

Use of Pornography in Traditional Media and on the Internet in Norway

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We described the use of pornography in Norway, including how many people have used pornographic magazines, films, and internet sites and to what extent those who watch pornography on the internet also use it as an arena for erotic chatting. The data stem from a survey on sexual behavior among a random sample of 10,000 Norwegians between 18 and 49 years. The response rate was 34%. A total of 82% reported having read pornographic magazines, 84% had seen pornographic films, and 34% had examined pornography on the internet. Statistically significantly more men than women reported use of pornography. There was a 20% difference between men and women in use of magazines and films. Among those exposed to pornography on the internet during the past year, 14% had participated in erotic chatting. Gay/bisexual men and lesbian/bisexual women reported higher use of pornography than straight men and women. Gender was the most significant variable for the prediction of use of pornography. Level of education predicted exposure to pornography on the internet, in magazines, and in films. Younger individuals were more likely to utilize the internet both for viewing pornographic material and for chatting.

In contemporary Western societies, pornography is becoming part of fashion, art, advertisements, music videos, and youth culture. Pornography is easily available on the internet or in ordinary kiosks. At the same time, Norwegian legislation about pornography is very strict. For instance, pornographic pictures must black out all contact between mucous membranes and genitals. As described by Rolness (2003), the public debate is dominated by a view of pornography as something immoral and harmful to people. The fear is that one (bad) thing will lead to another. However, the attitude toward use of pornography in Norway may be changing in a more positive direction (Træen, Spitznogle, & Beverfjord, 2004). Norwegian activists oppose the view of pornography as something "evil" and are working to change the legislation so pictures and films are allowed without blackouts. The Court of Appeal is currently adjudicating one lawsuit challenging the pornography laws. In this climate of change, it is of interest to gain scientific information about the use of pornography in various subgroups of the population. Another issue to consider is that pornography is likely to determine the perception of what is normal and natural sexual behavior, particularly among young people. It therefore important to study how widespread the use is.

The definition of pornography has varied over time, and it varies between different social and cultural contexts (Haavio-Mannila & Kontula, 2003; Kutchinsky, 1988). The term pornography is often negatively loaded, and associated with the socially unacceptable, the deviant, the censored, or the shameful (Beggan & Allison, 2003; Haavio-Mannila & Kontula; Træen et al., 2004). It is difficult to give a universal definition of pornography (Gossett & Byrne, 2002). The

perception of what is pornography is connected to individual preferences and opinions (Kutchinsky). The most prominent characteristic of pornography is the description of, or pictures of, naked or nearly naked bodies in genital contact. Pornography functions as means of entertainment, sexual arousal and stimulation, and as an information source about sexuality, particularly for young people (Trostle, 2003; Zillmann & Bryant, 1982).

Western societies have been sexually liberated over the past three decades, resulting in a dramatic change of the availability of pornography to larger segments of the population (Haavio-Mannila & Kontula, 2003). Public opinion regarding what is considered to be pornography has also changed significantly over the past 30 years (Haavio-Mannila & Kontula; Lewin, 1997a). The availability of pornography in mass media (newspapers, magazines, films, television, internet) has increased at the same rate as the technological development has made production and distribution of pornography simpler (Lewin, 1997a). Books and magazines were the most common media prior to 1970, and the 8-mm film was the medium of the 1970s. Pornographic films became more available in the 1980s as the VCR became more common in private homes. Also cable and satellite TV have brought pornography into people's living rooms. According Lewin (1997a), the internet was the medium of the 1990s, and this tendency seems to continue.

Previous Research

In a 2002 survey, 90% of Norwegians older than 15 years of age reported exposure to pornography at some point in their life. Among those exposed, 76% reported that they had read pornographic magazines and 67% reported having seen pornographic films (Træen et al., 2004). In Sweden and Finland, attitudes toward pornography have become more positive over the past three decades, and the consumption of pornography has increased (Haavio-Mannila & Kontula,

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2003; Lewin, 1997a). From 1967 to 1996, the use of pornographic magazines was reduced in Sweden, while the use of porn films increased (Lewin, 1997a). Haavio-Mannila and Kontula found that the use of pornography in Finland decreased from 1971 to 1992 and then increased from 1992 to 1999. In all three studies, use of pornography varied with gender, age, and level of education.

Lewin (1997a) found that nearly 20% of Swedish women had seen a pornographic film during the past 12 months, and the majority of them had seen the film in the company of others. About 50% of the men said they had seen the film alone. Use of pornography also varied according to age, social class, and marital status. Younger persons, men in the lower social classes, and single men reported the highest consumption (Lewin, 1997a). Single women, on the other hand, had the lowest consumption of pornography. The results from the Finnish study showed that married persons, and single women, used less pornography than single men (Haavio-Mannila & Kontula, 2003). This indicates that the woman's partner is essential for her use of pornography (Haavio-Mannila & Kontula; Lewin, 1997a). In the Swedish survey, there was a positive relationship between number of sex partners during the past year and number of pornographic films seen in the same period (Lewin, 1997a). Use of pornography seemed to be an activity for highly sexually active individuals in Finland (Haavio-Mannila & Kontula).

The percentage of Norwegians who use the internet daily has increased from 7% in 1997 to 42% in 2003, and the most frequent users are young men and people with high education (Central Bureau of Statistics, 2003). The internet has increased the availability of sexually explicit material dramatically (Brown, 2002; Griffin-Shelley, 2003). Neither the Swedish survey from 1996 nor the Finnish survey from 1999 measured use of pornography on the internet. About 24% of Norwegians 15 years or older reported having watched pornography on the internet (Træen et al., 2004). Cooper, Månsson, Danebeck, Tikkanen, & Ross (2003) carried out a study on sexual activity on the internet in a Swedish sample recruited from a website. The results showed that 69% of the men and 20% of the women reported exposure to pornography on the internet. A higher percentage of younger women used the internet to watch erotica than older women. The percentage of men who reported using the internet to find a partner increased with age. Similarly, Goodson, McCormick, and Evans (2001) found that 44% of American students had watched pornography on the internet, and there were significant gender differences in use.

On the internet it is possible to find sexual material for every preference (Leiblum, 2001). The three most important motives for exploring sex on the internet are to become sexually aroused, curiosity, and to improve the sex life with a partner in the real life (Goodson et al., 2001). Sexual activity on the internet comprise activities related to finding partners, watching erotica (Cooper et al., 2003), participating in erotic chatting, buying sex toys, seeking

help for sexual problems, or having cybersex (Cooper & Griffin-Shelley, 2002). The internet is an arena where people can explore their own sexuality without physical interaction and can act out fantasies in a secure context. Sexual meetings on the internet may thus function as an intermediate station between fantasy and realization of fantasies. Furthermore, the person may choose identity and experiment with playing different roles and personalities in a manner not possible elsewhere (Ferree, 2003; Leiblum, 2001; McKenna & Bargh, 2000).

Research has indicated that people tend to be more honest and personal with people they meet anonymously on the internet (e.g., Bargh & McKenna, 2004). This implies that in these types of relationships, intimacy may be developed more quickly than in real-life relationships (Ferree, 2003; McKenna & Bargh, 2000). According to Bargh and McKenna the evidence suggest that the internet facilitates the formation of new intimate relationships between people within a relatively safe social setting. This may also be why an increasing number of people present their sexual preferences on the internet. As a consequence, a transformation of sexual practise and culture may occur (Cooper, 2002; Cooper & Griffin-Shelley, 2002; Gossett & Byrne, 2002).

Ferree (2003) separated two categories of sexual activity on the internet: individual (watching porn, reading erotic texts) and interactive activity (e-mail exchange, erotic chat channels, cybersex). It seems the majority of women who use the internet as a sexual arena prefer interactive forms of sexual activity. Men seem to prefer watching pornography alone (Cooper et al, 2003; Ferree, 2003). In Goodson et al.'s (2001) study among students, a higher number of persons said they had been silent observers (26%) than active participants (13%) in erotic chat rooms.

Throughout history, gay/bisexual men and lesbian/bisexual women have created their own meeting places, also to increase the pool of possible partners (Luria, Friedman, & Rose, 1987; Tikkanen & Ross, 2003). Most of these arenas have been situated in larger cities. There are indications that the internet has gained influence as a meeting place for gay/bi men, lesbian/bi women, and transsexuals (Heinz, Gu, Inuzuka, & Zender, 2002; Tikkanen & Ross, 2003). To some extent, the internet seems to have replaced gay bars as the primary dating arena (Benotsch, Kalichman, & Cage, 2002). The pool of potential partners is larger on the internet than on most other social arenas (Benotsch et al, 2002; Tikkanen & Ross, 2003), and gay/bi men and lesbian/bi women may also find information about where they can meet potential partners near to their homes (Munt, Bassett, & O'Riordan, 2002).

There are few studies of lesbian women's internet behavior. On the other hand, we have more knowledge about gay/bi men's user habits. It is assumed that gay men use the internet more than other groups (Braun-Harvey, 2003). Nearly 50% of a sample of gay Swedish men reported using the internet to look for a sex partner or for sexual stimulation (Tikkanen & Ross, 2000). It seems common for gay/bisexual men to arrange sexual meetings with persons

met on the internet (Benotsch et al., 2002; Lau, Kim, Lau, & Tsui, 2003; Tikkanen & Ross, 2000, 2003).

Purpose

The aim of present study is to describe the use of pornography in traditional (magazines, films) and newer (internet) mass media in various subgroups of the Norwegian population. Secondly, the relationship between social background factors and use of pornography is examined. The last purpose of this paper was to determine to what extent Norwegians use the internet as an arena for erotic chatting.

METHOD

In 2002, a random sample of 10,000 Norwegians between 18 and 49 years of age were drawn from the population register by the Central Bureau of Statistics to participate in a sexual behavior survey. The data collection was carried out by means of anonymous, mailed, self-administered questionnaires sent via regular mail. This survey was the fourth in a series of studies with five-year intervals conducted by the National Institute of Public Health in Norway. The 2002 survey included many of the same questions used in the previous studies (e.g., Stigum, 1997). The questionnaire covered topics such as sociodemographic background, age at first sexual intercourse, number of partners, use of contraception, abortion, and experience of group sex. Scales measuring self-esteem, locus of control, and attitudes were also included.

One reminder was sent to all individuals in the study two weeks after the first contact. A total of 3,387 persons returned the questionnaires; 148 questionnaires were returned unopened due to unknown address and no available forwarding address. Extracting these persons from the overall sample, this gives a net sample of 9,852 persons. On this basis, the overall response rate was 34.4%.

The sample was comprised of 59% women. The mean age of the respondents was 33.7 years. Seven percent of the sample reported having 9 years or less education, 29% reported 10-12 years of education, 25% had 13-14 years, and 38% reported 15 years or more of education. A total of 93% of the sample described themselves as heterosexual and 7% as gay, lesbian, or bisexual (no gender differences).

Measures

In the questionnaire, the concept "pornographic material" was defined as material containing explicit sexual descriptions.

Use of pornographic magazines. We measured use of porn magazines with the question, Have you ever read a pornographic magazine? The question was supplemented as follows: If yes, when did this happen last? and If you have read a pornographic magazine during the past 12 months, the last time this happened was it...: The response categories are shown in Table 1.

Use of pornographic films. We measured use of porn

films with the question, Have you ever seen a pornographic film? The follow-up questions were: If yes, when did this happen last? and If you have seen a pornographic film during the past 12 months, the last time this happened were you... The response categories are shown in Table 1.

Use of pornography on the internet. We measured used of internet porn with the question, Have you ever watched pornography on the internet? Follow-up questions were: If yes, when did this happen last? The response categories are shown in Table 1.

Erotic chatting. We measured erotic chatting with the question, If you have watched pornography on the internet during the past 12 months, did you participated in erotic chat channels?

Sexual orientation. We measured sexual orientation with the question, What do you consider to be your sexual orientation? The response alternatives were *heterosexual*, *lesbian /homosexual*, *bisexual*, *heterosexual with some lesbian /homosexual tendencies*, *homosexual with certain heterosexual tendencies*, and *I am uncertain about my sexual orientation*. The variable was recoded into a dichotomous variable: 1 = straight men and women and 2 = gay/bi men and lesbian/bi women.

Additionally, age, education, age at first sexual intercourse, number of sex partners, and group sex experience (no, yes) questions were included.

Generalization of Results

The low response rate of this survey may make it difficult to generalize when applying the results to the adult Norwegian population. The response rate to previous sexual behavior studies in Norway was 63% in 1987, 48% in 1992, and 38% in 1997. In all surveys including this, the response rate was higher among women than men, higher among younger than older persons, and higher among individuals with a higher level of education than among those with a low educational level. Since 1997, a response rate of 48%-35% is also found in other Norwegian sexual behavior surveys based on population samples (Træen, 1998; Træen, Sørensen, & Olsen, 2005). A drop in response rate seems to be a trend in questionnaire surveys also on topics other than sexuality (Hellevik, 1999). However, despite low response rates, there may be no selection bias in a sample (Søgaard, Selmer, Bjertness, & Thelle, 2004). In connection with the Norwegian sexual behavior survey of 1992, a supplementary study was carried out to find whether respondents and non-respondents had different patterns of sexual behavior. The results showed that non-response was not associated with differences in sexual behavior (Stigum, 1997). This finding is supported by the findings from other Nordic surveys, which have shown that non-response is fairly random with respect to sexual behavior (Haavio-Mannila & Kontula, 2003; Kontula & Haavio-Mannila, 1995; Lewin, 1997b; Stigum, 1997). In sum, it is likely that our sample is not severely biased and that the results may be generalized to the Norwegian adult population. It should also be noted

Table 1. Use of Pornography in the Norwegian Population, by Gender, Sexual Orientation and Age Groups (percentages)

	Gender		Sexual orientation				Age groups											
			Men		Lesbian		Men		Women									
	All	Men	Women	Straight	Gay/Bi	Straight	/bi	18-29	30-39	40-49	Sign.							
Ever read a pornographic magazine																		
N =	82.5	96.5	72.9	***	97.0	95.0	Ns	72.5	83.5	**	94.1	99.1	96.3	***	71.7	73.5	73.1	Ns
	3380	1384	1989		1259	101	1843	121	443	457	484				749	669	571	
Time since having read a pornographic magazine																		
>12months	59.9	49.8	69.2	***	51.1	32.3	***	71.0	45.5	***	37.6	49.8	60.9	***	60.6	71.0	78.1	***
≤12 months	40.1	50.2	30.8		48.9	67.7		29.0	54.5		62.4	50.2	39.1		39.4	29.0	21.9	
N =	2787	1335	1448		1221	96	1334	101	418	452	465				538	490	420	
How the most recent magazine was obtained																		
Bought it myself	35.7	49.9	17.5	***	49.6	56.2	Ns	15.8	31.1	**	46.0	53.1	51.4	Ns	14.5	20.5	18.6	Ns
Others bought it	34.3	22.6	49.3		22.5	23.3		49.0	54.1		26.7	18.6	22.2		50.6	48.7	47.9	
Accidental	29.9	27.4	33.2		27.9	20.5		35.1	14.8		27.4	28.3	26.4		34.9	30.8	33.6	
N =	1346	755	590		670	73	524	61	285	258	212			255	195	140		
Ever seen a pornographic film																		
N =	84.1	95.7	76.1	***	96.2	94.1	Ns	75.7	85.1	*	96.2	97.2	94.0	*	79.7	73.8	73.9	*
	3375	1383	1985		1259	101	1842	121	443	457	483			750	668	567		
When seen a film most recently																		
>12months	49.7	37.7	60.5	***	39.4	17.9	***	62.1	38.2	***	27.1	36.0	49.4	***	50.3	61.8	73.8	***
≤12 months	50.3	62.3	39.5		60.6	82.1		37.9	61.8		72.9	64.0	50.6		49.7	38.2	26.2	
N =	2823	1320	1497		1207	95	1382	102	425	444	451			595	490	412		
The most recent film was seen...																		
Alone	45.1	59.7	27.0	***	59.6	62.0	Ns	26.9	26.9	Ns	57.7	60.8	61.1	***	23.9	32.8	25.2	***
With partner	43.5	28.8	61.6		29.3	22.8		62.3	55.2		25.1	29.7	32.4		59.0	59.9	70.2	
With friends	11.4	11.5	11.4		11.1	15.2		10.8	17.9		17.2	9.5	6.5		17.1	7.3	4.6	
N =	1627	899	722		805	79	650	67	331	306	262			339	232	151		
Ever watched porn on the internet																		
N =	33.9	63.1	13.6	***	63.2	73.3	*	12.0	39.7	***	77.9	68.1	44.8	***	20.5	12.3	6.0	***
	3377	1384	1986		1258	101	1840	121	443	457	484			750	669	567		
When watched porn on the internet most recently																		
>12months	28.6	24.1	43.2	***	24.6	14.9	Ns	43.2	41.7	Ns	25.5	19.2	29.0	*	42.6	45.1	41.2	Ns
≤12 months	71.4	75.9	56.8		75.4	85.1		56.8	58.3		74.5	80.8	71.0		57.4	54.9	58.8	
N =	1148	875	271		797	74	222	48	345	313	217			155	82.34			
Erotic chat during the past 12 months																		
N =	13.8	11.6	23.4	***	8.3	43.5	***	18.3	46.4	***	13.6	10.3	10.5	ns	23.6	24.4	20.0	Ns
	818	662	154		600	62	126	28	257	252	153			89	45	20		

Note. Tested for statistically significant group differences by means of Chi-square test.

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

that to adjust for possible sample bias, gender, age, and level of education were included in all multivariable analysis as covariates.

Statistical Methods

All analyses of the data were carried out using SPSS 13.0 for Windows. The relationship between the dependent variable(s), and a selected set of predictor variables were studied using multivariable logistic regression analysis. All continuous variables were initially categorized to decide if the variable could be entered as continuous in the model. Plotting the estimated regression coefficients of the categorised variable against the category midpoints did this. As a result age, number of partners, and age at first intercourse were entered as continuous covariates in the logistic model.

The adjusted effects are expressed in odds ratios (OR). An OR of less than 1 indicates reduced likelihood for having used pornography, and an OR higher than 1 indicates an increased likelihood. Since the outcomes studied are common, the odds ratios may be much larger than their corresponding relative risks, and some care must be taken in the interpretation. The estimates are presented with 95% confidence intervals (CI). To adjust for possible confounding, gender, age, and level of education were included in all multivariable analysis as covariates.

RESULTS

Table 1 shows the percentage of the respondents who reported exposure to pornographic magazines, films, and pornography on the internet and erotic chatting during the past 12 months.

A total of 83% of the participants reported they had read a pornographic magazine at some point of their life. A higher percentage of men than women reported exposure to pornographic magazines. More men than women reported they had bought the magazine themselves, and twice as many women as men claimed others had bought the magazine. More gay/bi men and lesbian/bi women than straight men and women reported exposure to pornographic magazines and reported having read one during the past 12 months. It was more common for lesbian/bi women than straight women to have bought the magazine themselves. Furthermore, a higher percentage of younger men and women than older men and women reported that they had read a pornographic magazine during the past 12 months.

A total of 84% reported having seen a pornographic film. More men than women reported exposure to films, and a higher percentage of men reported exposure during the past 12 months. More men than women reported that they had seen the most recent film alone, and more women than men said they saw the film in the company of their partner. There were statistically significant differences between straight men and women and gay/bi men and lesbian/bi women in the reporting of exposure to pornographic films. More gay/bi men and lesbian/bi women than straight respondents reported having seen a pornographic film. In men, the percentage reporting exposure to

films was highest in the age groups 30 to 39 years (97%). Among women the exposure was highest in the group of 18-to-29 year-olds (80%). Among both men and women, the percentage that reported having seen a pornographic film during the past 12 months was highest in the youngest age group. A higher percentage of the older respondents reported that they had seen the most recent film in the company of a partner than did younger respondents.

As shown in Table 1, 32% of the respondents reported having watched pornography on the internet. More men than women reported that they had watched pornography on the internet. More gay/bi men and lesbian/bi women than straight persons reported that they had watched pornography on the internet. There were also differences in the reporting between respondents of the various age groups. The percentage that reported exposure to porn on the internet was highest in the group of 18- to 29-year-olds, both for males and females.

Among respondents who watched pornography on the internet in the last 12 months, 14% indicated having also engaged in erotic online chatting. More women than men claimed they had been chatting. Also, more gay/bi men than straight men said they had participated in erotic chatting. A similar difference was found when comparing lesbian/bi women with straight women. There were no statistically significant differences between men and women in the different the age groups. A total of 28% of those who reported that they had participated in erotic chatting on the internet during the past 12 months claimed they met their most recent sex partner via the internet.

Table 2 shows the results from four multivariable logistic regression analyses of exposure to pornography. The following covariates were included in the model: gender, age and level of education, sexual orientation, age of first sexual intercourse, number of sex-partners, and group sex experience. Participants with experience with group sex had used magazines twice as much ($OR=2.4$, $CI=1.3-4.3$). Exposure to magazines increased with a factor of 1.05 for every unit's increase in number of sex partners, meaning, for instance, that at person with 10 partners would have about 60% more magazine use than a person with one partner. The likelihood of having read a pornographic magazine decreased with a factor of 0.9 for every units increase in level of education and with a factor of 0.9 for every unit's increase in age at coital debut.

Exposure to pornographic films was considerably higher for men compared to women ($OR = 10.6$) and for those who had had group sex compared to those who did not ($OR = 4.5$). Exposure to pornographic films increased with a factor of 1.1 for every unit's increase in number of sex partners. The likelihood of having seen a pornographic film decreased with a factor of 0.8 for every unit's increase in level of education, with a factor of 0.9 for every unit's increase in age at coital debut, and with a factor of 0.98 for every year's increase in age.

Exposure to pornography on the internet was considerably higher for men compared to women ($OR = 17.4$), and

Table 2. Exposure to Pornographic Materials Among 18- to 49-Year-Old Norwegians, by a Selected Set of Predictor Variables.

	Ever read a porno graphic magazine			Ever seen a pornographic film			Exposure to pornography on the internet			Participation in erotic chat channels on the internet		
	<i>N</i>	<i>OR</i>	<i>CI</i>	<i>N</i>	<i>OR</i>	<i>CI</i>	<i>N</i>	<i>OR</i>	<i>CI</i>	<i>N</i>	<i>OR</i>	<i>CI</i>
Gender												
<i>Men</i>	1195	16.66	(11.09-25.03)	1195	10.61	(7.38- 15.26)	1193	17.39	(14.00- 21.88)	595	0.55	(0.32- 0.94)
<i>Women</i>	1736	1.00		1735	1.00		1733	1.00		139	1.00	
Age (in one year's increase)	2931	1.01	(0.99-1.02)	2930	0.98	(0.97- 1.00)	2926	0.92	(0.91- 0.93)	734	0.97	(0.94- 0.99)
Level of education (in one unit's increase)	2931	0.87	(0.78-0.98)	2930	0.82	(0.72- 0.92)	2926	1.42	(1.28- 1.58)	734	1.14	(0.88- 1.48)
Sexual orientation												
<i>Straight</i>	2753	1.00		2752	1.00		2748	1.00		659	1.00	
<i>Gay/Lesbian/Bi</i>	178	1.43	(0.82- 2.49)	178	1.24	(0.68- 2.27)	178	2.40	(1.64- 3.53)	75	4.40	(2.47- 7.83)
Experience of group sex												
<i>No</i>	2586	1.00		2585	1.00		2581	1.00		577	1.00	
<i>Yes</i>	345	2.37	(1.30- 4.33)	345	4.49	(1.79-11.28)	345	2.06	(1.50- 2.81)	157	2.89	(1.68- 4.96)
Age at first sexual intercourse (in one year's increase)	2931	0.88	(0.85-0.92)	2930	0.85	(0.82- 0.89)	2926	0.98	(0.95- 1.02)	734	1.02	(0.93- 1.11)
Number of sex partners (in one unit's increase)	2931	1.05	(1.03- 1.07)	2930	1.08	(1.05- 1.10)	2926	1.02	(1.01- 1.03)	734	1.02	(1.00- 1.03)

Note. The triplet of columns shows the results from a multivariable logistic regression analysis: Odds ratios (*OR*) with 95% confidence intervals (*CI*).

nearly twice as high for those who had had group sex compared to those who did not (*OR* = 2.1), and about twice as high for gay/lesbian/bi persons compared to straight men and women (*OR* = 2.4). Exposure to porn on the internet increased with a factor of 1.02 for every unit's increase in number of sex partners and with a factor of 1.4 for every unit's increase in level of education. The likelihood of having viewed porn on the internet decreased with a factor of 0.9 for every year's increase in age.

Chatting on the internet decreased by a factor of 0.6 in men compared to women, increased with a factor of nearly 2.9 in those who had had group sex compared to those who had not had it, and increased with a factor of 4.4 in gay/bi men and lesbian/bi women compared to straight men and women. Chatting experience increased with a factor of 1.02 for every unit's increase in number of sex partners. The likelihood of having chatted decreased with a factor of 0.97 for every year's increase in age.

DISCUSSION

This study described and analyzed the use of pornography in Norway. The results showed that the majority of Norwegians aged 18 to 49 years have been exposed to pornography. Women's use of pornography seemed more connected to their partners' use. Compared to men, more of the women that had watched pornography on the internet during the past 12 months had also participated in erot-

ic chatting. Use of pornography varied between respondents of different sexual orientation. Gender was the most significant variable for the prediction of use of pornography. Level of education predicted exposure to pornography on the internet, in magazines, and in films. Age predicted use of the internet to watch pornography and to chat. Furthermore, number of sex partners was associated with use of pornography in all media, and coital debut age was associated with use of pornography in magazines and films.

Cross-Cultural Comparison

Our results have many similarities to the findings from other Swedish, Finnish, and Norwegian studies of pornography. However, direct comparison is problematic due to sample differences, for instance, with regard to age composition. The Swedish and the Finnish survey comprised 18- to 74-year-olds (Haavio-Mannila & Kontula, 2003; Lewin, 1997a), and Træen et al's survey (2004) comprised 15- to 91-year-olds. All these surveys showed that the exposure to pornography decreased with increasing age. It can therefore reasonably be expected that the percentage of the population exposed to pornography is lower in these studies compared to our study. In Lewin's (1997a) survey, people never exposed to pornography were included in the analysis, whereas in our analyses this group was excluded. A third problem deals with the year of the data collection.

The Swedish survey was carried out in 1996, and the Norwegian and the Finnish surveys in 2002. A timespan of 6 years may be of importance both for attitudes and use of pornography. The Finnish study showed that between 1992 and 1999, the attitudes toward pornography became more positive and consumption of pornography increased.

In this survey, one in three respondents (34%) reported having watched pornography on the internet, compared to 24% in Træen et al.'s study (2004). The difference is most likely due to differences in age composition between the two samples. Of respondents exposed to pornography on the internet, 71% reported that they had watched pornography during the past 12 months. Accordingly, a smaller percentage of the population has been exposed to pornography on the internet than through other media. However, a higher percentage of the internet users seemed to watch pornography regularly. Goodson et al. (2003) found that 44% of a sample of U.S. students reported that they had watched pornography on the internet. Frequent use of the internet to watch pornography and to chat was reported only by a minority of the students. Thus, the findings both from our study and from Goodson et al.'s study point to the existence of a large minority group of the population who use the internet to watch pornography and a subgroup of these use the internet for erotic chatting. However, the actual size of the latter group may be larger than what was found in our study.

The question about erotic chatting was put forward only to respondents who had watched pornography on the internet during the past 12 months. This represents a limitation. At the time the questionnaire was developed the researchers were not aware that by formulating the question in this way, they would exclude the respondents that do not watch pornography but still participate in erotic chatting on the internet. Exposure to pornography on the internet was wrongly assumed to be the gateway to erotic chat channels. The consequence may have been that a large number of respondents, particularly female, who use erotic chat channels, but do not watch pornography on the internet have been eliminated.

Explaining Differences

People with lower levels of education reported more exposure to pornography in magazines and films and less exposure to porn on the internet than individuals with higher education. This result was not confirmed in Haavio-Mannila and Kontula's (2003) study, which showed that use of pornography in magazines and films was more common among persons with high education. However, since the general use of the internet is more widespread among people with high education (Central Bureau of Statistics, 2003), it is not surprising that those in our study with high education watch more pornography on the internet than those with low education. It should be noted that we do not have any information about the percentage of the sample that has access to the internet.

Number of sex partners and experience with group sex predicted exposure to pornography in all medias, and an

early coital debut increased the likelihood of having been exposed to pornography in magazines and films. Haavio-Mannila and Kontula (2003) found a positive relationship between early coital debut and frequent use of pornography in the latter medias. The findings point to the existence of a small group of particularly sexually active persons in the population, which through various forms of sexual activity are experimenting and seek novelty in their sexlives.

The likelihood of exposure to pornographic films increased with increasing age for both genders and increased with increasing age for men with regard to magazines. However, the younger respondents most frequently reported exposure to porn on the internet. Persons in the youngest age groups reported more frequent use of pornography in all media compared to those older. This finding corresponds to the findings from Sweden and Finland (Haavio-Mannila & Kontula, 2003; Lewin, 1997a). One reason may be that more of the older than the younger respondents are established in couple relationships. The Finnish study showed that use of pornography was less frequent among married men and women than among single men and those in less permanent relationships.

Age did not predict exposure to pornography in magazines and films. The internet was the younger respondents' medium, both with regard to porn and chatting. This result could reasonably be expected, as internet is the medium of the younger segments of the population (Central Bureau of Statistics, 2003). Additionally, Cooper et al. (2003) found that more of the young than of the old respondents reported using the internet as a sexual arena. Cooper (1998) identified three factors of importance in explaining people's use of the internet to enhance their sexlife. He called the factors *access*, *affordability*, and *anonymity*, also referred to as *the triple A-engine*. King (1999) added a fourth factor—*acceptability*. Tikkanen and Ross (2003) suggested *approximation* as a fifth explanatory factor. The widespread use of the internet as a sexual arena among young people may partly be explained in terms these factors. More younger than older people have *access* to the internet for instance, through education or work. Older individuals may hesitate more than younger persons to learn new technology and have a harder time keeping up with the development. For individuals who are in a stage of exploring and experimentation with their identity and sexuality (Tikkanen & Ross, 2003), the possibility to be *anonymous* may create the security necessary to allow for experimentation (*approximation*). That use of the internet is widespread among young people may also generate a higher *acceptance* for using the internet also as a sexual arena than would be the case among older individuals.

Use of pornography is likely to be the result of a complex interaction process between personal, behavioral, and environmental determinants. Which of these determinants are dominant is subject to change. Time represents changing environments. However, an individual's personal values and aims may not necessarily change with changing

environments (Bandura, 1986, 1994). The oldest respondents in our study were born in 1954 and the youngest in 1984. Expressions of sexuality are likely to have changed radically in this timespan. That older people use less pornography than younger people may indicate that the interest in pornography decreases with age. Another explanation may be that the attitudes toward pornography were shaped in a period when the view upon pornography and sexuality was more restrictive than now.

More men than women reported use of pornography in all media. The majority of women reported that they saw their most recent pornographic film in the company of their partner, and most women reported either that others had bought the most recent porn magazine they read or that this was a magazine they accidentally came across. These findings support the conclusion of Lewin (1997a) and Haavio-Mannila and Kontula (2003) that women's use of pornography is connected to a male partner's use. Another finding that may explain men's higher use of porn is that contrary to women, men seem to use pornography when masturbating alone (Haavio-Mannila & Kontula, 2003; Lewin, 1997a). A meta-analysis by Oliver and Hyde (1993) showed that the greatest gender difference in sexual activity was masturbation. Men masturbate more often than women. At the same time, there seems to be a relationship between masturbation and use of pornography in the sense that those who frequently masturbate use more pornography (Haavio-Mannila & Kontula, 2003).

There may be several explanations as to why women do not use pornography to the extent men do, and why pornography do not seem to have the same appeal for women as it does for men. Men and women relate to different social and sexual realities. The ability to experience pleasure in relation to sexually explicit material is dependent on having been socialized to positive thoughts and feelings about sexuality (Beggan & Allison, 2003). That women do not seem to find pornography as appealing as men may indicate that women are socialized to perceive their own sexuality on a "Madonna-Whore" dichotomy (Tanenbaum, 2000). It may further suggest that women are socialized to perceive pornography in terms of morality rather than as a means to achieve sexual arousal (Beggan & Allison). This has been demonstrated in studies that show that women become physiologically activated by watching pornography even though they do not feel aroused (Pearson & Pollack, 1997).

Women's sexuality is subject to more restrictions than men's sexuality (Baumeister & Twenge, 2002; Murnen & Stockton, 1997). It seems the environment has a stronger influence upon female sexuality than upon male sexuality. Furthermore, the relative importance of personal and behavioral determinants compared to social factors seems less influential for women than for men. The type of environmental structure associated with the expressions of sexuality, will accordingly also influence the perception of use of pornography as socially acceptable. Double stan-

dards, norms, and expectancies regarding how women should express their sexuality can be described in accordance with what Bandura (2001) called an *imposed environment*. In an imposed environment, the individual has little degree of control and influence over his or her own behavior. A woman with positive attitudes toward pornography and who has experienced becoming sexually aroused by pornography may desist from using pornography because she does not perceive social support for the behavior. In this case, social determinants become relatively more important than personal determinants. On the other hand, when the woman is positioned within the context of a committed relationship with a partner who enjoys pornography, her pleasure related to pornography may be perceived as more legitimate.

We found that more men than women reported having used the internet to watch pornography. However, more women than men claimed they had participated in erotic chatting. This result corresponds to Cooper et al.'s (2003) study from Sweden. Men and women seem to use the internet as a sexual arena differently. Women seem to prefer interactive activities, whereas men seem to prefer individual activities (Cooper et al., 2003; Ferree, 2003; Goodson et al, 2001). One possible explanation for this deals with the possible risks a woman face in a real life sexual encounter with a stranger (Cooper et al, 2000; Podlas, 2000). Women may feel more in control on the internet, and can more easily withdraw from unpleasant meetings than in face-to-face situations. Traditional gender roles may also be challenged, and women may experience increased opportunity to take control and lead in sexual situations while using the internet (Leiblum, 2001).

More gay/bi men and lesbian/bi women than straight people reported exposure to pornography in all media. They additionally reported more frequent use. The difference was particularly noticeable between lesbian/bi women and straight women and in relation to use of the internet to watch pornography and chat. This could imply that lesbian/bi women are more partner-independent in their use of pornographic materials than straight women. Few studies compare the sexual behavior of straight persons, gay men and lesbian women, and bisexual persons. A study by Træen, Stigum, and Sørensen (2002) showed that bisexuals tended to be more sexually active, explorative, and varied in their sexual behavior than straight persons, gay men, and lesbian women. A study by Ross and Kauth (2002) also showed that gay men were more sexually active than straight men.

Gay, lesbian, or bisexual orientation predicted the amount of pornography watched on the internet and the level of participation in erotic chatting. The differences in use of the internet to watch pornography, and chatting between persons of different sexual orientation have not previously been studied in representative, nationwide, population samples. It is therefore difficult to find studies for comparison. However, our findings support previous hypothesis that gay/bi men and lesbian/bi women use the

internet as a sexual arena more than other demographic groups (Benotsch et al, 2002; Lau et al., 2003; Tikkanen & Ross, 2000). According to Heinz et al. (2002), the internet has qualities that make it particularly attractive to marginalized groups. The internet makes it possible to find others in the same situation and thereby find a social community it is difficult to find in the real life (Alexander, 2002; Goodson et al, 2001; McKenna & Bargh, 2000). Support from others in similar situations and the feeling of community may contribute to the individual's strength to visualize his or her marginalized identity in real life (Alexander; Munt et al, 2002). Marginalized groups have relatively few places to meet in the open with no fear of negative social consequences. The *anonymity* on the internet makes it possible to express one's sexual preferences without fear social stigmatisation (Benotsch et al., 2002; Rhodes, DiClemente, Cecil, Hergenrath, & Yee, 2002; Tikkanen & Ross, 2003). Thus, *the triple A-engine* also seems to fit gay/bi men's and lesbian/bi women's use of the internet as a sexual arena. The social acceptance of use of the internet as an arena to find new partners may be higher among gay/bi men and lesbian/bi women than among straight men and women (Braun-Harvey, 2003). Accordingly, the *acceptability* factor becomes an explanation for the special relevance of internet use for these groups (King, 1999). The *approximation* factor also seems relevant, particularly for bisexuals. Tikkanen and Ross (2003) found that the majority of the participants in chat rooms for men who have sex with men were bisexual men. For them, the internet represented a secure route to male sexual contacts without having to reveal identities or having to frequent gay bars. The internet provided *approximation* and experimentation with own sexual preferences without feeling obliged to change identity. The internet functions as a place of refuge for gay/bi men and lesbian/bi women where their sexuality is the norm and not the exception.

According to Bandura (1994), mass media has actively affected the social construction of sexuality worldwide. As sexuality to a large extent is a private affair, the mass media receives an important role in reflecting the expressions of sexuality in the public sphere. The media tells people of right and wrong, normal and abnormal. In this way the media contributes to maintaining and reinforcing valid social norms of sexual behavior (Bandura, 1994; Brown, 2002; Goodson et al., 2001). How pornography is presented in various mass media is likely to have an impact on its use. If the mass media emphasizes negative aspects of pornography, it is likely to contribute to a reduction in consumption. When the mass media presents use of pornographic as attractive and enriching, this may legitimise the use of pornography.

This study may function as a point of departure for further research on use of pornography and on the internet as a sexual arena. As the use of the internet is increasing in the population, the use of the internet as a sexual arena is likely to gain terrain as well. We need to have more knowledge to understand the effect of this development.

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