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Holes in kinky education: the role of pornography in learning about BDSM sexualities

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ABSTRACT

This study adds to the limited literature on pornography's role in initial and on-going learning about kink-related practices and cultures, through findings from an online international survey of 615 self-identified BDSM practitioners. Quantitative findings suggest gender and generational differences in the use of pornography for BDSM knowledge acquisition and how it shapes expectations. Additionally, participation in one's local/public BDSM community decreased reliance on pornography for education. Qualitatively, while many respondents felt nothing was learned from pornography, others identified benefits related to acquiring general education about, and support for interest in, BDSM. Implications for sex and sexuality education and for healthy and safer BDSM practices are discussed.

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BDSM; kink; pornography; sexuality; education

Introduction

Bondage/discipline, Dominance/submission, sadism/masochism (BDSM) is used as an umbrella term to describe a variety of consensual behaviours involving an explicit or implicit exchange of power, role-taking/role-play, infliction of pain, and bondage/restraint (Weiss 2011). Participation can occur in many ways, including through the imagination and fantasy, partner engagement, daily practice, and actualisation. Dynamics between participants typically involve two roles. The first is the 'giver', often referred to as Owner, Master, Dominant, Top (i.e. on the left side of the Dominance/submission slash). The second is the receiver, often referred to as owned, property, slave, submissive, bottom (i.e. on the right-side of the Dominance/submission slash). Those who switch back and forth between left-sided and right-sided roles are often referred to as a 'switch' or 'vers'.

Self-awareness of interest in BDSM activities at a young age (Coppens et al. 2019) and exposure through media and wider culture (Litsou et al. 2021) have led to BDSM being a prevalent practice of intimacy and sexuality. In the USA and Canada, it is estimated that more than five million adults engage in BDSM regularly or semi-regularly (Walker and Kuperberg 2022), while Holvoet et al. (2017) found 47% of Belgians had ever previously engaged in at least one BDSM act, with 22% previously fantasising about BDSM. Although

the prevalence of BDSM is increasingly better known, *how* people learn to engage in BDSM activities in healthy and safe ways is less well understood.

Prior research suggests pornography plays an important role in initial (Herbenick et al. 2020) and ongoing (Westlake, Kusz, and Afana 2023) BDSM education. What is less known about is how pornography is used in the education process and how it shapes expectations and perceptions. In this study, we aimed to address these gaps using a mixed-method approach. We surveyed self-identified BDSM practitioners about three topics: 1) how/if pornography was used to initially acquire knowledge about BDSM and whether that positively and/or negatively shaped their perceptions and expectations; 2) how/if pornography is used as a long-term BDSM learning mechanism; and 3) how pornography positively and/or negatively impacts their current practices and expectations.

Literature

There appears to be a consensus that people first view pornography at some point during adolescence (Bóthe et al. 2020; Skorska, Hodson, and Hoffarth 2018), with Vogel (2011) reporting the average age to be 11 in the USA. Rothman (2021) found 8.4% of 14–17-year olds and 24.5% of 18–24-year olds perceived pornography as providing the most helpful information about sex, including awareness of practices and techniques (Herbenick et al. 2020; Kimberly, Williams, and Creel 2017). According to Banca et al. (2016), adolescents are also more likely than older consumers of pornography to integrate what is learned from viewing pornography into sexual activity.

There are mixed opinions as to whether pornography is a beneficial means of sex and sexuality education. Some say pornography can lead consumers to develop sexual scripts for navigating real-world sexual experiences and guiding expectations but can lead to unrealistic and misleading expectations (Bridges et al. 2016; Tsitsika et al. 2009). In turn, this may lead to less enjoyment of sex with real-life partners (Herbenick et al. 2020). Previous analyses of aggression and violence suggest that pornography does not always capture distinctions between consensual and non-consensual actions, often including acts such as BDSM as inherently non-consensual and violent (Malamuth, Hald, and Koss 2012; McKee et al. 2021). Martellozzo et al. (2016) found that among UK youth, only 13% of females and 23% of males reported that pornography provided any information on giving consent. Additional research in the USA suggests that consumers of pornography have greater acceptance of and engagement in sexual violence and sexual harassment (Brown and L'Engle 2009; Rostad et al. 2019).

In contrast, some researchers argue that pornography has a positive, or at worst, no impact on consumers (Chesser, Parry, and Light 2018; Leonhardt and Willoughby 2019). It has been argued that pornography provides consumers access to information not being taught through formal mechanisms (e.g. school/parent-based sex and sexuality education), creating readily accessible content around sex, sexuality, knowledge of human anatomy, a sense of sexual competence, and decreased sexual shame (Litsou et al. 2021; Philpott, Singh, and Gamlin 2017). Specific to BDSM representation, researchers found it can allow for normalisation of one's sexuality and reassure normalcy around BDSM-oriented sexual practices (Coppens et al. 2019; Westlake, Kusz, and Afana 2023). Whether or not pornography is beneficial for learning, it remains a key channel for sex-related information globally (Litsou et al. 2021; Philpott, Singh, and Gamlin 2017). As

a result, many sex and sexuality education initiatives are now including ‘porn literacy’ to combat misinformation in classrooms (Goldstein 2019; Herbenick et al. 2021; Rothman, Daley, and Alder 2020).

While sex and BDSM are not inherently linked for some BDSM practitioners (Sagarin, Lee, and Klement 2015; Westlake and Mahan 2023), for others there is a strong connection (Faccio, Sarigu, and Ludici 2020; Sprott, Meeker, and O’Brien 2019). Representations of BDSM within pornography may serve as an initial point of introduction and therefore play a pivotal role in shaping knowledge and expectations of BDSM activities. Walker and Kuperberg (2022) provide support for this assumption, noting that 67% of individuals are introduced to BDSM through pornography, erotic novels, and television with an additional 12% from other online sources. As with sex and sexuality more generally, consumers of pornography interested in BDSM may look to this content for educational purposes, even though it may fail to describe healthy BDSM practices (Westlake, Kusz, and Afana 2023). This is problematic for those initially learning about BDSM, as consumers may not be exposed to appropriate or adequate information on BDSM safety and consent, leading to potential misplaced expectations, consent violations, injuries, and negative experiences. However, for both new and experienced BDSM practitioners, pornography may provide a baseline knowledge of a variety of activities, facilitate interest in new kinks, provide ideas for activities, and inspire new possibilities to enhance enjoyment and fulfilment.

Methods

Participants

In total, 979 self-identified BDSM practitioners across the globe attempted (i.e. completed at least 5% of) an online survey, exploring health and safety within BDSM practices (for a description of development, content, and recruitment methodology, see Westlake and Mahan 2023). Participants were not individually compensated; however, they had the option to provide an email address, via a separate link to disconnect it from their survey responses, to enter six random draws for \$100 USD. All tracking capabilities within Qualtrics (e.g. geo-location, IP address) were turned off to maintain privacy and confidentiality.

Participants were recruited through BDSM-related discussion groups on FetLife, Facebook, and Reddit, and via various sexuality and BDSM organisations’ social media accounts and listservs. Of those who attempted the survey, 595 (61%) completed the entire survey, while 629 (64%) completed at least 50%. This study sample comprises those who identified as having previously viewed pornography ($n = 615$). Of these, 581 (94.5%) said they had viewed pornography within the past year, while 555 (90.2%) had viewed BDSM depictions in pornography within the past year.

Demographic questions were predominantly open-ended, allowing participants to self-identify attributes (e.g. gender, sexual orientation, race). Table 1 provides demographics broken down by gender – woman ($n = 299$), man ($n = 215$), and gender-expansive ($n = 100$). Gender-expansive comprised agender ($n = 13$), androgyne ($n = 1$), genderqueer ($n = 11$), genderfluid ($n = 24$), non-binary ($n = 30$), questioning/unsure ($n = 11$), or self-identifying as another gender identity ($n = 10$). Sex (at birth), transgender

Table 1. Participants demographics by gender identity.

		Man (%)	Woman (%)	Gender-expansive (%)	Total (%)
Sex at Birth	Male	203 (94.4)	8 (2.7)	26 (26.5)	237 (38.7)
	Female	11 (5.1)	290 (97.0)	71 (72.4)	372 (60.8)
	Intersex	1 (0.5)	1 (0.3)	1 (1.0)	3 (0.0)
Generation	Baby Boomer	59 (27.7)	23 (7.7)	5 (5.2)	87 (14.3)
	Generation X	67 (31.5)	79 (26.4)	9 (9.3)	155 (25.5)
	Millennial	68 (31.9)	144 (48.2)	55 (56.7)	267 (43.8)
	Generation Z	19 (8.9)	53 (17.7)	28 (28.9)	100 (16.4)
Sexual Orientation	Heterosexual	111 (51.6)	109 (36.6)	8 (8.1)	228 (37.3)
	Bisexual	55 (25.6)	112 (37.6)	28 (28.3)	195 (31.9)
	Pansexual	22 (10.2)	39 (13.1)	29 (29.3)	90 (14.7)
	Other	27 (12.6)	38 (12.8)	34 (34.3)	99 (16.2)
Race	White	189 (89.2)	237 (79.3)	85 (85.9)	511 (83.8)
	Black	4 (1.9)	12 (4.0)	1 (1.0)	17 (2.8)
	Hispanic/LatinX	5 (2.4)	10 (3.3)	4 (4.0)	19 (3.1)
	SouthEast Asian	3 (1.4)	8 (2.7)	2 (2.0)	13 (2.1)
	Other	11 (5.2)	32 (10.7)	7 (7.1)	50 (8.2)
Country	North America	164 (77.4)	222 (75.5)	75 (75.8)	461 (76.2)
	Europe	37 (17.5)	55 (18.7)	20 (20.2)	112 (18.5)
	Oceania	7 (3.3)	11 (3.7)	4 (4.0)	22 (3.6)
	Africa, Asia, South America	4 (1.8)	6 (2.0)	0 (0.0)	10 (1.7)
Education	HS or Less	16 (7.4)	19 (6.4)	18 (18.2)	53 (8.6)
	Trade/Certificate/Associate	69 (32.1)	84 (28.1)	31 (31.3)	184 (30.0)
	Bachelors	72 (33.5)	116 (38.8)	31 (31.3)	219 (35.7)
	Post-Graduate	58 (27.0)	80 (26.8)	19 (19.2)	157 (25.6)
Relationship Status	Single	56 (26.4)	61 (20.9)	30 (30.3)	147 (24.4)
	Dating	41 (19.3)	94 (32.2)	30 (30.3)	165 (27.4)
	Married	73 (34.4)	70 (24.0)	20 (20.2)	163 (27.0)
	Other	42 (19.8)	67 (22.9)	19 (19.2)	128 (21.2)
BDSM Role	Left-Side Only	104 (49.8)	25 (8.5)	11 (11.1)	140 (23.3)
	Right-Side Only	49 (23.4)	194 (66.2)	44 (44.4)	287 (47.7)
	Both-Sides	56 (26.8)	74 (25.3)	44 (44.4)	174 (30.0)

self-identification, and gender identity were each measured through separate questions, with 64 (10.4%) identifying as transgender. Those who identified as transgender women or men were included with their corresponding gender in Table 1 and were not added to gender-expansive. Of those who identified as men, 94.4% were male at birth (i.e. cisgender men), while 97.0% of women were born female (i.e. cisgender women). For analysis purposes, age ($M = 39.8$; $SD = 14.0$) was recategorised by social generation. After doing so, the sample was predominantly Millennial (born between 1981 and 1996) at 43.8%, followed by Generation X (1965 to 1980) at 25.5%, Generation Z (after 1996) at 16.4%, and Baby Boomer (1946 to 1964) at 14.3%. Participants resided in 33 different countries, with 76.2% from North America (61.7% USA, 13.9% Canada), 18.5% from Europe (8.1% U.K.), and 5.4% from elsewhere. The sample was sexuality diverse (37.3% heterosexual, 31.9% bisexual, 14.7% pansexual, 3.8% homosexual and 12.4% other) and well-educated (61.3% with a bachelor's degree or greater), racially homogeneous (83.3% White), and equally represented relationship statuses of married (27.2%), dating (27.3%), single (24.3%), and other (21.2%).

Participants were asked which BDSM role(s) they most identified with, which were recategorised for analysis purposes. Most participants identified with more than one role, with 23.3% identifying with roles only on the left-side of the D/s slash, 47.7% with roles only on the right-side, and 30.0% with roles on both the left- and right-side of the slash (e.g. switch, vers).

Measurements

The online survey included 102 questions on nine broad topics and took approximately 45 minutes to complete. The topic of pornography use consisted of 13 questions, with each having multiple sub-questions. These questions asked whether respondents had ever viewed pornography, viewed BDSM-themed pornography within the past year, their opinion of BDSM depictions in pornography, sources of introduction (e.g. people, mediums), purposes (e.g. masturbation), and genres of pornography consumption.

Participants were asked seven closed-ended questions about how BDSM pornography influenced their perceptions of BDSM on a five-point Likert scale (strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, strongly disagree). The first four related to pornography’s role in initially learning about BDSM – how much it: 1) influenced initial learning; 2) influenced initial expectations; 3) negatively influenced initial views (perceptions) of BDSM; and 4) positively influenced initial perceptions of BDSM. The remaining three related to pornography’s role in current BDSM practices – how much it: 1) currently influences learning; 2) negatively influences current expectations; and 3) positively influences current expectations. Figure 1 displays the percentage distribution of participants’ responses to the seven closed-ended questions. Participants were then asked an open-ended fill-in-the-blank question – ‘I learned ... about BDSM from watching pornography’.

Data on six demographic variables were included in the study. Three were ‘general’ demographics: gender (man, woman, gender-expansive), generation (Baby Boomer, Generation X, Millennial, Generation Z), and education (high school or less, post-secondary education). The other three were BDSM-specific including BDSM role (left-side, right-side, or both sides of the slash), years of BDSM experience (age when

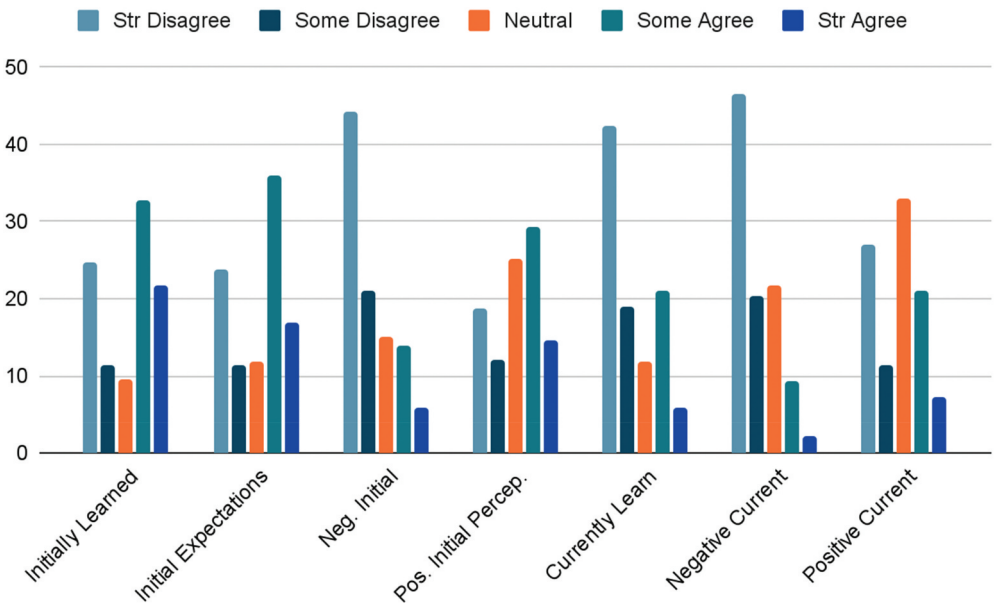


Figure 1. Distribution of participant responses to seven questions on the role of pornography in BDSM learning and expectations, by percentage.

completing the survey minus age when they first engaged in BDSM privately) was recoded as 0 to <5 years, 5–14, 15–24, and 25+ years of experience, and where a person had participated in BDSM (private-only, or privately and publicly).

Analytical procedures

The objective of the study was to identify the role of pornography in BDSM learning and expectations. To answer this objective, two ordinal regression analyses were conducted for each of the seven closed-ended questions with one analysis examining the three general demographics and the other three BDSM demographics. The likelihood ratio test was used to determine general model fit, along with Pearson's goodness-of-fit test, given independent/predictor variables were largely categorical, and Nagelkerke pseudo *r*-squared was reported. The test of parallel lines was used to test the proportional odds assumption across all categories on the dependent/response variables.

Content coding of participants' responses to the question 'I learned ... from BDSM pornography' was also conducted. All responses were reviewed through a two-coder iterative approach, focused on content coding. The first author performed open coding by reviewing responses and identifying and labelling themes. The first author and co-author then met to compare initial coding and develop the codebook. This occurred by clustering initial codes and developing well-defined sub-themes based on the first 250 participant responses. The first author reviewed all ($n = 615$) participant responses again, this time performing a more detailed content coding. The first author and co-author met to refine and finalise the codebook based on this review. The first author then re-coded all responses based on the final codebook and developed broad umbrella themes based on the codes and all responses. The first author and co-author later met again and reviewed the codes.

Two binary logistic regression analyses were conducted on the content coded category 'nothing' was learned about BDSM from pornography, to determine if there were 1) general and/or 2) BDSM-specific demographic differences. Model goodness-of-fit was determined using the Omnibus test of model coefficients and the Hosmer and Lemeshow test.

Ethical review

This study received ethical approval from San Jose State University on 2 August 2021.

Results

How pornography shapes initial knowledge, expectations, and perceptions of BDSM for various general and BDSM-specific demographics

General demographic differences in how consumption of BDSM-related pornography influenced initial learning and expectations of engaging in BDSM activities in the real-world, and the degree to which pornography positively or negatively impacted their perceptions of BDSM are presented in [Table 2](#). Men were more likely than women to use pornography to initially learn about BDSM, and pornography was more likely to influence

Table 2. Gender, generational and educational differences in the role of pornography in initially learning about BDSM.

		Initially Learned	Initial Expectations	Negative Initial Perception	Positive Initial Perception
Sample Size	n	525	524	519	514
Gender	Men	REF	REF	REF	REF
	Women	−0.704**	−0.569**	−0.208	−0.423*
	Gender-Expansive	−0.452	−0.546*	−0.154	−0.380
Generation	Baby Boomer	−0.651*	−0.608*	−0.350	0.370
	Generation X	−1.050**	−0.943**	−0.126	−0.124
	Millennial	−0.303	−0.274	0.078	0.047
	Generation Z	REF	REF	REF	REF
Education	HS or Less	0.744**	0.590*	0.533	0.770**
	Post-Secondary	REF	REF	REF	REF
	Education				
Model Fit	Chi-Square	40.390	28.991	7.292	17.805
	d.f. = 6				
Goodness of Fit (Pearson)	Chi-Square	96.289	101.438	80.778 (78)	85.087
	d.f. = 82				
Pseudo R2	Nagelkerke	0.078	0.057	0.015	0.036
Test of Parallel Lines	Chi-Square	18.709	26.961	23.249	32.593*
	d.f. = 18				

* = <0.05 ** = <0.01.

men's initial expectations of BDSM activities than women and gender-expansive practitioners. Compared to Generation Z, those from Generation X and Baby Boomers were less likely to have used pornography for initially learning about BDSM, and pornography had less of an influence on their initial expectations of BDSM. Those with a high school or less education were more likely than those with post-secondary education to have used pornography to initially learn about BDSM, while it also had a greater influence on their initial expectations, and positively influenced their initial perceptions.

BDSM roles and years of experience did not appear to differentiate the use of pornography to initially learn about BDSM, nor did either positively or negatively impact initial perception (Table 3). However, there was a difference between those who only participated in BDSM privately with those who participated both privately and publicly (e.g. in a public dungeon). Private-only practitioners were more likely to use pornography to initially learn about BDSM. Pornography was also more likely to impact these practitioners' initial expectations as well as negatively impact their initial perceptions.

How pornography shapes current knowledge and expectations of BDSM for various general and BDSM-specific demographics

General demographic differences in how consumption of BDSM-related pornography influenced current learning of BDSM, and whether pornography positively and/or negatively impacted their expectations are presented in Table 4. Men were more likely than women and gender-expansive participants to currently use pornography to learn about BDSM, while pornography was less likely to positively impact gender-expansive participants' expectations of BDSM. Baby Boomers and those with a high school or less education were more likely to use pornography to currently learn about BDSM than Generation Z and those with a post-secondary education, and saw pornography as having a more positive impact on their expectations of BDSM.

Table 3. BDSM role, years of BDSM experience, and venue of participation differences in the role of pornography in initially learning about BDSM.

		Initially Learned	Initial Expectations	Negative Initial Perception	Positive Initial Perception
Sample Size	n	509	508	503	498
BDSM Role	Left-Only	REF	REF	REF	REF
	Right-Only	−0.25	−0.39	0.18	0.06
	Both-Sides	−0.29	−0.01	0.19	0.16
Years of Experience	<5 yrs.	−0.12	0.06	0.30	−0.56*
	5 to 14 yrs.	0.13	0.28	0.30	−0.13
	15 to 24 yrs.	0.03	−0.06	−0.04	−0.16
	>25 yrs.	REF	REF	REF	REF
Venue	Private-Only	0.70**	0.52**	0.45**	0.27
	Public/Private	REF	REF	REF	REF
Model Fit	Chi-Square d.f. = 6	20.00**	20.79**	13.65*	7.44
Goodness of Fit (Pearson)	Chi-Square d.f. = 86	83.12	80.53	88.48	102.57
Pseudo R2	Nagelkerke	0.040	0.042	0.028	0.016
Test of Parallel Lines	Chi-Square d.f. = 18	18.71	20.81	12.07	17.41

* = <0.05 ** = <0.01.

Table 4. Gender, generational and educational differences in the role of pornography in on-going learning about BDSM.

		Currently Learning	Negative Current Expectations	Positive Current Expectations
Sample Size	n	526	512	515
Gender	Men	REF	REF	REF
	Women	−0.534**	−0.272	−0.261
	Gender-Expansive	−0.865**	−0.219	−0.794**
Generation	Baby Boomer	0.654*	−0.301	0.828**
	Generation X	−0.128	0.064	−0.109
	Millennial	0.062	−0.161	−0.093
	Generation Z	REF	REF	REF
Education	HS or Less	0.669*	0.514	0.971**
	Post-Secondary Education	REF	REF	REF
Model Fit	Chi-Square d.f. = 6	32.964	7.974	36.736
Goodness of Fit (Pearson)	Chi-Square d.f. = 82	92.378	101.369 (78)*	69.922
Pseudo R2	Nagelkerke	0.064	0.017	0.073
Test of Parallel Lines	Chi-Square d.f. = 18	32.089*	24.972	13.578

* = <0.05 ** = <0.01.

BDSM roles and years of experience did not appear to differ in their current use of pornography to learn about BDSM, nor did it positively or negatively impact their expectations (Table 5). However, those who only participated in BDSM privately were more likely to use pornography to currently learn about BDSM and it was more likely to negatively impact their current expectations of BDSM.

What has been learned about BDSM from consuming pornography

Participants voiced a range of opinions about what they learned about BDSM through pornography. The content coding yielded three major response areas: 1) little to no

Table 5. BDSM role, years of BDSM experience, and venue of participation differences in the role of pornography in on-going learning about BDSM.

		Currently Learning	Negative Current Expectations	Positive Current Expectations
Sample Size	n	510	497	500
BDSM Role	Left-Only	REF	REF	REF
	Right-Only	0.05	−0.09	−0.07
	Both-Sides	0.28	−0.12	0.16
Years of Experience	<5 yrs.	−0.63*	−0.24	−0.47
	5 to 14 yrs.	−0.29	0.03	−0.32
	15 to 24 yrs.	−0.37	−0.13	−0.23
	>25 yrs.	REF	REF	REF
Venue	Private-Only	0.64**	0.65**	0.29
	Public/Private	REF	REF	REF
Model Fit	Chi-Square d.f. = 6	20.22**	14.77*	7.07
Goodness of Fit (Pearson)	Chi-Square d.f. = 86	101.51	99.52	69.61
Pseudo R2	Nagelkerke	0.041	0.032	0.015
Test of Parallel Lines	Chi-Square d.f. = 18	17.22	13.57	14.30

* = <0.05 ** = <0.01.

information learned, 2) general BDSM information learned, and 3) individual support around BDSM. No discrepancies were noted between coders. These themes demonstrated the wide breadth of knowledge acquisition, or lack thereof, from BDSM practitioners around the use of pornography pertaining to BDSM education and are presented alongside their gender, generation, and BDSM role.

Little to no information learned about BDSM from pornography (n = 233)

This theme represented those who stated they learned ‘not much’, ‘not a lot’, or ‘nothing’ (n = 94) from their pornography use as well as the lack of current interest in using pornography as an education tool due to negative experiences and content. Participants explained there was a general lack of education around BDSM topics through pornography. For example, one participant (questioning, Millennial, right-side) stated, ‘Nothing? I learned some of the things I might be interested in trying. But I didn’t “learn” anything from pornography. And I sought it out because I knew I was into it. So, it’s not like the pornography inspired my interests’. Another participant (nonbinary, Millennial, switch) replied, ‘Nothing, porn is not meant for teaching’.

For those who perceived that ‘nothing’ had been learned about BDSM from pornography, Table 6 provides demographic differences in the odds ratios across participants. Women were twice as likely to state they learned nothing about BDSM from pornography than men, while Generation X members were nearly 2.5 times more likely to feel they learned nothing than Generation Z. Those who participated in BDSM both privately and publicly were 2.5 times more likely to feel they learned nothing about BDSM from pornography than those who only participated in BDSM privately.

Other participants described learning minimal information from pornography. Many (n = 98) indicated they learned ‘very little’, ‘a little’, or ‘some things’. Other participants went into more detail, with one (woman, Baby Boomer, right-side) stating, ‘Very little. I have seen still pictures of bondage, but that was not enlightening at all’.

Table 6. Odds ratios for general and BDSM-specific demographics for those who stated they learned ‘nothing’ about BDSM from pornography.

General Demographics Odds Ratio (95% CI)		BDSM Demographics Odds Ratio (95% CI)	
Sample Size	441	Sample Size	433
Man	REF	Left-side	REF
Woman	1.98* (1.14–3.45)	Right-side	1.05 (0.58–1.88)
Gender-expansive	2.02 (0.96–4.24)	Both-sides	0.63 (0.32–1.24)
Baby Boomer	1.12 (0.42–3.04)	<5 yrs of exp	1.45 (0.72–2.94)
Generation X	2.44* (1.13–5.27)	5 to 14 yrs of exp	0.71 (0.37–1.35)
Millennial	1.22 (0.59–2.54)	15 to 24 yrs of exp	0.81 (0.40–1.63)
Generation Z	REF	25+ yrs of exp	REF
HS or Less Education	1.04 (0.44–2.45)	Venue (Public and Private)	2.51** (1.43–4.40)
Post-Secondary Education	REF	Venue (Private Only)	REF
Omnibus Test of Model Coefficients	14.28* (d.f. = 6)*	Omnibus Test of Model Coefficients	17.71** (d.f. = 8)
Hosmer & Lemeshow Test	4.48 (d.f. = 6)	Hosmer & Lemeshow Test	6.22 (d.f. = 8)
Nagelkerke R squared	0.05	Nagelkerke R squared	0.06

* = <0.05 ** = <0.01.

Other participants ($n = 41$) described negative experiences and sentiments towards pornography or the use of pornography as a learning tool. One participant (questioning, Generation Z, right-side) wrote, ‘Incorrect information intended to eroticise rather than accurately depict activities’. One woman (Millennial, right-side) stated, ‘How not to play safely’, while a man (Millennial, right-side) replied, ‘That porn isn’t realistic and shouldn’t be pursued as if’. In this regard, participants emphasised that they believed pornography had not been used for educational purposes around BDSM topics.

General BDSM information from pornography ($n = 80$)

In contrast to practitioners in Theme 1, those in Theme 2 described learning general information about BDSM and other topics (e.g. sexuality, consent) from consuming pornography. More specifically, 22 participants explained how pornography provided an overview of BDSM and related concepts. One woman (Millennial, right-side) stated they learned ‘Common archetypes, roles, and fetish bundles’. Another participant (man, Baby Boomer, left-side) stated, ‘Just how great the range and variety is’. While this group of participants gave no specifics to the general BDSM topics, they did acknowledge that general information was disseminated through pornography around BDSM.

Another group of 36 participants wrote about learning ‘a lot’ or ‘quite a bit’ about BDSM through pornography. While still generic and nondescript, these participants stated things such as ‘A fair amount of mostly true things’. (woman, Generation Z, left-side) and ‘Most of what I know’. (genderfluid, Baby Boomer, right-side).

Providing more detail were nine participants, who described building skills through what they had consumed. Several stated they learned ‘techniques’ from pornography with one (woman, Generation Z, right-side) stating ‘This lifestyle requires dedication and training’. A further eight participants were more specific about the topics they learned, including the importance of consent and negotiation practices, such as safe-words. For example, one (woman, Millennial, right-side) said she had learned the ‘Rules of consent and safety’.

Expanding beyond BDSM-specific education were five participants, who spoke about topics related to general sex and sexuality. One participant (woman, Millennial, left-side) stated she learned ‘About the diversity of human sexuality’,

while another (woman, Generation Z, right-side) said she learned 'How much variety and creativity exists in sexuality'. While there was a range of learning that existed for practitioners, this theme reflects on general BDSM and non-BDSM information being disseminated through pornography, including sentiments around a better understanding of sexualities, techniques, and consent practices relevant to healthy and safer BDSM participation.

Individual support for BDSM from pornography (n = 147)

Practitioners pointed specifically to learning new concepts and information, which allowed for new and exciting ways to engage in BDSM. This ranged from validation, to new activities and ideas, to gaining personal understanding of the self, to desires around future equipment. Each of these concepts and responses point to the value of personal growth, support, and understanding around their BDSM participation through pornography.

Many participants described forms of support in growing their interests around BDSM from pornography. This included participants ($n = 16$) describing feelings of validation about BDSM interest(s). One practitioner (woman, Millennial, right-side) emphasised the following sentiment when writing, 'My own proclivities were a thing other people did, it had a name, and I wasn't "crazy" for wanting those things done to me'. Another participant (woman, Millennial, right-side) wrote, 'That I wasn't alone with my fantasies'. These participants point to a sense of community with others, validating their experiences, and their interests as being legitimate.

Participants ($n = 78$) also described learning about new kinks and personal interests from pornography. Many participants made statements around learning 'new kinks' or 'new activities' while others listed or stated kinks they learned about through pornography, including bondage, femdom, impact-play, role-play, DDLG (Daddy Dom/little girl), and others. For example, one individual (man, Generation X, switch) wrote they learned 'There are more kinks than I had seen, or thought of'. These responses point to learning about new types of play and an expansion of what falls under kink interests.

New ideas and potential scenes also came from pornography. Participants ($n = 34$) described various ways in which they had been inspired by the pornography they consumed. Multiple participants wrote that they learned about 'things to try' and 'new ideas'. One (woman, Generation X, right-side) wrote she learned 'Mostly ideas on things I would like to try or don't want to try'. Another (demiboy, Generation X, right-side) stated she learned about 'Interesting ways to tie people – conceptually I mean, I learned ideas rather than the practicalities of it'.

Participants ($n = 10$) also described learning about what they enjoyed, gained pleasure from, and what helped hone their interests. Several individuals emphasised learning that they liked BDSM from what they were exposed to through pornography, including one (man, Millennial, switch) who stated, 'What I liked (what spoke to me, what fascinated me), and what I disliked'.

Finally, other participants ($n = 9$) described learning about different equipment or desired acquisitions to participate in BDSM. For example, a woman (Generation X, switch) noted she learned about 'Different Dom toys'. Another (woman, Millennial, switch) wrote 'That people are very creative with building kink related devices'. Finally, a Generation Z woman (switch) answered, 'About the equipment used in BDSM/different torture methods'.

Discussion

Overall, this study expands on the existing literature through findings from a mixed-methods study of how different BDSM practitioner populations use pornography as an educational resource. Specifically, it contributes to better understanding of the positive and negative influences pornography has on BDSM participants and how it shapes initial and current expectations across generations, educational levels, and genders. For many, BDSM-related pornography had no impact, while for a smaller proportion, it had the potential to validate interests in BDSM and facilitate exploration of new activities and scenarios.

Based on our results, there appear to be differences in generational use of pornography as a BDSM educational tool, indicating that age and social upbringing impacts one's utilisation of pornography. Ease of access to pornography today through the Internet likely accounts for Generation Z and Millennials being more likely to use pornography to shape their initial knowledge, views, and expectations about BDSM. This builds on previous literature pointing to younger generations looking to pornography for their initial education on topics related to sex (Banca et al. 2016; Herbenick et al. 2020; Kimberly, Williams, and Creel 2017). Inconsistencies in implementing sex and sexuality education internationally, whereby many young people report not receiving adequate education, is another likely factor to young people using pornography as an educational tool. As a result, younger generations likely look to pornography to fill these gaps given it is often a freely accessible tool (Herbenick et al. 2020; Kimberly, Williams, and Creel 2017; Rothman 2021; Rothman, Daley, and Alder 2020).

Pornography's use by Generation Z, and those with a high school education or less, may be partly attributed to the lack of community-based resources. Interest and initial participation in BDSM often occurs in adolescence (Coppens et al. 2019), however, BDSM community-based activities such as public events, munches, and workshops used to facilitate learning (Graham et al. 2015; Webster and Klaserner 2019), are restricted to those above the age of majority (often 18 or 21 depending on geography).

In contrast to Generation Z practitioners, Baby Boomers were more likely to use pornography for on-going learning, and this had a positive influence on current expectations. This may be explained by generational differences in media literacy and online understanding of misinformation. For example, Swire-Thompson and Lazer (2020) show those 65 and older were seven times more likely to share inaccurate news sources on social media than those between 18 and 29. Differences in generational understanding may impact general comprehension and legitimacy of the sources being consumed. Yet, positive influence on current expectations may be attributed to increased accessibility to depictions of BDSM today in comparison to when respondents were initially learning about BDSM. Because of the ease of access to pornography online, Baby Boomers may only now be experiencing feelings of validation, seeing what they are interested in being depicted, and decreased stigma around BDSM practices.

Lack of access to community-based resources likely accounts for private-only practitioners also being more likely to look to pornography for initial and current BDSM learning. However, unlike younger generations, pornography appeared to facilitate more negative perceptions of BDSM among these practitioners. Why this occurred, and how it impacts frequency of participation and implementation of safe practices, is unclear

as participants were not asked about what led to their negative perceptions. Two potential hypotheses are misalignment between the fantasy depicted in pornography and the reality when recreated and feeling unrepresented in the range of activities and BDSM roles presented in pornography.

In this study, pornography appeared to play a bigger role in men's introduction to BDSM, and shaped their perceptions and expectations more than women and gender-expansive practitioners. This difference may be due to the gendered scripts and male-centred views that permeate mainstream pornography (Braithwaite et al. 2015; Fritz and Paul 2017). A lack of representation of differing gender roles and intended audiences may impact who feels inclined to watch pornography (Cava 2021). While online content on gender diversity and transgender experiences can affirm gender and experiences, visibility through pornography can also present fetishisation (Döring, Bhana, and Albury 2022). Feeling a lack of representation or fetishisation may make pornography seem as if it is not a suitable educational tool for gender-expansive and transgender audiences.

This study identifies some positives of using pornography for BDSM education. Many participants noted self-validation and learning about themselves as positive aspects of BDSM pornography consumption. While this was not true of all respondents, pornography may provide a safer way to learn about BDSM in a world where BDSM is often stigmatised and misrepresented in the media. However, it seems that, unlike other demographic groups, pornography negatively shapes the expectations of private-only practitioners. This may result from the discrepancy between private-only practitioner's personal activities and the BDSM scenarios they see in pornography, as well as a lack of community resources, impacting their perceptions of BDSM representation. The utilisation of BDSM pornography may be an important resource for participants who do not engage with the BDSM community, whether this is because of age, stigma, geography, or preference.

Moving forward, a better understanding about gaps in knowledge and how pornography may be used as an educational tool is needed for BDSM populations. Future research should look at why BDSM practitioners use pornography as an educational tool in contrast to other sources, why BDSM and kink communities play a positive role in practitioners' learning about and engagement in safe and healthy BDSM activities, as well as the gaps in knowledge BDSM practitioners aim to address through their pornography use. Additionally, understanding what forms of BDSM-related pornography participants utilise would be beneficial for future analysis.

While this study pulls data from a large sample, concerns around racial and geographic diversity must be acknowledged. This sample is primarily Eurocentric and Western in its makeup, excluding large portions of BDSM perspectives and experiences from across the globe. Future research can address these by integrating community members and organisations into the research process to help improve data collection efforts and consciously target harder-to-reach sub-populations within BDSM communities and around the world that this study was unable to capture (e.g. race, geography).

In conclusion, pornography plays a role in initially learning about BDSM, especially for men, younger generations, less educated, and private-only practitioners. Although pornography's role in subsequent learning diminishes, some demographics (men, less educated, and private-only practitioners) continue to look to pornography for information longer-term. While this shapes general expectations of BDSM for

these populations (e.g. what it encompasses), these expectations do not appear to be positive or negative. However, for those that only engage in BDSM privately, pornography does appear to negatively impact perceptions. This could be due to the fantasy depicted in pornography not aligning with what occurs when they attempt to replicate what they see. As practitioners who also participate in BDSM publicly do not appear to hold the same negative perceptions, and in fact are more likely to state that they learned nothing about BDSM from pornography, the role of and differences in non-pornography BDSM educational tools (e.g. community-based courses) deserve further exploration. Nevertheless, this does not signify that learning from pornography is bad. Rather, it has an important place in the learning process, especially when the topic is less likely to be covered in traditional sex education programmes. In these circumstances, pornography can serve to validate interests in BDSM and explore the myriad of activities associated with BDSM. Together, these findings contribute to our understanding of the role of pornography in BDSM learning and how this impacts expectations for when people engage in the practice.

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