

# Psychological Characteristics of BDSM Practitioners

Andreas A.J. Wismeijer, PhD\* and Marcel A.L.M. van Assen, PhD†

\*Department of Clinical Psychology, Tilburg University, Tilburg, The Netherlands; †Department of Methodology and Statistics, Tilburg University, Tilburg, The Netherlands

DOI: 10.1111/jsm.12192

## ABSTRACT

**Introduction.** It has been generally thought that the practice of bondage-discipline, dominance-submission, sadism-masochism (BDSM) is in some form associated with psychopathology. However, several more recent studies suggest a relative good psychological health of BDSM practitioners.

**Aim.** The aim of this study was to compare scores of BDSM practitioners and a control group on various fundamental psychological characteristics.

**Methods.** For this aim, 902 BDSM and 434 control participants completely filled out online questionnaires. Associations were examined using  $\chi^2$  tests of independence with  $\phi$  and Cramer's V as effect size measures and eta or Pearson's correlation. Group differences were tested using analysis of covariance, with partial  $\eta^2$  as effect size measure. A priori contrasts were tested using  $\alpha = 0.01$  to correct for multiple testing; for all other tests we used  $\alpha = 0.05$ , two tailed.

**Main Outcome Measures.** The study used Big Five personality dimensions (NEO Five-Factor Inventory), attachment styles (Attachment Styles Questionnaire), rejection sensitivity (Rejection Sensitivity Questionnaire), and subjective well-being (World Health Organization-Five Well-being Index).

**Results.** The results mostly suggest favorable psychological characteristics of BDSM practitioners compared with the control group; BDSM practitioners were less neurotic, more extraverted, more open to new experiences, more conscientious, less rejection sensitive, had higher subjective well-being, yet were less agreeable. Comparing the four groups, if differences were observed, BDSM scores were generally more favorably for those with a dominant than a submissive role, with least favorable scores for controls.

**Conclusion.** We conclude that BDSM may be thought of as a recreational leisure, rather than the expression of psychopathological processes. **Wismeijer AAJ and van Assen MALM. Psychological characteristics of BDSM practitioners. J Sex Med \*\*,\*\*,\*\*-\*\*.**

**Key Words.** BDSM; SM; Recreational Leisure; Paraphilia; Personality; Attachment; Subjective Well-Being

## Introduction

**B**DSM is a sexual practice characterized by suppression, physical restriction, practicing role playing games, power exchange, and sometimes even the administration of pain [1,2]. BDSM is an acronym for bondage-discipline, dominance-submission, sadism-masochism [3], and encompasses a broad range of sexual behaviors [4]. The interests of BDSM participants also diverge: some are only attracted to a limited range of BDSM activities (such as bondage), while others may have broad and more flexible BDSM preferences [5]. Various roles can be distinguished during BDSM

sessions, such as the dominant role (or the “dom”; the person that exerts control), the submissive role (“sub”; the person that gives up control), or switching between both roles depending on the occasion (“switches”).

Although most laypersons think of BDSM as a form of erotic behavior, most BDSM practitioners participate in BDSM activities for sensory pleasure and not so much for erotic pleasure [6]. BDSM is often misconceived to be “all about pain” [7], whereas it is more about games and play characterized by power, and humiliation. An implicit assumption in much past and recent BDSM research has been that the practice of BDSM is in some form associated with psychopathology [8,9], and that participants are vulnerable to abuse [10].

Reprints are not available from the authors.

This view stems from the psychopathology/medical-model contention at the end of the 19th century [9,11], and is still predominant in some contexts. For instance, BDSM is to some degree still pathologized in the upcoming fifth edition of the American Psychological Association *Diagnostic and Statistical Manual* because it will consider sexual masochism and sexual sadism as paraphilias, and as paraphilic disorders if they cause distress or impairment to self or others (<http://www.dsm5.org>).

There is, however, also evidence pointing at the relative good psychological health of those involved in BDSM activities [5,12–14]. These findings led Newmahr to conclude that BDSM should be regarded as a recreational leisure activity rather than a deviant/pathological activity [6]. Notwithstanding, little has changed since Moser stated that “the lack of understanding of BDSM has led to many misconceptions as well as fear, which may further alienate those who are active in the lifestyle” [15] (in Stiles and Clark [16], p. 159). Considering calls for research on how BDSM is experienced by its participants [10], and that “the stigma attached to BDSM is tremendous and the myths and negative press associated with BDSM are rampant” ([16], p. 159), it is striking that little is known about the basic psychological characteristics of this subgroup. In what way do BDSM practitioners differ from a non-BDSM control group? To answer this question we assessed, using self-reports, the five most important basic dimensions of personality (the Big Five), rejection sensitivity, attachment style, and level of subjective well-being in a sample of BDSM participants and a sample of non-BDSM controls, and compared their scores.

First we review earlier studies that investigated several demographic, psychosocial, and psychosexual characteristics of BDSM participants. Then we turn our focus to the main variables of this study: the basic psychological dimensions of personality, attachment, rejection sensitivity, and subjective well-being. Our focus will be on the associations between these variables and the BDSM roles we consider in this study (Dom, Switch, Sub) and the non-BDSM control group. As there is hardly any theory or empirical findings regarding the associations between practicing BDSM and the psychological variables examined in this study, all associations except one are examined exploratively. The exception is the relation between BDSM participation and subjective well-being, which has been studied previously.

### *Demographic, Psychosocial, and Psychosexual Characteristics of BDSM Participants*

Various studies were conducted mapping the sociodemographic characteristics of BDSM practitioners [2,14,17]. Arguably the most important empirical study on demographic and psychosexual characteristics of BDSM participants was conducted by Richters et al. [5] Using representative data drawn from a national Australian survey, they assessed a host of sociodemographic and sexuality variables such as likelihood of a history of sexual coercion, sexual preferences and experience, and subjective well-being. From the 19,370 surveyed respondents, 1.8% (2.2% of the men and 1.3% of the women) reported participation in BDSM activities. Comparing these individuals with respondents that had no BDSM experience showed that BDSM practitioners were not more likely to have been coerced into sexual activity in the past and that BDSM participation was not associated with elevated levels of psychological distress or sexual difficulties. Others reported similar results [18–20]. These findings are important because they assessed BDSM and non-BDSM samples on both nonclinical and clinical variables. However, to the best of our knowledge, no study has mapped the basic and normal personality traits and attachment styles of BDSM participants. Considering scores on normal and basic human characteristics of BDSM practitioners and comparing them to non-BDSM controls allow for a better estimate of the normality or abnormality of the BDSM participants relative to non-BDSM controls.

### *Five-Factor Model of Personality*

In the last two decades, an increasing volume of research has examined personality factors in sexuality [21]. The relation between personality and sexual practices is usually studied using narrow personality traits (such as self-esteem, sensation seeking, etc) that are limited in generalizability, as opposed to using broader traits that give a more general overview of one’s psychological makeup [22]. A variety of personality traits and theories have been proposed over the last decades, yet there is no theory of personality that has received more consensus than the five-factor (Big Five) model of personality. The model consists of the higher-order dimensions: Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness [23].

The Big Five dimensions have to some extent been studied in relation to normal sexuality.

Neuroticism was negatively related to both marital stability and marital satisfaction [24]. Extraversion was positively associated with sexual attractiveness, and Agreeableness was negatively associated with erotophilic disposition (describing oneself as obscene and vulgar) [21]. Openness to Experience positively predicted sexual attitudes and knowledge, and Conscientiousness was negatively associated with sexual liberal attitudes and promiscuity [25]. Actual participation in BDSM activities likely requires awareness and acceptance of one's own sexual orientation. BDSM participation may also be regarded a liberal sexual choice involving new and unusual experiences [6]. Given aforementioned findings, it is likely to find meaningful relations between the Big Five and BDSM behavior. However, as there are no published empirical findings linking personality directly to BDSM, we choose to examine the associations exploratively.

#### *Rejection Sensitivity*

A narrow personality trait that may be of particular importance to a BDSM population is rejection sensitivity. Rejection sensitivity is characterized by the overestimation of the possibility to be rejected by others and of the emotional impact that will occur following rejection [26]. Feldman and Downey found that rejection sensitivity is the expression of both the avoidant and anxious patterns of insecure attachment behavior [27]. As being rejected, dominated, and abused or raped are common themes of BDSM practices and fantasy role-play, it is relevant to examine how rejection sensitivity scores are distributed over the BDSM subgroups in comparison with the control group.

#### *Attachment Style*

Attachment is the persistent and emotionally significant affectional bond that individuals form with others [28]. One's attachment style develops in the first interactions with significant others during infancy and childhood, and subsequently guides stable predictions about future interpersonal and sexual interactions and instances of possible rejection [29,30]. There are various ways to classify attachment styles based on the distinction between secure and insecure attachment. A widely used instrument to assess five dimensions of attachment is the Attachment Styles Questionnaire (ASQ) [31]. This questionnaire assesses five dimensions of attachment that can be combined into three attachment styles: Secure Attachment (consisting of the Confidence in Relationships dimension),

Avoidant Attachment (consisting of the Discomfort with Closeness and Relationships as Secondary dimensions), and Anxious Attachment (Need for Approval and Preoccupation dimensions).

Research by Hazan et al. [32] showed that Secure Attachment is related to experiencing pleasure in a variety of sexual behaviors and openness to exploration in terms of sexual behavior. In addition, securely attached people are more likely to give a partner control during sexual intercourse, as they are more comfortable and experienced with relationships involving mutual trust and has been shown to be negatively associated with engaging in sex to please one's partner [33], thereby reducing insecurity [34,35]. Given these relations between attachment and sexual practices, it is obvious to compare attachment scores of BDSM participants with those of a non-BDSM control group.

#### *Subjective Well-Being*

It is generally thought by the lay public that BDSM practitioners may be psychologically damaged and even dangerous [5,36]. However, studies examining the psychosocial functioning of BDSM practitioners found that BDSM participants exhibited higher, rather than lower, levels of subjective well-being compared with non-BDSM practitioners [5,12–14]. Indeed, male BDSM practitioners (but not female) were significantly less likely to report psychological distress [5]. We therefore hypothesize that BDSM participants will score higher on subjective well-being than the control group.

## **Materials and Methods**

### *Participants and Procedure*

The BDSM respondents responded to a call posted on the largest BDSM web forum in The Netherlands, <http://www.bdsmzaken.nl>, to participate in the study. A superficial introduction to the study was provided online (a study mapping the psychology of the practice of BDSM), and those interested in participating could click on a link leading to the online questionnaire. Respondents could anonymously fill out the questionnaire including scales concerning psychological characteristics, a question on their preferred role during BDSM (dom, switch, or sub), and some additional questions on BDSM behavior. In total 1,571 subjects started filling out the questionnaire, of which 902 subjects (57.4%) had no missing values. This subsample was used for analysis and consisted of

464 males (51.3%) and 438 females (48.6%). Men ( $M = 45.5$ , standard deviation [SD] = 11.12) were significantly older than women ( $M = 37.05$ , SD = 10.8) ( $t[900] = 11.5$ ,  $P < 0.001$ , two tailed).

Respondents of the control group responded to a call to participate in online secrecy research. People were made aware of our study by a call in a popular Dutch women's magazine (the "Viva"), in newspaper interviews of the first author on his secrecy research, via the website of the university or via <http://www.geheimenvan.nl>, a Dutch website that allows visitors to post their personal secrets. We did not disclose the purpose of the study in any of these calls and simply called it a "study about human behavior." Those interested could click on a link leading to an online test battery that contained the same scales that were administered to the BDSM participants, a control question asking if the respondent has had any BDSM experience, and various other scales that are not used in this study. The questionnaire was designed so that one could only proceed to the next question if the preceding question was answered. Of the 2,775 participants who started filling out the test battery, 448 (16.1%) had no missing values on the scales used in this study. Of these, 14 respondents indicated having had previous BDSM experience (3.1%) and were excluded from the analyses. The final group consisted of 434 participants of which 129 were male (29.7%) and 305 were female (70.3%). The male controls ( $M = 40.3$ , SD = 14.4) were significantly older than the female controls ( $M = 34.1$ , SD = 13.0) ( $t[432] = 4.3$ ,  $P < 0.001$ , two tailed).

### Measures

*Attachment* was assessed using the Dutch version of the ASQ [31]. The ASQ consists of 40 items that are rated on a five-point Likert scales ranking from 1 ("totally disagree") to 5 ("totally agree"). The ASQ asks about perceptions on themselves and relationships and has five subscales (Confidence in Relationships, Discomfort with Closeness, Relationships as Secondary, Need for Approval, and Preoccupation). Using these five subscales, the three major attachment styles can be constructed: Secure Attachment (using the Confidence in Relationships subscale), Avoidant Attachment (summing the subscales Discomfort with Closeness and Relationships as Secondary), and Anxious Attachment (summing the subscales Need for Approval and Preoccupation). An item example of Relationships as Secondary is "My relationships

with others are generally superficial." Guttman's  $\lambda_2$  showed good reliability for both groups (BDSM/controls) for the five subscales (0.72 to 0.83 for BDSM, and 0.71 to 0.83 for controls), as well as for the three styles Secure Attachment (0.77/0.82), Avoidant Attachment (0.86/0.86), and Anxious Attachment (0.86/0.84). Guttman's  $\lambda_2$  is, just as the more widely known Cronbach's  $\alpha$ , a lower bound estimate of the reliability of a scale, but  $\lambda_2$  yields both a higher and more accurate estimate of the reliability compared with Cronbach's  $\alpha$  [37].

*Personality* was assessed using the NEO Five Factor Inventory (NEO-FFI), the 60-item short version of the NEO Personality Inventory [38]. The NEO-FFI consist of five 12-item subscales: Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness. The items are rated on a five-point Likert scale ranking from 1 ("not at all applicable to me") to 5 ("very applicable to me"). An item example of Neuroticism is "I rarely feel lonely or sad." The NEO FFI displayed good reliability: Guttman's  $\lambda_2$  showed good reliability for both groups on the five dimensions, ranging from 0.71 (for Conscientiousness in the control group) to 0.88 (for Neuroticism in the control group).

*Rejection sensitivity* was measured with the Rejection Sensitivity Questionnaire (RSQ) [26]. The RSQ assesses anxious expectations of rejection from significant others and consists of 16 scenario's that are rated on a six-point Likert scale ranking from 1 ("not at all") to 5 ("very much"). For each scenario, the respondent indicates his or her degree of concern or anxiety about the outcome, as well as the perceived likelihood of that outcome. A scenario example is "How worried or anxious will you be if your classmate won't lend you his notes?" and subsequently "Do you expect that this person will lend you his notes?". The RSQ showed good reliability: Guttman's  $\lambda_2$  was 0.89 in both the BDSM and the control group.

*Subjective well-being* was measured using the World Health Organization-Five Well-being Index (WHO-5) [39]. By means of five items, participants were asked how they had felt in the last 2 weeks, expressing their feeling using answer categories "not at all" (score 0), "sometimes" (score 1), "less than half of the time" (score 2), "more than half of the time" (score 3), "most of the time" (score 4), "constantly" (score 5). Guttman's  $\lambda_2$  for the WHO-5 was 0.85 in the BDSM group and 0.87 in the control group.

### Data Analytic Strategy

First, the associations between the background characteristics gender, age, and education were examined using  $\chi^2$  tests of independence and  $\phi$  and Cramer's V as effect size measures. Then the associations of background characteristics with psychological characteristics were examined using eta (for education) or Pearson's correlation (for gender and age). Associations among psychological characteristics were also examined using Pearson's correlation. All these analyses were conducted for the BDSM and control group separately.

The association between gender and BDSM roles in the BDSM sample was tested using the  $\chi^2$  test of independence. The effect of group (control, Sub, Switch, Dom) on psychological characteristics, controlled for the effect of gender, age, and education, was tested using analysis of covariance (ANCOVA), with partial  $\eta^2$  as effect size measure. Preliminary analyses showed that nonlinear effects of age and interaction effects with education were not significant, hence these effects were not included in the analyses. If the gender  $\times$  group effect was significant, the ANCOVA was carried out for men and women separately, otherwise the ANCOVA was carried out on the data of both sexes combined. Finally, seven a priori contrasts were tested comparing the BDSM group with the control group (1), each of the BDSM groups with the control group (3), and the BDSM groups among each other (3).

All analyses were carried out using SPSS (PASW) 17.0 (SPSS Inc., Chicago, IL, USA), using two-tailed tests. The seven contrasts were tested using  $\alpha = 0.01$  to correct for multiple testing, whereas all other tests were tested using  $\alpha = 0.05$ .

### Results

The proportion of female respondents in the control group (71.2%) was higher than in the BDSM group (48.6%) ( $\chi^2_{(1)} = 71.1$ ,  $P < 0.001$ ,  $\phi = 0.22$ ). The average age of the participants in the control group (35.8 years,  $SD = 13.4$  years) was lower than in the BDSM group (41.4 years,  $SD = 11.8$  years). Whereas the average age in the BDSM group was comparable with the average age of the Dutch population (41.1 years), the  $SD$  of age was smaller in both groups than in the general population. Finally, the distribution of educational levels was different across the two groups ( $\chi^2_{(3)} = 27.8$ ,  $P < 0.001$ ,  $V = 0.14$ ), with

more participants of the BDSM group having had higher education (70.1%) than the control group (61.3%). Both groups were more highly educated than the general Dutch population (34%).

The first three rows and columns of Table 1 present the associations of the background characteristics gender, age, and education with the psychological characteristics in the control and BDSM group, respectively. Many associations were significant, although most effects were small (0.1) to medium (0.3). Because the background characteristics were different across the two groups and had an effect on the psychological characteristics, we controlled for their effects when testing the effects of BDSM group on the psychological characteristics.

The scores on the attachment scales were mostly strongly associated to each other (some correlations of 0.5 or even stronger). Associations among the personality scales were small to medium, with the exception of the strong negative correlations between Neuroticism and Extraversion ( $-0.55$  and  $-0.44$ ), and Neuroticism and Conscientiousness ( $-0.39$  and  $-0.40$ ), in the control and BDSM group, respectively. Some of the personality scales were also strongly correlated to the attachment scales. Whereas Openness to Experience and Conscientiousness had generally small to medium correlations with the attachment scales ( $< 0.3$ ), Agreeableness, Extraversion, and in particular Neuroticism, had strong correlations with some attachment scales (0.5 or higher). Rejection Sensitivity was strongly associated to the attachment scales Neuroticism and Extraversion, but weakly to the other personality scales. Finally, Subjective Well-being had medium to strong negative associations with the attachment scales and Rejection Sensitivity, a strong negative association with Neuroticism, a medium to strong positive association with Extraversion, and a small to medium association with Agreeableness.

The association of BDSM role and gender was strong and significant ( $\chi^2_{(2)} = 202.15$ ,  $P < 0.001$ ,  $V = 0.47$ ). Among the men 33.4%, 18.3%, and 48.3%, were Sub, Switch, or Dom, respectively, whereas these percentages were 75.6%, 16.4%, and 8% for women. Hence, relatively more men assumed the dominant role and relatively more women assumed the submissive role.

Columns 3 to 6 of Table 2 present the averages on the psychological characteristics for all groups. The result of the test of the effect of group after controlling for the effects of sex, age, and gender, is presented in the penultimate column, with the

**Table 1** Correlations between variables for control group and BDSM group separately

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Gender <sub>1</sub>	—																
Age <sub>2</sub>	-0.36†	—															
Education <sub>3</sub>	0.18†	0.37†	—														
Confidence in Relationships <sub>4</sub>	0.01	0.09	0.14†	—													
Discomfort with Closeness <sub>5</sub>	0.04	-0.06	0.09*	-0.59†	—												
Relations as Secondary <sub>6</sub>	-0.19†	-0.03	0.09	-0.37†	0.50†	—											
Need for Approval <sub>7</sub>	0.13†	-0.22†	0.15†	-0.56†	0.51†	0.47†	—										
Preoccupation <sub>8</sub>	0.06	-0.08	0.13†	-0.50†	0.44†	0.32†	0.61†	—									
Avoidant Attachment Style <sub>9</sub>	-0.05	-0.06	0.09	-0.58†	0.92†	0.79†	0.57†	0.45†	—								
Anxious Attachment Style <sub>10</sub>	0.10†	-0.16†	0.15†	-0.59†	0.53†	0.43†	0.88†	0.91†	0.56†	—							
Neuroticism <sub>11</sub>	0.21†	-0.20†	0.17†	-0.58†	0.39†	0.26†	0.66†	0.63†	0.39†	0.72†	—						
Extraversion <sub>12</sub>	0.11†	-0.08*	0.10*	0.57†	-0.47†	-0.26†	-0.32†	-0.45†	0.39†	-0.36†	-0.44†	—					
Openness to Experience <sub>13</sub>	0.13†	-0.01	0.25†	0.16†	-0.10†	-0.26†	-0.19†	-0.08*	-0.19†	-0.14†	-0.06	-0.15†	—				
Agreeableness <sub>14</sub>	0.26†	0.03	0.09	0.30†	-0.41†	-0.46†	-0.11†	-0.21†	-0.49†	-0.18†	-0.18†	0.30†	0.13†	—			
Conscientiousness <sub>15</sub>	-0.10*	0.12†	0.08	0.30†	-0.10†	-0.01	-0.28†	-0.21†	-0.08*	-0.27†	-0.40†	0.29†	-0.06	0.05	—		
Rejection Sensitivity <sub>16</sub>	0.15†	-0.10†	0.15†	-0.58†	0.42†	0.30†	0.59†	0.53†	0.43†	0.63†	0.59†	-0.35†	-0.07	-0.12†	-0.29†	—	
Subjective Well-being <sub>17</sub>	-0.10†	0.12†	0.11†	0.53†	-0.36†	-0.24†	-0.46†	-0.52†	-0.36†	-0.55†	-0.62†	0.46†	0.08*	0.19†	0.35†	-0.45†	—

\* $P < 0.05$ , † $P < 0.01$ , ‡ $P < 0.001$   
 Notes. Upper right triangle presents correlations between variables for the control group; lower left triangle presents correlations between variables for the BDSM group.  
 BDSM = bondage-discipline, dominance-submission, sadism-masochism

corresponding effect size (Partial  $\eta^2$ ) presented in the last column. No effect of group on attachment scales Discomfort with Closeness and Preoccupation was found. The effects on the other attachment scales were small (0.006) to medium (0.038), with the exception of the effect on Need for Approval for males, which was medium to strong (0.089). BDSM group had an effect on all personality scales, with small (e.g., 0.008 on Extraversion) to medium (with 0.045 being the strongest effect on Openness to Experience) effect sizes. Finally, effect of group on Rejection Sensitivity was small to medium (0.022) and small on Subjective Well-being (0.008).

Table 3 summarizes the results of seven a priori contrasts comparing the adjusted averages of groups on psychological characteristics after controlling for the effect of gender, age, and education. For reasons of transparency, only results of significant contrasts are presented. No results are shown for Discomfort with Closeness, Avoidant Attachment, and Preoccupation because no contrast was significant for these three attachment scales at the 0.01 level.

Overall, from the 56 contrasts on attachment variables, 25 were significant and all of them showed the same pattern; if scores were different, then the control group had the lowest scores, followed by the subs, the switches, and finally the doms with the highest scores on attachment. For instance, the female control group scored lower on Confidence in Relationships compared with the female doms, switches, subs, and the collapsed female BDSM group, whereas the male doms scored higher than the male subs (first row Table 3).

Regarding personality, 18 out of 35 contrasts were significant. The BDSM group scored higher than the control group on Extraversion, Openness to Experience, and Conscientiousness, and lower on Neuroticism and Agreeableness. For Neuroticism, the doms scored lower than all other groups, whereas the other groups did not differ from each other. On Extraversion, the only difference we found was that subs were more extravert than the control group. The control group scored lower than each BDSM group on Openness to Experience, and both the switches and doms scored higher than the subs. With respect to Agreeableness, the doms scored lower than both the subs and the control group.

On Conscientiousness both the subs and doms scored higher than the control group. Concerning Rejection Sensitivity, the control group scored

**Table 2** Means and standard deviations for all dependent variables for all groups,<sup>§</sup> including *F*-tests and partial  $\eta^2$ 

Variable**		BDSM			Control	<i>F</i>	Partial $\eta^2$
		Sub	Switch	Dom			
Confidence in Relationships <i>F</i> = 5.45, <i>P</i> = 0.001	♂	28.05 (5.64)	28.93 (6.02)	30.11 (4.77)	29.16 (5.97)	3.23*	0.016
	♀	28.93 (5.64)	30.36 (4.89)	31.06 (5.88)	27.48 (6.27)	7.46†	0.029
Discomfort with Closeness <i>F</i> = 0.44, <i>P</i> = 0.723		31.35 (7.79)	30.20 (7.19)	30.68 (6.72)	32.14 (7.34)	1.66	0.004
		13.94 (4.77)	13.50 (4.61)	13.38 (4.32)	13.77 (4.54)	6.62‡	0.014
Need for Approval <i>F</i> = 3.96, <i>P</i> = 0.008	♂	19.99 (5.66)	18.80 (5.18)	15.96 (4.45)	19.08 (4.91)	19.23‡	0.089
	♀	19.77 (5.35)	18.21 (5.18)	16.57 (5.47)	20.72 (5.15)	8.74‡	0.034
Preoccupation <i>F</i> = 1.53, <i>P</i> = 0.204		23.40 (6.29)	22.85 (6.19)	21.77 (5.93)	23.05 (6.14)	1.71	0.004
		45.29 (10.97)	43.69 (10.20)	44.06 (9.65)	45.90 (10.52)	2.91*	0.006
Anxious Attachment <i>F</i> = 2.82, <i>P</i> = 0.038	♂	43.25 (11.25)	41.64 (9.89)	37.82 (9.20)	41.11 (9.49)	7.78‡	0.038
	♀	43.24 (10.33)	41.07 (10.29)	37.77 (10.71)	44.17 (10.30)	4.47†	0.018
Neuroticism <i>F</i> = 1.52, <i>P</i> = 0.208		30.31 (8.56)	29.23 (7.47)	24.41 (6.51)	31.26 (9.38)	16.16‡	0.033
		40.40 (7.69)	40.15 (8.04)	40.05 (7.67)	39.00 (8.33)	3.73*	0.008
Openness to Experience <i>F</i> = 2.26, <i>P</i> = 0.079		43.57 (7.13)	44.99 (6.09)	44.92 (6.48)	41.98 (6.99)	22.37‡	0.045
		44.86 (5.99)	43.64 (6.46)	41.92 (6.15)	45.30 (5.93)	8.65‡	0.018
Conscientiousness <i>F</i> = 1.12, <i>P</i> = 0.340		44.71 (7.14)	43.60 (7.72)	45.77 (7.33)	42.17 (7.69)	9.38‡	0.019
		5.41 (2.52)	4.87 (2.12)	4.19 (1.80)	5.43 (2.44)	10.25‡	0.022
Subjective Well-being <i>F</i> = 0.81, <i>P</i> = 0.488		14.54 (5.19)	14.66 (5.04)	16.02 (4.94)	13.69 (5.64)	3.76*	0.008

\**P* < 0.05, †*P* < 0.01, ‡*P* < 0.001

<sup>§</sup>Unadjusted means and standard deviations are presented. In case of a significant group × gender interaction, results are presented for both genders.

<sup>†</sup>The *F*-test and partial  $\eta^2$  are of the test of the effect of group after controlling for the effects of gender, age, and education. Each *F*-test has *df*<sub>1</sub> = 3, and a very high *df*<sub>2</sub>.

<sup>\*\*</sup>The *F*-test and significance correspond to the test of the interaction effect of group × gender, after controlling for the effects of group, gender, age, and education. Each *F*-test has *df*<sub>1</sub> = 3, and a very high *df*<sub>2</sub>.

BDSM = bondage-discipline, dominance-submission, sadism-masochism; Dom = dominant; Sub = submissive

higher than the BDSM group, with both the control group and subs scoring higher than the doms. Finally, the BDSM group scored higher on Subjective Well-being, with the doms scoring higher than the control group.

## Discussion

With this study we aimed to contribute to the BDSM literature that until now has shown a predominant focus on sociodemographic, psychosocial, and sexual characteristics of BDSM practitioners. Information on core psychological characteristics of BDSM practitioners is missing, in spite of the ongoing and heated debate of whether BDSM participation should be regarded as deviant, pathological psychosexual behavior, or rather as a recreational leisure activity. The aim of this study was therefore to compare a sample of the most commonly distinguished groups of BDSM participants (subs, switches, and doms) with a sample of non-BDSM participating controls on

several normal and basic human characteristics, such as the Big Five personality, attachment, rejection sensitivity, and subjective well-being.

Regarding the major personality dimensions, our findings suggest that BDSM participants as a group are, compared with non-BDSM participants, less neurotic, more extraverted, more open to new experiences, more conscientious, yet less agreeable. BDSM participants also were less rejection sensitive, whereas female BDSM participants had more confidence in their relationships, had a lower need for approval, and were less anxiously attached compared with non-BDSM participants. Finally, the subjective well-being of BDSM participants was higher than that of the control group. Together, these findings suggest that BDSM practitioners are characterized by greater psychological and interpersonal strength and autonomy, rather than by psychological maladaptive characteristics. However, effect sizes were generally weak to medium, and differences among BDSM roles were observed. Overall, a picture emerges of the

**Table 3** Results of a priori contrasts in the ANCOVAs

		BDSM vs. Control	Dom vs. Control	Switch vs. Control	Sub vs. Control	Sub vs. Switch	Sub vs. Dom	Switch vs. Dom
Confidence in Relationships	♂						Dom $t = 2.92^{\dagger}$	
	♀	BDSM $t = 4.59^{\dagger}$	Dom $t = 2.99^{\dagger}$	Switch $t = 3.85^{\dagger}$	Sub $t = 2.69^{\dagger}$			
Relations as Secondary			Control $t = 3.32^{\dagger}$				Sub $t = 4.23^{\dagger}$	
Need for Approval	♂		Control $t = 4.55^{\dagger}$				Sub $t = 7.19^{\dagger}$	Switch $t = 4.34^{\dagger}$
	♀	Control $t = 4.82^{\dagger}$	Control $t = 3.81^{\dagger}$	Control $t = 3.87^{\dagger}$		Sub $t = 2.92^{\dagger}$	Sub $t = 3.15^{\dagger}$	
Anxious Attachment Style	♂						Sub $t = 4.63^{\dagger}$	Switch $t = 2.84^{\dagger}$
	♀	Control $t = 3.25^{\dagger}$	Control $t = 2.97^{\dagger}$				Sub $t = 2.74^{\dagger}$	
Neuroticism		Control $t = 4.09^{\dagger}$	Control $t = 6.68^{\dagger}$				Sub $t = 6.14^{\dagger}$	Switch $t = 4.23^{\dagger}$
Extraversion		BDSM $t = 3.18^{\dagger}$			Sub $t = 2.86^{\dagger}$			
Openness to Experience		BDSM $t = 7.72^{\dagger}$	Dom $t = 7.45^{\dagger}$	Switch $t = 5.57^{\dagger}$	Sub $t = 3.93^{\dagger}$	Switch $t = 2.88^{\dagger}$	Dom $t = 4.54^{\dagger}$	
Agreeableness		Control $t = 4.17^{\dagger}$	Control $t = 5.05^{\dagger}$				Sub $t = 3.65^{\dagger}$	
Conscientiousness		BDSM $t = 4.21^{\dagger}$	Dom $t = 4.06^{\dagger}$		Sub $t = 4.63^{\dagger}$			
Rejection Sensitivity		Control $t = 3.04^{\dagger}$	Control $t = 4.77^{\dagger}$				Sub $t = 5.22^{\dagger}$	
Subjective Well-being		BDSM $t = 2.80^{\dagger}$	Dom $t = 3.30^{\dagger}$					

$^{\dagger}P < 0.01$ ,  $^{\ddagger}P < 0.001$

Notes. Only significant results are reported. Absolute  $t$ -values are presented, and the group that scored highest. BDSM = bondage-discipline, dominance-submission, sadism-masochism; Dom = dominant; Sub = submissive

psychological characteristics of the average BDSM practitioner that, compared with non-BDSM practitioners, is quite favorable. These findings corroborate earlier findings [5,18,20,40].

Attachment processes are mostly genetically determined in combination with diffusely acting experiences over a prolonged period of time in early childhood [41]. A popular assumption regarding attachment and BDSM is that the preference for BDSM activities is likely the result of having a history of traumatic (sexual) experiences or being generally insecurely attached [9]. This view is particularly strongly held regarding female BDSM participants and especially regarding female subs. Our results contest this view; if differences in attachment were found, the control group had the lowest attachment scores, whereas the doms scored highest. In addition, the subs scored either similar to or better than the control group on attachment. Hence we conclude that our data do not support the persistent assumption that BDSM is associated with inadequate developmental attachment processes (either because of a history of sexual violence or because of other reasons). We do not have an explanation for

the higher attachment scores of doms compared with subs.

Our results replicate earlier studies showing that BDSM participation is associated with a higher level of subjective well-being [5,18,40]. One's subjective well-being has been shown to be affected by being conscient about one's own sexual identity and desires and being able to adequately and explicitly communicate these to sexual partners [42]. As BDSM play requires the explicit consent of the players regarding the type of actions to be performed, their duration and intensity, and therefore involves careful scrutiny and communication of one's own sexual desires and needs, this may be one possible explanation for the positive association between BDSM practicing and subjective well-being.

Several limitations warrant caution when interpreting these findings. First, although the online BDSM questionnaire was accessible for everybody interested in participating in the study, likely the far majority of respondents responded to the call at <http://www.bdsmzaken.nl>, the largest Dutch online community for BDSM participants. This may have caused a possible selection bias.

Similarly, the control group consists mainly of participants that responded to a call on <http://www.geheimenvan.nl>, a Dutch website where visitors can anonymously post their biggest secrets for others to read and comment. The majority of the visitors of this site are women, which is reflected in the relatively high percentage of females in the control group. Hence, caution must be made before extrapolating the findings to the general population. We note, however, that it may never be possible to sample BDSM practitioners and controls from a comparable population. Finally, only a limited number of broad BDSM roles was distinguished in this study (subs, switches, doms), whereas a host of other role distinctions could have been made, based on type of role or specific BDSM activity that is practiced such as bondage and/or discipline, dominance and/or submission, including or excluding physical pain or sexual intercourse, etc. Future research may further refine the knowledge regarding the personality profile of BDSM participants by adopting a more comprehensive measure of personality, such as the NEO-PI-R [38], a 240-item questionnaire that not only assesses the five dimensions of human personality, but also six additional traits for each dimension.

We showed that the psychological profile of BDSM participants is characterized by a set of balanced, autonomous, and beneficial personality characteristics and a higher level of subjective well-being compared with non-BDSM participants. These results, in line with the more recent literature on psychosocial and clinical characteristics of BDSM participants [43], falsify the view that BDSM practitioners are psychologically disturbed or characterized by maladaptive psychological processes or even psychopathology, and suggest it is unlikely that having experienced one or more traumatic (sexual) experiences is a major cause for developing a preference for BDSM activities. We therefore conclude that these results favor the view of Newmahr [6] that BDSM may be thought of as a recreational leisure, rather than the expression of psychopathological processes.

**Corresponding Author:** Andreas Anne Johannes Wismeijer, PhD, Department of Clinical Psychology, Tilburg University, Prisma Building, P106a, Warandelaan 2, PO Box 90153, 5000 LE Tilburg, The Netherlands. Tel: +31 (13) 466-2988; Fax: +31 (13) 466-2067; E-mail: andreas.wismeijer@icloud.com

*Conflict of Interest:* The authors report no conflicts of interest.

## Statement of Authorship

### Category 1

#### (a) Conception and Design

Andreas A.J. Wismeijer; Marcel A.L.M. van Assen

#### (b) Acquisition of Data

Andreas A.J. Wismeijer

#### (c) Analysis and Interpretation of Data

Marcel A.L.M. van Assen; Andreas A.J. Wismeijer

### Category 2

#### (a) Drafting the Article

Andreas A.J. Wismeijer; Marcel A.L.M. van Assen

#### (b) Revising It for Intellectual Content

Andreas A.J. Wismeijer; Marcel A.L.M. van Assen

### Category 3

#### (a) Final Approval of the Completed Article

Andreas A.J. Wismeijer; Marcel A.L.M. van Assen

## References

- 1 Alison L, Santtila P, Sandnabba NK, Nordling N. Sadomasochistically oriented behavior: Diversity in practice and meaning. *Arch Sex Behav* 2001;30:1–13.
- 2 Sandnabba NK, Santtila P, Alison L, Nordling N. Demographics, sexual behaviour, family background and abuse experiences of practitioners of sadomasochistic sex: A review of recent research. *Sex Relation Ther* 2002;17:39–55.
- 3 Fedoroff PJ. Sadism, sadomasochism, sex, and violence. *Can J Psychiatry* 2008;53:637–46.
- 4 Wright S. Survey of violence & discrimination against sexual minorities. 2008. National Coalition for Sexual Freedom. Available at: <https://www.ncsfreedom.org> (accessed June 14, 2011).
- 5 Richters J, De Visser RO, Rissel CE, Grulich AE, Smith AMA. Demographic and psychosocial features of participants in bondage and discipline, “sadomasochism” or dominance and submission (BDSM): Data from a national survey. *J Sex Med* 2008;5:1660–88.
- 6 Newmahr S. Rethinking kink: Sadomasochism as serious leisure. *Qual Sociol* 2010;33:313–31.
- 7 Barker M, Iantaffi A, Gupta C. Kinky clients, kinky counseling? The challenges and potentials of BDSM. In: Moon L, ed. *Feeling queer of queer feelings: Radical approaches to Counseling sex, sexualities, and genders*. London, UK: Routledge; 2007:106–24.
- 8 Ritchie A, Barker M. Explorations in feminist participant-led research: Running a focus group discussion with polyamorous women. *Psychol Women Section Rev* 2005;7:47–57.
- 9 Taylor GW, Ussher JM. Making sense of S&M: A discourse analytic account. *Sexualities* 2001;4:293–314.
- 10 Cowan S. To buy or not to buy? Vulnerability and the criminalisation of commercial BDSM. *Fem Leg Stud* 2012;20:263–79.
- 11 Von Krafft-Ebing R. Psychopathia sexualis with especial reference to the antipathic sexual instinct: A medico-forensic study. Trans. Rebman F. J. from 12th German ed. New York: Special Books; 1965:129–218, 533–43.
- 12 Gosselin C, Wilson GD. *Sexual variations: Fetishism, sadomasochism, and transvestism*. New York: Simon & Schuster; 1980.
- 13 Moser C. When is an unusual sexual interest a mental disorder? *Arch Sex Behav* 1999;38:323–5.

- 14 Moser C, Levitt E. An exploratory-descriptive study of a sado-masochistically orientated sample. In: Weinberg T, ed. *S&M: Studies in dominance and submission*. Amherst, NY: Prometheus Books; 1995:93–112.
- 15 Moser C. Sado-masochism. *J Soc Work Hum Sex* 1988;7:43–56.
- 16 Stiles BL, Clark RE. BDSM: A Subcultural analysis of sacrifices and delights. *Deviant Behav* 2011;32:158–89.
- 17 Damon W. Dominance, sexism, and inadequacy: Testing a compensatory conceptualization in a sample of heterosexual men involved in SM. *J Psychol Human Sex* 2003;14:25–45.
- 18 Connolly PH, Haley H, Gendelman J, Miller J. Psychological functioning of bondage/domination/sado-masochism practitioners. *J Psychol Human Sex* 2006;18:79–120.
- 19 Cross PA, Matheson K. Understanding sado-masochism: An empirical examination of four perspectives. *J Homosex* 2006;50:133–66.
- 20 Sagarin BJ, Cutler B, Cutler N, Lawler-Sagarin KA, Matuszewicz L. Hormonal changes and couple bonding in consensual sado-masochistic activity. *Arch Sex Behav* 2009;38:186–200.
- 21 Bourdage JS, Lee K, Ashton MC, Perry A. Big Five and HEXACO model personality correlates of sexuality. *Pers Individ Dif* 2007;43:1506–16.
- 22 Shafer AB. The Big Five and sexuality trait terms as predictors of relationships and sex. *J Res Pers* 2001;35:313–38.
- 23 Barrick MR, Mount MK, Judge TA. Personality and performance at the beginning of the new Millennium: What do we know and where do we go next? *Int J Sel Assess* 2001;9:9–30.
- 24 Karney BR, Bradbury TN. The longitudinal course of marital quality and stability: A review of theory, method, and research. *Psychol Bull* 1995;118:3–34.
- 25 Meston C, Trapnell P, Gorzalka B. Sex and the five factor model of personality. Paper presented at annual meeting of the international academy of sex research, Pacific Grove, CA 1993.
- 26 Downey G, Feldman SI. Implications of rejection sensitivity for intimate relationships. *J Pers Soc Psychol* 1996;70:1327–43.
- 27 Feldman S, Downey G. Rejection sensitivity as a mediator of the impact of childhood exposure to family violence on adult attachment behavior. *Dev Psychopathol* 1994;6:231–47.
- 28 Bowlby J. *Attachment and loss*. Vol. 1. Attachment. 2nd edition. New York: Basic Books; 1982.
- 29 Cassidy J. The nature of the child's ties. In: Cassidy J, Shaver PR, eds. *Handbook of attachment: Theory, research, and clinical applications*. New York: Guilford Press; 1999:3–20.
- 30 Pietromonaco PR, Feldman Barrett L. Attachment theory as an organizing framework: A view from different levels of analysis. *Rev Gen Psychol* 2000;4:107–10.
- 31 Feeney JA, Noller P, Hanrahan M. Assessing adult attachment. In: Sperling MB, Berman WH, eds. *Attachment in adults: Clinical and developmental perspectives*. New York: Guilford; 1994:122–58.
- 32 Hazan C, Zeifman D, Middleton K. Adult romantic attachment, affection, and sex. Paper presented at the 7th International Conference on Personal Relationships, Groningen, The Netherlands, 1994.
- 33 Impett EA, Gordon AM, Strachman A. Attachment and daily sexual goals: A study of dating couples. *Pers Relatsh* 2008;15:375–90.
- 34 Collins NL, Read SJ. Adult attachment, working models and relationship quality in dating couples. *J Pers Soc Psychol* 1990;58:644–63.
- 35 Schachner DA, Shaver PR. Attachment dimensions and motives for sex. *Pers Relatsh* 2004;11:179–95.
- 36 Kolmes K, Stock W, Moser C. Investigating bias in psychotherapy with BDSM clients. *J Homosex* 2006;50:301–24.
- 37 Sijtsma K. On the use, the misuse, and the very limited usefulness of Cronbach's alpha. *Psychometrika* 2009;74:107–20.
- 38 Costa PT, McCrae RR. *NEO PI-R. Professional manual*. Odessa, FL: Psychological Assessment Resources, Inc; 1992.
- 39 Bech P. *Quality of life in the psychiatric patient*. London: Mosby-Wolfe; 1998.
- 40 Richters J, Rissel C. *Doing it down under: The sexual lives of Australians*. Sydney: Allen & Unwin; 2005.
- 41 Vaughn BE, Bost KK, van IJendoorn MH. Attachment and temperament: Additive and interactive influences on behavior, affect, and cognition during infancy and childhood. In: Cassidy J, Shaver P, eds. *Handbook of attachment*. New York: Guilford Press; 2008:192–216.
- 42 Byers ES. Relationship satisfaction and sexual satisfaction: A longitudinal study of individuals in long-term relationships. *J Sex Res* 2005;42:113–8.
- 43 Ahlers CJ, Schaefer GA, Mundt IA, Roll S, Englert H, Willich SN, Beier KM. How unusual are the contents of paraphilias? Paraphilia-associated sexual arousal patterns in a community-based sample of men. *J Sex Med* 2011;8:1362–70.