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To cite this article: Frédérique Labrecque, Audrey Potz, Émilie Larouche & Christian C. Joyal (2021) What Is So Appealing About Being Spanked, Flogged, Dominated, or Restrained? Answers from Practitioners of Sexual Masochism/Submission, The Journal of Sex Research, 58:4, 409-423, DOI: [10.1080/00224499.2020.1767025](https://doi.org/10.1080/00224499.2020.1767025)

To link to this article: <https://doi.org/10.1080/00224499.2020.1767025>



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Published online: 02 Jun 2020.



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What Is So Appealing About Being Spanked, Flogged, Dominated, or Restrained? Answers from Practitioners of Sexual Masochism/Submission

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ABSTRACT

A growing number of studies have demonstrated that BDSM (Bondage/Discipline-Domination/Submission-Sadism/Masochism) practices are not signs of mental illness. However, the reasons for engaging in such behaviors are not well understood, especially for sexual masochism or submission (m/s). A thorough review of the literature was conducted, as well as a search in Internet forums and an online survey to obtain testimonies that provide information on the origins of interest in m/s and the reasons for engaging in it. A qualitative content analysis was performed on narratives from 227 m/s practitioners. Sixteen themes emerged from this analysis, eight related to the origins of interest in m/s and eight to the reasons for engaging in m/s. The origins described were seen as either intrinsic or extrinsic. Reasons to engage in m/s were related to one of three main types of activities: use of interpersonal power; experiencing physical pain; and altering one's state of mind. These results concord with accounts found in non-academic books and small-scale studies suggesting that m/s interests are often present early in life and usually practiced to reach an altered state of mind associated with sexual arousal. Possible reasons for choosing m/s over more common means of mind alteration are discussed.

Introduction

The relation of love to pain is one of the most difficult problems, and yet one of the most fundamental, in the whole range of sexual psychology. Why is it that love inflicts, and seeks to inflict, pain? Why is it that love suffers pain, and even seeks to suffer it? In answering that question, it seems to me, we have to take an apparently circuitous route, sometimes going beyond the ostensible limits of sex altogether; but if we can succeed in answering it we shall have come very near one of the great mysteries of love. (Ellis, 1913, p. 66)

As stressed by a growing number of reviews, rates of mental illness are not higher in BDSM practitioners compared with the general population (e.g., Brown et al., 2019; De Neef et al., 2019). However, the reasons why certain people enjoy feeling physical pain in an erotic context (sexual masochism) or take erotic pleasure in being restrained, controlled, humiliated, and/or disciplined (sexual submission) are not clear. How can a person seek and enjoy being flogged, whipped, sexually dominated, and/or bound? The main goal of this study was to determine the origins of and reasons for engaging in sexual masochism or submissive behaviors. The following sections contain a review of the best literature available so far concerning the origins and reasons to engage in sexual masochism or sexual submission (m/s) activities. Although most of these references are hampered with important methodological flaws, they will serve as a theoretical background for the qualitative construction of themes in this study. These themes will provide answers to two main research questions: 1) What are the personal origins of inclinations to

practice m/s? and; 2) What are the reasons or motives to practice m/s?

Historical Understanding of M/S

It is first worth noting that sexual masochism and sexual submission have very different histories. While using pain as a source of sexual pleasure (masochism) has been practiced for a long time, consenting, playful sexual submission (not to be confounded with forced submission) seems to be a relatively recent behavior in history (Baumeister, 1989). Sexual power plays (i.e., acts of domination, submission, humiliation) apparently did not exist in modern preliterate societies (Gebhard, 1969; Stoller, 1991) or before the early modern period (1500–1800; Bullough, 1976). This absence of consensual use of sexual power (and sexual fetishism) in preliterate societies has prompted anthropologists and sociologists to hypothesize that such practices can only emerge in well-developed, complex, symbol-based cultures (Gebhard, 1969; Weinberg, 1994).

In contrast, classic books such as the ancient Indian Hindu *Kama Sutra* (Vatsyayana, 1883, original circa 400), medieval Indian *Koka Shastra* (Kokkoka, 1965, original ca. 1150), and Arabic *The Perfumed Garden* (Al-Nafzawi, 1886, original ca. 1400) recommend such painful stimulation as biting, scratching, spanking, and hair pulling to enhance sexual arousal. During the Enlightenment and for some time after, medical doctors in Western Europe prescribed flagellation as a cure for erectile dysfunction (Apertus, 1928; Debay, 1862; Doppel,

1788; Meibomius, 1761; see also Boileau, 1700 for the use of flagellation to enhance sexual arousal in women). The Victorian era saw the pathologization of sexual masochism, based principally on intuitive clinical opinions, moral judgments, and dramatic reports of cases in forensic psychiatry (Freud, [1905] 1920; Krafft-Ebing, 1895). Spanking and flagellation remained popular, however, even in this more puritan period (Marcus, 1966). During the 19th century and the beginning of the 20th, ethnologists reported on the practice of inflicting mild pain—but not on plays of submission for sexual pleasure in several preliterate societies (Ford & Beach, 1951).

At the same time, psychiatric ideas began to become part of popular culture and both these medicalizing ideas and psychoanalysis, which emerged during the same period, dealt with sexual masochism and sexual submission by designating them as signs of psychopathology. They both provided wide-ranging hypotheses about the etiology of m/s that suggested it was the result of, among others, arrested sexual development, a response to guilt, an expression of a death instinct, an overdevelopment of feminine psychological factors, an expression of self-destructive violence, a transgression of the Oedipal prohibition, and fear of intimacy, annihilation, or castration (see Taylor, 1995 for a review of these psychoanalytical hypotheses).

This psychopathological view of m/s, based on single-case reports rather than empirical investigation and mainly from a psychodynamic perspective was prevalent through much of the 20th century (Berliner, 1947; Blos, 1991; Blum, 1991; Fitzpatrick Hanly, 1995; Freud, 1924; Kernberg, 1991; Reik, 1941; Rothstein, 1991; Sack & Miller, 1975; Stekel, 1929). Eventually, practitioners of Bondage-Discipline/Dominance-Submission/Sadism-Masochism (BDSM) began to publish first-hand accounts (Mains, 1984; Scott, 1985; Townsend, 1972). Although these pioneer books were simple individual testimonies, they provided new ideas about the motives behind being sexually masochist and/or submissive and challenging the psychopathological/theoretical perspectives on m/s. Following this, a number of books were published about BDSM, although the vast majority were novels (e.g., “BDSM Bedtime Erotica Bundle”) or “How to” guides (e.g., “Doms Guide to BDSM Vol 1”), some of them containing borderline pornographic descriptions (e.g., how oral and anal “services” should be performed). For the present study, only books attempting to explain m/s origins or motives were retained. Most were published by scholarly or renowned BDSM-experienced authors/contributors (Baldwin, 1993; Bean, 1994; Easton & Hardy, 2004; Easton & Liszt, 1994; Harrington, 2016; Kinsey, 2014; Langdridge & Barker, 2007; Miller & Devon, 1995; Moser & Madeson, 1996; Taormino, 2012; Thompson, 1991; Warren, 1994; Weinberg, 1995; Wiseman, 1992). Although most of these references are not based on scientific evidence, they contain much invaluable information about the origins and motives to practice m/s.

Other references include books and collective work published by fieldworkers or on-site interviewers (Beckmann, 2009; Brame et al., 1993) and specialized clinicians (Kleinplatz & Moser, 2006; Ortmann & Sprott, 2013; Stoller, 1991). Some of these references contain data based on a scientific approach, although they typically included

participants recruited in special settings (e.g., BDSM events, club or specialized clinics). This type of sample is not representative of the population as it includes only persons attending special events, who often differ from other (more private) practitioners on several aspects (socio-economic level, urban vs. rural environment, extravert vs. introvert traits, etc.). Doctoral theses dealing with BDSM practitioners also began to be published (e.g., Baker, 2016; Busbee, 2008; Cutler, 2003; Damon, 2001; Levine-Ward, 2016; Matthews, 2005; Silva, 2015; Taylor, 1995; Van der Walt, 2014; Yost, 2006) as were ethnographic and/or participatory reports (Beckmann, 2001; Carlström, 2018a, 2019; Caruso, 2016; Fennell, 2018; Kamel, 1980; Newmahr, 2008, 2011; Prior, 2013; Weinberg et al., 1984; Weiss, 2011; Zambelli, 2016). Again, most of these publications were non-empirical or based on relatively small or specific samples of participants (e.g., persons recruited in universities or select clubs). Still, all aforementioned references helped generate hypothesis about the origins of, and reasons to, engage in m/s behaviors.

Origins of Interest in M/s Behaviors

As with any sexual inclination or preference, the origins of m/s behaviors are complex, only partially accessible, and multifaceted (i.e., shaped by genetic, psychological, familial, environmental, spiritual, and sociocultural factors). However, theoretical, clinical, and first-person accounts of interest in m/s behaviors suggest that, like any sexual or erotic interest, it is associated with both specific and nonspecific origins.

Intrinsic Vs. Extrinsic Origins

Discussions of the origins of sexual interests in m/s found in the academic literature often propose a basic dichotomy that opposes intrinsic vs. extrinsic influences (Yost & Hunter, 2012). Intrinsic origins of m/s interests – also called essentialist, dispositional, trait, and, sometimes, sexual orientation or identity – are deeply rooted in the personal history of the individual (Damon, 2001; Jozifkova, 2013; Portillo, 1991; Scott, 1985). These origins are described with statements such as: “I have had these interests for the longest I can remember”; “I have always been that way”; “At three-four y.o., I already enjoyed tying-up my dolls”; “It’s in me, it is me”; “The first time I tried I felt so relieved, something was missing in me for so long”; “The first time I tried I knew it was the true me” (see for instance, Carlström, 2019; Scott, 1985; Stiles & Clark, 2011; Yost & Hunter, 2012). However, many practitioners, like anyone else, have no precise idea about the origins of their sexual interests (Taylor & Ussher, 2001). According to some reports, interest in m/s was already present, although not eroticized, during childhood (e.g., being tied-up or submissive in child plays; Breslow et al., 1986; Carlström, 2019; Scott, 1985; Stiles & Clark, 2011). These interests generally developed further (or became conscious) as sexual fantasies during puberty (Gosselin & Wilson, 1980). A sizable subgroup of m/s practitioners seem to have been aware of their interests relatively early, at least during adolescence (e.g., Bezreh et al., 2012; Breslow et al., 1985, 1986; Sandnabba et al., 1999). It would be interesting to see if this holds true in investigations with larger groups of participants.

One of the possible intrinsic origins proposed for m/s proclivities is psychopathology. As mentioned, the view that m/s behaviors are associated with (if not signs of) mental disorders remained the dominant view for more than a century and is still sometimes held today (e.g., Frías et al., 2017; Kurt & Ronel, 2017). However, the link between BDSM (including m/s) and psychopathology is generally based on unproven, largely subjective theories (e.g., Holtzman & Kulish, 2012; Hucker, 2008) and/or studies conducted with samples of clinical participants (Hopkins et al., 2016; see also Bloss, 1991; Blum, 1991; Hall, 2014; Rothstein, 1991; Thomas-Peter & Humphreys, 1997). Studies conducted with non-clinical samples of participants commonly fail to find a link between m/s practices and psychopathology (Connolly, 2006; Cross & Matheson, 2006; Gemberling et al., 2015; Wismeijer & Assen, 2013; see also Baumeister & Butler, 1997 for a classic but often overlooked chapter on the subject). Castellini et al. (2018), for instance, demonstrated that a link between m/s behaviors and psychopathology among female university students disappears after controlling for hypersexuality. BDSM practitioners, including practitioners of m/s, have, on average, obtained significantly higher levels of education than adults in the general population (Bienvenu et al., 2005; Botta et al., 2019; Breslow et al., 1986; Connolly, 2006; Gemberling et al., 2015; Levitt et al., 1994; Moser & Levitt, 1987; Sandnabba et al., 1999; Spengler, 1977; Taylor & Ussher, 2001; Wismeijer & Assen, 2013; Yost & Hunter, 2012). While higher education certainly does not prevent psychopathological symptoms (especially during the time it is being obtained, Hunt & Eisenberg, 2010), rates of major mental disorders are lower among adults who have university diplomas than among those who do not (e.g., ESEMeD/MHEDEA 2000 Investigators et al., 2004). Higher education is also classically associated with higher sexual diversity (e.g., Kinsey et al., 1953; Laumann et al., 1994), so m/s behaviors might simply be linked to higher intellectual and sexual curiosity. Finally, several recent studies demonstrate that interest (fantasies and/or behaviors) in m/s activities is relatively common in non-clinical samples of adults (Castellini et al., 2018; Dawson et al., 2016; Holvoet et al., 2017; Joyal & Carpentier, 2017; Joyal et al., 2015; Mundy & Cioe, 2019). These studies argue against the hypothesis that there is an elevated prevalence of mental disorders among m/s practitioners, let alone that m/s interests are symptoms of an underlying pathology. Acknowledging this, the World Health Organization removed sadomasochism (as well as fetishism and fetishistic transvestism) from the last edition of their International Classification of Diseases (ICD-11; Krueger et al., 2017).

It is, however, interesting to note that sexually submissive persons report, on average, significantly more signs of psychological difficulties than those who are sexually dominant, although these difficulties occur at subclinical levels and are usually related to anxiety, worry, and self-esteem (Bienvenu et al., 2005; Botta et al., 2019; Connolly, 2006; Damon, 2001; Gemberling et al., 2015; Gosselin & Wilson, 1980; Hébert & Weaver, 2015; Wismeijer & Assen, 2013). Certain individuals also report that BDSM, and particularly m/s behaviors, have therapeutic effects (Easton, 2007; Graham et al., 2016;

Lindemann, 2011). It remains possible that for some people m/s behaviors may have soothing or palliating effects.

Extrinsic origins are proposed for sexual interests developed through an environmental process (outside the individual, e.g., societal influences; Laumann et al., 1994) such as instrumental learning (associating a nonsexual stimulus with sexual gratification), maltreatment in childhood, being introduced to the practices by another person, or chronic illness (Scott, 1985; Yost & Hunter, 2012). The classic instrumental-learning hypothesis for m/s is based on a psychophysiological pairing between a childhood specific pre-erotic experience (e.g., being restrained or dominated during play or being corporally punished) and a state of sexual excitation (see Rousseau, 1782; Money, 1987, for instance). Other theories posit that m/s inclinations represent an adaptive mechanism, an attempt to triumph over childhood trauma such as verbal, physical, or sexual abuse (e.g., Blum, 1991; Holtzman & Kulish, 2012; Stoller, 1975; Van der Kolk, 1989). These theories derive from a psychological approach that is subjective and based on clinical cases (e.g., Abrams & Stefan, 2012), usually within a psychodynamic framework. In fact, rates of childhood physical and sexual abuse are no higher among BDSM practitioners than in the general population (Breslow et al., 1986; Gosselin & Wilson, 1980; Moser & Levitt, 1987; Taylor & Ussher, 2001; Yost & Hunter, 2012). Still, some BDSM practitioners do report having been victimized during childhood (Nordling et al., 2000; Yost & Hunter, 2012) and some reports suggest that their sexo-erotic proclivities (especially m/s behaviors) are part of a healing process (Easton, 2007; Kleinplatz, 2006; Mains, 1991; Ortmann & Sprott, 2013). In these cases, reenacting the traumatic event might help take psychological control over it, making it more positive through erotization and changing the power relationship (Taylor & Ussher, 2001). The possibility that not only positive learning but also childhood trauma might be associated with m/s behaviors deserves further investigation. Similarly, certain practitioners report having learned during childhood or adolescence to eroticize a chronic and painful condition, rendering it pleasurable (e.g., Sandahl, 2000; Stoller, 1991; Takemoto, 2009). This phenomenon, which also deserves further attention, can be viewed as an adaptive defense mechanism. A last extrinsic type of origin for m/s practices is being introduced to them by a friend or a lover. This origin is usually associated with individuals who are more likely to have begun their practices well into adulthood. However, the prevalence of this sort of origin is unknown.

Reasons to Engage in M/S Activities

As reviewed below, different, not mutually exclusive activities and reasons are given for practicing m/s. Although these reasons are mainly derived from unscientific accounts or small-scale studies, taken together they constitute a fairly good theoretical background for further analyses.

Power Plays

Inequity in interpersonal erotic power is at the heart of BDSM (Busbee, 2008; Cross & Matheson, 2006; Ernulf & Innala,

1995; Faccio et al., 2014; Hébert & Weaver, 2015; Kaldera, 2011; Langdridge & Butt, 2005; Yost, 2006). While physical or psychological pain may be involved in erotic power-exchange behaviors, playing with power relationships is more important than inflicting or receiving pain in this context (Alison et al., 2001; Langdridge & Butt, 2005). For instance, physical restriction does not necessarily involve painful stimulation, which may be valued not as much for itself but as a symbol of power (Easton & Hardy, 2004). Giving, taking, and/or exchanging power between partners is sexually arousing for most practitioners (Prior, 2013; Taylor & Ussher, 2001). In fact, unbalanced power between partners is sexually arousing for half of the general adult population (Jozifkova, 2018), with nearly three-quarters interested in engaging in domination/submission behaviors during sexual intercourse (Apostolou & Khalil, 2018).

Practitioners who give away their power in m/s activities fall into two main subgroups: those who are powerful in everyday life (Brame et al., 1993; Hawley & Hensley, 2009; Stoller, 1991), especially professionally (Lammers & Imhoff, 2016), and those who are simply more sexually aroused by submission. Those in the first subgroup are classically labeled “balancers” (Scott, 1985), as their main goal is to stop being responsible, to let go, in an erotic environment. Those in the second subgroup (whose basic preference is for sexual submission) resemble the general population in that there are significantly more women than men (Bienvenu et al., 2005; Botta et al., 2019; Castellini et al., 2018; Stiles & Clark, 2011; Wismeijer & Assen, 2013; Yost & Hunter, 2012). Indeed, women are much more likely than men to be sexually aroused by submissive behaviors, both in fantasy (see Leitenberg & Henning, 1995; Joyal et al., 2015 for reviews) and practice (Joyal & Carpentier, 2017; Jozifkova, 2018; Mundy & Cioe, 2019), at least in rich industrialized countries (where such studies are usually conducted). Finally, it is worth noting that a significant subgroup of BDSM practitioners (approximately 30%) alternate between domination and submission (“switch” practitioners), depending on different factors (mood at the moment, identity and gender of a given partner, etc; Alison et al., 2001; Breslow et al., 1986; Martinez, 2018; Moser & Levitt, 1987; Sandnabba et al., 2002, 1999). Thus, preference for power in BDSM is not necessarily fixed over time, contrary to what is usually found in the general population with regard to sexual practice.

Pain, Trance, and Altered States of Consciousness

Many m/s practitioners explain their experience in religious or spiritual terms, referring to it as a mystic experience, transcendent, reaching for God, a feeling of wholeness or oneness with the universe, a sacred kink, magical, a connection, and mind expanding (Baker, 2016; Beckmann, 2009; Busbee, 2008; Easton & Hardy, 2004; Graham et al., 2016; Harrington, 2016; Kaldera, 2006; Mains, 1991; Norman, 1991; Sagarin et al., 2015; Taylor & Ussher, 2001; Van der Walt, 2014; Westerfelhaus, 2007; Zussman & Pierce, 1998). Although these altered states of consciousness can be reached in non-painful m/s circumstances (e.g., bondage with soft ropes, mummification), their association with intense and prolonged painful erotic stimulations is especially strong

(Ambler et al., 2016; A. Beckmann, 2007; Easton & Hardy, 2004; Lee et al., 2016; Mains, 1984; Newmahr, 2008; Sagarin et al., 2015). Receiving pain in a m/s context may therefore be not a goal in itself but a way to attain another state of consciousness (commonly called “subspace” by m/s practitioners). Most m/s practitioners report that they do not enjoy pain *per se* but that it is the context (erotic ambiance, scene, and clothing) and preparation (e.g., pre-agreeing, scripting, expectation) that are crucial, both subjectively (e.g., Alison et al., 2001; Baumeister, 1989; Langdridge & Barker, 2007; Taylor & Ussher, 2001; Weinberg et al., 1984) and objectively (i.e., brain response patterns; Kamping et al., 2016). However, most of these subjective reports are based on single cases or a small number of participants. The relation with pain in m/s practitioners should be further investigated.

Meditation, Mindfulness, and Relaxation

M/S activities, like any behavior that requires concentration and focus on the present moment (playing tennis or chess, sailing, video gaming, etc.), sometimes force practitioners to pay attention to the present moment (Newmahr, 2008). Accordingly, several m/s practitioners report psychological benefits similar to those associated with meditation, hobbies and sports, i.e., elevated concentration, less mental activity, absorption in the moment, and relaxation (e.g., Easton & Hardy, 2004; Kaldera, 2006; Kleinplatz & Ménard, 2007). Sexual submission and/or masochism might therefore be seen as a means to attain meditative or relaxed states of mind (focusing on the self, the here, and the now). But again, these results were mainly obtained from case reports or nonscientific publications. Confirmation is warranted with a larger number of practitioners using a scientific approach.

In partial opposition to this meditation/mindfulness Baumeister (1989, 1997) proposed that m/s serves instead to provide a way to escape the self. He speculated that sexual masochism “is an all-out attack on the self, an attempt to remove the main features of the self. Masochism represents an unusually powerful and probably effective means of escape from self” (Baumeister, 1989, p. 26). However, other authors and/or practitioners suggest that, on the contrary, m/s behaviors provide an escape from mundane and external stimuli to allow exploration of inner space (Baldwin, 1993; Bean, 1994; Easton & Hardy, 2004; Easton & Liszt, 1994; Harrington, 2016; Kinsey, 2014; Langdridge & Barker, 2007; Miller & Devon, 1995; Moser & Madeson, 1996; Taormino, 2012; Thompson, 1991; Warren, 1994; Weinberg, 1995; Wiseman, 1992). Discourse analysis confirmed that m/s activity allowed practitioners to escape not from themselves but from mundane matters (Taylor & Ussher, 2001). Other studies also failed to find support for Baumeister’s speculations (Cross & Matheson, 2006; Hébert & Weaver, 2015). However, data are scarce and the ideas of escape from the self vs. exploration of the self deserve further investigation.

BDSM, Pleasure, and Leisure

It has been suggested that BDSM practices might also be viewed as a type of leisure activity, one undertaken either seriously (Newmahr, 2010) or recreationally (Williams et al., 2016; Wismeijer & Assen, 2013). BDSM practices require

training and behavioral or cognitive learning and are associated with self-exploration, pleasure, and a sense of adventure, generating stress reduction and positive emotions (Williams et al., 2016), just like any mainstream leisure activity (e.g., Blackshaw, 2013). It remains to be seen if the same applies to m/s practices specifically.

Sexual Arousal

Although genital sexuality is not necessarily associated with m/s, it is usually considered as an erotic/sexual practice (e.g., Barker et al., 2007). In fact, the foundations of m/s behavior definition is the production of erotic/sensual/sexual pleasure (Turley & Butt, 2015). Therefore, the main reason to engage in m/s behaviors was expected to be the enhancement of sexual arousal.

Overall, a growing number of nonscientific publications, personal accounts, and small-scale studies shed some light on reasons to engage in m/s behaviors. The goal of this study was to investigate how themes derived from these accounts apply to a relatively large sample of practitioners in order to confirm their presence and estimate their prevalence. These analyses were based on two main research questions: 1) What are the reasons and motives to practice m/s? and; 2) What are the origins of these inclinations to practice m/s?

Method

Participants

This study was based on qualitative content analysis of written first-person testimonies (narratives) obtained from Internet discussion forums and survey responses. The use of testimonies found in discussion forums was chosen because it is an unobtrusive, objective approach that made it more likely that individuals were expressing their true feelings, as they were in an anonymous, welcoming, and safe environment (see also Ernulf & Innala, 1995; Langdridge & Butt, 2004). This approach also addresses the fact that replies to questionnaires may be influenced by social desirability and that those BDSM practitioners who volunteer for research may differ from those who do not (Dunkley & Brotto, 2019). However, persons contributing to Internet forums might not really engage in face-to-face BDSM interaction (Newmahr, 2010) and some websites devoted to the BDSM (or kink) community prohibit the use of any of their forum content for academic purposes (e.g., Fetlife). Therefore, we asked and obtained permission from the caretakers of the Fetlife.com website to ask owners of certain threads to post invitations for their members to participate in a larger survey (which included our two research questions).

Online narratives were posted on Internet blogs and forums containing discussions associated with BDSM (e.g., www.reddit.com/r/BDSMcommunity, thecage.co, boundforum.com, fetish.com) between 2009 and 2018. These forums allowed (or did not prohibit) the use of their content for research purposes. The procedure was entirely anonymous and usernames were not recorded or considered. Narratives were found in threads that asked practitioners of m/s (exclusive or switch) about the origins of, or reasons to, engage in m/s behaviors. Such threads

contained one or more of the following keywords in their titles: “BDSM”, “sadoomasochism”, “submission”, “submissive”, and “masochism”. Within the thread, a search was conducted for narratives that contained one or more of the following words: “reasons”, “motivations”, “origins”, “subspace”, “experiences”, “past”. All narratives were totally anonymous and gender was impossible to determine in approximately one third of the cases. (Gender was therefore not considered in the analyses).

To participate in the survey, respondents had to sign an information/consent form specifying they were aged 18 years old or more and practicing real-life and interpersonal BDSM activities for at least 6 months. For this study, only persons practicing m/s were considered. Survey narratives were written replies to two questions: 1) In your opinion, what are the origins of your attraction to m/s? and; 2) Why are you practicing m/s?

Analyses

Analyses followed the step-by-step process of Merriam (2009), derived from the classical constant comparative method (Glaser & Strauss, 1967). The guidelines to use this procedure with the software NVivo (QSR International) were followed (Leech & Onwuegbuzie, 2011). The first step was open (or inductive) coding, which consists of identifying codes (or themes) in the data that are responsive to the research questions. A code or theme is any meaningful segment of data (e.g., a word, an expression, a phrase) that must meet two criteria. First, it should “reveal information relevant to the study and stimulate the reader to think beyond the particular bit of information” (Merriam, p. 177). Second, “it must be interpretable in the absence of any additional information other than a broad understanding of the context in which the inquiry is carried out” (Merriam, p. 177). The goal is to sort raw data into themes answering the research questions.

To do so, all scripts were first read once separately by two researchers (first and last authors) and notes, comments, and questions were noted for each participant, independently. Thereafter, all annotated scripts were reread by the two researchers independently with the notes, comments, and questions in mind and themes began to be separately identified. This process of making notations next to bits of data is sometimes called open coding and category construction (Merriam, 2009). Codes or themes can be repeated words or synonyms appearing within or between scripts, a label given by the researcher, or a concept derived from the literature. This approach is also called code-and-retrieve where “coding involves labeling passages of text according to content and retrieving entails providing a means to collect similarly labeled passages” (Merriam, p. 194). Assigning codes to data segments is the base of category construction in which categories are elements that include different but conceptually similar responses (Merriam, 2009). Therefore, open coding generates a first list of themes and categories related to the research questions.

The next step was analytical (or deductive) coding, which goes beyond descriptive coding and emerges from interpretation and reflection on meaning (Merriam, 2009). In this step, coding is refined with a focus on patterns and insights related

to the research questions, guided by the theoretical background (in this constructivist frame: how people make meaning and/or construct knowledge of their m/s practices). During this process, themes can be merged (categories) or decomposed (subcategories) in more meaningful or precise ways (e.g., merging “subspace” with “mind expansion” under the category “altered state of mind” or separating the “intrinsic” category into “early realization” vs. “late realization”). Categories had to meet four criteria: 1) Exhaustivity (all codes reported by at least two participants should be covered); 2) Exclusivity (a single code can only be placed in a single category); 3) Sensitivity (the group of categories capture most answers present in the data; and 4) Conceptuality (all categories are at the same level of abstraction). The number of categories and participants required was determined by reaching saturation, that is, the point at which no new information, insights or understanding emerge from the scripts. Saturation was achieved after analyzing 227 narratives. Finally, comparisons between the lists of each researcher were made to assess interrater agreements.

In this study, after consultations and deliberations between raters, ambiguities were resolved to reach 100% agreement and a single list of codes, categories and sub-categories (the code book, see the Results section). For instance, intrinsic origins of unknown nature were divided into “inexplicable” and “inexplicable with late realization” because intrinsic origins were present early in the life of these practitioners but some of them only realize it or acknowledge it later, during adulthood. It was also decided to subcategorize painful stimulation into “receiving physical pain” and “being spanked” because some practitioners like receiving pain for itself (e.g., flogging, whipping), whereas other appreciate being spanked not so much for pain *per se* than for the erotic meaning associated with it. Given that certain multifaceted themes could have been linked with more than one category (e.g., humiliation with giving power or modified state of mind; spanking with receiving pain, giving power or modified state of mind), they were assigned (somewhat arbitrarily) to a single category or subcategory after discussion between raters. The importance here was the prevalence of responses for each theme, not the label that was given to their categories.

Ethical Considerations

Data obtained through discussion forums were considered as “research that relies exclusively on secondary use of anonymous information” by our institutional ethics committee and therefore required no review from the board (Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans, 2014). An ethical certificate was obtained from our institutional committee for the Internet survey (CER-16-225-07.05).

Results

As shown in Table 1, two main types of themes were defined, related with the two research questions: The origins of proclivities for m/s activities and the reasons to engage in m/s activities. Origins were divided into two categories

(intrinsic vs. extrinsic), subdivided into eight subcategories (“inexplicable”, “inexplicable with late realization”, and “response to inner imbalance” for intrinsic origins; “associated with childhood sexual abuse”, “associated with parental discipline”, “associated with positive operant learning”, “introduced by another person”, and “associated with a chronic illness” for extrinsic origins). Reasons were divided into three categories and eight subcategories: Power (including “giving power to someone else”, “being physically restrained”, and “trusting someone else”); Pain (including “receiving physical pain” and “being spanked”), and Cognition (including “reaching an altered state of consciousness”, “being focussed and/or relaxed”, and “being humiliated”).

As expected, most practitioners (90.9%) also included sexual arousal in their reasons for practicing m/s. However, given that sexual arousal is a part of most definitions of m/s (e.g., American Psychiatric Association [APA], 2013), it was not considered in the present analyses. Still, it is worth noting that sexual behaviors are not necessarily central, or even present, in m/s activities despite sexual arousal. A significant minority of practitioners (9%) clearly stated that genital sexuality was absent from their m/s activities. Some m/s practitioners are even asexual (Sloan, 2015).

Origins of M/S Behaviors

Overall, 152 individuals responded to a question about the origins of their proclivity to engage in m/s behaviors (percentage summation may exceed 100 because origins were not necessarily exclusive in terms of the intrinsic or extrinsic dichotomy). A significant majority of narratives (N = 118 or 78%) described interests in m/s behaviors as intrinsic. For most (N = 102), these interests emerged at a young age, although they were not necessarily sexualized at the time (e.g., “When I was a kid I tied myself up and blindfolded myself- I just don’t know the reasons”; “Since a young age (5 yo), I would get off on being tied up”; “Being tied up, blindfolded, whipped are sexual fantasies I have entertained long before being interested in sex itself”; “I was about 5 or 6 when I first started having BDSM fantasies”). These respondents were unable to find a specific reason for their proclivity (e.g., “I was born that way”; “I am wired that way”; “I’ve always known”). Such responses were included in the category of “Intrinsic, inexplicable”. A small subgroup of other m/s practitioners (N = 7) reported that their interests were intrinsic but were only accepted or acknowledged in adulthood (“It was a combination of Eureka! and I knew it!”; “I was in denial for a long time, and basically hid my sexuality for years”). This second category was labeled “Intrinsic, inexplicable with late realization”. The third and last intrinsic category included practitioners (N = 16) who reported engaging in m/s behaviors to deal with inner psychological imbalance, distress, or suffering (“I dealt with my ‘issues’ and healed myself”; “My submission has made me confident in who I am”; “The endorphins from sustained pain play help with the bipolarity, in a similar way to exercise”).

Table 1. Nature, definition and examples of categories and subcategories (themes) related with the origins of proclivities for, and reasons to engage in, m/s activities (see the text for examples).

Research question	Category	Subcategory	Definitions
Origins	Intrinsic	Inexplicable	Rooted in the personal history of the individual
		Inexplicable with late realization	The person cannot explain the origin but it has always been there
		Response to inner imbalance	The person felt the proclivity was intrinsic, but only realized it or indulged in it during adulthood
	Extrinsic	Associated with childhood sexual abuse	The activity has a soothing or therapeutic effect
		Associated with parental discipline	Interest in m/s originates from a source external to the person
		Associated with positive operant learning	Interests in m/s are thought to derive from childhood sexual abuse
		Introduced by another person	Interests in m/s are thought to derive from severe childhood parental discipline (e.g., corporal punishment)
Reasons	Power	Associated with a chronic illness	Interests in m/s are thought to derive from the pairing of a neutral stimulus with an emotional and/or sexual arousal reaction (e.g., childhood plays)
			Interests in m/s developed after the practitioner was initiated by someone else (e.g., a new boyfriend)
			Interests in m/s are thought to derive from a chronic and painful childhood condition
	Pain	Giving power to someone else	A reason to practice m/s is to play with interpersonal power
		Being physically restrained	The person let another one decide what to do; give order or instructions. Total power is surrender
		Trusting	The person is physically restrained (e.g., bondage, mummification) and depends on another person to be freed
	Cognition	Receiving physical pain	The person specified that trusting a partner is crucial
		Being spanked	A reason to practice m/s is to receive pain
			Receiving moderate to severe physical pain (e.g., flogging, whipping, cutting, branding, electric choc) is specifically stressed
	Reaching an altered state of consciousness		A reason to practice m/s is to be spanked (receiving sharp slaps to the buttocks from the palm of the hand)
			A reason to practice m/s is the modification of one's mind (mental, psychological, or inner space)
			Mind alteration is specified as a reason to practice m/s, use of words commonly related with drug effects or spiritual experience (e.g., floating, flying, being high, well-being), altered awareness of outer or inner stimulations; hypnotic or trancelike feelings, enhanced or reduced sensory acuity
		Being focused and/or relaxed	Use of words commonly related with meditation, relaxation or leisure (attentional focus, slowing of train of thoughts, putting aside day-to-day worries).
		Being humiliated	A reason to practice m/s is specifically to feel humiliated, the feeling of being in a lower position compared to another person

The remaining narratives about the origins of interests in m/s behaviors were associated with extrinsic factors ($N = 34$ or 22%), including childhood sexual abuse ($N = 17$ or 11%; "I was sexually abused as a child. I was used a lot and it gave me a submissive mentality"), parental discipline ($N = 13$ or 9%; i.e., spanking, usually with an object; e.g., "I was spanked a lot by both of my parents with the belt and I grew up craving and needing punishment"), positive (enjoyable) operant learning ($N = 13$ or 9%; "I always asked my neighbor to tie me up while playing cowboy, which was very exciting"), and being introduced to such practices by another person, usually during adulthood ($N = 12$ or 9%; e.g., "I just recently met someone who is a sadist and he introduced me to BDSM"). In only two cases (1%), m/s proclivities were associated with a chronic illness (e.g., "I didn't get into BDSM until after I was diagnosed with rheumatoid arthritis").

Reasons to Engage in M/S Behaviors

All narratives ($N = 227$) provided at least one reason for engaging in m/s behaviors (again, percentage summation exceeds 100 because reasons were not mutually exclusive). The most frequent reason (nearly half of all testimonies, $N = 104$ or 46%) given for engaging in m/s was playing

with interpersonal power, either through giving or exchanging power with someone else (e.g., role playing, $N = 64$ or 28%; "my main desire always return to the image of myself as a devoted slave to an older, strong willed man"; "I won't stop being turned on by serving another's needs") or being physically restrained ($N = 40$ or 18%, mostly by being tied up; "the feeling of not being able to control my body's reactions is exquisite"; "When I am blindfolded and bound, I felt relaxed and ... different. Good. Confident. Sexy. Safe."). Among these narratives, almost a fifth ($N = 12$ or 19%) also specified the importance of trusting the partner ("The amount of trust and communication that goes into it is just beautiful"; "I trust him to hurt me, but never do harm, and with that trust we can experiment with all kinds of power play and consensual non consent").

The second most popular reason for engaging in m/s activities – found in approximately a third of testimonies ($N = 84$ or 37%) – was to receive physical pain. These practitioners usually stressed the importance of the context surrounding painful stimuli distinguishing, for example, "good" pain from "bad" pain (e.g., "Good pain, being hit with a flogger. Bad pain, stubbing my toe"; "Usually good pain is something I build with a partner"). However, nearly half of these persons ($N = 39$ or 46%) specified that they appreciated

the feeling of painful stimuli for itself, including in a nonsexual context (e.g., “As a teen, I enjoyed the feeling of burning, always liked rubbing sore muscles till it hurt.”; “I’ve always liked over-exerting myself when exercising”; “I can remember having my ears pierced when I was 7 and liking it, then twisting the posts to feel the pain”). Finally, a subgroup of 15 adepts of pain (18%) gave spanking as their preferred way to receive pain, as it had both physical (painful stimulation) and psychological (submission) qualities.

A third set of reasons to engage in m/s behaviors directly involved modification of mental, psychological, or inner space ($N = 64$ or 28%) i.e., as a way to reach an altered state of consciousness (12%); to reach a state of focussed attention or relaxation (9%); and/or to be humiliated (7%). Altered states of consciousness and focussed attention or relaxation were achieved either through use of power, especially restraint (“If I can stop fighting [be quiet – stop anticipating – control myself] and relax into what is happening, I go on ‘vacation’ mentally to a place where I feel everything but nothing hurts any more – it’s all warm and fuzzy and I’m floating!”) or pain (“The good pain triggers something in me. It hurts but also makes me float”; “He flogged me one night and I finally saw the light or rather felt the incredible sensations when I went into subspace”; “It hurts in the right ways, mostly because I get all floaty and spacey”; “it’s essentially a meditative activity, rather than just the mild pain that goes with it”).

Discussion

The main goal of this study was to investigate the origins and reasons for engaging in m/s practices through a review of the literature and qualitative analyses of self-reported narratives. In accord with the literature review, the majority of practitioners in the narratives (78%) reported that their m/s interests were intrinsic in nature, i.e., they emerged naturally, involuntarily, during adolescence or childhood (see also Yost & Hunter, 2012). These intrinsic origins of interest in m/s are described in such terms as “true self” or “somasochistic soul” (Portillo, 1991). In partial accord with the literature review, reasons to engage in m/s were related to three main types of activities: use of interpersonal power, experiencing physical pain, and altering one’s state of mind. These results are discussed below.

Origins of M/S Practices

First, interest in m/s behaviors were commonly intrinsic and present early in life (erotized or not). Second, in agreement with the literature review, a minority of practitioners ($N = 16$) engaged in m/s to deal with (usually minor) psychological issues (Easton, 2007; Graham et al., 2016; Lindemann, 2011). Third, another minority of practitioners felt that their interests in m/s practices originated from extrinsic influences (22%), including childhood sexual abuse, parental discipline, positive operant learning, and being introduced to them by another person (9%). These results show that, contrary to classic psychopathological hypotheses about m/s, such proclivities were not necessarily associated with sexual or physical childhood abuse. Childhood trauma is neither sufficient nor

necessary to develop interest in m/s behaviors, as the vast majority of adults with a history of childhood abuse do not practice m/s behaviors and the vast majority of m/s practitioners were not victims of childhood abuse (e.g., Richters et al., 2008). Still, the narratives studied confirm that some persons with m/s proclivities may have issues related to childhood adversity, as is the case with many psychological attitudes. Psychoptherapists (and practitioners of BDSM who take a dominant role) should be aware of this possibility.

Another extrinsic source of m/s proclivities was learning (e.g., associating a childhood nonsexual situation with sexual arousal), closely associated with fetishism (e.g., Darcangelo, 2008) which is common among BDSM practitioners. Finally, In contrast to the spectacular single cases sometimes linking childhood chronic illness to m/s practices (see, for instance, the documentary “Sick: The Life & Death of Bob Flanagan, Supermasochist”; Dick, 1997; Reynolds, 2007), only two participants (1%) associated their interests in m/s activities with painful chronic illness. Overall, the origins of m/s interests described in these narratives suggest that both essentialist (“I was born that way”) and constructionist (“my new partner introduced me”) factors influence these behaviors (with the former being more important than the latter), as is the case with any sexual interest (DeLamater & Hyde, 1998).

Reasons to Engage in M/S Practices

Reasons to engage in m/s practices are discussed below in order of importance (from the most important to the least).

Power Plays

The most common reason to engage in m/s practices involves giving up power, either by offering total control to someone else (in the form of role play) or through being physically restrained, or both. This result confirms assertions from practitioners (e.g., Easton & Hardy, 2004; Langdridge & Barker, 2007; Scott, 1985) stating that sexual submissive BDSM practices are not necessarily linked to the reception of painful stimuli (or, contrary to popular belief, with sexual masochism). Importantly, a significant minority of practitioners (19%) specifically mentioned that they had to trust the power-holding partner before engaging in such behaviors (see also Williams, 2006).

Both in the general population and among BDSM practitioners, women are much more likely than men to find sexual submission arousing. During the seventies and eighties, the prominent hypothesis regarding this phenomenon was that it was the result of a patriarchal society that taught women to act that way (e.g., Linden et al., 1982). Interestingly, however, women were more likely than men to be sexually aroused by submission not only before the era of radical feminism and the so-called sex wars (e.g., Horney, 1935; Kinsey et al., 1953; Maslow, 1942) but also during (e.g., Califia, 1979; Weinberg et al., 1984) and after that time (e.g., Hawley & Hensley, 2009; Wismeijer & Assen, 2013; Yost & Hunter, 2010). Although it was not possible to compare genders in the present study, it is worth noting that this longitudinal stability of feminine sexual arousal associated with submission is found despite significant socio-cultural changes (including higher equality between

genders in Western countries). This fact, and the aforementioned intrinsic nature of this preference found among the majority of practitioners, argue against the hypothesis that the higher percentage for women is due simply to patriarchal values and a sexist environment (Rogak & Connor, 2018; see also Chancer, 2000; Deckha, 2011 for discussions).

Still, a fundamental question remains: Given that m/s behaviors are not particularly associated with mental disorders (e.g., Brown et al., 2019; De Neef et al., 2019), how can someone sexually enjoy giving total power to another person? The narratives and nonscientific publications considered here clearly suggest that giving power in an erotic context is associated with an agreeable and exciting modification of state of mind for certain individuals. This perspective makes it easier to understand the motive behind giving up power.

Pain, Pleasure, Altered States of Consciousness, and Transcendence

The narratives studied confirm that prolonged and mild/intense pain received in an erotic and consensual context can induce sexual excitation and profound modification of state of mind, including trance and ecstasy. The benefits are reminiscent of those reported after unanesthetized body modifications (Juno & Vale, 1989; Myers, 1992) and natural childbirth (Davis & Pascali-Bonaro, 2010; Mayberry & Daniel, 2016). “Sacred” states of mind reached through physical pain are also reported in religious traditions (Glucklich, 2001) and voluntary involvement in highly painful activities in such contexts is often easier for the non-initiated to understand. Highly painful behaviors such as suspending the body on metal hooks (“Bagad”) and fire walking were still relatively common in southern India throughout the 20th century, despite repression of and laws against such practices (Kosambi, 1967; Powell, 1914; Thurston, 1906). Traditional Indian religions (e.g., Jainism) include extreme aesthetic behaviors, such as body mortification, which serve as “a technique of altering consciousness or withdrawing consciousness from the world of the senses in order to experience total world transcendence” (Cort, 2002, p. 2). As repellent as such rituals may seem to the external observer, they are associated with transcendence and agreeable altered states of consciousness. In North America, Native American rituals such as the Ghost Dance and the Sun Dance have been associated with altered states of mind and hypnosis in classical ethnographical work, which also notes their similarity to the rituals of European religious groups such as the Flagellants (Mooney, 1896). Indeed, self-administered flagellation has a long history in Christian devotion and penitence, and its link with transcendence, a sense of the sacred, and ecstasy is well documented (Glucklich, 2001).

Prolonged, intense, contextual, anticipated, and consensual sexualized painful stimulation seems to induce analgesia and ecstasy, just like runner’s rush, cross-fit’s high, orgasmic birth, and other pain-related euphoric phenomena (e.g., Buckley & Dip, 2003; Mayberry & Daniel, 2016; Raichlen et al., 2012). As Mains (1984) explained more than 30 years ago, physical pain is associated with the secretion of endorphins (or “endogenous morphine”), which have both analgesic and euphoric effects.

Endorphins are neuropeptides that act on opioid receptors (especially mu receptors), which reduce sensitivity to pain. Agonists for these receptors (e.g., opioid drugs) not only induce analgesia but also euphoria and, potentially, dependency. Indeed, these physically related euphoric states are commonly described (including in the narratives studied here) in terms associated with the effects of drugs and might become addictive, not only for athletes (i.e., ultra-marathoners with their need to run daily) but also for practitioners of m/s (e.g., Kurt & Ronel, 2017). Pain (Pertovaara et al., 1982; Zubieta et al., 2001), physical effort (Schwarz & Kindermann, 1992), meditation (Harte et al., 1995), and sexual stimulation (Whipple & Komisaruk, 1988) are all known to enhance endorphin secretion and produce a feeling of well-being. Unsurprisingly, all these activities are commonly involved in m/s. Endorphin secretion also promotes interpersonal bonding (Machin & Dunbar, 2011), as do m/s practices (Hébert & Weaver, 2015; Sagarin et al., 2009; Van der Walt, 2014).

The link between pain, pleasure, and altered states of consciousness is, however, highly dependent on context (Alison et al., 2001). In non-erotic contexts, pain-induced euphoria or altered states of consciousness involve ceremonial procedures such as religious or mythological rituals, spiritual preparation, temple or church visits, specific clothing, and group activities, which help induce an altered state of consciousness (Newberg & Newberg, 2005). The same may be true for BDSM practices, given their dramatic ambiance, specialized equipment, scripted scenarios, and symbolic attire. Without such context, the link between pain and agreeable states of mind disappears (e.g., it does not occur with pain from dental work or accidental pain).

It is also possible that m/s practitioners can reach hypnotic states more easily than most people. Hypnosis is associated not only with agreeable states of mind such as Csikszentmihalyi’s et al. (2014) flow, the artist’s “aesthetic rapture,” and the athlete’s “zone” (e.g., Spiegel & Spiegel, 2008) but is also a powerful pain reliever (e.g., Hilgard & Hilgard, 1994) and relaxation inducer (e.g., Vickers & Zollman, 1999). Given that all these qualities are found in descriptions of the “subspace” created by m/s, future investigation should evaluate the hypnotic induction profile (Spiegel & Spiegel, 2008) of m/s practitioners.

Finally, an unexpected finding in this study was the high prevalence of individuals who enjoyed pain for itself (46% of practitioners of pain). This result is at odds with most non-scientific books concerning m/s (e.g., first-person accounts), which specify that ordinary pain is not pleasurable. However, it accords with the suggestion that m/s practitioners’ baseline pain threshold is higher than average (Defrin et al., 2015; Pollok et al., 2010). This possibility should be tested empirically.

Mindfulness, Leisure, Pleasure, and Happiness

Less profound alterations of the mind such as relaxation and focused attention were also reported by m/s practitioners, especially practitioners who used restraints, suggesting that m/s practices can be compared not only to meditation but also to general leisure activities (Newmahr, 2010; Williams et al., 2016; Wismeijer & Assen, 2013). All these activities are

undertaken because they help practitioners focus their attention and reach an agreeable, quiet state of mind, similar to the mindfulness advocated in a widely used approach in psychology (Hayes et al., 2011). Reaching mindfulness does not mean filling the mind with thoughts or images but instead, through meditation, focussing attention on present moments and bodily sensations or reactions, as well as peacefully accepting what happens in the moment (Hayes et al., 2011). M/s practices (especially those involving restraints) might be seen as an eroticized way of practicing mindfulness. Interestingly, mindfulness training is not only effective in controlling cognitive functions, reappraising emotions, reducing judgment, and provoking existential insights (Hayes et al., 2011) but also helps decrease acute and chronic painful sensations (Zeidan et al., 2012). These results are at odd with the hypothesis that m/s practices are used to escape the self (Baumeister, 1989, 1997). Instead, in accord with previous qualitative reports based on fewer participants (Cross & Matheson, 2006; Hébert & Weaver, 2015), m/s activities seem to be practiced to explore the self and escape the mundane.

In addition to fostering focused attention and mindfulness, m/s behaviors are also reported to induce joy, enhancement of confidence in the self and others, and interpersonal bonding (Sagarin et al., 2009; Williams, 2006; Wismeijer et al., 2013) and to require physical and cognitive training. All these qualities are closely related to both leisure and happiness. Activities requiring training and personal skills – including achieving optimal sexuality (Kleinplatz & Ménard, 2007) – are keys to happiness through a process sometimes called “flow” (e.g., Csikszentmihalyi, 1990). The results of this study suggest that a similar flow (and elevated feelings of well-being; Wismeijer et al., 2013) can be reached through m/s practices.

However, the theme of leisuring failed to emerge from the present analyses, contrary to what was found from the literature review about BDSM. A link between m/s and leisure might be found in the narratives related to attention focus and relaxation. Still, this result is in accordance with the fact that leisuring is reported significantly more often by dominant than submissive practitioners (Brown et al., 2019). Recreative and serious leisure require training and personal skills, which might be more closely related with dominant than submissive behaviors.

Conclusion

As shown in the present study, m/s activities and reasons to practice them include feeling pain, relinquishing power, reaching altered states of consciousness, relaxing, and repeating past learning (e.g., associating child play with excitement). However, two fundamental questions still remain: 1) Why do most people who have had similar experiences during childhood or adolescence (e.g., being tied up during cowboy games, touching a leather coat, feeling pain in a submissive context) not develop a related sexual preference? And, conversely, 2) Why do most people use non-sexual, non-erotic activities to reach the same goals (e.g., sports to feel pain, drugs or meditation to achieve altered states of consciousness, leisure or reading to find

relaxation)? A possible answer is that BDSM activities (including m/s) are associated with a higher than average sex drive. BDSM practitioners have been shown to have a more diverse sexuality (Richters et al., 2008) and more intense sexual fantasies, for both typical and BDSM behaviors, than adults in the general population (Gosselin & Wilson, 1980; Gosselin et al., 1991). For example, the majority of BDSM practitioners also frequently engage in (Botta et al., 2019; Connolly, 2006) or show interest in (Chivers et al., 2014) non-BDSM and more typical sexual behaviors. In addition, rates of exclusive sexual orientation (heterosexuality or homosexuality) are significantly lower among BDSM practitioners than among the general population (Breslow et al., 1986; Botta et al., 2019; Cross & Matheson, 2006; Levitt et al., 1994; Moser & Levitt, 1987; Sandnabba et al., 1999; Yost & Hunter, 2010). Finally, a study that measured sexual desire levels among BDSM practitioners found that sadistic and masochistic behaviors were significantly and positively correlated with sex drive in men and women, respectively (as well as with fetishism for both genders; Castellini et al., 2018). These results suggest that BDSM practitioners have a more fluid sexuality and, perhaps, a higher sex drive than average. A higher sex drive would help explain why m/s practitioners are more likely to associate non-sexual stimuli with sexual excitation (e.g., being tied-up, leather fetishism) or to eroticize non-sexual states of mind (e.g., feeling pain, relaxation, meditation).

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References

- Abrams, M., & Stefan, S. (2012). Sexual abuse and masochism in women: Etiology and treatment. *Journal of Evidence-Based Psychotherapies*, 12 (2), 231–239. <http://jebp.psychotherapy.ro/vol-xii-no-2-2012/sexual-abuse-masochism-women-etiology-treatment/>
- Alison, L., Santtila, P., Sandnabba, N. K., & Nordling, N. (2001). Sadomasochistically oriented behavior: Diversity in practice and meaning. *Archives of Sexual Behavior*, 30(1), 1–12. <https://doi.org/10.1023/A:1026438422383>
- Al-Nafzawi, S. (1886). *The perfumed garden* ((~1400), translated by Sir Richard Burton). Benares.
- Ambler, J. K., Lee, E. M., Klement, K. R., Loewald, T., Comber, E. M., Hanson, S. A., ... Sagarin, B. J. (2016). Consensual BDSM facilitates role-specific altered states of consciousness: A preliminary study. *Psychology of Consciousness: Theory, Research, and Practice*, 4(1), 75–91. <https://doi.org/10.1037/cns0000097>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Author.
- Apertus, D. (1928). *La flagellation dite passionnelle: Devant la science, devant la morale et dans les mœurs [The so-called passionate flagellation: Before science, before morals and in practice]*. Collection des Orties Blanches.
- Apostolou, M., & Khalil, M. (2018). Aggressive and humiliating sexual play: Occurrence rates and discordance between the sexes. *Archives of Sexual Behavior*, 48, 1–14. <https://doi.org/10.1007/s10508-018-1266-8>
- Baker, A. C. (2016). Sacred kink: Finding psychological meaning at the intersection of BDSM and spiritual experience. *Sexual and Relationship Therapy*, 33(4), 440–453. <https://doi.org/10.1080/14681994.2016.1205185>
- Baldwin, G. (1993). *Ties that bind: SM/Leather/Fetish/Erotic Style. Issues, commentaries, and advices*. Daedalus Publishing.

- Barker, M., Iantaffi, A., & Gupta, C. (2007). Kinky clients, kinky counseling? The challenges and potentials of BDSM. In L. Moon (Ed.), *Feeling queer or queer feelings: Radical approaches to counselling sex, sexualities and genders* (pp. 106–124). Routledge.
- Baumeister, R. F. (1989). *Masochism and the self*. Lawrence Erlbaum & Associates Inc.
- Baumeister, R. F., & Butler, J. L. (1997). Sexual masochism: Deviance without pathology. In D. R. Laws & W. O'Donohue (Eds.), *Sexual deviance: Theory, assessment, and treatment* (pp. 225–239). Guilford Press.
- Baumeister, R. F. (1997). The enigmatic appeal of sexual masochism: Why people desire pain, bondage, and humiliation in sex. *Journal of Social and Clinical Psychology*, 16(2), 133–150. <https://doi.org/10.1521/jscp.1997.16.2.133>
- Bean, J. W. (1994). *Leathersex: A guide for the curious outsider and the serious player*. Daedalus Publishing.
- Beckmann, A. (2001). Deconstructing myths: The social construction of “somasochism” versus “subjugated knowledges” of practitioners of consensual “SM”. *Journal of Criminal Justice and Popular Culture*, 8(2), 66–95. <https://static1.squarespace.com/static/5b0ee82df793927c77add8b6/t/5b9055848251b7b6f58846c/1536185733314/1+Beckmann+2001.pdf>
- Beckmann, A. (2007). The “bodily practices” of consensual “SM”, spirituality and transcendence. In D. Langdridge & M. Barker (Eds.), *Safe, sane and consensual: Contemporary perspectives on somasochism* (pp. 98–118). Palgrave Macmillan.
- Beckmann, A. (2009). *The Social Construction of Sexuality and Perversion*. Basingstoke: Palgrave Macmillan.
- Berliner, B. (1947). On some psychodynamics of masochism. *The Psychoanalytic Quarterly*, 16(4), 459–471. <https://doi.org/10.1080/21674086.1947.11925693>
- Bezreh, T., Weinberg, T. S., & Edgar, T. (2012). BDSM disclosure and stigma management: Identifying opportunities for sex education. *American Journal of Sexuality Education*, 7(1), 37–61. <https://doi.org/10.1080/15546128.2012.650984>
- Bienvenu, R. V., II, McGeorge, J. H., & Jacques, T. (2005, August). *SM roles and mental health: Results from a survey of SM practitioners* [Paper presented] Annual meeting of the American Sociological Association, Philadelphia, PA. Retrieved December, 2018, from http://citation.allacademic.com/meta/p_mla_apa_research_citation/0/2/3/0/8/p23086_index.html
- Blackshaw, T. (Ed.). (2013). *Routledge handbook of leisure studies*. NY, Routledge.
- Blos, P., Jr. (1991). Somasochism and the defense against recall of painful affect. *Journal of the American Psychoanalytic Association*, 39(2), 417–430. <https://doi.org/10.1177/000306519103900206>
- Blum, H. P. (1991). Somasochism in the psychoanalytic process, within and beyond the pleasure principle: Discussion. *Journal of the American Psychoanalytic Association*, 39(2), 431–450. <https://doi.org/10.1177/000306519103900207>
- Boileau, J. (1700). *Historia flagellantium/Histoire des flagellans* [History of Flagellants]. Henry du Suzet.
- Botta, D., Nimbi, F. M., Tripodi, F., Silvaggi, M., & Simonelli, C. (2019). Are role and gender related to sexual function and satisfaction in men and women practicing BDSM? *The Journal of Sexual Medicine*, 16(3), 463–473. <https://doi.org/10.1016/j.jsxm.2019.01.001>
- Brame, G. G., Brame, W. D., & Jacobs, J. (1993). *Different loving: The world of sexual dominance and submission*. Villard.
- Breslow, N., Evans, L., & Langley, J. (1985). On the prevalence and roles of females in the somasochistic subculture: Report of an empirical study. *Archives of Sexual Behavior*, 14(4), 303–317. <https://doi.org/10.1007/BF01550846>
- Breslow, N., Evans, L., & Langley, J. (1986). Comparisons among heterosexual, bisexual, and homosexual male sado-masochists. *Journal of Homosexuality*, 13(1), 83–107. https://doi.org/10.1300/J082v13n01_06
- Brown, A., Barker, E. D., & Rahman, Q. (2019). A systematic scoping review of the prevalence, etiological, psychological, and interpersonal factors associated with BDSM. *Journal of Sex Research, E-Pub Ahead of Print*. <https://doi.org/10.1080/00224499.2019.1665619>
- Buckley, S. J., & Dip, O. (2003). Undisturbed birth: Nature's blueprint for ease and ecstasy. *Journal of Prenatal & Perinatal Psychology & Health*, 17(4), 261–288. <https://birthpsychology.com/journal/article/undisturbed-birth-natures-blueprint-ease-and-ecstasy>
- Bullough, V. L. (1976). *Sexual variance in society and history*. Chicago, IL: University of Chicago Press.
- Busbee, E. R. (2008). *Power exchange: Interaction and identity in a BDSM community* [Unpublished doctoral dissertation]. Yale University. <http://www.faculty.umb.edu/heike.schotten/readings/Califia,%20Secret%20Side%20of%20Lesbian%20Sexuality.pdf>
- Califia, P. (1979). A secret side of lesbian sexuality. *The Advocate*, 27, 158–167.
- Carlström, C. (2018a). BDSM, interaction rituals and open bodies. *Sexuality & Culture*, 22(1), 209–219. <https://doi.org/10.1007/s12119-017-9461-7>
- Carlström, C. (2019). BDSM, becoming and the flows of desire. *Culture, Health & Sexuality*, 21(4), 404–415. <https://doi.org/10.1080/13691058.2018.1485969>
- Caruso, J. (2016). *BDSM: Les Règles du Jeu*. [BDSM: The game rules]. VLB editor.
- Castellini, G., Rellini, A. H., Appignanesi, C., Pinucci, I., Fattorini, M., Grano, E., Fisher, A. D., Cassioli, E., Lelli, L., Maggi, M., & Ricca, V. (2018). Deviance or normalcy? The relationship among paraphilic thoughts and behaviors, hypersexuality, and psychopathology in a sample of university students. *The Journal of Sexual Medicine*, 15(9), 1322–1335. <https://doi.org/10.1016/j.jsxm.2018.07.015>
- Chancer, L. S. (2000). From pornography to somasochism: Reconciling feminist differences. *The Annals of the American Academy of Political and Social Science*, 571(1), 77–88. <https://doi.org/10.1177/000271620057100106>
- Chivers, M. L., Roy, C., Grimbois, T., Cantor, J. M., & Seto, M. C. (2014). Specificity of sexual arousal for sexual activities in men and women with conventional and masochistic sexual interests. *Archives of Sexual Behavior*, 43(5), 931–940. <https://doi.org/10.1007/s10508-013-0174-1>
- Connolly, P. H. (2006). Psychological functioning of bondage/domination/sado-masochism (BDSM) practitioners. *Journal of Psychology & Human Sexuality*, 18(1), 79–120. https://doi.org/10.1300/J056v18n01_05
- Cort, J. E. (2002). Singing the glory of asceticism: Devotion of asceticism in Jainism. *Journal of the American Academy of Religion*, 70(4), 719–742. <https://doi.org/10.1093/jaar/70.4.719>
- Cross, P. A., & Matheson, K. (2006). Understanding somasochism: An empirical examination of four perspectives. *Journal of Homosexuality*, 50(2–3), 133–166. https://doi.org/10.1300/J082v50n02_07
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. Harper and Row.
- Csikszentmihalyi, M., Abuhamed, S., & Nakamura, J. (2014). Flow. In *Flow and the foundations of positive psychology* (pp. 227–238). Springer.
- Cutler, B. (2003). *Partner selection, power dynamics, and sexual bargaining in self-defined BDSM couples* [Unpublished doctoral dissertation]. Institute for the Advanced Study of Human Sexuality.
- Damon, W. (2001). *Patterns of power: A test of two approaches to understanding somasochistic sexual behavior in heterosexual men* [Unpublished thesis]. University of Illinois.
- Darcangelo, S. (2008). Fetishism: Psychopathology and theory. In D. R. Laws & W. T. O'Donohue (Eds.), *Sexual deviance: Theory, assessment, and treatment* (2nd ed., pp. 108–118). Guilford Press.
- Davis, E., & Pascali-Bonaro, D. (2010). *Orgasmic birth: Your guide to a safe, satisfying, and pleasurable birth experience*. Rodale.
- Dawson, S. J., Bannerman, B. A., & Lalumière, M. L. (2016). Paraphilic interests: An examination of sex differences in a nonclinical sample. *Sexual Abuse*, 28(1), 20–45. <https://doi.org/10.1177/1079063214525645>
- De Neef, N., Coppens, V., Huys, W., & Morrens, M. (2019). Bondage-discipline, dominance-submission and somasochism (BDSM) from an integrative biopsychosocial perspective: A systematic review. *Sexual Medicine*, 3(2), 129–144. <https://doi.org/10.1016/j.esxm.2019.02.002>
- Debay, A. (1862). *Hygiène et Physiologie du Mariage: Histoire Naturelle et Médicale de l'Homme et de la Femme Mariés, dans ses plus Curieux Détails* [Hygiene and physiology of marriage: The natural and medical history of the married man and woman, in its most curious details]. E. Dentu Editor.

- Deckha, M. (2011). Pain as culture: A postcolonial feminist approach to S/M and women's agency. *Sexualities*, 14(2), 129–150. <https://doi.org/10.1177/1363460711399032>
- Defrin, R., Arad, M., Ben-Sasson, M. P., & Ginzburg, K. (2015). Attitudes and emotions towards pain and sensitivity to painful stimuli among people routinely engaging in masochistic behaviour. *European Journal of Pain*, 19(9), 1321–1330. <https://doi.org/10.1002/ejp.662>
- DeLamater, J. D., & Hyde, J. S. (1998). Essentialism vs. social constructionism in the study of human sexuality. *Journal of Sex Research*, 35(1), 10–18. <https://doi.org/10.1080/00224499809551913>
- Dick, K., (director, producer). (1997). *Sick: The life & death of Bob Flanagan, supermasochist*. [Cinematographic Film]. A Kirby Dick Production.
- Doppet, F. A. (1788). *Traité du fouet et de ses effets sur le physique de l'amour ou aphrodisiaque externe [Treatise of the whip and its effects on the physical love or external aphrodisiac]*. Retrieved June 12, 2017, from <https://gallica.bnf.fr/ark:/12148/bpt6k97218412/f7.image.texteImage>
- Dunkley, C. R., & Brotto, L. A. (2019). The role of consent in the context of BDSM. *Sexual Abuse*. Epub ahead of print. <https://doi.org/10.1177/1079063219842847>
- Easton, D. (2007). Shadowplay: S/M journeys to our selves. In D. Langdridge & M. Barker (Eds.), *Safe, sane and consensual: Contemporary perspectives on sadomasochism* (pp. 217–228). Basingstoke, UK: Palgrave Macmillan.
- Easton, D., & Hardy, J. (2004). *Radical ecstasy: SM journeys to transcendence*. Greenery Press.
- Easton, D., & Liszt, C. A. (1994). *The bottoming book: How to get terrible things done to you by wonderful people*. Lady Green.
- Ellis, H. (1913). Love and pain. In H. Ellis (Ed.), *Studies in the psychology of sex: Vol. III. Analysis of the sexual impulse, love and pain, the sexual impulse in women* (pp. 66–188). F. A. Davis. <https://doi.org/10.1037/11451-002>
- Ernulf, K. E., & Innala, S. M. (1995). Sexual bondage: A review and unobtrusive investigation. *Archives of Sexual Behavior*, 24(6), 631–654. <https://doi.org/10.1007/BF01542185>
- ESEMed/MHEDEA 2000 Investigators, Alonso, J., Angermeyer, M. C., Bernert, S., Bruffaerts, R., Brugha, T. S., ... & Gasquet, I. (2004). Prevalence of mental disorders in Europe: Results from the European Study of the Epidemiology of Mental Disorders (ESEMed) project. *Acta Psychiatrica Scandinavica*, 109(420), 21–27. <https://doi.org/10.1111/j.1600-0047.2004.00327.x>
- Faccio, E., Casini, C., & Cipolletta, S. (2014). Forbidden games: The construction of sexuality and sexual pleasure by BDSM 'players'. *Culture, Health & Sexuality*, 16(7), 752–764. <https://doi.org/10.1080/13691058.2014.909531>
- Fennell, J. (2018). *Coed naked: Insider ethnography in the BDSM subculture*. SAGE Research Methods Cases. <https://doi.org/10.4135/9781526447067>
- Fitzpatrick Hanly, M. A. (Ed.). (1995). *Essential papers on masochism*. New York University Press.
- Ford, C. S., & Beach, F. A. (1951). *Patterns of sexual behavior*. Harpers and Brothers.
- Freud, S. ([1905] 1920). *Three essays on the theory of sexuality*. (A.A. Brill, Trans.). The Macmillan Co.
- Freud, S. (1924). *The economic problem of masochism*. The standard edition of the complete psychological works of sigmund freud, volume XIX (1923-1925): The ego and the Id and other works.
- Frias, Á., González, L., Palma, C., & Farriols, N. (2017). Is there a relationship between borderline personality disorder and sexual masochism in women? *Archives of Sexual Behavior*, 46(3), 747–754. <https://doi.org/10.1007/s10508-016-0834-z>
- Gebhard, P. H. (1969). Fetishism and sadomasochism. In J. H. Masserman (Ed.), *Dynamics of Deviant Sexuality: Scientific Proceedings of the American Academy of Psychoanalysis Vol. 15 of Science and Psychoanalysis* (pp. 71–80). New York: Grune & Stratton.
- Gemberling, T. M., Cramer, R. J., Wright, S., & Nobles, M. R. (2015). *Psychological functioning and violence victimization and perpetration in BDSM practitioners from the national coalition for sexual freedom* (Technical Report). The National Coalition for Sexual Freedom. Retrieved April 11, 2018, from https://www.ncsfreedom.org/images/stories/2015_Survey_PDFs_ETC/NCSF%20Technical%20Report%20Mental%20Health%20Survey.pdf
- Glaser, B. G., & Strauss, A. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Aldine.
- Glucklich, A. (2001). *Sacred pain: Hurting the body for the sake of the soul*. Oxford University Press.
- Gosselin, C., & Wilson, G. (1980). *Sexual variations: Fetishism, sadomasochism, transvestism*. Simon and Schuster.
- Gosselin, C. C., Wilson, G. D., & Barrett, P. T. (1991). The personality and sexual preferences of sadomasochistic women. *Personality and Individual Differences*, 12(1), 11–15. [https://doi.org/10.1016/0191-8869\(91\)90126-V](https://doi.org/10.1016/0191-8869(91)90126-V)
- Graham, B. C., Butler, S. E., McGraw, R., Cannes, S. M., & Smith, J. (2016). Member perspectives on the role of BDSM communities. *Journal of Sex Research*, 53(8), 895–909. <https://doi.org/10.1080/00224499.2015.1067758>
- Hall, D. A. (2014). The fate of aggression in maso-masochistic relationships. *The Psychoanalytic Quarterly*, 83(2), 345–373. <https://doi.org/10.1002/j.2167-4086.2014.00095.x>
- Harrington, L. (2016). *The sacred link: The eightfold paths of BDSM and beyond* (2nd ed.). Mystic Productions Press.
- Harte, J. L., Eifert, G. H., & Smith, R. (1995). The effects of running and meditation on beta-endorphin, corticotropin-releasing hormone and cortisol in plasma, and on mood. *Biological Psychology*, 40(3), 251–265. [https://doi.org/10.1016/0301-0511\(95\)05118-T](https://doi.org/10.1016/0301-0511(95)05118-T)
- Hawley, P. H., & Hensley, W. A., IV. (2009). Social dominance and forceful submission fantasies: Feminine pathology or power? *Journal of Sex Research*, 46(6), 568–585. <https://doi.org/10.1080/00224490902878985>
- Hayes, S. C., Villatte, M., Levin, M., & Hildebrandt, M. (2011). Open, aware, and active: Contextual approaches as an emerging trend in the behavioral and cognitive therapies. *Annual Review of Clinical Psychology*, 7(1), 141–168. <https://doi.org/10.1146/annurev-clinpsy-032210-104449>
- Hébert, A., & Weaver, A. (2015). Perks, problems, and the people who play: A qualitative exploration of dominant and submissive BDSM roles. *The Canadian Journal of Human Sexuality*, 24(1), 49–62. <https://doi.org/10.3138/cjhs.2467>
- Hilgard, E. R., & Hilgard, J. (1994). *Hypnosis in the relief of pain*. Routledge.
- Holtzman, D., & Kulish, N. (Eds.). (2012). *The clinical problem of masochism*. Rowman & Littlefield.
- Holvoet, L., Huys, W., Coppens, V., Seeuws, J., Goethals, K., & Morrisens, M. (2017). Fifty shades of Belgian gray: The prevalence of BDSM-related fantasies and activities in the general population. *The Journal of Sexual Medicine*, 14(9), 1152–1159. <https://doi.org/10.1016/j.jsxm.2017.07.003>
- Hopkins, T. A., Brawner, C. A., Meyer, M., Zawilinski, L., Carnes, P. J., & Green, B. A. (2016). MMPI-2 correlates of sadomasochism in a sexual addiction sample: Contrasting men and women. *Sexual Addiction & Compulsivity*, 23(1), 114–140. <https://doi.org/10.1080/10720162.2015.1095137>
- Horney, K. (1935). The problem of feminine masochism. *Psychoanalytic Review*, (22), 241–257. <https://guilfordjournals.com/doi/pdf/10.1521/prev.2013.100.5.675>
- Hucker, S. J. (2008). Sexual masochism: Psychopathology and theory. In D. R. Laws & W. T. O'Donohue (Eds.), *Sexual deviance: Theory, assessment, and treatment* (pp. 250–263). NY, Guilford Press.
- Hunt, J., & Eisenberg, D. (2010). Mental health problems and help-seeking behavior among college students. *Journal of Adolescent Health*, 46(1), 3–10. <https://doi.org/10.1016/j.jadohealth.2009.08.008>
- Joyal, C. C., & Carpentier, J. (2017). The prevalence of paraphilic interests and behaviors in the general population: A provincial survey. *Journal of Sex Research*, 54(2), 161–171. <https://doi.org/10.1080/00224499.2016>
- Joyal, C. C., Cossette, A., & Lapierre, V. (2015). What exactly is an unusual sexual fantasy? *Journal of Sexual Medicine*, 12(2), 328–340. <https://doi.org/10.1111/jsm.12734>
- Jozifkova, E. (2013). Consensual sadomasochistic sex (BDSM): The roots, the risks, and the distinctions between BDSM and violence. *Current Psychiatry Reports*, 15(9), 392. <https://doi.org/10.1007/s11920-013-0392-1>

- Jozifkova, E. (2018). Sexual arousal by dominance and submissiveness in the general population: How many, how strongly, and why? *Deviant Behavior*, 39(9), 1229–1236. <https://doi.org/10.1080/01639625.2017.1410607>
- Juno, A., & Vale, V. (1989). *Modern primitives*. Re/Search Publications.
- Kaldera, R. (2006). *Dark moon rising: Pagan BDSM and the ordeal path*. Asphodel Press.
- Kaldera, R. (Ed.). (2011). *Sacred power, holy surrender: Living a spiritual power dynamic*. Alfred Press.
- Kamel, G. L. (1980). Leathersex: Meaningful aspects of gay sadomasochism. *Deviant Behavior*, 1(2), 171–191. <https://doi.org/10.1080/01639625.1980.9967521>
- Kamping, S., Andoh, J., Bomba, I. C., Diers, M., Diesch, E., & Flor, H. (2016). Contextual modulation of pain in masochists: Involvement of the parietal operculum and insula. *Pain*, 157(2), 445. <https://doi.org/10.1097/j.pain.0000000000000390>
- Kernberg, F. O. (1991). Sadomasochism, sexual excitement, and perversion. *American Psychoanalytic Association*, 39(2), 333–362. <https://doi.org/10.1177/000306519103900202>
- Kinsey, A., Pomeroy, W., Martin, C., & Gebhard, P. (1953). *Sexual behavior in the human female*. W.B. Saunders.
- Kinsey, K. (2014). *How to be a healthy and happy submissive*. CreateSpace Independent Publishing Platform.
- Kleinplatz, P. J. (2006). Learning from extraordinary lovers: Lessons from the edge. *Journal of Homosexuality*, 50(2–3), 325–348. https://doi.org/10.1300/J082v50n02_16
- Kleinplatz, P. J., & Ménard, A. D. (2007). Building blocks toward optimal sexuality: Constructing a conceptual model. *The Family Journal*, 15(1), 72–78. <https://doi.org/10.1177/1066480706294126>
- Kleinplatz, P. J., & Moser, C. (Eds.). (2006). *Sadomasochism: Powerful pleasures*. Harrington Park Press.
- Kokkoka. (1965). *The koka shastra*. Stein and Day. (Original work published ca. 1150). ((A. Comfort, Trans.)).
- Kosambi, D. D. (1967). Living prehistory in India. *Scientific American*, 216(2), 104–115. <https://doi.org/10.1038/scientificamerican0267-104>
- Krafft-Ebing, R. (1895). *Psychopathia Sexualis: Avec recherches spéciales sur l'inversion sexuelle* 8^e édition; traduit par É. Laurent et S. Csapo. Georges Carré.
- Krueger, R. B., Reed, G. M., First, M. B., Marais, A., Kismodi, E., & Briken, P. (2017). Proposals for paraphilic disorders in the International Classification of Diseases and Related Health Problems, eleventh revision (ICD-11). *Archives of Sexual Behavior*, 46(5), 1529–1545. <https://doi.org/10.1007/s10508-017-0944-2>
- Kurt, H., & Ronel, N. (2017). Addicted to pain: A preliminary model of sexual masochism as addiction. *International Journal of Offender Therapy and Comparative Criminology*, 61(15), 1760–1774. <https://doi.org/10.1177/0306624X15627804>
- Lammers, J., & Imhoff, R. (2016). Power and sadomasochism: Understanding the antecedents of a knotty relationship. *Social Psychological and Personality Science*, 7(2), 142–148. <https://doi.org/10.1177/1948550615604452>
- Langdridge, D., & Barker, M. (Eds.). (2007). *Safe, sane and consensual: Contemporary perspectives on sadomasochism*. Palgrave Macmillan.
- Langdridge, D., & Butt, T. (2004). A hermeneutic phenomenological investigation of the construction of sadomasochistic identities. *Sexualities*, 7(1), 31–53. <https://doi.org/10.1177/1363460704040137>
- Langdridge, D., & Butt, T. (2005). The erotic construction of power exchange. *Journal of Constructivist Psychology*, 18(1), 65–73. <https://doi.org/10.1080/107205305090523099>
- Laumann, E. O., Gagnon, J. H., Michael, R. T., & Michaels, S. (1994). *The social organization of sexuality: Sexual practices in the United States*. University of Chicago Press.
- Lee, E. M., Klement, K. R., Ambler, J. K., Loewald, T., Comber, E. M., Sagarin, B. J., Sagarin, B. J., & Hanson, S. A. (2016). Altered states of consciousness during an extreme ritual. *PLoS One*, 11(5), e0153126. <https://doi.org/10.1371/journal.pone.0153126>
- Leech, N. L., & Onwuegbuzie, A. J. (2011). Beyond constant comparison qualitative data analysis: Using NVivo. *School Psychology Quarterly*, 26(1), 70–84. <https://doi.org/10.1037/a0022711>
- Leitenberg, H., & Henning, K. (1995). Sexual fantasy. *Psychological Bulletin*, 117(3), 469–496. <https://doi.org/10.1037/0033-2909.117.3.469>
- Levine-Ward, A. (2016). *The lived experience of bondage/ discipline, dominance/submission and sadomasochism (BDSM) practitioners: An interpretive phenomenological analysis* [Unpublished clinical thesis dissertation]. Wright Institute Graduate School of Psychology.
- Levitt, E. E., Moser, C., & Jamison, K. V. (1994). The prevalence and some attributes of females in the sadomasochistic subculture: A second report. *Archives of Sexual Behavior*, 23(4), 465–473. <https://doi.org/10.1007/BF01541410>
- Lindemann, D. (2011). BDSM as therapy? *Sexualities*, 14(2), 151–172. <https://doi.org/10.1177/1363460711399038>
- Linden, R. R., Pagano, D. R., Russell, D. E. H., & Star, S. L. (Eds.). (1982). *Against sadomasochism: A radical feminist analysis*. Frog in the Well.
- Machin, A. J., & Dunbar, R. I. (2011). The brain opioid theory of social attachment: A review of the evidence. *Behaviour*, 148(9), 985–1025. <https://doi.org/10.1163/000579511X596624>
- Mains, G. (1984). *Urban aboriginals*. Daedalus Publishing.
- Mains, G. (1991). The molecular anatomy of leather. In M. Thompson (Ed.), *Leatherfolk: Radical sex. people, politics and practices* (3rd ed., pp. 37–43). Alyson.
- Marcus, S. (1966). *The other Victorians: A study of sexuality and pornography in mid-nineteenth-century England*. Basic Books.
- Martinez, K. (2018). BDSM role fluidity: A mixed-methods approach to investigating switches within dominant/submissive binaries. *Journal of Homosexuality*, 65(10), 1299–1324. <https://doi.org/10.1080/00918369.2017.1374062>
- Maslow, A. H. (1942). Self-esteem (dominance-feeling) and sexuality in women. *The Journal of Social Psychology*, 16(2), 259–294. <https://doi.org/10.1080/00224545.1942.9714120>
- Matthews, M. A. (2005). *Lesbians who engage in public bondage, discipline, dominance, submission and sadomasochism (BDSM)* [Unpublished Thesis Dissertation]. School of Human Service Professions, Widener University.
- Mayberry, L., & Daniel, J. (2016). ‘Birthgasm’ a literary review of orgasm as an alternative mode of pain relief in childbirth. *Journal of Holistic Nursing*, 34(4), 331–342. <https://doi.org/10.1177/0898010115614205>
- Meibomius, J. H. (1761). *A treatise of the use of flogging in venereal affairs*. London.
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation* (3rd ed.). John Wiley & Sons.
- Miller, P., & Devon, M. (1995). *Screw the roses, send me the thorns: The romance and sexual sorcery of sadomasochism*. Mystic Rose Books.
- Money, J. (1987). Masochism: On the childhood origin of paraphilia, opponent-process theory, and antiandrogen therapy. *Journal of Sex Research*, 23(2), 273–275. <https://doi.org/10.1080/00224498709551364>
- Mooney, J. (1896). *The ghost-dance religion and the Sioux: outbreak of 1890. Fourteenth annual report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution (part 2)*. Government Printing Office. Retrieved May 18, 2016, from https://play.google.com/books/reader?id=0wUWAQAIAAJ&hl=fr_CA&pg=GBS.PA631
- Moser, C., & Levitt, E. E. (1987). An exploratory-descriptive study of a sadomasochistically oriented sample. *Journal of Sex Research*, 23(3), 322–337. <https://doi.org/10.1080/00224498709551370>
- Moser, C., & Madsen, J. J. (1996). *Bound to be free: The SM experience*. Continuum International Publishing Group.
- Mundy, C. L., & Cioe, J. D. (2019). Exploring the relationship between paraphilic interests, sex, and sexual and life satisfaction in non-clinical samples. *The Canadian Journal of Human Sexuality*, 28(3), 304–316. Published ahead of print. <https://doi.org/10.3138/cjhs.2018-0041>
- Myers, J. (1992). Nonmainstream body modification: Genital piercing, branding, burning, and cutting. *Journal of Contemporary Ethnography*, 21(3), 267–306. <https://doi.org/10.1177/089124192021003001>
- Newberg, A. B., & Newberg, S. K. (2005). The neuropsychology of religious and spiritual experience. In R. F. Paloutzian & C. L. Park (Eds.), *Handbook of the psychology of religion and spirituality* (pp. 199–215). Guildford Press.
- Newmahr, S. (2008). Becoming a sadomasochist: Integrating self and other in ethnographic analysis. *Journal of Contemporary Ethnography*, 37(5), 619–643. <https://doi.org/10.1177/0891241607310626>

- Newmahr, S. (2010). Rethinking kink: Sadomasochism as serious leisure. *Qualitative Sociology*, 33(3), 313–331. <https://doi.org/10.1007/s11133-010-9158-9>
- Newmahr, S. (2011). *Playing on the edge: Sadomasochism, risk, and intimacy*. Indiana University Press.
- Nordling, N., Sandnabba, N. K., & Santtila, P. (2000). The prevalence and effects of self-reported childhood sexual abuse among sadomasochistically oriented males and females. *Journal of Child Sexual Abuse*, 9(1), 53–63. https://doi.org/10.1300/J070v09n01_04
- Norman, S. (1991). I am the leatherfaerie shaman. In M. Thompson (Ed.), *Leatherfolk: Radical sex, people, politics and practices* (pp. 276–283). Alyson.
- Ortmann, D. M., & Sprott, R. A. (2013). *Sexual outsiders: Understanding BDSM sexualities and communities*. Rowman & Littlefield Publishers.
- Pertovaara, A., Kempainen, P., Johansson, G., & Karonen, S. L. (1982). Ischemic pain nonsegmentally produces a predominant reduction of pain and thermal sensitivity in man: A selective role for endogenous opioids. *Brain Research*, 251(1), 83–92. [https://doi.org/10.1016/0006-8993\(82\)91276-8](https://doi.org/10.1016/0006-8993(82)91276-8)
- Pollok, B., Krause, V., Legrain, V., Ploner, M., Freynhagen, R., Melchior, I., & Schnitzler, A. (2010). Differential effects of painful and non-painful stimulation on tactile processing in fibromyalgia syndrome and subjects with masochistic behaviour. *PloS One*, 5(12), e15804. <https://doi.org/10.1371/journal.pone.0015804>
- Portillo, T. (1991). I get real: Celebrating my sadomasochistic soul. In M. Thompson (Ed.), *Leatherfolk: Radical sex, people, politics, and practice* (pp. 49–55). Alyson Books.
- Powell, M. A. (1914). "Hook-swinging" in India. A description of the ceremony, and an enquiry into its origin and significance. *Folklore*, 25(2), 147–197. <https://doi.org/10.1080/0015587X.1914.9718813>
- Prior, E. E. (2013). Women's perspectives of BDSM power exchange. *Electronic Journal of Human Sexuality*, 16. <http://www.ejhs.org/volume16/BDSM.html>
- Raichlen, D. A., Foster, A. D., Gerdeman, G. L., Seillier, A., & Giuffrida, A. (2012). Wired to run: Exercise-induced endocannabinoid signaling in humans and cursorial mammals with implications for the 'runner's high'. *Journal of Experimental Biology*, 215(8), 1331–1336. <https://doi.org/10.1242/jeb.063677>
- Reik, T. (1941). *Masochism in sex and society*. Grove Press.
- Reynolds, D. (2007). Disability and BDSM: Bob Flanagan and the case for sexual rights. *Sexuality Research & Social Policy*, 4(1), 40–52. <https://doi.org/10.1525/srsp.2007.4.1.40>
- Richters, J., De Visser, R. O., Rissel, C. E., Grulich, A. E., & Smith, A. M. (2008). Demographic and psychosocial features of participants in bondage and discipline, "sadomasochism" or dominance and submission (BDSM): Data from a national survey. *The Journal of Sexual Medicine*, 5(7), 1660–1668. <https://doi.org/10.1111/j.1743-6109.2008.00795.x>
- Rogak, H. M., & Connor, J. J. (2018). Practice of consensual BDSM and relationship satisfaction. *Sexual and Relationship Therapy*, 33(4), 454–469. <https://doi.org/10.1080/14681994.2017.1419560>
- Rothstein, A. (1991). Sadomasochism in the neurosis conceived as a pathological compromise formation. *Journal of American Psychoanalytic Association*, 39(2), 363–375. <https://doi.org/10.1177/000306519103900203>
- Rousseau, -J.-J. (1782). *Les Confessions (Volume I, « La fessée de Mlle Lambercier » [The spanking of Ms. Lambercier])*. Cazin.
- Sack, R. L., & Miller, W. (1975). Masochism: A clinical and theoretical overview. *Psychiatry*, 38(3), 244–257. <https://doi.org/10.1080/00332747.1975.11023854>
- Sagarin, B. J., Cutler, B., Cutler, N., Lawler-Sagarin, K. A., & Matuszewich, L. (2009). Hormonal changes and couple bonding in consensual sadomasochistic activity. *Archives of Sexual Behavior*, 38(2), 186–200. <https://doi.org/10.1007/s10508-008-9374-5>
- Sagarin, B. J., Lee, E. M., & Klement, K. R. (2015). Sadomasochism without sex? Exploring the parallels between BDSM and extreme rituals. *Journal of Positive Sexuality*, 1(3), 32–36. <https://journalofpositivesexuality.org/wp-content/uploads/2016/05/Parallels-Between-BDSM-and-Extreme-Ritual-Sagarin-Lee-Klement.pdf>
- Sandahl, C. (2000). Bob Flanagan: Taking it like a man. *Journal of Dramatic Theory and Criticism*, XV(1), 97–106. <https://www.jcel-pub.org/index.php/jdtc/article/view/3354>
- Sandnabba, N. K., Santtila, P., Alison, L., & Nordling, N. (2002). Demographics, sexual behaviour, family background and abuse experiences of practitioners of sadomasochistic sex: A review of recent research. *Sexual and Relationship Therapy*, 17(1), 39–55. <https://doi.org/10.1080/14681990220108018>
- Sandnabba, N. K., Santtila, P., & Nordling, N. (1999). Sexual behavior and social adaptation among sadomasochistically-oriented males. *Journal of Sex Research*, 36(3), 273–282. <https://doi.org/10.1080/00224499909551997>
- Schwarz, L., & Kindermann, W. (1992). Changes in β -endorphin levels in response to aerobic and anaerobic exercise. *Sports Medicine*, 13(1), 25–36. <https://doi.org/10.2165/00007256-199213010-00003>
- Scott, G. G. (1985). *Erotic power: Exploring the world of BDSM*. Citadel Press.
- Silva, A. D. (2015). *Through pain, more gain? - A survey into the psychosocial benefits of sadomasochism* [Master's thesis]. <http://urn.nb.no/URN:NBN:no-52512>
- Sloan, J. L. (2015). Ace of (BDSM) clubs: Building a sexual relationships through BDSM practice. *Sexualities*, 18(5–6), 548–563.
- Spengler, A. (1977). Manifest sadomasochism of males: Results of an empirical study. *Archives of Sexual Behavior*, 6(6), 441–456. <https://doi.org/10.1007/BF01541150>
- Spiegel, H., & Spiegel, D. (2008). *Trance and treatment: Clinical uses of hypnosis* (2nd ed.). American Psychiatric Publishing.
- Stekel, W. (1929). *Sadism and masochism: The psychology of hatred and cruelty* (Vol. II). Horace Liveright.
- Stiles, B. L., & Clark, R. E. (2011). BDSM: A subcultural analysis of sacrifices and delights. *Deviant Behavior*, 32(2), 158–189. <https://doi.org/10.1080/01639621003748605>
- Stoller, R. J. (1975). *Perversion: The erotic form of hatred*. Karnac Books.
- Stoller, R. J. (1991). *Pain and passion: A psychoanalyst explores the world of S & M*. Plenum publishing.
- Takemoto, T. (2009). Love is still possible in this junky world: Conversation with Sheree Rose about her life with Bob Flanagan. *Women & Performance: A Journal of Feminist Theory*, 19(1), 95–111. <https://doi.org/10.1080/07407700802655588>
- Taormino, T. (Ed.). (2012). *The ultimate guide to kink: BDSM, role play and the erotic edge*. Cleis Press.
- Taylor, G. W. (1995). *Making sense of SM: A social constructionist account* [Unpublished D. Clin. Dissertation]. South Thames Clinical Training Course and University of Wales, College of Cardiff.
- Taylor, G. W., & Ussher, J. M. (2001). Making sense of S&M: A discourse analytic account. *Sexualities*, 4(3), 293–314. <https://doi.org/10.1177/136346001004003002>
- Thomas-Peter, B., & Humphreys, M. (1997). Masochism: Assessment, treatment and the quality of consent to injurious behaviour. *The Journal of Forensic Psychiatry*, 8(3), 669–677. <https://doi.org/10.1080/09585189708412286>
- Thompson, M. (Ed.). (1991). *Leatherfolk: Radical sex, people, politics, and practice*. Alyson Books.
- Thurston, E. (1906). *Ethnographic notes in Southern India*. Government Press.
- Townsend, L. (1972). *Leatherman's Handbook*. The Traveller's Companion.
- Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans. (2014). *Canadian Institutes of Health Research, Natural Sciences and Engineering Council of Canada, and Social Sciences and Humanities Research Council of Canada*. Retrieved July 18, 2018, from http://www.pre.ethics.gc.ca/pdf/eng/tcps2-2014/TCPS_2_FINAL_Web.pdf
- Turley, E. L., & Butt, T. (2015). BDSM—Bondage and discipline; dominance and submission; sadism and masochism. In C. Richards & M. J. Barker (Eds.), *The Palgrave handbook of the psychology of sexuality and gender* (pp. 24–41). Palgrave Macmillan.
- Van der Kolk, B. A. (1989). The compulsion to repeat the trauma: Re-enactment, revictimization, and masochism. *Psychiatric Clinics of*

- North America, 12(2), 389–411. [https://doi.org/10.1016/S0193-953X\(18\)30439-8](https://doi.org/10.1016/S0193-953X(18)30439-8)
- Van der Walt, H. (2014). *Practitioner psychologists' understandings of bondage/ discipline, dominance/ submission, sadomasochism (BDSM): Shared or separate from those who practice it?* Unpublished thesis dissertation, Canterbury Christ Church University.
- Vatsyayana, M., (app. 300 A.D.). (1883). *The kama sutra of vatsyayana*. Retrieved March, 2018, from www.gutenberg.org/ebooks/27827
- Vickers, A., & Zollman, C. (1999). Hypnosis and relaxation therapies. *British Medical Journal*, 319(7221), 1346–1349. <https://doi.org/10.1136/bmj.319.7221.1346>
- Warren, J. (1994). *The Loving Dominant*. Marquade books.
- Weinberg, M. S., Williams, C. J., & Moser, C. (1984). The social constituents of sadomasochism. *Social Problems*, 31(4), 379–389. <https://doi.org/10.1525/sp.1984.31.4.03a00020>
- Weinberg, T. S. (1994). Research in sadomasochism: a review of sociological and social psychological literature. *Annual Review of Sex Research*, 5(1), 257–279.
- Weinberg, T. S. (Ed.). (1995). *S&M: Studies in dominance and submission*. Prometheus Books.
- Weiss, M. (2011). *Techniques of pleasure: BDSM and the circuits of sexuality*. Duke University Press.
- Westerfelhaus, R. G. (2007). The spirituality of sex and the sexuality of the spirit: BDSM erotic play as soulwork and social critique. In K. E. Lovaas & M. M. Jenkins (Eds.), *Sexualities and communication in everyday life: A reader* (pp. 265–277). Sage.
- Whipple, B., & Komisaruk, B. R. (1988). Analgesia produced in women by genital self-stimulation. *Journal of Sex Research*, 24(1), 130–140. <https://doi.org/10.1080/00224498809551403>
- Williams, D. J. (2006). Different (Painful!) strokes for different folks: A general overview of sexual sadomasochism (SM) and its diversity. *Sexual Addiction & Compulsivity*, 13(4), 333–346. <https://doi.org/10.1080/10720160601011240>
- Williams, D. J., Prior, E. E., Alvarado, T., Thomas, J. N., & Christensen, M. C. (2016). Is bondage and discipline, dominance and submission, and sadomasochism recreational leisure? A descriptive exploratory investigation. *The Journal of Sexual Medicine*, 13(7), 1091–1094. <https://doi.org/10.1016/j.jsxm.2016.05.001>
- Wiseman, J. (1992). *SM 101: A realistic introduction*. Self published.
- Wisemeijer, A. A., & Assen, M. A. (2013). Psychological characteristics of BDSM practitioners. *The Journal of Sexual Medicine*, 10(8), 1943–1952. <https://doi.org/10.1111/jsm.12192>
- Yost, M. R. (2006). *Consensual sexual sadomasochism and sexual aggression perpetration: Exploring the erotic value of power* [Unpublished doctoral dissertation]. University of California.
- Yost, M. R., & Hunter, E. L. (2012). BDSM practitioners' understandings of their initial attraction to BDSM sexuality: Essentialist and constructionist narratives. *Psychology & Sexuality*, 3(3), 244–259. <https://doi.org/10.1080/19419899.2012.700028>
- Zambelli, L. (2016). Feminism and BDSM: Empirical findings and theoretical debates in the US, UK and Italy. *Journal of the International Network for Sexual Ethics and Politics*, 4(2), 37–58. <https://doi.org/10.3224/insep.v4i2.05>
- Zeidan, F., Grant, J. A., Brown, C. A., McHaffie, J. G., & Coghill, R. C. (2012). Mindfulness meditation-related pain relief: Evidence for unique brain mechanisms in the regulation of pain. *Neuroscience Letters*, 520(2), 165–173. <https://doi.org/10.1016/j.neulet.2012.03.082>
- Zubieta, J. K., Smith, Y. R., Bueller, J. A., Xu, Y., Kilbourn, M. R., Jewett, D. M., ... Stohler, C. S. (2001). Regional mu opioid receptor regulation of sensory and affective dimensions of pain. *Science*, 293(5528), 311–315. <https://doi.org/10.1126/science.1060952>
- Zussman, M., & Pierce, A. (1998). Shifts of consciousness in consensual S/M, bondage, and fetish play. *Anthropology of Consciousness*, 9(4), 15–38. <https://doi.org/10.1525/ac.1998.9.4.15>