67 years). 72 participants (50.3 percent) were female. At the time of the survey, 101 (70.6 percent) were in a partner relationship. We compared the subsamples with and without self-reported BDSM identity regarding age, gender distribution, relationship status, and being in an open relationship or not. We adjusted the significance level to .012 due to multiple comparisons. The two groups did not differ significantly in any of the variables.

### 2.2 Measures

**Aggressive Sexual Fantasies.** Participants rated the frequency of fifty-six masochistic, aggressive, and non-aggressive sexual fantasies that had been rated by participants from the general population in a previous study (Bondü and Birke 2020). For the present study, we added fourteen rather BDSM-specific items (for example, “to leave a person in doubt about what is going to happen to him/her”) (see Appendix for all item wordings and frequencies). Items were rated on a five-point Likert scale from 1 *never* to 5 *daily*. After running an exploratory factor analysis, we computed an aggressive sexual fantasies mean score from all remaining items with aggressive sexual content as well as separate mean scores for all resulting subscales on aggressive sexual fantasies.

**Aggressive Sexual Behavior.** Participants reported how much they agreed with eight out of ten items from the Sadomasochism subscale of the Multiphasic Sex Inventory (Nichols and Moldiner 1984) on a six-point rating scale ranging from 1 *do not agree* to 6 *completely agree*. Because most of these items reflect sexual acts that may be consensually acted upon in the BDSM context, for the present study we selected just three of the eight items. These items can be assumed to capture presumably non-consensual aggressive sexual behavior even in many BDSM encounters because strong fear and danger of death should mostly be unwelcome even in this context (“I enjoyed scaring my sexual partner so much that they asked me to stop,” “The more frightened a person got, the more my sexual arousal grew,” and “It was sexually arousing for me to play with death during sex”). We computed a mean score.

**Attitudes towards Sexual Fantasies.** Participants rated their attitudes towards their own sexual fantasies. Response options ranged from 1 *do not agree* to 5 *completely agree*. Examination of the factor structure of the measure suggested two separate but correlated subscales with six items each reflecting positive (“Sexual fantasies are healthy”) and negative attitudes (“I feel guilty when I have sexual fantasies”) towards participants’ own sexual fantasies.

**Control variables.** We asked participants to rate their physical aggression (nine items, “Given enough provocation, I may hit another person”) and hostility

(eight items, “I am suspicious of overly friendly strangers”) with the help of the corresponding subscales of the Buss and Perry Aggression Questionnaire (Buss and Perry 1992). Response options ranged from 1 *not at all true* to 5 *exactly true*. Participants rated *psychopathic traits* by answering thirty items of the German version of the Youth Psychopathic Traits Inventory (Köhler et al. 2010; for example, “I can make people believe almost anything”) on a five-point Likert scale (1 *not at all true* to 5 *exactly true*). Finally, we had participants rate their *empathy* as a potential protective factor (but also as a potential prerequisite for sexual pleasure among individuals engaging in BDSM practices) with the help of twelve items from the Interpersonal Reactivity Index (“I am often quite touched by things that I see happen”; Paulus 2009; we excluded items from the fantasy subscale). Response options ranged from 1 *never* to 5 *always*. We calculated mean scores for all variables.

### 2.3 Procedure

Participants answered the questionnaire online. They were informed about the purpose of the study in a note outlining that the study was concerned with aggressive sexual fantasies and that the data would be used for scientific purposes. All participants participated voluntarily. The questionnaire could be closed at any time. Participants were guaranteed privacy, IP addresses were not saved. Participants had to be eighteen years or older in order to take part in the study. If a participant reported being younger than eighteen, they were sent immediately to the last page of the questionnaire, which provided contact data for participants who felt they needed help. Participants were invited to take part in a lottery for ten vouchers for an online retail company.

## 3 Results

### 3.1 Factor Solution and Fantasy Clusters

We computed a series of exploratory factor analyses using oblimin rotation for the subsample with self-reported BDSM identity. We used a stepwise exclusion of variables that showed low loadings  $< .4$  on all factors or high loadings  $> .4$  on two or more factors. This procedure resulted in a six-factor solution with thirty items that showed factor loadings  $> .4$  on one of

the six factors and side loadings on any of the other factors  $< .4$  (Table 1). The interpretation of the subscales was similar to that of subscales previously found in a sample from the German general population (Bondü and Birke 2020) and hardly contained any of the BDSM-specific items.

The first factor comprised ten items that reflect only slightly painful and potentially consensual acts (for example, “How often do you fantasize about whipping somebody?”; see Table 1 for information about items shared between the present sample and one from the general population). The second factor comprised four items reflecting affectionate fantasies (“How often do you fantasize about stroking and kissing a sexual partner?”). The items and the factor were identical to those in the general population. The third factor comprised three items reflecting somewhat experimental sexual practices that are presumably not everyday sexual behavior, but do not have any aggressive content (for example, “How often do you fantasize about having sex in situations where there is a danger of being caught?”). The number of items as well as two of the items included in this factor were the same as in the general population. The fourth factor comprised three items reflecting masochistic sexual practices (for example, “How often do you fantasize about being raped?”). The items and the factor were identical to those in the general population. The fifth factor included seven items reflecting fantasies about coercion, in the sense of acts that clearly occur against the will of the sexual partner (for example, “How often do you fantasize about touching somebody intimately against their will?”). In the general population this factor was somewhat broader and comprised twelve items that were in some cases also less explicit about the non-consensuality of the act. Finally, the sixth factor comprised three items reflecting fantasies about using weapons and causing injuries during sexual encounters (for example, “How often do you fantasize about injuring someone during sex?”). In the BDSM sample, this factor comprised items that described damaging the other person’s body. In the general population, this factor comprised five items that were not limited to physical harm, but included extreme acts of violence (such as torturing and killing the sexual partner).

**Table 1: Final factor solution for the measure for aggressive sexual fantasies in the sample with BDSM preferences**

Item	1	2	3	4	5	6	
to gag someone during sex.	.831						
to whip someone.	.814						
to pour hot wax on someone's body.	.808						
to bind someone during sex.*	.805						
to cause someone pain during sex.	.771						
to not let someone know what will happen to them.	.722						
to beat someone.	.665						
to pull someone's hair during sex.*	.662						
to painfully scratch someone during sex.*	.661						
to give someone electric shocks during sex.	.544						
to passionately kiss someone during sex.*		.869					
to stroke the partner during sex.*		.755					
to have sex with a beloved partner.*		.725					
to seduce someone.*		.708					
to be raped.*			.834				
to be humiliated during sex.*			.792				
to experience pain during sex.*			.784				
to have sex in danger of being seen by others.				.843			
to have sex in unusual places.*				.805			
to be watched, photographed or filmed during sex.*				.792			
to rape someone.*					-.857		
to physically harass someone.*					-.832		
to intimately touch someone against their will.*					-.817		
to force someone into sexual acts.*					-.760		
to detain someone against their will.*					-.636		
to ignore someone's protest against sexual activities.*					-.569		
to rub against a person against their will.*					-.535		
to use weapons during sex.*						-.876	
to injure someone during sex.						-.713	
to use the following things during sex: masks, knives, guns, axes, razorblades, baseball bats, needles,...						-.622	

Note: \* Items were also part of the factor solution in a sample from the general population with loadings on the same factors (Bondü and Birke 2020)

To sum up, we were able to replicate a six-factor solution similar to that in the general public with similar factors reflecting affectionate, experimental, and masochistic sexual fantasies as well as three factors reflecting increasing levels of aggression in sexual fantasies.

We computed a series of k-means cluster analyses including the six fantasy subscales and the presumably non-consensual aggressive behavior mean scores (findings were similar if only the fantasy subscales were considered). We compared two-, three-, four-, and five-cluster solutions. The three-cluster solution was the best interpretable solution. Cluster 1 comprised forty-seven participants and reflected a preference for affectionate fantasies: Participants had low(est) ratings on all fantasy subscales and the aggressive behavior scale; affectionate fantasies had highest ratings in this group as compared to the other fantasies. Cluster 2 comprised forty-six participants and included a strong interest in masochistic fantasies: Participants in this cluster had the highest ratings on experimental and masochistic sexual fantasies as compared to the two other groups. Cluster 3 comprised forty-seven participants and included a strong preference for aggressive or sadistic fantasies: Participants in this group had highest ratings on the three aggressive sexual fantasies subscales (as well as aggressive sexual behavior) as compared to the two other groups. These findings showed strong overlaps with BDSM self-identification, but were not identical with it. Of the thirty participants who self-identified as sadists, twenty-five (83 percent) were found in Cluster 3 with high ratings on the aggressive sexual fantasies subscales (the remaining five were found in Cluster 1). Of twenty-nine participants who self-identified as masochists, twenty-one (72 percent) were found in Cluster 2 with high ratings on experimental and masochistic sexual fantasies (six belonged to Cluster 1, two into Cluster 3). Of the forty-two participants who did not report SM preferences, twenty-six (62 percent) belonged to Cluster 1 reflecting low levels of sexual fantasies as compared to the other two clusters (eight each belonged to Clusters 2 and 3, respectively). Finally, participants who self-identified as switchers were distributed rather evenly across the

three clusters (Cluster 1: 10; Cluster 2: 17; Cluster 3: 12).

### 3.2 Differences between Participants with and without BDSM Identity and Correlations

Table 2 shows internal consistencies, mean values, and standard deviations for all six sexual fantasies subscales and all other relevant variables. Because the factor structure in the present sample was very similar to the factor structure previously identified in the general population (Bondü and Birke 2020), we were also able to test hypotheses 2 and 3.

We computed a MANCOVA controlling for gender to identify differences between participants with and without BDSM identity,  $F(13, 123)=6.43$ ,  $p<.001$ ,  $\eta^2_p=.405$ . In line with our expectations, participants with BDSM identity reported more slightly painful and/or potentially consensual, coercive, injury/weapons, total aggressive, and masochistic sexual fantasies than participants without BDSM identity (Hypotheses 1a and b). Also in line with our expectations, there were no differences in affectionate and experimental sexual fantasies (Hypothesis 1c), indicating more frequent sexual fantasies and more diverse sexual interests among participants with as compared to participants without BDSM identity. In line with this reasoning and our previous assumptions, participants with BDSM identity reported significantly more positive attitudes towards their own sexual fantasies than participants without BDSM identity (Hypothesis 2). The two groups did not differ in self-reported negative attitudes towards sexual fantasies. In line with previous research (Connolly 2006; Martin et al. 2016), they also did not differ in physical aggression, hostility, psychopathy, and empathy. Finally, participants with BDSM identity reported significantly more presumably non-consensual aggressive sexual behavior than participants without such identity.

**Table 2: Internal consistencies, mean values, and standard deviations of all variables for the total group and separately for participants with and without BDSM preferences**

Variable	$\alpha$	Total	BDSM	Comparisons	$F(1, 135)$	$\eta_p^2$
		$N = 143$	$N = 99$	$N = 44$		
Affectionate sexual fantasies	.80	3.81 (0.84)	3.85 (0.82)	3.74 (0.91)	1.20	
Experimental sexual fantasies	.76	2.70 (0.98)	2.80 (0.98)	2.50 (0.95)	3.62	
Masochistic fantasies	.84	2.16 (1.17)	2.43 (1.19)	1.54 (0.84)	<b>24.96***</b>	.156
Slightly painful fantasies <sup>+</sup>	.95 <sup>a</sup>	2.41 (1.07) <sup>a</sup>	2.68 (1.01) <sup>c</sup>	1.78 (0.94)	<b>29.75***</b>	.181
Coercive fantasies	.89	1.58 (0.76)	1.73 (0.83)	1.24 (0.42)	<b>14.05***</b>	.094
Injury/weapons fantasies	.66 <sup>a</sup>	1.41 (0.68) <sup>a</sup>	1.49 (0.75)	1.22 (0.46) <sup>d</sup>	<b>4.95*</b>	.035
Total aggressive sexual fantasies	.95 <sup>b</sup>	1.98 (0.80) <sup>b</sup>	2.17 (0.80) <sup>c</sup>	1.53 (0.62) <sup>d</sup>	<b>28.14***</b>	.172
Aggressive sexual behavior	.66 <sup>a</sup>	1.43 (0.71) <sup>a</sup>	1.55 (0.78)	1.15 (0.39) <sup>d</sup>	<b>10.18**</b>	.070
Positive attitudes fantasies	.65 <sup>a</sup>	4.48 (0.47) <sup>a</sup>	4.58 (0.40) <sup>c</sup>	4.24 (5.23)	<b>23.48***</b>	.148
Negative attitudes fantasies	.67	1.76 (0.61)	1.71 (.60)	1.85 (0.62)	1.74	
Physical aggression	.77 <sup>a</sup>	2.10 (0.74) <sup>a</sup>	2.17 (0.75)	1.94 (0.70) <sup>d</sup>	2.59	
Hostility	.78 <sup>a</sup>	2.31 (0.80) <sup>a</sup>	2.35 (0.81)	2.22 (0.78) <sup>d</sup>	1.02	
Psychopathy	.84 <sup>b</sup>	2.66 (0.46) <sup>b</sup>	2.71 (0.47) <sup>c</sup>	2.56 (0.42) <sup>d</sup>	2.22	
Empathy	.84 <sup>a</sup>	3.47 (0.58) <sup>a</sup>	3.50 (0.55)	3.39 (0.66) <sup>d</sup>	1.73	

\*\*\* $p < .001$ ; \*\* $p < .01$ ; \* $p < .05$  a  $N = 142$ ; b  $N = 141$ ; c  $N = 98$ ; d  $N = 43$ ; + *Slightly painful and/or potentially consensual*

Concerning gender differences, we computed a MANOVA with the sexual fantasies subscales as dependent variables. The analysis showed a significant overall gender difference,  $F(6, 134)=12.210$ ,  $p<.001$ ,  $\eta_p^2=.353$ . On subscale level, women reported significantly fewer slightly aggressive and/or potentially consensual ( $F=35.782$ ,  $p<.001$ ,  $\eta_p^2=.205$ ), coercive ( $F=14.641$ ,  $p<.001$ ,  $\eta_p^2=.095$ ), and total aggressive fantasies ( $F=29.852$ ,  $p<.001$ ,  $\eta_p^2=.177$ ) as well as significantly more masochistic fantasies ( $F=28.569$ ,  $p<.001$ ,  $\eta_p^2=.170$ ).

Regarding correlations of the sexual fantasies, affectionate and experimental fantasies were positively correlated, as were experimental and masochistic fantasies that were otherwise unrelated to the sexual fantasies subscales. The three aggressive sexual fantasies subscales were moderately to highly inter-correlated and positively correlated with aggressive sexual behavior and physical aggression. Coercive and injury/weapons fantasies were also positively correlated with psychopathy. All sexual fantasies subscales (except

the subscale for injuring a person and/or using weapons) were positively correlated with positive attitudes towards the respondent's own sexual fantasies, that is, generally speaking, the more sexual fantasies a person has, the more positive their attitudes towards them. Experimental, slightly painful and/or potentially consensual fantasies, as well as fantasies about injuring a person and/or using weapons were negatively correlated with negative attitudes towards the respondent's own sexual fantasies, indicating that participants experiencing such fantasies were less inclined for example to feel guilty about their sexual fantasies in general. Age was unrelated to all variables except for hostility. Table 3 shows all correlations.

**Table 3: Correlations between the study variables for the total group**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Affectionate sexual fantasies		.288***	.064	.143	-.005	.045	.101	-.026	.191*	-.152	-.039	.015	-.115	.073	.017
Experimental sexual fantasies			.180*	.143	.075	.052	.134	.035	.343***	-.295***	.059	.107	.173*	-.022	.114
Masochistic fantasies				-.138	-.100	.057	-.114	-.152	.198*	-.115	-.019	.091	.089	.293***	-.015
Slightly painful and/or consensual fantasies+					.664***	.464***	.951***	.476***	.370***	-.290***	.307***	-.050	.165	-.065	.085
Coercive fantasies						.522***	.846***	.580***	.290***	-.160	.324***	.026	.174*	-.009	-.081
Injury/weapons fantasies							.615***	.511***	.102	-.176*	.275**	.208*	.300***	.033	-.132
Total aggressive sexual fantasies								.577***	.363***	-.267**	.349***	.002	.200*	-.038	.009
Aggressive sexual behavior									.106	-.125	.233**	-.038	.128	-.097	.011
Positive attitudes fantasies										-.405***	.015	-.022	-.025	-.052	.165
Negative attitudes fantasies											.039	.160	-.012	.072	-.157
Physical aggression												.337***	.427***	.054	-.160
Hostility													.272**	.032	-.203*
Psychopathy														.101	-.007
Empathy															-.139
Age															

\*\*\*  $p < .001$ ; \*\*  $p < .01$ ; \*  $p < .05$ ; minimal  $N = 139$

### 3.3 Prediction of Presumably Non-Consensual Aggressive Sexual Behavior

In order to predict presumably non-consensual aggressive sexual behavior, we computed stepwise hierarchical regression analyses. Table 4 shows the exact results. In the first step we entered age and gender as well as the other control variables (physical aggression, hostility, psychopathy, positive and negative attitudes towards own sexual fantasies) into the model. Only physical aggression positively predicted non-consensual aggressive sexual behavior. The model explained 11.1 percent of variance in presumably non-consensual aggressive sexual behavior. When BDSM identity (*yes/no*) was entered into the model in the second step, it significantly added to the prediction of presumably non-consensual aggressive sexual behavior ( $\Delta R^2 = .063^{**}$ ). Having a BDSM identity predicted more presumably non-consensual aggressive sexual behavior. The model explained 17.5 percent of variance in the outcome measure. In the final model, the three subscales of aggressive sexual fantasies were entered into the model.

In line with Hypothesis 3, coercive fantasies and fantasies about injuring a person and/or using weapons (but not slightly painful and/or potentially consensual fantasies) added to the prediction ( $\Delta R^2 = .286^{***}$ ). None of the other variables in the model were significant at this stage. Coercive fantasies were the most powerful predictor of presumably non-consensual aggressive behavior. The model explained 46.1 percent of variance. The pattern of results was identical when we entered the total aggressive sexual fantasies mean score instead of the three subscales. In this case, the  $\beta$ -weight was similarly high as in previous research ( $\beta = .646^{***}$ ). In line with Hypothesis 3, aggressive sexual fantasies, particularly those about coercion and injuring a person and/or using weapons, predicted presumably non-consensual sexual behavior beyond other risk factors for aggressive sexual behavior irrespective of BDSM identity.

We found higher potentially non-consensual aggressive sexual behavior in participants with than in participants without BDSM identity, but insignificant beta weights for BDSM identity when taking into ac-

**Table 4: Results of the prediction of non-consensual aggressive sexual behavior from demographics, control variables, and aggressive sexual fantasies ( $N = 137$ )**

	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Age	-0.003	0.006	-.047	-0.007	0.006	-.109	0.002	0.005	.036
Gender	0.068	0.064	.095	0.090	0.063	.125	-0.058	0.059	-.080
Physical aggression	<b>0.220</b>	<b>0.093</b>	<b>.230*</b>	<b>0.185</b>	<b>0.091</b>	<b>.194*</b>	0.039	0.078	.041
Hostility	-0.120	0.082	-.136	-0.138	0.080	-.156	-0.120	0.067	-.136
Psychopathy	0.120	0.152	.076	0.093	0.147	.059	0.012	0.123	.008
Empathy	-0.110	0.106	-.089	-0.159	0.104	-.130	-0.152	0.085	-.124
Positive attitudes	0.115	0.154	.072	-0.068	0.160	-.043	-0.157	0.134	-.098
Negative attitudes	-0.089	0.111	-.076	-0.111	0.107	-.095	0.024	0.092	.021
BDSM				<b>0.224</b>	<b>0.072</b>	<b>.288**</b>	0.083	0.063	.106
Slightly painful fantasies <sup>†</sup>							0.079	0.073	.116
Coercive fantasies							<b>0.363</b>	<b>0.091</b>	<b>.387***</b>
Extreme violence fantasies							<b>0.291</b>	<b>0.089</b>	<b>.281***</b>
<b><i>R</i><sup>2</sup></b>	<b>.111</b>			<b>.175</b>			<b>.461</b>		
<b><i>F</i> change in <i>R</i><sup>2</sup></b>	<b>2.004</b>			<b>9.751**</b>			<b>21.912***</b>		

\*\*\* $p < .001$ ; \*\* $p < .01$ ; \* $p < .05$ ; + Slightly painful and/or potentially consensual

count aggressive sexual fantasies in regression analysis. These findings indicated that higher potentially non-consensual aggressive sexual behavior in participants with BDSM identity might be explained by a higher tendency towards aggressive sexual fantasies. In order to test this assumption, we conducted an exploratory mediation analysis. BDSM identity did indeed predict both aggressive sexual behavior ( $\beta = .261^{**}$ ,  $R^2 = .068$ ) and aggressive fantasies ( $\beta = .370^{***}$ ,  $R^2 = .137$ ), but did not add to the prediction of aggressive sexual behavior ( $\beta = .060$ ) once aggressive fantasies were included as the second predictor ( $\beta = .545^{***}$ ,  $R^2 = .324$ ), indicating a full mediation via aggressive sexual fantasies.

#### 4 Discussion

The present study set out to examine the link between aggressive sexual fantasies and presumably non-consensual aggressive sexual behavior while controlling for BDSM self-identification. We first investigated the factor structure of sexual fantasies in the subsample with BDSM identity. Exploratory factor analysis resulted in a six-factor solution with one factor reflecting affectionate, experimental, masochistic fantasies, respectively, as well as three factors reflecting aggressive sexual fantasies with increasing levels of severity (slightly painful and/or consensual fantasies, coercive fantasies, and fantasies involving injury and use of weapons). These findings closely resembled those from previous research in a community sample (Bondü and Birke 2020). Cluster analyses identified three clusters, reflecting preferences for affectionate, masochistic, and sadistic fantasies. Participants with BDSM identity reported significantly higher levels of masochistic and aggressive fantasies and more presumably non-consensual aggressive sexual behavior than the comparison group. Supporting previous research (Bondü and Birke 2020; Knight and Sims-Knight 2003), coercive fantasies and fantasies about injury and weapons use were strong predictors of presumably non-consensual aggressive sexual behavior. BDSM identity did not add to this prediction, suggesting that the link between aggressive sexual fantasies and presumably non-consensual aggressive sexual exists irrespective of BDSM identity.

#### 4.1 Factor Solution and Cluster Analysis

Our findings revealed a similar structure of sexual fantasies in participants with and without BDSM identity: Apart from one single item, the factors reflecting affectionate, experimental, and masochistic fantasies in the present BDSM sample were identical to factors in a sample from the general public (Bondü and Birke 2020). The three factors reflecting aggressive sexual fantasies were also similar, but interpretations differ slightly. The factor of slightly painful and/or potentially consensual fantasies was broader and included somewhat more intense items in the sample with BDSM identity, indicating that the spectrum of potentially aggressive acts that are consensually acted upon is much more diverse and comprehensive among individuals with than in individuals without BDSM identity. Hence, this factor apparently reflects fantasies about common BDSM practices. The coercive fantasies factor was similar in the two groups as well, but for the sample with BDSM identity it comprised fewer items and items with a stronger and more explicit focus on non-consensuality than for the sample from the general population. This may reflect the important distinction between consensual and non-consensual acts in the BDSM community. Whereas the third factor included fantasies on extreme violence (injury, killing, torture) in the sample from the general population (Bondü and Birke 2020), in the present sample it apparently had a focus on physically injuring others using different weapons and tools. Thus, this factor may comprise fantasies that show relations with sexual sadistic disorder.

Cluster analyses including the fantasy and aggression mean scores revealed three groups with preferences for affectionate, masochistic, and sadistic fantasies, respectively. The fantasy patterns tended to reflect the self-reported sexual identity, providing further evidence for the validity of the measure. However, the analyses also showed that some with BDSM self-identification had low levels of sexual fantasies and a preference for affectionate fantasies, whereas others who did not self-identify as BDSM had sexual interests including masochistic or aggressive fantasies.

#### 4.2 Group Differences

Similarly, there were no differences between participants with and without BDSM identity regarding affectionate and experimental fantasies, showing that individuals with BDSM identity also fantasize about sexual acts that do not include the infliction of harm or humiliation. The findings indicate that individuals with BDSM identity tend to have more sexual fantasies than individuals without this identity. They seem to have more diverse sexual interests, a higher overall sex drive (that may in part also explain higher ratings on the aggressive sexual fantasies subscales), and probably more sexual encounters within and outside of the BDSM context. In addition, they reported more positive and less negative evaluations of their sexual fantasies, most likely also including their aggressive sexual fantasies. This may reflect on the importance and the positive value that is ascribed to sexual fantasies in the BDSM community (Simula 2019).

In line with previous research (Connolly 2006; Martin et al. 2016; Sandnabba et al. 1999), there were no differences between participants with and without BDSM identity in empathy, general physical aggression, hostility, or psychopathy, which suggests that social functioning and (non)psychopathology are similar. Participants with BDSM identity, however, reported more frequent presumably non-consensual aggressive sexual behavior: This finding might indicate that – despite our selection of items to reflect non-consensual behavior by referring to fear and death – these behaviors may still be consensually acted upon in the BDSM community. Or might indicate that, in line with previous studies in other samples, more frequent aggressive sexual fantasies result in more frequent presumably non-consensual aggressive sexual behavior regardless of the sexual self-identification. The latter assumption was backed up by the findings of the mediation analysis showing that the link between BDSM identity and presumably non-consensual aggressive sexual behavior was fully mediated or explained by higher levels of aggressive sexual fantasies.

#### 4.3 Links with Presumably Non-Consensual Aggressive Sexual Behavior

The findings of the present study lend further support to theoretical assumptions and a growing body of research indicating that aggressive sexual fantasies are an important risk factor for non-consensual aggressive sexual behavior (Bondü and Birke 2020; Dean and Malamuth 1997; Gold and Clegg 1990; Greendlinger, and Byrne 1987; Knight and Sims-Knight 2011, 2003) beyond other well-established risk factors. Our study expands the previous knowledge by replicating this finding in a sample with specific sexual preferences that relate to the fantasy content in question, while controlling for these preferences. Our findings show that aggressive sexual fantasies are predictive of presumably non-consensual aggressive sexual behavior even after controlling for BDSM identity. Hence, the links between aggressive sexual fantasies and presumably non-consensual aggressive sexual behavior seem similar among participants with and without BDSM identity. The findings also indicate that individuals with aggressive sexual fantasies may act upon these fantasies even if they have a BDSM identity that is generally strongly connected to consensuality. The items in the present study, however, were not necessarily limited to sexual encounters in the BDSM context and violations of consensuality also occur in this context (Holt 2016). This might suggest that – even among individuals with a BDSM identity – aggressive sexual fantasies cannot always be limited to consensual sexual encounters; this is most likely in individuals with sadistic tendencies in the clinical sense. Note, however, that limitations in the behavioral outcome measure restrict the generalizability of the present findings.

#### 4.4 Limitations and Implications

Limitations of the present study include the cross sectional data that preclude causal interpretations; it may well also be that a preference for presumably non-consensual aggressive sexual behavior predicts aggressive sexual fantasies in the long run. Hence, longitudinal research is needed, also to replicate the findings from the mediation analysis. As outlined above, the measure of presumably non-consensual aggressive sexual behavior in the present study does not

exclude the possibility that the described acts were agreed upon beforehand. Hence, this behavior may not necessarily be non-consensual and thus not correspond to the definition of aggressive behavior. Future research should, therefore, use other measures of sexual coercion and harassment. The measure reflecting sadistic behavior which was used in the present study, however, had the advantage of using wordings that were rather different from the fantasy items, preventing artificially strong correlations between the constructs.

The present sample is small and the results require replication in larger and more diverse samples of participants with BDSM identity. This is particularly important in order to examine differences between participants who show a preference for the submissive and dominant parts respectively. These groups may also differ, as suggested by the cluster analyses showing elevated levels of self-reported presumably non-consensual aggressive sexual behavior only for the subgroup with an interest in sadistic, but not masochistic fantasies. We asked participants whether they identify as sadist, masochist, switcher, or none of these and based the definition of the two groups in our study on this variable. Note, however, that some of the participants may have had a liking for sado-masochist practices without necessarily identifying as sadist, masochist, or switcher.

Finally, the three aggressive sexual fantasies subscales describe fantasies with increasing severity of aggression. This may be due to differences in content, but also reflect a statistical artefact due to differences in item difficulty. Future research, therefore, should account for these differences. Note, however, that previous research that controlled for item difficulty in a sample from the general population did not find meaningful differences in factor solutions when taking into account item difficulties (Bondü and Birke 2020).

Evidence is accumulating that aggressive sexual fantasies are an important risk factor for aggressive sexual behavior – beyond other well-established risk factors and in samples with a range of sexual preferences. This indicates that fantasies do not necessarily remain mere thought but tend to press for realization. This may mean that individuals experiencing sexual

fantasies that involve harming others should not be encouraged to fantasize or to even act on these fantasies by substitutional means (such as dolls). Further research should strive to test this assumption.

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## Appendix

*All items on sexual fantasies and percentage of participants reporting to have had these fantasies at least several times in their lives, mean values, and standard deviations for the total group and participants with and without self-reported BDSM identity.*

Item	Total (N=143)			BDSM (N=99)			Non-BDSM (N=44)		
	%	M	SD	%	M	SD	%	M	SD
to have sex with a beloved partner.	96.5	3.98	1.01	98.0	4.10	0.91	93.2	3.70	1.17
to stroke the partner during sex.	95.8	3.77	1.04	96.0	3.83	1.04	95.5	3.64	1.04
to seduce someone.	95.1	3.53	1.12	94.9	3.51	1.12	95.5	3.59	1.13
to passionately kiss someone during sex.	95.1	3.98	1.11	94.9	3.96	1.12	95.5	4.02	1.11
to have oral sex.	95.1	3.80	1.08	96.0	3.88	1.02	93.2	3.64	1.18
to use sex toys and/or costumes.	91.6	3.17	1.14	93.9	3.35	1.12	86.4	2.77	1.10
to have sex in unusual places.	90.9	3.16	1.14	90.9	3.13	1.14	90.9	3.23	1.14
to have hard sex.	89.5	3.58	1.25	96.0	3.88	1.00	75.0	2.91	1.48
to have sex with several people at the same time.	88.8	2.97	1.17	92.9	3.14	1.15	79.5	2.57	1.13
to try role play during sex.	83.9	2.88	1.28	84.8	3.06	1.29	81.8	2.48	1.15
to bind someone during sex.	81.1	3.06	1.38	87.9	3.29	1.30	65.9	2.55	1.42
to bind a person's arms and legs to a bed while having sex.	79.0	2.81	1.29	85.9	3.03	1.22	63.6	2.32	1.34
to do dirty talk.	78.3	2.93	1.37	80.8	3.05	1.33	72.7	2.66	1.43
to have sex in danger of being seen by others.	77.6	2.50	1.17	79.8	2.59	1.18	72.7	2.30	1.13
to blindfold someone during sex.	76.2	2.64	1.26	81.8	2.83	1.20	63.6	2.23	1.31
to beat someone.	69.9	2.61	1.38	80.8	2.89	1.35	45.5	1.98	1.27
to whip someone.	69.9	2.69	1.44	84.8	3.06	1.34	36.4	1.86	1.30
to be watched, photographed or filmed during sex.	69.2	2.45	1.27	76.8	2.67	1.25	52.3	1.98	1.19
to gag someone during sex.	67.6	2.33	1.21	78.6	2.54	1.16	43.2	1.86	1.21
to masturbate in front of someone.	65.7	2.24	1.12	69.7	2.31	1.10	56.8	2.09	1.16
to pinch someone during sex.	65.7	2.38	1.25	71.7	2.56	1.25	52.3	1.98	1.17
to hit someone with an object (cane, whip, steak hammer).	65.7	2.59	1.44	78.8	2.93	1.39	36.4	1.82	1.24
to pull someone's hair during sex.	65.7	2.45	1.33	76.8	2.74	1.31	40.9	1.82	1.15
to cause someone pain while having sex.	63.6	2.45	1.40	76.8	2.80	1.39	34.1	1.66	1.08

to not let someone know what will happen to them.	62.2	2.23	1.21	74.7	2.47	1.21	34.1	1.68	1.05
to painfully scratch someone during sex.	61.5	2.24	1.26	68.7	2.45	1.30	45.5	1.75	1.01
to pour hot wax on someone's body.	60.8	2.22	1.22	71.7	2.47	1.22	36.4	1.66	1.01
to experience pain during sex.	57.3	2.37	1.43	69.7	2.71	1.44	29.5	1.61	1.08
to be humiliated during sex.	54.5	2.29	1.41	65.7	2.61	1.45	29.5	1.59	1.04
to intimidate another person during sex.	53.8	2.14	1.28	65.7	2.39	1.30	27.3	1.57	1.04
to force someone to masturbate.	53.1	2.06	1.20	62.6	2.27	1.23	31.8	1.57	0.97
to be aggressive while having sex.	52.4	2.12	1.29	59.6	2.28	1.32	36.4	1.75	1.16
to talk someone into sexual acts.	51.0	1.90	1.08	58.6	2.03	1.09	34.1	1.59	1.00
to berate someone during sex.	50.3	2.01	1.23	58.6	2.15	1.23	31.8	1.70	1.19
to humiliate someone during sex.	49.7	2.00	1.23	60.6	2.24	1.26	25.0	1.45	0.95
to bind a woman's breasts during sex.	49.6	2.08	1.33	64.9	2.41	1.36	20.5	1.46	1.02
to torture someone while having sex.	44.8	1.92	1.20	58.6	2.23	1.25	13.6	1.23	0.71
to choke someone during sex.	44.1	1.88	1.18	52.5	2.06	1.24	25.0	1.48	0.95
to be raped.	41.3	1.81	1.17	50.5	1.99	1.23	20.5	1.41	0.90
to ignore someone's protest against sexual activities.	40.6	1.72	1.04	45.5	1.83	1.09	29.5	1.48	0.88
to give someone electric shocks during sex.	40.6	1.71	1.01	53.5	1.95	1.09	11.4	1.16	0.48
to force someone to swallow semen.	39.9	1.83	1.24	44.4	1.98	1.33	29.5	1.48	0.93
to physically harass someone.	39.2	1.69	1.04	47.5	1.84	1.09	20.5	1.34	0.81
to threaten somebody with words during sex.	34.3	1.66	1.06	40.4	1.75	1.07	20.5	1.45	1.02
to detain someone against their will.	32.9	1.69	1.12	40.4	1.88	1.22	15.9	1.25	0.65
to touch someone's genitals against their will.	32.2	1.65	1.10	40.4	1.87	1.23	13.6	1.16	0.43
to intimately touch someone against their will.	32.2	1.66	1.11	40.4	1.87	1.23	13.6	1.20	0.59
to scare someone during sex.	32.2	1.56	0.97	41.4	1.71	1.02	11.4	1.23	0.74
to force someone into sexual actions.	31.5	1.54	0.93	40.4	1.72	1.03	11.4	1.14	0.41
to shout at someone while having sex.	31.5	1.50	0.89	39.4	1.65	0.97	13.6	1.18	0.54
to use the following things during sex: masks, knives, guns, axes, razorblades, baseball bats, needles,...	30.3	1.56	0.99	36.4	1.69	1.09	16.3	1.26	0.62
to strangulate someone (for example, with a rope, belt).	30.1	1.57	1.03	36.4	1.69	1.08	15.9	1.32	0.86

to kidnap someone and force them into sexual acts.	28.0	1.42	0.77	35.4	1.54	0.84	11.4	1.16	0.53
to rape someone with an object.	26.6	1.43	0.84	35.4	1.58	0.95	6.8	1.09	0.36
to rape someone with one or two hands	25.2	1.42	0.83	32.3	1.55	0.92	9.1	1.14	0.46
to force someone to drink urine.	24.5	1.46	0.93	31.3	1.59	1.00	9.1	1.18	0.69
to rape someone.	23.8	1.39	0.81	30.3	1.51	0.90	9.1	1.14	0.51
to injure someone while having sex.	23.8	1.47	1.01	27.3	1.54	1.06	15.9	1.32	0.86
to keep a person in a dark room for days without any contacts.	22.4	1.36	0.81	30.3	1.46	0.86	4.5	1.11	0.62
to rub against a person against their will.	21.0	1.36	0.77	25.3	1.43	0.82	11.4	1.20	0.63
to inflict permanent physical marks (e.g., scars).	21.0	1.41	0.91	28.3	1.55	1.02	4.5	1.09	0.47
to insert something into someone's urethra.	20.3	1.23	0.48	25.3	1.27	0.49	9.1	1.14	0.46
to physically force two person to have sex.	20.3	1.40	0.93	26.3	1.51	1.00	6.8	1.16	0.68
to make someone vomit during oral sex.	11.9	1.24	0.78	14.1	1.26	0.78	6.8	1.20	0.79
to use weapons during sex.	10.5	1.19	0.59	13.1	1.24	0.67	4.5	1.07	0.33
to threaten someone with a weapon while having sex.	9.8	1.17	0.59	13.1	1.24	0.69	2.3	1.02	0.15
to hurt someone with a knife.	9.8	1.20	0.65	12.1	1.25	0.75	4.5	1.07	0.33
to kill someone during sex.	3.5	1.03	0.18	5.1	1.05	0.22	0.0	1.00	0.00