

REVIEW

Demographics, sexual behaviour, family background and abuse experiences of practitioners of sadomasochistic sex: a review of recent research

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ABSTRACT *This article reviews recent research on sadomasochistically oriented behaviour. Topics include: (a) demographics of individuals who participate in sadomasochistic sex; (b) the sexual characteristics of this group of individuals; (c) sexual behaviours involved and the nature of the underlying relationship of these behaviours to one another; (d) family background; and (e) experiences of childhood sexual abuse. The article ends with a summary of the major findings and some suggestions for future research.*

Traditionally, sexual behaviour has been explained in terms of individual characteristics and early phases of development (Reik, 1949; Coen, 1988; Glick & Meyers, 1988). The individual has also been the focus in the psychiatric classification of mental disorders, among which sexual sadism and sexual masochism are included as paraphilias (DSM-IV, 1994). During the past two decades, a number of researchers (e.g. Baumeister, 1988; Falk & Weinberg, 1983; Moser & Levitt, 1987; Spengler, 1977) representing various areas of social science have started to examine sadomasochism as a social phenomenon dependent on the subcultural context, and have looked at the developmental history of the people involved. For example, social well-being appears to be associated with levels of integration in sadomasochistic subcultures.

According to Moser (1988), there is no commonly accepted definition of what constitutes sadomasochistic sexual behaviour (sm-sex). A non-clinical definition of

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consensual sm-sex by Townsend (1983) identifies six characteristic features in a sadomasochistic scene: a relation of dominance and submission, infliction of pain that is experienced as pleasurable by both partners, using fantasy or role-playing by one or both partners, deliberate humiliation of the other partner, fetishistic elements (clothes, devices, scenery), and one or more ritualistic activities, e.g. bondage, whipping. Other definitions have been offered by Weinberg *et al.* (1984) and by Kamel (1983).

Previous studies have not taken account of the potential preferences that may exist among individuals when engaging in one set of sm-sex behaviours (i.e. the administration or receiving of pain) over another (i.e. humiliation). One possibility is that individuals only engage in a limited set of behaviours and not in others, suggesting that sadomasochism is in fact a label for a variety of relatively independent phenomena. Another possibility is that individuals emphasize a particular set of behaviours but also engage in other behaviours to a more limited extent. Also, there have been no investigations exploring whether a preference for one facet over another is related to the gender and the sexual orientation of the respondents, nor of whether there is a preference for the 'sadistic' or the 'masochistic' partner to engage in one facet more than any other. This is clearly an interesting set of research questions that can clarify the nature of sm-sex.

Related to the above questions concerning sets of behaviours is the idea of a sexual script. Interpersonal sexual scripts refer to social interactions of a sexual nature between individuals. The way in which people behave and act out their sexuality is influenced by their perceptions of what others expect of them. Script theory also suggests that sexual interaction is hardly ever spontaneous but, rather, conforms to a premeditated sequence of intentional actions. Script theory has mainly been used for describing conventional heterosexual activities (DeLamater & MacCorquodale, 1979; Laumann *et al.*, 1994). However, little is known about the 'scripting' of more unusual sexual activities, including sadomasochistic sexual behaviour. Because sadomasochism tends to involve ritualistic patterns of behaviour, in which partners are often assigned roles (Sandnabba *et al.*, 1999) and are expected to enact particular sequences of behaviour, it would appear to be an important manifestation of the idea of a 'script'. Thus it could be hypothesized that members of the sadomasochistic subculture learn patterns that facilitate the enactment of complicated sadomasochistic sexual scenarios. No studies have so far empirically scrutinized the idea of sexual scripts within sm-sex.

Several studies exploring sexual behaviour and social adaptation of sm-sex practitioners have shown them to be generally well adjusted (e.g. Spengler, 1977; Weinberg, 1987; Moser & Levitt, 1987; Sandnabba *et al.*, 1999). This suggests that childhood experiences of sm-practitioners will not in the large majority of cases reveal pathological patterns of family interaction, although a number of clinical case reports have suggested this to be the case (Blos, 1991; Blum, 1991; Coen, 1988; Rothstein, 1991). These reports have two flaws. On the one hand, they are lacking in systematic empirical support, and on the other, they are exclusively based on people who have sought psychological help. So far, no studies have set the focus on exploring associations between childhood experiences and the way in which a

non-clinical sample of sm-practitioners express their sexuality. For example, attachment theorists (e.g. Shaver *et al.*, 1988) have shown that attachment style affects the expression of sexuality in a number of areas, including trust, desire for reciprocation and fear of closeness. They also suggest that, for every feature of adult love-relationships, there is either a documented or a plausible infant parallel.

Likewise, the question of whether childhood abuse experiences have etiological significance for sadomasochistic behaviour has largely been ignored. Because of the complexity of sadomasochistic sexual behaviour and the significance of social influences on it, it is unlikely that any simple associations between childhood abuse experiences and later sm-sex will be found. Nevertheless, it is important to ascertain empirically what the role—if any—of sexual abuse is for the development of sadomasochistic sexual interests and for the choice of either sadistic or masochistic positions.

A further under-researched question in the empirical literature on sadomasochism is the relationship between sadomasochistic sexual practices and other sexual activities. The cue-response pattern model of sexual arousal (Suppe, 1985) is a suitable model for analysing this question since it emphasizes lack of flexibility as a primary criterion for paraphilia. The model presents a classification of how specific cues stimulate or inhibit an individual's arousal. Cues interfering with sexual arousal are classified as inhibitory, while cues that neither inhibit nor intensify sexual arousal are seen as non-facilitative. Facilitative cues, for their part, enhance but are not necessary for sexual arousal. Finally, cues that are necessary for sexual arousal are named paraphiliac. This differs from the definition of paraphilia in DSM-IV, where a clinically important distress or impairment of work, social, or personal functioning is required for diagnosis. According to Suppe's model, sadomasochism is paraphiliac if it is the only way for an individual to get sexually aroused and satisfied. This means that, if a person also engages in sex without sadomasochistic elements, sadomasochism should not be viewed as a paraphiliac cue for him or her.

This paper summarizes the results from five empirical studies (Alison *et al.*, 2001; Nordling *et al.*, 2000; Sandnabba *et al.*, 1999; Santtila *et al.*, 2000; Santtila *et al.*, 2002) of a sample of Finnish sadomasochistically oriented individuals. In total, 184 respondents (22 women and 162 men) who were members of two sadomasochistically oriented clubs provided information for the studies. Ninety-five respondents were recruited from Kinky Club, a club for mainly heterosexual people with a variety of sexual preferences. Ninety-one respondents were recruited from the MSC-Finland association with mainly gay male members. The questionnaire that was used had been specifically created for the research. It contained 237 questions on 18 pages pertaining to demographics, sexual behaviour, subcultural integration, attitudes towards sadomasochism, mental health and sexual abuse, as well as family background. The length of the questionnaire precluded the inclusion of additional significant areas of inquiry such as the relationship between HIV/AIDS and sm-sex. Also, it would have been impractical to include such a lengthy questionnaire as an appendix to the present article. However, it is available on demand from the authors. The questionnaires were mailed to all the

members of the two clubs with the approval and cooperation of the clubs' boards. Full confidentiality was guaranteed and the individuals who voluntarily decided to participate sent their addressed and stamped return envelopes to the researchers.

Ethical aspects of the research were discussed and approved at the departmental research seminar and comply with the Helsinki Declaration of 1975, revised 1983. As both clubs had members with differing sexual preferences it was emphasized that only individuals who defined themselves as sadomasochists would complete the instrument. This procedure is similar to that applied by Moser and Levitt (1987). In all, 534 questionnaires were distributed, 327 via the Kinky Club and 207 via the MSC-Finland. Responses were received from 186 persons, of which 22 were females. Because of the small number of female respondents, data concerning them were included only in analyses where this did not cause problems from the point of view of the statistical analyses. In other words, the female respondents were included in the multivariate analyses (Alison *et al.*, 2001; Santtila *et al.*, 2002) and in the study reporting on sexual abuse (Nordling *et al.*, 2000), but excluded from the studies reporting on demographics and sexual characteristics (Sandnabba *et al.*, 1999) as well as from the study on family background (Santtila *et al.*, 2000). The response rate was 35 %, which, considering the nature of the study and the fact that the clubs also had members who were not sadomasochists, was deemed to be acceptable.

Demographics

The respondents were highly educated (over a third had a university degree). They also had a higher income level than the population in general (Statistical Yearbook of Finland, 1993), with half having a monthly income of more than US\$2000 (Sandnabba *et al.*, 1999). This study group, as with many others previously explored (Weinberg, 1987; Spengler, 1977; Baumeister, 1988), is suggestive of respondents who are not psychologically disturbed or dysfunctional but are, rather, better educated and are in a generally higher earning bracket than the general population. When compared with information taken from a study of sexual habits of Finns by Kontula and Haavio-Mannila (1993), it was also found that 19% of the males were single in their sample compared with 45.1% in the present sample. Of the male respondents 26.8% had a steady partner, 4.9% were cohabiting with a partner and 14.6% were married. There were also 7.9% divorced and 0.5% widowed male respondents. The mean number of children the male respondents had was 0.477 (SD = 0.94), the comparable mean for Finns in general was 1.70. As expected, the gay male respondents had fewer children than the heterosexual male respondents.

It was also found that a small subgroup of sexually abused respondents had a significantly lower level of income compared with the non-abused respondents (Nordling *et al.*, 2000). As there were more women among the abused and as the male income level was higher than the female income level, it might be speculated that the difference between the abused and non-abused respondents would be the result of this confounding factor. However, further analysis showed that, among males too, the abused respondents had a significantly lower level of income. The

results also showed that the sexually abused respondents were significantly more often single (61.1%) compared with their non-abused counterparts (37.7%). This relative isolation may have been reflected in the fact that the sexually abused respondents were more prone to participate in sm-club activities. Sexual abuse was thus associated with poorer social adjustment as measured by income level and ability to establish steady relationships.

Sexual characteristics

Forty-three percent of the respondents reported being mainly heterosexual, 5.4% bisexual and 51.6% mainly homosexual in their sexual orientation. Of all the respondents 27% identified themselves as mainly sadistic, 22.7% as both sadistic and masochistic and 50.2% as mainly masochistic in their sadomasochistic behaviour. There was an indication that a higher proportion of the heterosexual respondents were masochistic and a higher proportion of the gay male respondents were sadistic.

The median age for the first awareness of sadomasochistic interest was in the 18–20 age bracket for the male respondents and the median ages of both the first experience and onset of regular sadomasochistic behaviour were in the 21–25 age bracket. It was found that the exclusively heterosexual males became aware of their sadomasochistic preferences at a younger age than the predominantly heterosexual males and the predominantly and exclusively gay males. Further, the exclusively heterosexual males had their first experience at a younger age than the predominantly heterosexual and the exclusively gay males. In addition, the exclusively gay males had their first experience at a later age than the predominantly gay male respondents. In a similar manner, there was a tendency for the exclusively heterosexual males to differ from the other groups in terms of the onset of regular sadomasochistic activity. It was found that 88.4% of the respondents had practised ordinary sex, i.e. consensual heterosexual or gay male sexual activity without sadomasochistic elements, before engaging in sadomasochism. The percentage of the respondents who no longer practised ordinary sex was 4.9%; the mean age at which these respondents stopped having ordinary sex was 25 years. On the other hand, 27.2% of the male respondents endorsed a statement suggesting that only sadomasochistic sex could satisfy them. The heterosexual males showed a nonsignificant tendency to endorse this statement more often than the gay males.

These results suggest that the development of sadomasochistic sexual behaviour starts after experience with more ordinary sexual behaviour and the establishment of a sexual orientation. Specifically, the exclusively gay male respondents became aware and started practising their sadomasochistic interests later, which accords well with findings showing that gay male individuals establish their sexual orientation later than heterosexual males (Coleman, 1982; Kontula & Haavio-Mannila, 1993). This is also consistent with Kamel's idea of sadomasochism as a reaction to dissatisfaction with the ordinary gay male scene (Kamel, 1983).

When exploring the changes in sadomasochistic preference it was found that 46.3% of the male respondents had not changed their preference, 17.9% had

changed their behaviour towards sadism while 21.6% had changed their behaviour towards masochistic preferences. Changes towards sadistic behaviour were not significantly more prevalent than changes towards masochistic behaviour. The hypothesis of development from a masochistic position towards a more sadistic position was, therefore, not supported. The vast majority of the male respondents had not changed their preference, which also contradicts Baumeister's (1988) hypothesis of such a change towards a more sadistic position. This hypothesis was also contradicted by the fact that many of the younger respondents in the sample were sadists.

Sexual behaviour

Table I presents the frequencies with which the respondents had participated in different sexual behaviours and role-plays. This information indicates that, in accordance with the results of Moser and Levitt (1987), flagellation and bondage were among the most popular activities. Additionally, some activities not specific to sadomasochism, e.g. oral sex and anal intercourse, which were not considered by these authors, were also quite popular. The similarities between the percentages of some behaviours (bondage, verbal humiliation, gagging, biting, cane whipping, water sports, enema, face slapping, hot wax, cross-dressing, piercing, skin branding and zoophilia) in the present sample and in that of Moser and Levitt were noteworthy. There were some differences (leather outfits, anal intercourse, rimming, handcuffs, chains, dildos, clothespins and clamps, spanking, rubber outfits, wrestling, and scat) between the percentages, some of which can be explained by the fact that the present study included a larger number of gay men. Indeed, clear differences in the frequencies of sexual and sadomasochistic behaviours and role plays between the heterosexual and gay male respondents were found. For example, the gay male respondents were more fond of leather outfits, anal intercourse, rimming, dildos, wrestling, special equipment and uniform scenes, while the heterosexual respondents more often enjoyed verbal humiliation, masks and blindfolds, gags, rubber outfits, cane whipping, vaginal intercourse, cross-dressing, and straitjackets. Different role-plays were more often involved in the sexual repertoires of the heterosexual male respondents. Sadomasochistic activity did not seem to be associated with extensive substance abuse during or before sadomasochistic sex. However, the use of poppers and alcohol by the gay male respondents was an exception to this pattern and could perhaps be understood as a distinctive pattern of the gay male subculture.

A question on the frequency at which the respondents had practised sadomasochistic sex during the preceding 12 months showed that the highest relative frequency (34.1%) was in the two to five times bracket. The heterosexual male respondents had fewer sessions than the gay male and bisexual respondents. Analysis of the effect of sadomasochistic preference on the frequency of sadomasochistic sessions gave some indication that sadistic males engage more frequently in sadomasochistic sex than masochistic males. The average number of sadomasochistic sessions per month desired by the respondents was six. Neither

TABLE I. Frequency with which the respondents engaged in different sexual practices, behaviours and role-plays during the preceding 12 months

Sexual practice or behaviour	Participated	Role plays	Participated
1. Oral sex	95.2	1. Master/madame–slave	55.9
2. Bondage	88.7	2. Uniform scenes	38.8
3. Flagellation	82.8	3. Teacher–student	29.1
4. Anal intercourse	80.6	4. Execution scenes	23.6
5. Handcuffs	74.7	5. Hospital scenes	15.7
6. Rimming	73.1	6. Rape scenes	13.5
7. Dildos	72.6		
8. Leather outfits	72.6		
9. Chains	71.0		
10. Verbal humiliation	69.9		
11. Clothespins, clamps	66.6		
12. Mask, blindfold	66.2		
13. Spanking	65.5		
14. Cock binding	64.5		
15. Gag	53.8		
16. Biting	53.3		
17. Rubber outfits	52.1		
18. Cane whipping	50.6		
19. Vaginal intercourse	47.3		
20. Watersports (urolangia)	47.3		
21. Wrestling	45.7		
22. Body odours	42.5		
23. Face slapping	40.3		
24. Weights	39.3		
25. Enema	39.3		
26. Special equipment, e.g. slings, crosses, cages	38.1		
27. Hot wax	35.0		
28. Ice	33.9		
29. Fist fucking	33.3		
30. Cross-dressing	28.5		
31. Piercing	21.0		
32. Skin branding	17.3		
33. Scat (coprophilia)	17.3		
34. Hypoxyphilia	16.7		
35. Straitjacket	15.6		
36. Electric shocks	15.0		
37. Knives, razor blades	13.4		
38. Mummifying	12.9		
39. Catheter	9.2		
40. Zoophilia	6.4		

sexual orientation nor sadomasochistic preference had any significant effect on this variable. The modal number of sadomasochistic sessions that the male respondents had had during the past 12 months can be considered to be relatively low when compared with the number of acts of intercourse that people generally have during

one year, which is roughly 50 in Finland (Kontula & Haavio-Mannila, 1993). This may be because sadomasochists are not able to have sm-sex as often as they would have wanted.

It seems that a sadomasochistic preference leads to difficulties in establishing a permanent relationship. This was shown in the greater number of singles among male sadomasochists compared with the general population that was reported above. This may be a result of difficulties in finding a partner who shares the same sexual interests, because this in most cases requires involvement in the sadomasochistic subculture. Also, the high number of masochistic heterosexual men and the relative lack of women creates difficulties, a result established earlier by researchers in the field (e.g. Moser & Levitt, 1987) and confirmed again. The difficulties experienced by the masochistic respondents may also have been reflected in their expressed desire for having steady relationships.

Sadomasochism as a multifaceted phenomenon

The current conceptualization of sadomasochism relies on a label of convenience for a set of related sexual activities of particular subcultures (Haeberle, 1978; Katchadourian & Lunde, 1975). Facets include physical restriction and bondage (Baumeister, 1988) and humiliation (Moser & Levitt, 1987; Baumeister, 1988; Weinberg, 1987). Additionally, Weinberg *et al.* (1984), Lee (1979) and Kamel (1983) refer to a subset of behaviours commonly associated with the gay male 'leather' scene that, to observers, appears to be sadomasochistic in origin. These behaviours include enemas, catheters, anal fisting and scatological practices and are sometimes described by the respondents as displays of 'masculinity and toughness' (Weinberg *et al.*, 1984: 387). An interesting question is whether behaviours associated with each of these suggested facets are more empirically interrelated with one another than with behaviours of the other facets.

Based on the co-occurrence of behaviours, the 184 questionnaires were analysed using Smallest Space Analysis (SSA) (Alison *et al.*, 2001). SSA is a non-metric multidimensional scaling procedure that represents the associations between variables as the inverse of distances in a statistically derived geometric space—the greater the similarity between two variables the greater their proximity in the corresponding space (Guttman, 1968). The resulting configuration of points in the SSA is based solely upon the relationships among variables. Therefore, these points can be examined directly without assuming underlying dimensions, as in factor analysis. Basically, items that have facet elements in common will be found in the same region of space. Likewise, variables that have very low inter-correlations will appear in different regions of the plot, indicating dissimilarity. For further elaboration of the technique, the range of applied fields within which it has been used, and its strengths and weaknesses see Elizur and Sagie (1999), Guttman (1954) and Shye *et al.* (1994).

The results of the SSA analysis of the clearly sadomasochistic behaviours the respondents engaged in are shown in Fig. 1. Four qualitatively different sexual

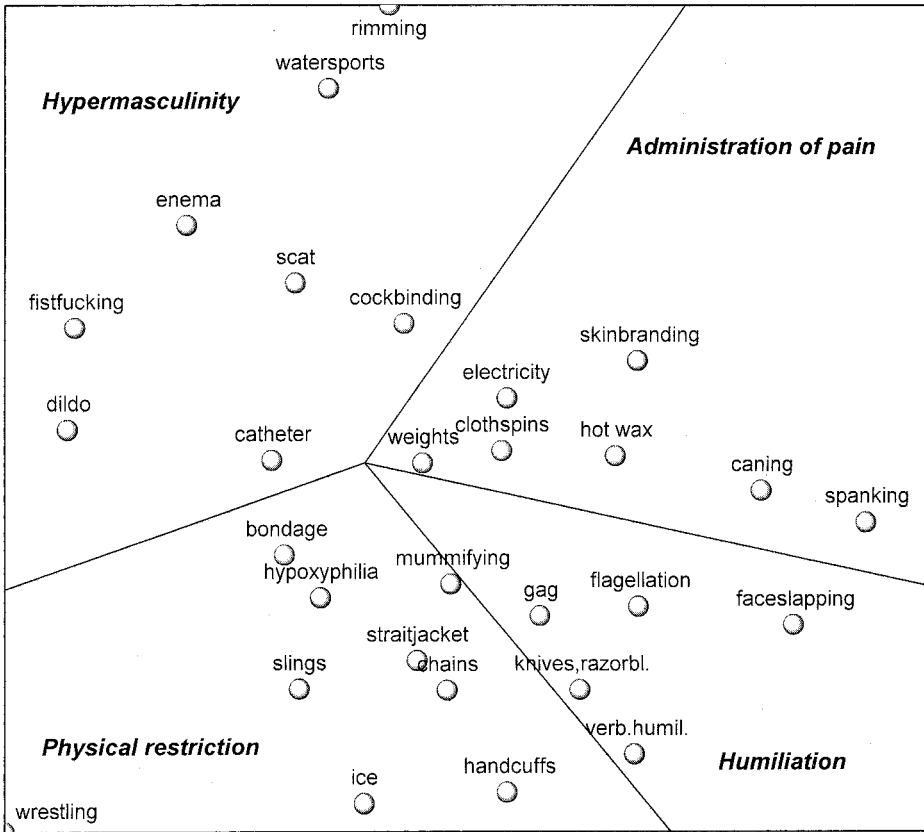


FIG. 1. A two-dimensional smallest space analysis of sadomasochistic behaviours in a sample of 184 respondents. Source: Figure 1 in Alison *et al.* (2001).

scripts emerged: hypermasculinity; administration and receiving of pain; physical restriction; and psychological humiliation. Although similar themes have been suggested before, this analysis demonstrated empirical evidence for these themes. Further analyses showed that humiliation was significantly more commonly associated with females and with heterosexual orientation in men, while hypermasculinity was more closely associated with males and with homosexual orientation in men. These results are encouraging in supporting previous references to various facets of sadomasochistically oriented behaviour. Broadly speaking the facets appear to take on different functions for men and women, on one hand, and for gay men and heterosexual men on the other hand. Elements of humiliation are significantly preferred by women and heterosexual males in the study group and were revealed in the correspondence between faceslapping, flagellation, the use of a gag, the use of knives and razors and verbal humiliation. In contrast, actions significantly preferred by the gay men involved rimming, watersports, cockbinding, fistfucking, scatologia and the use of dildos, enemas and catheters. It can be suggested that adjacent facets (restriction and pain) to these two regions can take on

rather different meanings for each group but are important components of the full picture of sm-sex.

The respondents' involvement in the sm-subculture through sexual contacts and porn was positively associated with greater variability in their sexual behaviour. Although the design of the study does not warrant any causal conclusions, the results nevertheless imply that sadomasochistic behaviour is at least partly a product of adult socialization processes, where real or imagined sexual contact leads the respondents to adopt new behaviours and sexual scripts. This finding accords well with social constructionistic explanations of sexual behaviour (Weinberg, 1987; Weinberg *et al.*, 1984).

However, in the above analysis, there was no attempt to establish the order of these behaviours. That is, there was no discussion or examination of the intensity of the behaviours or the structure of the behaviours in the context of sets of actions. Therefore, it was not possible to discern whether particular behaviours are always preceded by others, thereby creating cumulative structures of various sm-scenarios. In the Santtila *et al.* (2002) study the intention was, in other words, to examine the relationship that individual actions may have in the context of learnt and developing sequences of behaviours in much the same way that studies of conventional heterosexual activity have examined the progression of kissing to intercourse. It could, for example, be hypothesized that people who use straitjackets in their sm-scenarios would previously have engaged in bondage. An attempt was thus made to explore the responses further in order to identify any such cumulative structures.

A multivariate analysis (POSAC) (Shye *et al.*, 1994) revealed the existence of partially ordered cumulative scales in each of the four themes, suggesting the existence of a formulaic sequence of specific events or actions. POSAC represents the relationships between profiles of behaviours in a multidimensional space. Each respondent had separate profiles of behaviours in the four different facets of hypermasculinity, pain, humiliation and restriction. Consequently, four separate POSAC analyses were conducted. The profiles indicate whether a given behaviour was present for the respondent in question or whether it was absent.

For example, the results from the POSAC of the eight hypermasculinity behaviours indicated a cumulative scale where those respondents engaged in *watersports* had also engaged in *rimming*. *Cock binding*, was, however, a qualitatively different aspect of hypermasculinity. Further, those sm-practitioners engaged in *fistfucking* most certainly also had experienced *scat* and sm-practitioners with experience of *scat* in turn had also experienced *enema*. The presence of these behaviours combined with either the *rimming/watersports* dimension or the *cockbinding* dimension identified sm-practitioners with the most experience. Use of *dildo* together with *catheter* had no clear relationship with either dimension. This may have something to do with them being pieces of technical equipment. Further, the POSAC of the behaviours in the pain region indicated that those respondents who had practiced *spanking* had also practiced *caning*. Both of these behaviours are classical sm-behaviours and appear to be similar with regard to their psychological meaning and physical sensation. However, their order (*caning* preceding *spanking*

(*without any aid*) may be the result of differences in the psychological and physical distance between the sadist and the masochist: they are both psychologically and physically closer to each other when they are practising *spanking*. In this region, *electric stimulation*, *weights* and *clothespins* also formed a cumulative structure with use of clothespins being the most common behaviour and electric stimulation the rarest behaviour. It can be suggested that these two cumulative structures reflect potential differences in the intensity of the pain the behaviours cause as well as in the narrowness of their focus on erogenous zones, with *spanking* and *caning* being less intense and less focused on erogenous zones than *electric stimulation*, *weights*, and *clothespins*. Similar theoretically interpretable cumulative structures were found for the humiliation and restraint regions (see Santtila *et al.*, 2002, for further details).

Family background

The question of how in a group of sadomasochistic males different patterns of family interaction produce different attachment styles and how these in their turn affect the respondents' satisfaction with their sexuality and sadomasochistic preferences was also explored (Santtila *et al.*, 2000).

The distribution of different attachment styles among the male respondents was almost identical to distributions obtained in previous studies with general adult samples using similar methods of measurement (Shaver *et al.*, 1988), indicating the comparability of this sample with non-sadomasochistic individuals. The classification of the male respondents into different attachment groups in relation to the father was thus: 47% were securely attached, 28% had an avoidant attachment, and 9.8% an ambivalent attachment. The rest (15.2%) were non-classifiable, or else the question was left unanswered. Corresponding results concerning attachment to the mother showed that 53.7% were securely attached, 12.8% had an avoidant attachment, and 18.9% an ambivalent attachment. The rest (14.6%) were, again, non-classifiable or the question was left unanswered. There was a 77.4% overlap between non-classifiable or unanswered mother and father descriptions.

The male respondents' attachment to their fathers was connected to these fathers' recollected use of physical punishment, their alcohol consumption, and emotional closeness, but not to the descriptions of the mothers. Their attachment to their mothers was connected to the mothers' recollected use of physical punishment and emotional closeness, but not to their alcohol consumption, nor to the same variables regarding the fathers. The style of attachment to the mother was also found to be related to the sexual adjustment of the male respondents, in that the respondents with avoidant attachment to their mothers had higher levels of sexual neuroticism and lower levels of sexual satisfaction than the respondents with secure or ambivalent attachment to their mothers. Securely and ambivalently attached respondents were sexually better adjusted than avoidantly attached respondents. But this was only true of the attachment to the mother. This finding is in accordance

with earlier research that has shown that mothers' behaviour is a more significant predictor of children's attachment style than fathers' behaviour (Crowell & Feldman, 1988; Lamb *et al.*, 1985; Main *et al.*, 1985). Also, a recent report has indicated that one's recollection of the maternal care one received positively affects the quality of one's marriage, while one's recollection of paternal care does not have any effect on one's marriage (Ahlberg & Sandnabba, 1998). The sadistic males were more likely to have an ambivalent attachment and less likely to have a secure attachment to their mothers. In an opposite manner, the masochistic males were less likely to have an ambivalent attachment and more likely to have a secure attachment to their mothers. However, only the exclusively sadistic and masochistic respondents were included in this analysis.

It was also of note that the overwhelming majority of the respondents had grown up in traditional two-parent households. Further, structural aspects of the primary family did not predict later sadomasochistic preferences, a finding expected on the basis of earlier research. The findings above are interesting, in that they shed light on the childhood families and relationships of a non-clinical sample of male sadomasochistic respondents.

Experiences of childhood sexual abuse

It has been suggested that sexually abused girls are vulnerable to re-victimization in adulthood (Messman & Hirschman, 1981). Messman and Long (1996) found that several studies on this topic indicate that such girls are at an elevated risk of re-experiencing sexual abuse as adults compared with non-abused children. One possible mechanism for this effect is that abused women may see violence and domination by their partners as a part of sexuality and this may lead them to seek out punitive relationships. On the other hand, in boys sexual abuse seems to be associated with sexual aggression in adulthood (Ferrenbach *et al.*, 1986; Friedrich & Luecke, 1988). Thus, the coping mechanisms of boys and girls seem to differ. Consequently, it could be assumed that some sexually abused individuals would be drawn to sadomasochistic sexual relationships, with females more likely to take masochistic and males sadistic positions.

In the present sample sexual abuse had occurred for 7.9% of the male and 22.7% of the female respondents (Nordling *et al.*, 2000). Sexual abuse had occurred for a significantly larger portion of the female respondents. The abuse had occurred once for two respondents, from two to 10 times for 10 respondents, and more than 10 times for five respondents. The rate of occurrence did not significantly differ between male and female respondents. Further, the perpetrator was a family member in 61.1% of the cases.

Of the sexually abused respondents 38.9% had attempted suicide compared with 3.6% of the non-abused. Similarly, 33.3% of the abused respondents had been in-patients in a psychiatric hospital compared with 5.4% of the non-abused respondents. Visits to a physician because of injuries obtained during sm-sex were significantly more common among the abused respondents (11.1%)

than among the non-abused respondents (1.8%). It was also interesting to note that the abused respondents visited a physician more often because of injuries inflicted in sm-sex. This may suggest that they had difficulties in setting appropriate limits to their sm-activities. It was also found that the sexually abused respondents had a higher level of sexual neuroticism compared with the non-abused respondents.

As expected, the sexually abused female respondents were significantly more likely to engage in masochistic sexual behaviour than the non-abused female respondents. However, the abused male respondents did not engage in sadistic sexual behaviour more often than the non-abused male respondents. This finding supports the notion of abused women seeking out punitive relationships involving violence and domination (Messman & Long, 1996). The findings suggest that sexual abuse does not play a major role in determining whether the male respondents take the sadistic or masochistic role in their sexual behaviour.

In conclusion, childhood sexual abuse had clearly adverse consequences for the respondents who had experienced it. Therefore, one should be aware that a small subgroup of sm-practitioners seem to be both psychologically and socially maladjusted.

Conclusions

The results presented in this paper indicate that for the majority of the (male) respondents, their level of social functioning is not impaired when compared with the general population on characteristics like income and education. On the contrary, they have a high income level and are highly educated, as has been established by earlier research (Moser & Levitt, 1987; Spengler, 1977; Weinberg, 1987). In contrast, the respondents seemed to have difficulties in finding partners. The high number of masochistic heterosexual men and the relative lack of women creates difficulties, a result established earlier by researchers in the field (e.g. Moser & Levitt, 1987) and confirmed again in this study. The difficulties experienced by the masochistic males were also reflected in their expressed desire for steady relationships. In spite of this, the males seemed to have an overwhelmingly positive and ego-syntonic view of their sexual behaviour.

The results also indicate that the development of sadomasochistic sexual behaviour starts after experience with more ordinary sexual behaviour and the establishment of a sexual orientation. Specifically, the exclusively gay male respondents became aware of and started practising their sadomasochistic interests later, which accords well with findings showing that gay male individuals establish their sexual orientation later than heterosexual individuals (Coleman, 1982; Kontula & Haavio-Mannila, 1993). Further, about one-third indicated that only sadomasochistic sex could satisfy them; this can be interpreted as sadomasochistic sex involving paraphiliac cues for these respondents (Suppe, 1985). Many masochists (who were more likely to be heterosexual) had not engaged in ordinary sex, i.e. either heterosexual or gay consensual sexual activity without

sadomasochistic elements, before starting to practise sadomasochism. In contrast, many respondents seem to be flexible in their sadomasochistic preference, in that the persons who described themselves as exclusively sadistic or masochistic could occasionally take the other position. This indicates that sadomasochistic behaviour involved facilitative as opposed to necessary cues for a major portion of the respondents (Suppe, 1985).

The results from the analyses concerning sadomasochism as a multifaceted phenomenon indicate clearly that the sadomasochistic behaviours in which the respondents were engaged were not haphazardly combined with each other. Rather, evidence for structured patterns of co-occurrences was found. Further, the combining of the behaviours was also theoretically meaningful, suggesting that the structures indicate the existence of sadomasochistic sexual scripts similar to the existence of partially cumulative structures which can be understood as sexual scripts for ordinary heterosexual sexual behaviour (Gagnon, 1990; Gagnon & Simon, 1987). The existence of such sexual scripts suggests that individual careers within the sadomasochistic subcultures are determined in an interplay between the individual's own developmental history, psychological characteristics (see Santtila *et al.*, 2000) and the subcultural context within which the individual faces information concerning possible pathways of expression and conformist group processes which make the development of certain scripts more likely than others (cf. social constructionist approaches to sexuality, e.g. Hart, 1985). This process may be more transparent in sadomasochism because of its highly ritualized nature, but the process itself is probably shared in most expressions of human sexuality.

Although the results discussed here are informative, some concerns may be raised about the reliability of the results because of the retrospective nature of the data. However, the childhood background of sexual behaviour in general and unusual sexuality in particular is almost impossible to study using longitudinal designs. In addition, the anonymity of the respondents is essential for recruiting sufficient numbers of respondents and obtaining relatively unbiased answers. This makes questionnaires the method of choice in studying sadomasochism, although a more exact testing of the theoretical frame applied in the present study would demand the use of longitudinal designs and interview methods. On the other hand, Brewin *et al.* (1993) have provided evidence suggesting that retrospective reports of childhood experiences are not as unreliable and invalid as previously assumed. If anything, research by Widom and Shepard (1996) indicates that individuals tend to understate rather than exaggerate when retrospectively recalling childhood experiences. Therefore, it can be assumed that, despite methodological problems, the use of retrospective reports from people with unusual sexual interests can provide important information concerning their development and family background. Bearing the restrictions in mind, this study can obviously lay no claim to being definitive and should therefore be rightly regarded as an exploratory one, generative of useful hypotheses about the diversity of possible meanings that sm behaviours hold for different individuals.

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