

Representative Jena Powell

Ohio's 80th House District

Chairman Merrin, Vice Chair Manning, Ranking Member Boyd, and Members of the Health Committee, thank you for allowing me to present sponsor testimony today on H.R. 180, a resolution to declare that pornography is creating a public health crisis in relation to the increase in sex trafficking, abuse of women, and minors.

Ohio is the fourth worst state in the United States for human sex trafficking (this is according to statistics compiled by the National Human Trafficking Hotline and the U.S. Marshalls Office).

- Secretary of State Mike Pompeo delivered the Trafficking in Persons report, which is created annually by the State Department to document human trafficking in the year prior. He stated, "The United States is the number one consumer of sex worldwide. So we are driving the demand as a society." At the heart of the human trafficking trade in America is simple economics: Supply and demand.
- Pornography is integral to prostitution and coerced sexual acts, and over half of sex trafficking victims report that they were required to learn and perform according to pornographic media. Please refer if you wish to the study in front of you conducted by psychologist Melissa Farley. There is also a study in front of you from the Northwestern University Law Review discussing how human traffickers force those they have trafficked into pornographic videos as a way to entrap them.

According to a 2016 Barna Group survey, 64% of young people (aged 13-24) proactively seek out pornography weekly.

It is crucial to understand pornography as a form of violence against women. Mainstream pornography consists of socially sanctioned acts of direct violence against women.

- An analysis of the 50 most popular pornographic videos found that 88% of the scenes contain physical violence against women and in 95% of these scenes, the woman displays a positive or neutral reaction to the violence. You can find the scholarly article which has the results of these analyses in the stack of articles we passed out to you.

UNICEF.org says that pornography increases the demand for commercialized sex, especially with underage girls and boys.

According to the American Psychological Association, the earlier a boy is exposed to pornography the more likely he is to want power over women, and the later a man is exposed to pornography the more likely he is to engage in playboy behavior. Both having negative impact on our community. Pornography shrinks the brain and the brain reacts to pornography similarly to how it reacts to cocaine. You can see the statistics and research found on a University of Nebraska Lincoln chart.

We live in a time of a pornography epidemic, where young children are exposed and addicted to pornography thus causing a myriad of problematic sexual activity (feel free to look at the Times article in the stack which discusses the problems young men are having with ED due to porn), low self-esteem (for both boys and girls as referenced in multiple articles in front of you), negatively impacting brain development (see the Your Brain on Porn article for information on dozens of studies by neuroscientists and scholars about how pornography affects brain development and behavior), etc.

- Men who watch pornography are more likely to believe that women want to be raped, and to include violent acts of aggression and physical violence against women during sex, having been conditioned by pornography to believe these acts are normal and that women like to be choked, raped, etc. Please see the *Pornography as a Public Health Issue* article we have given you.
- This devaluation of women and children is because of the fact that “when neurologists looked at their brain scans, men’s brains reacted to women as if they were objects, not people.” This is a quote from Dr. Foubert, whose article on the public health harms of pornography is in front of you. His studies, and others, have shown that viewing pornography increases sexual aggression. You may see the article from the Journal of Communication for additional support.

Overall, the factors which compel men and women to enter the pornography industry are the same factors that place individuals at risk for human trafficking. Poverty, abuse, homelessness, and a history of childhood sexual or physical abuse.

- If you go online to the National Center for Missing and Exploited Children, or to view sex trafficking data collected by the Office of the Ohio Attorney General, you will see these factors listed as risk factors for trafficking.
- Please also reference the Public Health Harms of Pornography summary of peer-reviewed studies and papers

This resolution will not outlaw pornography - this resolution is bringing awareness to the negative impact that pornography has on society, through its contributions to the demand for trafficked persons, violence against women, men, and minors, and its destruction of the brains as well as families of those individuals who are caught in its addicting web.

We want to promote human flourishing and a health society - we must recognize that this includes pushing against pornography and human trafficking for children and families. This

resolution will declare that we in the Ohio House of Representatives, are against human trafficking and the sexual mistreatment of our fellow human beings whether they be women, men, or children. Let us by this resolution encourage families, churches, and businesses on a local level to promote education, prevention, research, and policy changes to confront the proliferation of pornography and human trafficking.

Today is the day to stand up and say enough is enough against the exploitation of women and children in our communities.

I'm happy to take any questions from the committee at this time.



Ohio



Human trafficking is a form of modern slavery that occurs in every state, including Ohio. The NHTH works closely with service providers, law enforcement, and other professionals in Ohio to serve victims and survivors of trafficking, respond to human trafficking cases, and share information and resources.

Learn more about human trafficking in Ohio by browsing the hotline statistics, resources, and local events listings below.

VIEW STATS BY STATE

LOOKING FOR A REFERRAL?

FIND AN ORGANIZATION NEAR YOU

STATISTICS



RESOURCES & EVENTS

The statistics below are based on the contacts -- phone calls, texts, online chats, emails, and webforms -- received by the NHTH that reference Ohio. To protect the identity of the people we serve, the NHTH does not disclose exact statistics related to venues, industries, or caller information when referenced fewer than three times.

SINCE 2007 ⁱ

Total Contacts: 8,078

Total Victims - Moderate: 2,392 ⁱ

Total Cases: 2,040

Total Victims - High: 1,827

2018 statistics are current as of 12/31/2018.

2018 2017 2016 2015 2014 2013 2012

1,223

CONTACTS
THIS YEAR

443

HUMAN
TRAFFICKING
CASES REPORTED
THIS YEAR

VICTIMS & SURVIVORS IDENTIFIED

High Indicators

372

Moderate Indicators

767

Calls From Victims & Survivors

256

TYPE OF TRAFFICKING

Sex Trafficking (349)	
Labor Trafficking (34)	
Trafficking Type Not Specified (32)	
Sex and Labor (28)	
# of Cases	443

TOP VENUES/INDUSTRIES FOR LABOR TRAFFICKING

Traveling Sales Crews (6)	
Domestic Work (6)	
Retail/Other Small Business (4)	
Agriculture (3)	
Begging Rings (3)	
# of Cases	34

TOP VENUES/INDUSTRIES FOR SEX TRAFFICKING

Residence-Based Commercial Sex (41)	
Illicit Massage/Spa Business (40)	
Hotel/Motel-Based (27)	
Street-Based (22)	
Online Ad, Venue Unknown (19)	
# of Cases	349

GENDER

Female (303)	
Male (38)	
Gender Minorities (< 3)	
# of Cases	443

AGE

Adult (248)	
Minor (78)	
# of Cases	443

CITIZENSHIP

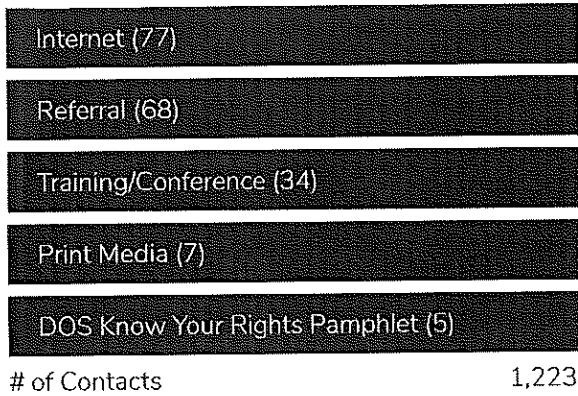
US Citizen/LPR (80)	
Foreign National (22)	
# of Cases	443

These statistics are non-cumulative. Cases may involve multiple victims and include males and females, foreign nationals and U.S. citizens, adults and minors. In some cases, callers do not provide demographic information.

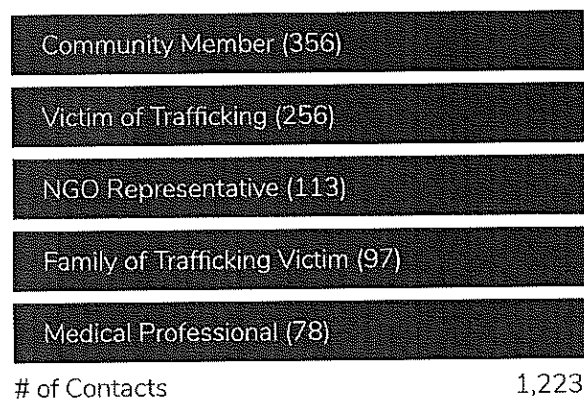
BREAKDOWN OF REQUESTS ON HUMAN TRAFFICKING CASES

Report a Trafficking Tip (314)	
Access Service Referrals (92)	
Request Crisis Assistance (34)	
Request General Information (3)	
# of Cases	443

TOP WAYS THE HOTLINE WAS FOUND



TOP CONTACT TYPES



The data displayed on this site is generated from information communicated to the National Human Trafficking Hotline via calls, texts, online chats, emails, or webforms. The National Hotline cannot verify the accuracy of the information reported. This is not a comprehensive report on the scale or scope of human trafficking within an area. These statistics may be subject to change.

For definitions of types of calls and requests on human trafficking cases, [click here](#).



Polaris received \$1.75 million through competitive funding through the U.S. Department of Health and Human Services, Administration for Children and Families, Grant # 90ZV0134-01-00. The project will be financed with 43.75% of federal funds and 56.25% (\$2.25 million) by non-governmental sources. The contents of this website are solely the responsibility of the authors and do not necessarily represent the official views of the U.S. Department of Health and Human Services, Administration for Children and Families.

5. “Renting an Organ for Ten Minutes:” What Tricks Tell Us about Prostitution, Pornography, and Trafficking

Melissa Farley

Farley, M. (2007) ‘Renting an Organ for Ten Minutes:’ What Tricks Tell us about Prostitution, Pornography, and Trafficking.

In *Pornography: Driving the Demand for International Sex Trafficking*

Los Angeles: Captive Daughters Media.

<mfarley@prostitutionresearch.com>

The perspective of a trick:

“I was like a kid in a candy store. I mean, it was nothing for me to knock off four broads in an afternoon. We’d go by the numbers. ‘Twenty-three A for Mr. Lewis, Please! No, Twenty-four A is the blonde; twenty three A is the brunette.’ Jesus Christ....It was just wonderful! The thing that was not wonderful about it was that there was no morality. I had no morality. I had no guilt. I thought: *This is what men do.*” [author’s italics]¹

The perspective of a woman in prostitution:

“Every day I was witness to the worst of men. Their carelessness and grand entitlement. The way they can so profoundly disconnect from what it is they’re having sex with, the way they think they own the world, watch them purchase a female. I was witness to their deep delusions. Spoiled babies all of them, and so many of them called prostitutes. I thought, maybe all men called prostitutes. It was a terrible thought, but really, what did I care. There was a system in place that was older and stronger than I could begin to imagine. Who was I? I was just a girl. What was I going to do about it. If I had any power I would make it so that nobody was ever bought or sold or rented...”²

Before I describe some preliminary results of research interviews with men who buy women for sex, I’d like to tell you what we found out about the effects of pornography on women in prostitution. When men use pornography, in that process they are trained as tricks. Pornography is men’s rehearsal for prostitution. Pornography is

¹ J. KAPLAN, *The Laughing Game: Profile of Jerry Lewis*, THE NEW YORKER, Feb. 7, 2000, at 61-62.

² M.Tea & L. McCubbin, RENT GIRL 29 (Last Gasp 2004).

cultural propaganda which drives home the notion that women are prostitutes. One man who used pornography said “I am a firm believer that all women... are prostitutes at one time or another.”³

New research on the effect of pornography on women in prostitution

Interviews with 854 women in prostitution in 9 countries⁴ women and men in prostitution made it clear that pornography is integral to prostitution. In 9 countries, almost half (49 percent) told us that pornography was made of them while they were in prostitution. Forty-seven percent of our respondents were upset by tricks’ attempts to make them do what the tricks had previously seen in pornography.⁵ These numbers are similar to those reported by the WHISPER Oral History Project in 1990.⁶ Fifty-three percent of the WHISPER interviewees reported that tricks made pornography of them. Fifty-two percent of the WHISPER women reported that pornography played a significant role in teaching them what was expected of them as prostitutes. Eighty percent said that tricks showed them pornography in order to illustrate the specific sex acts that wanted performed.

Andrea Dworkin wrote about prostitution in 1983:

“Her mind is hurt by rape and other physical assault on her body, it fades and shrinks and seeks silence as refuge; it becomes the prison cell inside her.....Every invasion of the body is marked in the brain: contusions, abrasions, cuts, swellings, bleeding, mutilation, breaking,

³ S. HITE, *THE HITE REPORT ON MALE SEXUALITY* (New York, Knopf, 1981) p. 760.

⁴ Canada, Colombia, Germany, Mexico, South Africa, Thailand, Turkey, United States, and Zambia.

⁵ M. FARLEY, A. COTTON, J. LYNNE, S. ZUMBECK, F. SPIWAK, M.E. REYES, D. ALVAREZ, U. SEZGIN, *Prostitution and Trafficking in 9 Countries: Update on Violence and Posttraumatic Stress Disorder*, in *PROSTITUTION, TRAFFICKING, AND TRAUMATIC STRESS*, 44 (M. Farley ed., Haworth 2003).

⁶ E. GIOBBE, *Confronting the Liberal Lies about Prostitution*, in *THE SEXUAL LIBERALS AND THE ATTACK ON FEMINISM* 67-81 (D. Leidholdt & J.G. Raymond eds., Teachers College Press 1990).

burning. Each capacity of the brain – memory, imagination, intellect, creation, consciousness itself – is distressed and deformed, distorted by the sexualized physical injuries that girls and women sustain.”⁷

Psychologists are usually not that specific, and certainly not that eloquent, regarding the harms of prostitution and pornography. Post-traumatic stress disorder, or PTSD, is a crude measure of the overall level of emotional harm against women in prostitution. The psychiatric diagnosis of PTSD describes mental and physical avoidance behaviors, psychological numbing, social distancing, flashbacks, and anxious physiologic hyper-arousal. Some of the PTSD suffered by women in prostitution results from the ways that men use pornography on them and against them.

Of 854 women, men and children in prostitution, across 9 countries, we found that 68 percent had PTSD.⁸ This is an extremely high prevalence of PTSD, and it tells us, like Andrea Dworkin did, that prostitution causes great psychological harm to those in it. As we analyzed our data, we investigated factors that might indicate what exactly it was about prostitution that was causing such high rates of PTSD. We wondered: did childhood sexual abuse, childhood physical abuse, or rape or other physical assault in prostitution cause particularly high levels of PTSD in the people we interviewed? We found that so many of our respondents had *all* of those types of violence in their lives that we couldn’t differentiate how much each type of violence contributed to their overall distress. This is called a statistical ceiling effect. Others have found ceiling effects for certain phenomena. For example, two studies failed to find race differences in PTSD symptoms among combat veterans.⁹ In these studies, combat, like prostitution, was the

⁷ A. DWORKIN, *Suffering and Speech*, IN HARM’S WAY: THE PORNOGRAPHY CIVIL RIGHTS HEARINGS 31 (C. MacKinnon & A. Dworkin eds., Harvard University Press 1997).

⁸ M. FARLEY ET AL., *supra* note 5 at 44.

⁹ J. BEALS, S.M. MANSON, J.H. SHORE, M.J. FRIEDMAN, M. ASHCRAFT, J.A. FAIRBANK ET AL., *The Prevalence of Posttraumatic Stress Disorder Among American Indian Vietnam Veterans: Disparities and Context*, 15 JOURNAL OF TRAUMATIC STRESS 89, 89-97 (2002); J. MONNIER, D. ELHAI, B.C. FRUEH, J.A. SAUVAGEOT, & K.M. MAGRUDER, *Replication and Expansion of Findings Related to Racial Differences in Veterans with Combat-Related PTS*, 16(2) DEPRESSION AND ANXIETY 64-70 (2002).

overwhelmingly traumatic event that mitigated differences in PTSD based on race. Their PTSD was already so high from the trauma of combat that the traumatic effects of racism could not be statistically demonstrated.

I mention these statistical effects because, frankly, we thought that prostituted women's PTSD was so high that it could not go up any higher. We did not expect to show that the making of pornography or the coercion to imitate it had a statistically significant effect on the PTSD suffered by the women we interviewed in prostitution. But in fact our results showed that when women had pornography made of them, it hurt them even more. It is data that causes you to weep.

Women in prostitution whose tricks or pimps made pornography of them in prostitution had significantly more severe symptoms of PTSD than did women who did not have pornography was made of them.¹⁰

Where the tricks/customers/buyers/predators are despite their attempts to remain invisible and anonymous

It is impossible to accurately estimate how many men in the world have bought women for sex: they hide. Representative samples of customers of prostitutes do not exist. Even where prostitution is legal, most of tricks' behaviors are carefully concealed from public view. Tricks are average citizens rather than abnormally sadistic psychopaths. They are all ages and from all social classes. Most are married or partnered. The following chart combines prevalence data from a chart by Mansson,¹¹ and from my remarks at last year's conference.¹² The following percentages are estimates of the numbers of men who have ever bought or rented a woman in prostitution in different countries.

¹⁰ Pearson $r = .126$, $p = .001$, $N = 749$.

¹¹ S.A. MANSSON. *Men's Practices in Prostitution and Their Implications for Social Work*, in SOCIAL WORK IN CUBA AND SWEDEN: ACHIEVEMENTS AND PROSPECTS (S.A. Mansson & C. Proveyer eds., 2004).

¹² M. FARLEY, *Who are Johns?* CONFERENCE REPORT: DEMAND DYNAMICS, THE FORCES OF DEMAND IN GLOBAL SEX TRAFFICKING, OCTOBER 18, 2003 (Captive Daughters and International Human Rights Law Institute of DePaul University College of Law 2004).

Benjamin & Masters (1964)	80%	USA
Thai Public Health Ministry (1990) ¹³	75%	Thailand
Kinsey (1948)	69%	USA
Ann Dahl (1999)	60%	Netherlands
Monto (1998)	45%	USA
Leridon et al (1998)	39%	Spain
Leridon et al (1998)	19%	Switzerland
Michael, Gagnon, Laumann & Kolata (1994)	16%	USA
Lewin et al (1998)	13%	Sweden
Haavio-Mannila & Rotkirch (2000)	13%	Finland
Prieur & Taksdal (1989) Cited by Anne Dahl	13%	Norway
Haavio-Mannila & Rotkirch (2000)	10%	Russia

Today tricks are everywhere and they are almost everyman. What word should we use in English to describe men who buy or rent women in prostitution? I use the word trick because that is what women in prostitution call the men who buy them. The word trick refers to the multitude of ways that men trick women into performing more or different acts of sexual exploitation than the men pay for, or the way that men sexually exploit women in prostitution and then refuse to pay, cheating or tricking the women. Other words for them might be sex predators.

Tricks travel everywhere, and they are all over the Internet. Pornography's champions separate pornography from other sectors of the sex industry. Yet feminist survivors of prostitution who have analyzed it, Evelina Giobbe, for example, tell us that pornography simply means that pictures were taken of their prostitution. Men who buy women in prostitution confirm Giobbe's analysis. One trick we interviewed in 2004 explained that he made no distinction between prostitution with or without a camera. He clarified exactly who was pimping her: *"Yes, the woman in pornography is a prostitute. They're prostituting before the cameras. They're getting money from a film company rather than individuals."*

The arbitrary separation between pornography and prostitution makes as little sense as the separation of domestic prostitution from its international counterpart sex trafficking. The same factors that compel women into prostitution/trafficking – poverty, racism, childhood physical and sexual abuse, sexual harassment, and abandonment – also

compel women into pornography. The sex industry, like any other industry, has domestic and international sectors, marketing sectors, a range of physical locations out of which it operates in each community, is controlled by many different owners and managers, and is constantly expanding as technology, law, and public opinion permit.

The Internet has created and expanded opportunities for men to sexually exploit women. The Internet has amplified the psychological humiliation and the physical violence of prostitution, and it has expanded the reach of sex trafficking.¹⁴ Prostitution is advertised online, where it is indistinguishable from pornography. Pornography advertises women for rent and sale, and they are moved across town, across the country, and from one country to another. Pornography is one specific means of trafficking women for the purpose of prostitution. Pictures of prostitution are used to advertise internet websites, which are then used by tricks in their masturbation activities. Internet prostitution and pornography offer the trick anonymity. Mansson described increasing numbers of online trick communities who support each others' predatory behaviors and who exchange information regarding where and how women can be bought in prostitution.¹⁵ As one young woman said, "They can do more extreme things and keep a double life. They can have a life with the wife and kids and have a fetish, porn thing where they are beating chicks on the side."¹⁶

Internet advertising for prostitution appeals to young women who are sexually and economically vulnerable. For example, Craigslist is a website where people can post at no cost what they want to buy and what they want to sell. In March 2005, Craigslist averaged 25,000 new ads every 10 days for "erotic services," which are most likely prostitution. A cell phone and an ad on Craigslist set a teenager up in the business of being sexually exploited in exchange for housing, drugs, or cash. A Boston youth shelter worker confirmed that Craig's List was used by most of the homeless and prostituting adolescent girls at her agency.

¹⁴ See Kenneth Franzblau, this volume.

¹⁵ S.A. MANSSON, *supra* note 11

¹⁶ Anonymous, personal communication, 2005.

Today, many tricks buy and sexually exploit women in indoor prostitution such as massage parlors, brothels, saunas, nail parlors, and strip clubs. Escort prostitution might be more accurately described as *prostitution via cell phone*, in which a trick calls a phone number that he obtains online or via a free magazine. He then orders the woman to be delivered to his hotel room, home, or a meeting place. Indoor prostitution is strongly promoted wherever there is a political movement promoting decriminalized or legalized prostitution. Indoor prostitution, as opposed to street solicitation, is a way of protecting the trick's anonymity. One proponent described indoor prostitution as discrete, with the implication that indoor prostitution not only protects the trick's privacy, it also is out of the sight and often out of the minds of the community.¹⁷ In indoor prostitution, the trick is much less likely to be arrested even where prostitution is illegal. He can hide indoors, and they sure do just that.

What effect does the trick's anonymity have on prostituted women? The social invisibility of indoor prostitution may actually increase its danger for women. When women prostitute indoors, the community is less likely to see them. Sometimes, when prostitution is indoors, neighbors do not even know that prostitution is occurring next door. Although the need for services remains the same regardless of the location where prostitution takes place, the invisibility of indoor prostitution makes it less likely that services for escape will be funded and more difficult for women to access services for escape.

In their own words: new research on men who are customers of prostitutes.

Last year at this conference, I spoke about the invisibility of customers of prostitutes, and the necessity of exposing their behaviors as the driving force that keeps the institution of prostitution alive and expanding. Since then, Prostitution Research & Education, a San Francisco nonprofit organization, has begun an international study of customers of prostitutes. Today, I'll present some preliminary findings from that ongoing research.

¹⁷J. ADAMS & J. RILEY, *After Spas' Boom, Enforcement Affects Illicit Sex Business*, COURIER-JOURNAL, July 11, 2004, at 1-2.

Although some research on customers of prostitutes interviewed men in diversion programs who had been arrested for soliciting a police decoy,¹⁸ we interviewed men who had not been arrested in part because we wanted to interview men who bought women in indoor prostitution. We ran advertisements in local newspapers seeking interviews with customers of prostitutes. Tricks who are not in a police-sponsored program tend to exhibit more “trick-like” behaviors. All four of us encountered verbal and sometimes physical sexual harassment from the non-arrested johns while conducting the research.

We interviewed men who used women in indoor prostitution a majority of the time, but they also located women outdoors. They hunted women via cell phone prostitution also called escort prostitution—the internet, massage parlors, phone sex, strip clubs, street, and bars. The 142 tricks we interviewed were men from rural Kentucky, Phoenix, Arizona, and Madrid, Spain. We conducted a semi-structured interview with the tricks. Co-researchers in this ongoing research are Adam Ruiz, Odette Levy, Ann Cotton, Roop Sen, and Barb Strachan. We are currently analyzing data that investigates how men’s use of women in pornography and their use of women in prostitution may be factors that increase men’s sexual aggression.

Some analysts have observed that men who buy women in prostitution objectify the women. “I use them like I might use any other amenity, a restaurant, or a public convenience.”¹⁹ Paying for a woman in prostitution provides the trick with the power to turn women into what Davidson termed “the living embodiment of a masturbation fantasy.”²⁰ One trick told us, “*[In prostitution] you can pick who you like, it’s like going to a vending machine.*” The tricks confirmed what survivors of prostitution have told us about prostitution and pornography. Feminists have spoken about prostitution as the

¹⁸ M. MONTO & N. HOTALING, “Predictors of rape myth acceptance among the male clients of female street prostitutes.” Paper presented at the Annual Meeting of the Pacific Sociological Association. San Francisco, CA (1998, April).

¹⁹ J. SEABROOK, *TRAVELS IN THE SKIN TRADE: TOURISM AND THE SEX INDUSTRY* 193 (Pluto Press 1996).

²⁰ J.O. DAVIDSON, *PROSTITUTION, POWER, AND FREEDOM* 209 (The University of Michigan Press 1998).

buying and selling of women's bodies. One trick graphically explained what he did in prostitution as "*renting an organ for ten minutes.*" In his definition of prostitution, the trick removed her humanity, depersonalizing her, disappearing her name and identity. Women in prostitution become "something for him to empty himself into, acting as a kind of human toilet."²¹ Her self and those qualities that define her as an individual are systematically attacked and destroyed in prostitution. He reduces her to vagina, anus, breasts, and mouth, and she then acts the part of the thing he wants her to be.²²

There is a massive power imbalance in prostitution, where johns have the social and economic power to hire women, adolescents, girls or boys to act out their masturbation fantasies.²³ The tricks we interviewed confirmed that the relationship in prostitution is one of dominance and subordination. One man told us, "*Prostitution says that women have less value than men.*" In prostitution, another trick explained, "She gives up the right to say no" during the time that he has paid for. Another man told us that he clarifies the nature of his relationship to the women he buys, "*I paid for this. You have no rights. You're with me now.*" Another trick explained to us:

Guys get off on controlling women, they use physical power to control women, really. If you look at it, it's paid rape. You're making them subservient during that time, so you're the dominant person. She has to do what you want.

Many of the tricks expressed unveiled hostility toward women. "*I think about getting even [during prostitution] – it's like a kid's game, you're scoring points,*" one man told us. Another trick said, "*Prostitution is an act of force, not of love. She gives up the right to say no.*"

Mansson noted that the Swedish tricks he interviewed had greater problems than other men in maintaining relationships with women.²⁴ We also found this to be true. As

²¹ C. HOIGARD & L. FINSTAD, *BACKSTREETS: PROSTITUTION, MONEY AND LOVE*. University Park: Pennsylvania State University Press (1986).

²² A. DWORKIN, *Prostitution and Male Supremacy*, in *LIFE AND DEATH* (Free Press 1997).

²³ DAVIDSON, *supra* note 20 at 209.

²⁴ S.A. MANSSON, *Men's Practices in Prostitution: The Case of Sweden*, in *A MAN'S WORLD? CHANGING MEN'S PRACTICES IN A GLOBALIZED WORLD* 135-149 (B. Pease &

one trick told us, *"If you can't communicate with your partner, you can go to a prostitute."* Unable to meet or communicate with women who were his equals, another man we interviewed went to homeless shelters to pick women up, asking them whether they wanted a place to live in exchange for tolerating his sexual assaults. Stein explained that prostitution sex is "undiluted by intrusion of an unpaid partner's own desires and personality."²⁵ One interviewee explained that men buy "sexual acts without compromise" in prostitution.

Many, although not all, tricks seemed to have a nuanced awareness of exactly what being prostituted is like for the women. One trick explained that *"[Prostitution] takes away a part of themselves that they can't get back. They can't look at themselves in the mirror."* Another understood that *"Prostitutes [get into it] because they got beat, molested, or something by their families."* This knowledge did not however affect tricks' behavior. Distancing themselves from these negative aspects of prostitution, the tricks saw themselves as nicer and more considerate than average: *"There are weirdoes out there, [but] I'm not one of those who go out to hurt or rape, I'm just into sex."*

Sometimes the tricks' rationalizations for what they did to women defied any logic. One man stated that he knew that women felt cheap, degraded and used-up in prostitution. But, he went on to say, *"They should feel happy. Hey, she's doing a job, and when I do my job I get job satisfaction and so should she."*

Other rationalizations included, *"By giving her money, I'm helping feed her child."* Another, *"I know porn stars. They enjoy sex on film more than other prostitutes."*

The tricks we interviewed were observant about the brutality of pimp-prostitute relationships:

"The pimp controls her and forces her to do things she's not ready or wanting to do."

"She is definitely afraid of him. She'll get slapped around if she don't do what she's told."

K. Pringle eds., Zed Books 2001).

²⁵ M. L. STEIN, *LOVERS, FRIENDS, SLAVES: THE NINE MALE SEXUAL TYPES, THEIR PSYCHO-SEXUAL TRANSACTIONS WITH CALL GIRLS* 19 (Putnam's, Berkeley Publishing Corporation 1974).

“He controls her by hitting her. And by playing mind games with her.”

“It’s sad and obviously exploitive. One person is compromising themselves in manner that they’d rather not for the benefit of another.”

“The pimp is the owner and the prostitute is the slave to make money for the pimp.”

“Death is the end result of her relationship with a pimp.”

Many of the tricks expressed ambivalence or guilt about prostitution.

“Sometimes I feel it’s wrong. You just have to block that out.”

“High class prostitutes have no problems, emotionally.” Yet he also stated in the interview that *“[prostitution] is a lie for both people, I wouldn’t recommend it to anyone.”*

“I know what they go through as prostitutes. I know what they do – it bothers me but I still have sex with them”.

Stating that prostitution had no negative effect on prostitutes because they had no feelings, one man at the same time said he had never tried to rescue a prostitute because *“you can get killed doing that.”*

This preliminary look at interview data with tricks indicates that prostitution is a brutal institution that causes immense harm, confirming what survivors have told us. We need laws that protect women from the sexual predation of men who buy, rent, or sell women. We need prostitution prevention programs for young men - really young men - probably when they have not yet reached adolescence. We must be able to speak to young men about non-exploitive sexuality and about prostitution. If we do not speak of these things, men will continue to have their first lessons in sexuality from prostitution and trafficking in pornography, and from renting women in prostitution with friends and relatives.

HUMAN TRAFFICKING AND PORNOGRAPHY: USING THE TRAFFICKING VICTIMS PROTECTION ACT TO PROSECUTE TRAFFICKING FOR THE PRODUCTION OF INTERNET PORNOGRAPHY

Allison J. Luzwick*

ABSTRACT—The Trafficking Victims Protection Act of 2000 (TVPA) was passed to “combat trafficking in persons, a contemporary manifestation of slavery whose victims are predominantly women and children, to ensure just and effective punishment of traffickers, and to protect their victims.”¹ Since the passing of the Act, federal courts have construed the statute broadly to achieve this stated purpose. One way in which the TVPA has been underutilized, however, is in prosecuting pornography cases. Pornography enjoys wide latitude under the law, protected by a vast net of First Amendment protections. While these protections may preserve freedom of speech, they do nothing to protect adult victims who are trafficked to produce online pornographic media. To provide relief for these victims and better fight all types of domestic trafficking, prosecutors should use the sex trafficking provision of the TVPA, 18 U.S.C. § 1591, to prosecute sex trafficking within the pornography industry. The pattern of victimization, other national and international human trafficking directives, plain language of the TVPA, prior cases, and broader policy goals all support the argument that the TVPA can and should be used to address the problem of trafficking adult victims for the production of porn.

INTRODUCTION

The law has traditionally treated pornography as a question of private virtue by focusing on balancing First Amendment interests with morals regulation.² Many observers (and users) of pornography regard it as the harmless viewing of sexual acts between two consenting adults.³ As a result

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¹ 22 U.S.C. § 7101(a) (2012) [<https://perma.cc/3PB8-4TFT>].

² See generally Amy Adler, *All Porn All the Time*, 31 N.Y.U. REV. L. & SOC. CHANGE 695 (2007) (discussing the rise and fall of obscenity law, the Supreme Court's protection of free speech in pornography, and Congress's focus on regulating child pornography over other types of pornography) [<https://perma.cc/W9PW-TNHK>].

³ See generally Martin S. Weinberg et al., *Pornography, Normalization, and Empowerment*, 39 ARCHIVES SEX BEHAV. 1389, 1398–99 (2010) (discussing the increasingly widespread use of

of these legal and social dynamics, the porn industry enjoys minimal regulation that does little to address harmful behaviors within the industry.⁴ When the harm involved in the production of pornography remains unknown, the assumption is that its production is a commercial venture based on free choice.⁵ But the unfortunate reality of pornography production is that, often, the production of pornography is neither harmless nor consensual.⁶ Rather, pornography plays a unique role in fueling the human trafficking industry by both contributing to the demand for more traditional forms of sex trafficking and creating another route to profit for traffickers who enslave victims for the production of pornographic media.⁷

Evidence shows that pornography increases demand for sex trafficking.⁸ Certain types of internet pornography provide readily available sources of violent and exploitative imagery.⁹ This imagery normalizes these acts in the minds of some users.¹⁰ Additionally, those who heavily use such pornography may gradually become habituated to it, and seek to recreate those sexual acts themselves with trafficked persons to gain further satisfaction.¹¹ Pornography can also serve as advertising for trafficking by

pornography and the way pornography shapes its users' sexual lives); Wendy McElroy, *A Feminist Defense of Pornography*, 17 FREE INQUIRY MAG., Fall 1997, at 14 (discussing pro-feminist arguments in support of posing for pornography, calling pornography acting as an "uncoerced choice that can be enriching") [<https://perma.cc/JX6V-UW6E>].

⁴ See generally Adler, *supra* note 2, at 695–96 (describing the prevalence and acceptance of pornography in modern society). This Essay focuses solely on the trafficking of adult victims for the production of pornography. Child pornography, and the trafficking of children for its production, is already heavily prosecuted under other state and federal statutes. *Id.* at 689–70.

⁵ Rachel N. Busick, Note, *Blurred Lines or Bright Line? Addressing the Demand for Sex Trafficking Under California Law*, 42 PEPP. L. REV. 333, 338 (2015) [<https://perma.cc/88TT-SUF6>].

⁶ *Id.* at 338–39, 347.

⁷ *Id.* at 342, 347.

⁸ *Id.* at 347–48.

⁹ HOT GIRLS WANTED (Netflix 2015) ("In 2014, abuse porn websites averaged over 60 million combined hits per month Recent research shows that nearly 40% of online pornography depicts violence against women.").

¹⁰ See Mike Allen, Dave D'Alessio & Keri Brezgel, *A Meta-Analysis Summarizing the Effects of Pornography II: Aggression After Exposure*, 22 HUM. COMM. RES. 258, 258 (1995) (finding that consumption of material depicting violent sexual activity generates more aggression than those depicting nonviolent sexual activity); Mike Allen, Tara Emmers, Lisa Gebhardt & Mary A. Giery, *Exposure to Pornography and Acceptance of Rape Myths*, 45 J. COMM. 5, 18–22 (1995) (presenting experimental studies that show a positive correlation between consumption of violent pornography and acceptance of the rape myth (that victims are responsible for their rapes)).

¹¹ VICTOR MALAREK, *THE JOHNS: SEX FOR SALE AND THE MEN WHO BUY IT* 194–96 (2009) (discussing several interviews with prostitution customers who reported extensive pornography use prior to engaging in prostitution); JAN MACLEOD, MELISSA FARLEY, LYNN ANDERSON & JACQUELINE GOLDING, *WOMEN'S SUPPORT PROJECT, CHALLENGING MEN'S DEMAND FOR PROSTITUTION IN SCOTLAND* 16 (2008) (finding a statistically significant association between prostitute customers' pornography use and "their use of women in prostitution") [<https://perma.cc/AC33-28YB>]; Martin A. Monto, *Focusing on the Clients of Street Prostitutes: A Creative Approach to Reducing Violence Against Women—Summary Report 4* (Oct. 30, 1999) (unpublished report) (finding that clients arrested for patronizing a prostitute "were about twice as likely to report having watched pornographic movies over the past year than the national sample") [<https://perma.cc/6RXS-PDHY>]. Although not all persons engaging in prostitution are trafficking victims, an increase in the demand for any type of prostitution will, in turn, increase the demand for trafficked persons. BUREAU OF PUB. AFFAIRS, U.S. DEP'T OF STATE, *THE LINK BETWEEN PROSTITUTION AND SEX TRAFFICKING* (2004) [<https://perma.cc/5VM4->

pimps who post images of victims on websites like Backpage to promote their “products.”¹²

Beyond its effect on demand, the very production of pornography often relies on trafficked victims.¹³ Through the use of force, fraud, or coercion, a major element in proving trafficking cases, pornography producers create pornographic materials of trafficked adults.¹⁴ Some of this porn is created for private consumption, but much is produced for commercial distribution.¹⁵ This means that porn that is bought and sold online legally may have been created illegally using trafficked persons. This problem becomes more worrying when one considers how, as technology develops, platforms like interactive pornography and virtual prostitution have blurred the lines between pornography and traditional street prostitution, creating additional unregulated areas that may contribute to trafficking.¹⁶

Because there is little regulation of the online pornography industry, much of the victimization of “actors” who are actually trafficked persons (predominantly women) goes overlooked.¹⁷ Obscenity laws, the traditional legal approach to the problem, focus more on the regulation of morality than on the injuries inflicted on real people who are trafficked to make the

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¹² See MALAREK, *supra* note 11, at 196; *see also* Alastair Jamieson & Tracy Connor, *Backpage Pulls Adult Ads, Blames ‘Censorship’ After Report on Sex Trafficking, Prostitution*, NBC NEWS (Jan. 10, 2017, 5:33 AM), <http://www.nbcnews.com/news/us-news/backpage-pulls-adult-ads-blames-censorship-after-report-sex-trafficking-n705056> (discussing the use of Backpage for sex trafficking and prostitution advertisement) [<https://perma.cc/Y34Q-YUFS>].

¹³ Donna M. Hughes, *The Demand for Victims of Sex Trafficking* 26 (June 2005) (unpublished report) (describing reports of trafficked women across the world being forced to make pornography).

¹⁴ More research needs to be conducted to establish the number of adults who may have experienced force, fraud, or coercion in the production of porn. Establishing the percentage of pornography that has been created through the exploitation of trafficking victims is made challenging for data collectors by the difficulty of distinguishing between pornographic images of sex workers used as advertisement, videos of victims engaged in prostitution, live internet sex shows streamed using home webcams, and, more generally, of distinguishing between voluntary and coerced participation in such videos. Until further research is conducted, the presence of force, fraud, and coercion in pornography production can be established by the numerous firsthand accounts from victims that are available. *See* Hughes, *supra* note 13, at 26; *infra* notes 50, 51, and 55 and accompanying text; *see also* *Shocking Footage of Women Abused on the Porn Set (a California Workplace)*, LIVELEAK (Dec. 12, 2011), http://www.liveleak.com/view?i=7df_1323733520&comments=1. There is also some debate about the accuracy of the reported number of victims in other forms of sex trafficking, such as prostitution. *See* Ronald Weitzer, *Sex Trafficking and the Sex Industry: The Need for Evidence Based Theory and Legislation*, 101 J. CRIM. L. & CRIMINOLOGY 1337, 1347–55 (2011) (discussing the large disparity between domestic and international reported numbers of sex trafficking victims) [<https://perma.cc/FST8-P8P3>]. However, regardless of the accuracy of numbers, sex trafficking cases do exist and are prosecuted by the Department of Justice under the TVPA. *See* *Human Trafficking Prosecution Unit (HTPU)*, U.S. DEP’T OF JUSTICE, <https://www.justice.gov/crt/human-trafficking-prosecution-unit-htpu> (last visited Mar. 2, 2017).

¹⁵ Hughes, *supra* note 13, at 26.

¹⁶ LINDA SMITH & CINDY COLOMA, *RENTING LACY: A STORY OF AMERICA’S PROSTITUTED CHILDREN* 55–57 (2013); *see also* David Cardiff, *Virtual Prostitution: New Technologies and the World’s Oldest Profession*, 18 HASTINGS COMM. & ENT L.J. 869, 870–73 (1996) (discussing new technologies used in pornography, including video on demand and interactive pornography).

¹⁷ Catharine A. MacKinnon, *Pornography as Trafficking*, 26 MICH. J. INT’L L. 993, 993 (2005) [<https://perma.cc/647D-FFQD>].

material.¹⁸ To truly address the pervasiveness of trafficking in the adult porn industry, it must be treated as akin to other forms of sex and labor trafficking. The federal trafficking law is currently being used in new ways to battle the widespread problem of domestic human trafficking.¹⁹ Prosecutors should use the latitude given to them under the Act to prosecute trafficking that occurs for the purpose of creating internet pornography. Using the TVPA in this way will locate pornography created with trafficked persons in its proper place with other sex trafficking crimes and will provide comprehensive services to victims that are not currently available. The TVPA is the proper legal avenue for addressing trafficking in pornography for five reasons: (1) when it comes to the experience of victims, pornography is indistinguishable from other forms of sex trafficking; (2) battling trafficking within pornography is part of the larger battle against human trafficking, as recognized by other national and international laws; (3) the plain language of the TVPA indicates that it can be used to prosecute trafficking crimes in the porn industry; (4) there is precedent in case law for using the TVPA to prosecute trafficking crimes in the porn industry; and (5) doing so will accomplish the broader policy goals of the TVPA.

I. FOR VICTIMS, PORNOGRAPHY IS SEX TRAFFICKING

When it comes to the experiences of those who are trafficked for its production, pornography is indistinguishable from prostitution, but false distinctions, based on who is paying for the sex acts, have been used to create artificial legal lines between prostitution and pornography.²⁰ In porn, the argument goes, the buyer is not having sex with the trafficked person; (s)he is merely paying for the privilege of viewing a reproduced image of that person engaging in sexual acts.²¹ This argument seems to treat the camera as a sort of filter—without the camera the person engaging in sexual acts is a trafficking victim, but with it the porn “actor” becomes a consenting adult. While legal commercial adult pornography certainly does exist, when trafficked persons are used in the creation of pornography it is neither consensual nor legal.²² The camera does not change the nature of what makes sex trafficking a crime. Catharine MacKinnon recognized this, stating, “just as throwing money at victims of sexual abuse does not make it a job, taking pictures of it does not make it freely chosen or desired.”²³ Rather than a filter, the pornographic media is merely a go-between, and those who produce it are the traffickers.²⁴ Sex from one person is still

¹⁸ *Id.*

¹⁹ Anders Walker, *Strange Traffic: Sex, Slavery, and the Freedom Principle*, 46 CONN. L. REV. 561, 561 (2013).

²⁰ MacKinnon, *supra* note 17, at 996–97.

²¹ *Id.*

²² Busick, *supra* note 5, at 339.

²³ MacKinnon, *supra* note 17, at 996.

²⁴ U.N. Secretary-General, *Victims of Crime: The Situation of Women as Victims of Crime*, ¶ 51, U.N. Doc. A/CONF.121/16 (May 17, 1985) (“[I]t is hard to make distinctions (if any should be made) between prostitution and other sexual services, including those of the pornographic media.”)

exchanged for money from another.²⁵ Additionally, like victims of other forms of sex trafficking, porn “actors” are controlled by pimps for the sexual use of buyers, leading to the same type of victimization experienced by those trafficked into prostitution.²⁶

Pimps control trafficked persons used to produce pornography just like they control those trafficked for prostitution. As Dr. Melissa Farley has noted, “[p]ornographers are indistinguishable from other pimps. Both exploit women and girls’ economic and psychological vulnerabilities and coerce them to get into and stay in the industry.”²⁷ Additionally, although some legitimate corporations do produce pornographic materials, much of the porn that is available online is produced by illicit operations.²⁸ This amateur porn is filmed largely outside of the traditional porn industry and has little regulation or oversight.²⁹ Unlike the traditional porn industry, online, amateur porn is not created on established sets, using contracted actresses filmed by professional producers.³⁰ Instead, it can be created and uploaded by anyone with a video camera.³¹ This gives independent film makers enormous discretion in how they recruit and treat their performers. The amateur porn medium creates an environment that is ripe for abuse by traffickers. Traffickers can use violent or nonviolent means to coerce victims into producing pornography that, to the viewer, appears consensual. In this way, just as they would in the case of prostitution, traffickers pimp the victims, by “producing sexual pleasure for the consumers” that, in turn, creates “immense profits for the pornographers.”³²

For persons trafficked into pornography, the pimping culture and sexual nature of pornography create an experience of victimization that is similar or identical to that experienced by persons trafficked into prostitution.³³ From the viewpoint of the person depicted in the

[<https://perma.cc/CGY4-FVAA>]; see also MacKinnon, *supra* note 17, at 997.

²⁵ MacKinnon, *supra* note 17, at 996.

²⁶ See Melissa Farley, “Renting an Organ for Ten Minutes:” *What Tricks Tell Us About Prostitution, Pornography, and Trafficking*, in *PORNOGRAPHY: DRIVING THE DEMAND FOR INTERNATIONAL SEX TRAFFICKING 4* (2007) (“Women in prostitution whose tricks or pimps made pornography of them in prostitution had significantly more severe symptoms of PTSD than did women who did not have pornography . . . made of them.”) [<https://perma.cc/7NK4-NUC6>].

²⁷ Melissa Farley, *Prostitution, Trafficking, and Cultural Amnesia: What We Must Not Know in Order to Keep the Business of Sexual Exploitation Running Smoothly*, 18 *YALE J.L. & FEMINISM* 109, 126–27 (2006) [<https://perma.cc/MH4Y-WAZC>].

²⁸ See U.S. DEP’T OF JUSTICE, ATTORNEY GENERAL’S COMMISSION ON PORNOGRAPHY: FINAL REPORT 284–85 (1986) (“[T]he production of pornographic materials is a practice and a business that remains substantially ‘underground.’”); Katrina Forrester, *Making Sense of Modern Pornography*, *NEW YORKER* (Sept. 26, 2016), <http://www.newyorker.com/magazine/2016/09/26/making-sense-of-modern-pornography> (describing that most modern pornography online is “amateur and unregulated”) [<https://perma.cc/7RT8-WTGL>]; *HOT GIRLS WANTED*, *supra* note 9 (profiling the growing amateur porn industry).

²⁹ See *supra* note 28 and accompanying text.

³⁰ See Forrester, *supra* note 28 (describing the recent decline of large pornography studio shoots in favor of “low production” films).

³¹ *HOT GIRLS WANTED*, *supra* note 9.

³² MacKinnon, *supra* note 17, at 994.

³³ See *id.* at 997; *HOT GIRLS WANTED*, *supra* note 9 (discussing with former amateur porn stars the ways in which they felt victimized by the industry).

pornographic materials, traffickers have sexually exploited them for profit just as they would if trafficking them for prostitution.³⁴ Additionally, traffickers often force prostituted victims to make pornography by posting pictures or videos of them online as advertisement or by profiting off of pornographic material created while they engaged in prostitution. In a 2003 survey, 49% of people “currently or recently in prostitution” reported that their traffickers made pornographic material of them while they were engaged in prostitution.³⁵ The experience of victimization may even be exacerbated by the existence of pornographic images. Victims feel as if they cannot escape their experience because the images and films exist on the internet, where anyone can view them at any time, meaning “each time [an] image is viewed, the victim is re-victimized.”³⁶ As former porn “actress” Linda Boreman put it, “every time someone watches that film, they are watching me being raped.”³⁷

The digital age further confuses the distinction between pornography and prostitution: “False distinctions have been erected between online and offline prostitution, child and adult prostitution, indoor and outdoor prostitution, pornography and prostitution, legal and illegal prostitution, and prostitution and trafficking.”³⁸ Prostitution advertised online through pictures and videos created and posted by pimps is often “indistinguishable from pornography.”³⁹ Furthermore, internet media makes it increasingly unclear what is pornography and what is prostitution. Internet sex shows in which women are directed to perform sex acts in real time by johns participating via an internet connection do not clearly fit in either category.⁴⁰ Unnecessary lines dividing the sex trafficking industry create prosecutorial challenges in cases that are already difficult due to the “anonymity of the Internet,” pressures not to prosecute certain types of cases, and “blurred jurisdictional boundaries.”⁴¹

For the reasons above, persons trafficked for the production of pornography experience the same type of victimization as those trafficked for prostitution. As will be discussed below, the best way to address this issue under federal law is to use the TVPA to prosecute traffickers in the porn industry.

II. THE LANGUAGE OF OTHER HUMAN TRAFFICKING DIRECTIVES ENCOMPASSES PORNOGRAPHY

Using the TVPA to prosecute pornography trafficking cases is in accordance with how other national and international human trafficking

³⁴ MacKinnon, *supra* note 17, at 994.

³⁵ Melissa Farley et al., *Prostitution and Trafficking in Nine Countries: An Update on Violence and Posttraumatic Stress Disorder*, 2 J. TRAUMA PRAC. 33, 33, 44 (2003).

³⁶ Hughes, *supra* note 13, at 27.

³⁷ MacKinnon, *supra* note 17, at 994.

³⁸ Melissa Farley, Kenneth Franzblau & M. Alexis Kennedy, *Online Prostitution and Trafficking*, 77 ALB. L. REV. 1039, 1039–40 (2014) [<https://perma.cc/24GV-X9SJ>].

³⁹ *Id.* at 1058.

⁴⁰ *Id.* at 1057.

⁴¹ *Id.* at 1040.

directives address pornography and trafficking. A press release announcing the presidential directive on the subject released in 2003 by the Bush Administration set forth the operative definition for human trafficking, describing it as “actions, often including use of force, fraud, or coercion, to compel someone into a situation in which he or she will be exploited for sexual purposes, which could include prostitution or *pornography*.”⁴² In this press release, the Bush Administration plainly intended to include pornography when introducing their plan to combat human trafficking and the direction they intend take on the subject. Although President Obama did release an executive order designed to combat human trafficking, it did not address this definition.⁴³ The 2003 definition from the press release, therefore, remains operative.

The 2000 Palermo Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, was adopted by the United Nations to coordinate the domestic efforts of nations to better battle international human trafficking and to protect the rights of victims.⁴⁴ The first global legal instrument with an agreed upon definition, it defined “[t]rafficking in persons” as:

[T]he recruitment, transportation, transfer, harbouring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation shall include . . . the exploitation of the prostitution of others or other forms of sexual exploitation.⁴⁵

MacKinnon has argued that this definition “clearly cover[s]” pornography as part of sex trafficking.⁴⁶ As she has explained, women are “recruited, transported, provided, and obtained for sex acts” to produce pornography.⁴⁷ For these sex acts, money is given to “pornography pimps.”⁴⁸ MacKinnon has argued that each time the videos or images are bought or sold, the women depicted in it are “transported and provided for sex.”⁴⁹ Because the pornography traffickers are “intrinsically” taking these actions to exploit the prostitution of others, pornography is “trafficking in persons” under the definition set forth in the Protocol.⁵⁰

⁴² Press Release, The White House, Office of the Press Sec’y, Trafficking in Persons National Security Presidential Directive (Feb. 25, 2003) (emphasis added) [<https://perma.cc/CT55-998H>].

⁴³ President Obama has released one executive order on the subject of human trafficking which concerned strengthening protections against trafficking in persons in federal contracts. See Exec. Order No. 13,627, 77 Fed. Reg. 60029 (Sept. 25, 2012).

⁴⁴ G.A. Res. 55/25, U.N. Convention Against Transnational Organized Crime and the Protocols Thereto (Jan. 8, 2001) [<https://perma.cc/ES32-VUVD>].

⁴⁵ G.A. Res. 55/25, annex II, Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children (Jan. 8, 2001).

⁴⁶ MacKinnon, *supra* note 17, at 1004.

⁴⁷ *Id.*

⁴⁸ *Id.*

⁴⁹ *Id.*

⁵⁰ *Id.*

The beginning of the Palermo Protocol definition also looks very similar to the definition of sex trafficking set forth by the TVPA. The TVPA defines “sex trafficking” as “the recruitment, harboring, transportation, provision, or obtaining of a person for the purpose of a commercial sex act.”⁵¹ The TVPA’s definition of sex trafficking differs from that of the Palermo Protocol in its departure from the term “sexual exploitation” and its focus on the trafficker’s purpose to force victims to engage in a “commercial sex act.” However, since the United States has signed and ratified the Palermo Protocol and because former President Bush’s pronouncement remains operative, these definitions can and should be used to interpret the TVPA definition.⁵²

III. BASED ON THE PLAIN LANGUAGE OF THE STATUTE,
PORNOGRAPHY IS PROSECUTABLE AS SEX TRAFFICKING UNDER THE TVPA

Sex trafficking is governed under the TVPA by 18 U.S.C. § 1591, “Sex trafficking of children or by force, fraud, or coercion.”⁵³ In applicable part it states:

(a) Whoever knowingly—

(1) in or affecting interstate or foreign commerce, or within the special maritime and territorial jurisdiction of the United States, recruits, entices, harbors, transports, provides, obtains, or maintains by any means a person; or

(2) benefits, financially or by receiving anything of value, from participation in a venture which has engaged in an act described in violation of paragraph (1),

knowing, or . . . in reckless disregard of the fact, that means of force, threats of force, fraud, coercion described in subsection (e)(2), or any combination of such means will be used to cause the person to engage in a commercial sex act . . . shall be punished . . .⁵⁴

Under the statute, there are three elements that must be met to prosecute a case for sex trafficking of a legal adult. First, force, fraud, or coercion must have been used in the commission of the trafficking act. Second, the trafficked person must have engaged in a commercial sex act. Third, the trafficking act must have in some way affected interstate or foreign commerce. The trafficking of persons to produce pornography is prosecutable under 18 U.S.C. § 1591 because these crimes satisfy all three elements.

⁵¹ 22 U.S.C. § 7102(9) (2012).

⁵² The United States signed the Palermo Protocol on December 13, 2000 and ratified it on November 3, 2005. *Status of Treaties: Chapter XVIII 12.a.*, U.N. TREATY COLLECTION, https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XVIII-12-a&chapter=18&clang=en (last visited Mar. 2, 2017) [<https://perma.cc/3HSB-5RXG>].

⁵³ 18 U.S.C. § 1591 (2012).

⁵⁴ *Id.*

A. Force, Fraud and Coercion are Used to Produce Pornography

Force, fraud, and coercion are used to conscript people to produce pornographic material. While empirical data is scarce in this under-researched area, one study found that approximately one third of the victims of prostitution at a recovery house had been used in the production of pornography.⁵⁵ Additionally, the Freedom Youth Foundation reports that thousands of trafficked young adults are forced to make pornographic films.⁵⁶ First-hand accounts from survivors of the porn industry also abound.⁵⁷ Together, they illustrate a robust culture of force, fraud, and coercion within the porn industry.

More research is needed to determine just how many women are trafficked into pornography every year. This is a difficult undertaking because of the blurred line between pornography and other forms of sex trafficking.⁵⁸ Many victims are involved in multiple types of sex trafficking, including pornography. While more research would be helpful, the available stories from survivors give accounts of abuse very similar to those of trafficking victims.

“C.P.” and “Samantha” are two such survivors.⁵⁹

C.P. was one of five victims who testified at a sentencing hearing for two defendants charged with sex trafficking.⁶⁰ The defendants had invited her to South Florida for a modeling audition.⁶¹ Once she arrived she was instructed to perform an audition for a fabricated alcoholic beverage commercial.⁶² As part of the audition, one of the defendants provided her with an alcoholic beverage laced with a common date rape drug.⁶³ When the drugs had taken effect, she was taken to another location where one

⁵⁵ Hughes, *supra* note 13, at 26. In interviews with 854 people in prostitution in nine countries, 49% reported said pornography was made of them while they were in prostitution. Farley, *supra* note 35, at 44. While this statistic does not solely represent trafficking victims (since, of course, not all women engaged in prostitution are trafficked), it illustrates the integration of pornography and prostitution. This integration can then be inferred to also exist for trafficked women.

⁵⁶ *Human Trafficking*, FREEDOM YOUTH PROJECT, <http://www.freedomyouthproject.org/p/human-trafficking-facts.html> (last visited Mar. 2, 2017) [<https://perma.cc/UF67-AN49>].

⁵⁷ See, e.g., Christy Krumm, *Trafficking Survivor: “I Was Drugged and Forced to Do Porn,”* YOUR TANGO (Nov. 16, 2015), <http://www.yourtango.com/2012129825/i-was-drugged-and-forced-do-porn-surviving-the-sex-trade> (discussing the story of a young woman who was drugged at a job interview and trafficked) [<https://perma.cc/7W7W-K65B>]; Press Release, U.S. Att’y’s Office for the S.D. of Fla., *Two Men Sentenced to Multiple Life Sentences for Enticing Women to South Florida to Engage in Commercial Sex Acts and Distributing Date Rape Pills* (Feb. 17, 2012) [hereinafter *South Florida Case*] (detailing the repeated drugging, rape, and filming of victims in Florida) [<https://perma.cc/VNV8-D7K8>]; *Men Sentenced for Rape and Animal Porn Horror*, EXPATICA (Jan. 27, 2005), http://www.expatica.com/be/news/Men-sentenced-for-rape-and-animal-porn-horror_125985.html (providing an account of four people found guilty of kidnapping three female asylum seekers and filming forced sex acts with men and animals) [<https://perma.cc/8GXX-WNJZ>].

⁵⁸ See Hughes, *supra* note 13, at 26.

⁵⁹ Not their real names.

⁶⁰ *South Florida Case*, *supra* note 57.

⁶¹ *Id.*

⁶² *Id.*

⁶³ *Id.*

defendant filmed while the other had sex with her.⁶⁴ The defendants then sold the videos of her and the other victims over the internet, pornography stores, and other businesses.⁶⁵

Samantha found herself in the porn industry after attending what she thought was a job interview for a modeling agency in Southern California.⁶⁶ During the “interview,” someone slipped drugs into her drink.⁶⁷ A group of men then proceeded to beat and sexually assault her.⁶⁸ Over the course of the following months, the same group of men forced her to work in the porn industry.⁶⁹ They took her identification and threatened to send topless photos of her to her family and friends if she did not cooperate.⁷⁰ Samantha, like C.P., was videotaped in dozens of sexual encounters, all forced, which were distributed as pornography.⁷¹

These types of acts—forced drug use, withholding of identification, threatening to send lewd photos to family and friends—are the same types of force, fraud and coercion seen in other sex trafficking cases. There are “three broad categories of techniques used by . . . traffickers to exploit victims.”⁷² The first and most rare method is kidnapping a victim and enslaving her through force or threats.⁷³ The second method is “using fraud to gain access to a victim and then providing drugs and alcohol to incapacitate them.”⁷⁴ The trafficker then “leverages the psychological impact” of the initial sexual assault to force the victim into other sex acts.⁷⁵ The third, and most common method used by domestic sex traffickers, is known as “grooming.”⁷⁶ This method involves traffickers exploiting the vulnerabilities of their victims, often through a romantic relationship, by convincing them that they are in love.⁷⁷ This relationship eventually turns violent as the pimp convinces the victim to engage in commercial sex acts out of “love” and “devotion.”⁷⁸ A woman may also originally consent to make pornography, but later state that she no longer wants to continue; if she is then forced to continue by physical or verbal threats, or is “impaired

⁶⁴ *Id.*

⁶⁵ *Id.*

⁶⁶ Krumm, *supra* note 57.

⁶⁷ *Id.*

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² Stephen C. Parker & Jonathan T. Skrmetti, *Pimps Down: A Prosecutorial Perspective on Domestic Sex Trafficking*, 43 U. MEM. L. REV. 1013, 1018 (2013).

⁷³ *Id.*

⁷⁴ *Id.*

⁷⁵ *Id.*

⁷⁶ *Id.*

⁷⁷ *Id.* at 1018–19, 1025–29.

⁷⁸ *Id.* at 1025–29. Additionally, the TVPA makes the withholding of identification to coerce an individual a crime in itself. 18 U.S.C. § 1592(a) (2012) makes it a crime to “knowingly destroy[], conceal[], remove[], confiscate[], or possess[] . . . any . . . actual or purported government identification document or another person” to force them into sex trafficking or restrict a trafficking victim’s “liberty to move or travel.”

by drugs and alcohol, there is likely sufficient force, fraud, or coercion to qualify as sex trafficking” under the TVPA.⁷⁹

The only difference between these cases and prostitution is that the women are forced to perform sexual acts before a camera to create media that is then sold to “johns” rather than being forced to have sex with the johns directly. This difference does not affect the most important factor here—that force, fraud or coercion was used to traffic the person, whether in pornography or in prostitution. Therefore, the creation of pornography using trafficking victims satisfies the first element of 18 U.S.C. § 1591.

B. Pornography Is a “Commercial Sex Act”

To prosecute an offense under the TVPA, the trafficking must also be for the purpose of enabling a “commercial sex act.” The TVPA defines a “commercial sex act” as “any sex act, on account of which anything of value is given to or received by any person.”⁸⁰ The most common commercial sex act prosecuted under the TVPA is prostitution.⁸¹ Prostitution may be materially different from pornography for the end user—in prostitution, the john buys a sexual experience with the actual person, whereas the pornography user purchases recorded images of a sex act. The TVPA definition, however, is quite broad and can be used to encompass many types of commercial sexual activity.⁸²

Pornography qualifies as a commercial sex act for two reasons. First, real men and women engage in real sexual acts to create pornographic material.⁸³ Money is exchanged for the performance of these acts, either to the “actors” themselves or to “managers” (who are analogous to pimps in the context of sex trafficking).⁸⁴ In this way, pornography production is absolutely a commercial sex act. The only difference is that it is performed before cameras. Second, as MacKinnon has demonstrated, pornography,

⁷⁹ Busick, *supra* note 5, at 350.

⁸⁰ 18 U.S.C. § 1591(e)(3) (2012).

⁸¹ See Mohamed Y. Mattar, *Interpreting Judicial Interpretations of the Criminal Statutes of the Trafficking Victims Protection Act: Ten Years Later*, 19 AM. U. J. GENDER SOC. POL’Y & L. 1247, 1263 (2011) (“A commercial sex act typically means an act of prostitution.”); Rebecca L. Wharton, Note, *A New Paradigm for Human Trafficking: Shifting the Focus from Prostitution to Exploitation in the Trafficking Victims Protection Act*, 16 WM. & MARY J. WOMEN & L. 753, 754 (2010) (“Despite its alleged goal of reducing human trafficking as a whole, in reality [the TVPA] continues to concentrate on sex trafficking and anti-prostitution efforts . . .”). See generally Marisa Silenzi Cianciarulo, *What is Choice? Examining Sex Trafficking Legislation Through the Lenses of Rape Law and Prostitution*, 6 U. ST. THOMAS L.J. 54 (2008) (presenting the debate of degrees of consent in the sex trade). The crime of prostitution remains a state crime, but trafficking persons to engage in prostitution is a federal offense under the TVPA. Mattar, *supra* note 81, at 1264.

⁸² See *United States v. Marcus*, 487 F. Supp. 2d 289, 306 (E.D.N.Y. 2007), *vacated*, 538 F.3d 97 (2d Cir. 2008), *rev’d*, 560 U.S. 258 (2010), *aff’d in part, vacated in part*, 628 F.3d 36 (2d Cir. 2010) (finding commercial sex acts include pornographic images and video) [<https://perma.cc/N4PZ-EL45>]; *State v. Russell*, No. 08-2034, 2010 WL 786207, at *3 (Iowa Ct. App. Mar. 10, 2010) (finding commercial sex activity as defined in a state statute includes performance in strip clubs) [<https://perma.cc/SD4G-2PSS>].

⁸³ MacKinnon, *supra* note 17, at 997.

⁸⁴ *Id.*

like prostitution, is the experience of “bought sex.”⁸⁵ The purchaser exchanges an item of value (typically, money) in order to obtain from the producer the use of a person.⁸⁶ The buyer then uses the people (in this case, their recorded images) to satisfy their own sexual desire.⁸⁷ The pornographers, like pimps, receive direct monetary benefit for providing the sexual experience.⁸⁸ The exchange of items of value for sexual experience qualifies pornography as a commercial sex act under the TVPA, and therefore meets the second element required for prosecution of trafficking cases.

C. Pornography Exists in Interstate Commerce

The language of the TVPA recognizes that human trafficking has an aggregate economic impact that “substantially affects interstate and foreign commerce.”⁸⁹ One federal appeals court has held that this statutory language itself is sufficient to satisfy the jurisdictional element of interstate commerce.⁹⁰ A district court followed the precedent to hold that “case-specific evidence of interstate activity is not required to sustain [a § 1591] Indictment.”⁹¹

In most other jurisdictions, however, the prosecution must provide evidence showing that the sex trafficking alleged had at least some impact on interstate commerce.⁹² This requirement has a relatively low bar.⁹³ Pornography almost always meets this relatively low bar because, in the digital age, most pornography is purchased and viewed online. From July 2009 to July 2010, approximately 13% of web searches in the United States were for pornographic material.⁹⁴ Sixty-nine percent of the “pay-per-view

⁸⁵ *Id.* at 999.

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ *Id.*

⁸⁹ 22 U.S.C. § 7101(b)(12) (2012). For a discussion on the constitutionality of the TVPA’s interstate commerce element, see generally Mattar, *supra* note 81, at 1277–80.

⁹⁰ See *United States v. Evans*, 476 F.3d 1176, 1179 (11th Cir. 2007) (holding purely intrastate conduct could be prosecuted under the TVPA because human trafficking in the aggregate has an effect on interstate commerce) [<https://perma.cc/V6FW-XHLX>]; see also *United States v. Carrasquillo-Penaloza*, No. 12-728(PG), 2013 WL 1490085, at *3 (D.P.R. Apr. 10, 2013), *aff’d*, 826 F.3d 590 (1st Cir. (2016) (finding defendant’s sex trafficking conduct, when considered in the aggregate of human trafficking violations, had the ability to affect interstate commerce) [<https://perma.cc/N7WC-YK7S>].

⁹¹ *United States v. Williams*, No. 12-60116-CR-RNS, 2012 WL 3242043, at *4 n.4 (S.D. Fla. Aug. 7, 2012) [<https://perma.cc/6HJH-75GP>].

⁹² *Parker & Skrmetti*, *supra* note 72, at 1044.

⁹³ See *United States v. Todd*, 627 F.3d 329, 333 (9th Cir. 2010) (finding sex trafficking using advertising across state lines affected interstate commerce) [<https://perma.cc/J48R-L86U>]; *Evans*, 476 F.3d at 1179 (holding traffickers using hotels that service interstate travelers affected interstate commerce); *United States v. Pipkins*, 378 F.3d 1281, 1295 (11th Cir. 2004) (finding pimps engaged in sex trafficking providing their prostitutes with condoms manufactured out of state and using pagers and phones affected interstate commerce), *vacated on other grounds*, 544 U.S. 902 (2005); *United States v. Windley*, No. CR-10-660-2-PHX-DGC, 2012 WL 2813859, at *3 (D. Ariz. 2012) (holding use of cell phones to coordinate activities related to trafficking satisfied the interstate commerce element) [<https://perma.cc/9FUZ-C349>].

⁹⁴ Julie Ruvalo, *How Much of the Internet Is Actually for Porn*, FORBES (Sept. 7, 2011, 6:00 AM), <http://www.forbes.com/sites/julieruvalo/2011/09/07/how-much-of-the-internet-is-actually-for-porn/>

Internet content market” is pornography.⁹⁵ The pervasiveness of internet pornography means that almost any pornographic image or video posted and exchanged online affects interstate commerce in some way. *United States v. Myers* illustrates how even a single pornographic image posted online can satisfy the interstate commerce element.⁹⁶

In *United States v. Myers*, the government charged two men with sex trafficking of children under § 1591(a)(1) of the TVPA, a provision that also requires the crime affect interstate commerce.⁹⁷ The men had advertised two underage girls for prostitution by posting images of them on Craigslist and Backpage.⁹⁸ At trial, the government called a customer service manager for Craigslist, who testified its websites stored data on servers in California and Arizona, and that payments made to Craigslist were transferred to company accounts in California.⁹⁹ An appeals court affirmed the trial court, finding that this movement of funds through accounts and servers in various states was sufficient to satisfy the interstate commerce element.¹⁰⁰

Following this precedent, the interstate commerce element is satisfied any time pornographic material is bought or sold online, due to the interstate nature of the internet and credit card purchases. The purchase or advertisement of online pornography, therefore, meets the third and final element required for prosecution of trafficking cases under the TVPA.

IV. THE TVPA HAS BEEN USED TO PROSECUTE THE PRODUCTION OF PORNOGRAPHY PREVIOUSLY

Although the TVPA is not yet regularly used to prosecute pornography cases, there is some existing precedent for using the federal law in new ways. For example, in *State v. Russell*, prosecutors used a state statute with language identical to that of the TVPA to charge traffickers for selling the performance of two underage girls in a strip club.¹⁰¹ The state statute stated that a person was guilty of sex trafficking if they “participat[ed] in a venture to recruit, harbor, transport, supply provisions, or obtain a person” for the purpose of “commercial sexual activity.”¹⁰² At trial, the jury was given a very broad definition for “commercial sexual activity” which included “any sex act on behalf of which anything of value is given, promised to, or received by any person and includes, but is not

[<https://perma.cc/UXJ7-SP3G>].

⁹⁵ Aldo Forgiione, *The Good, the Bad, and the Ugly: The Frontiers of Internet Law*, 9 J. INTERNET L. 1, 9 (2005). See generally *Naked Capitalism*, ECONOMIST (Sept. 26, 2015), <http://www.economist.com/news/international/21666114-internet-blcw-porn-industrys-business-model-apart-its-response-holds-lessons> (discussing how the pornography industry has evolved to make money in the digital age) [<https://perma.cc/3PJP-8NLV>].

⁹⁶ 430 F. App’x 812, 815–16 (11th Cir. 2011) [<https://perma.cc/BX9S-YDSD>].

⁹⁷ *Id.* at 813.

⁹⁸ *Id.* at 814, 816.

⁹⁹ *Id.* at 815.

¹⁰⁰ *Id.* at 816–17.

¹⁰¹ No. 08-2034, 2010 WL 786207, at *3 (Iowa Ct. App. Mar. 10, 2010).

¹⁰² Iowa Code § 710A.1(4) (2017) [<https://perma.cc/7BZ3-CA8B>].

limited to, prostitution and performance in strip clubs.”¹⁰³ Performance in strip clubs, like pornography, does not involve the end user having physical sex with the trafficked person. Pornography, however, goes one step beyond a stripping performance, because the trafficked person is still required to have sex, and the trafficker then profits off of that act. Therefore, if performance in strip clubs is considered a sexual activity that can be prosecuted under sex trafficking statutes, then surely pornography can be as well.

United States v. Marcus, in which the Eastern District of New York held that pornography was a commercial sex act, provides the best example of using the TVPA to prosecute trafficking within pornography.¹⁰⁴ In this case, the complaining witness, Jodi, became interested in bondage, dominance/discipline, submission/sadism, and masochism (BDSM) through internet chatrooms.¹⁰⁵ Shortly after she began exploring the world of BDSM, Jodi met the defendant, Glenn Marcus, in an online chat room.¹⁰⁶ After a short online relationship, in which Jodi shared with the defendant that she had previously been subjected to emotional and physical abuse, Jodi agreed to move into the apartment of Joanna, another woman who was a “slave,” of the defendant.¹⁰⁷

Over the following months, Marcus exercised strict control over Jodi, visiting the apartment every one to two weeks and staying for a couple of days.¹⁰⁸ During these stays, he required Jodi, Joanna, and other women to engage in sexual activities with him.¹⁰⁹ Jodi and the other women had to follow strict rules, and Marcus shaved Jodi’s head, branded her with a coat hanger, denied her medical attention, prohibited her from speaking to her friends or family, and verbally abused her.¹¹⁰ He photographed many of the BDSM activities and posted these photos on a website called Subspace.¹¹¹

The defendant became increasingly violent towards Jodi. Once, when Marcus discovered that she wanted to leave, he closed her lips shut with surgical needles, beat her severely with a cane for an extended period of time, attempted to sew her vagina shut, and cut her with a knife.¹¹² At trial, the court found that at this point, when Marcus acted with increased violence because Jodi wished to leave, their relationship was no longer consensual.¹¹³ Additionally, Jodi witnessed Joanna, the other “slave,” tell Marcus that she no longer wanted to serve him.¹¹⁴ In response, Marcus

¹⁰³ *Russell*, 2010 WL 786207, at *3.

¹⁰⁴ 487 F. Supp. 2d 289 (E.D.N.Y. 2007), *vacated*, 538 F.3d 97 (2d Cir. 2008), *rev'd*, 560 U.S. 258 (2010), *aff'd in part, vacated in part*, 628 F.3d 36 (2d Cir. 2010).

¹⁰⁵ *Id.* at 292–93.

¹⁰⁶ *Id.* at 293.

¹⁰⁷ *Id.*

¹⁰⁸ *Id.* at 294.

¹⁰⁹ *Id.*

¹¹⁰ *Id.*

¹¹¹ *Id.*

¹¹² *Id.* at 295.

¹¹³ *Id.* at 295–96.

¹¹⁴ *Id.* at 296.

threatened to send photographs and video of Joanna engaged in BDSM activities to her father and to kill her godson.¹¹⁵ This incident convinced Jodi that if she ever attempted to leave Marcus, he would send her family pictures or harm them.¹¹⁶

Soon after, the defendant required Jodi to create and manage a new website called Slavespace.¹¹⁷ Jodi worked on this website constantly, updating photographs and diary entries.¹¹⁸ If she refused to work on the site or failed to post things quickly, the defendant would verbally and physically abuse her, photograph these punishments, and post the pictures to the site.¹¹⁹ He collected all revenues generated by the website, several hundred dollars a month.¹²⁰ During the time he was making this revenue, several of the pictures on the website were of Jodi being punished in nonconsensual incidents.¹²¹

In a jury trial, Marcus was convicted under the TVPA on charges of sex trafficking and forced labor.¹²² The sex trafficking charge was based on the fact that he had made money from posting pornographic pictures of Jodi on the website.¹²³ The defense moved for a judgment of acquittal or for new trial on several grounds.¹²⁴

Before the district court, the defendant argued that he could not be found guilty of sex trafficking because the meaning of “commercial sex act” under the TVPA did not include “commercial gain [that] resulted from the depiction of sex acts rather than from the acts themselves.”¹²⁵ This interpretation of the term would have limited the purview of the TVPA to prostitution, thus excluding pornography.¹²⁶ The court disagreed with this interpretation, instead finding that “commercial sex act” has a broad definition of “any sex act, on account of which anything of value is given to or received by any person,” and this definition provided “no basis for limiting the sex acts at issue to those in which payment was made for the acts themselves.”¹²⁷ Therefore, the court held that there need only exist a causal relationship between the sex act and an exchange of something valuable, and, consequently, pornography was a commercial sex act for purposes of criminal liability under the TVPA.¹²⁸ Marcus’s sex trafficking conviction was eventually vacated on other grounds, and no superior court has ever addressed the issue of whether pornography is a commercial sex

¹¹⁵ *Id.*

¹¹⁶ *Id.*

¹¹⁷ *Id.*

¹¹⁸ *Id.*

¹¹⁹ *Id.*

¹²⁰ *Id.*

¹²¹ *Id.*

¹²² *Id.* at 297.

¹²³ *Id.* at 306.

¹²⁴ *Id.* at 297.

¹²⁵ *Id.* at 306.

¹²⁶ *Id.*

¹²⁷ *Id.* at 306 (citing 18 U.S.C. § 1591(c)(1) (2006)).

¹²⁸ *Id.* at 307.

act for purposes of prosecuting these types of cases under the TVPA.¹²⁹

V. USING THE TVPA TO PROSECUTE PORNOGRAPHY CASES FURTHERS ITS ORIGINAL POLICY GOALS

Congress passed the TVPA with three goals in mind: prosecution, protection, and prevention.¹³⁰ This requires criminalizing trafficking by passing and enforcing appropriate laws (prosecution), identifying victims and providing them with comprehensive services (protection),¹³¹ and reducing the demand for human trafficking, in part by raising awareness of the inhumane practices involved in the trafficking trade (prevention).¹³² Courts have interpreted the TVPA broadly to encompass a variety of activity in order to meet these policy goals.¹³³

One concern of proponents of the prosecutorial potential of the TVPA has been that the act has failed to effect its stated policy goals because of an insufficient number of federal prosecutions.¹³⁴ For example, from 2001 to 2005, the Department of Justice (DOJ) prosecuted only ninety-one trafficking cases and convicted only 140 of 248 defendants.¹³⁵ While the DOJ has greatly increased the number of trafficking cases filed in recent years, the new National Strategy to Combat Human Trafficking recently released by the DOJ re-emphasized the importance of new strategies to fight this complex crime.¹³⁶ Expanding the type of cases that are prosecuted

¹²⁹ Following the district court's denial of defendant's movement for judgment of acquittal or new trial, Marcus appealed on ex post facto grounds, leading to lengthy post-conviction proceedings that eventually resulted in the Second Circuit vacating the sex trafficking conviction with respect to 18 U.S.C. § 1591. See *United States v. Marcus*, 538 F.3d 97, 101–02 (2d Cir. 2008) (vacating and remanding because, under plain error review, Marcus's convictions violated the ex post facto clause); *United States v. Marcus*, 560 U.S. 258, 266–67 (2010) (reversing and remanding because Marcus's contention implicated the Due Process Clause, and the court of appeals' standard for plain error review, as applied to Marcus's claim, was inconsistent with precedent); *United States v. Marcus*, 628 F.3d 36, 45–46 (2d Cir. 2010) (affirming forced labor conviction, but vacating sex trafficking conviction because the district court's failure to instruct the jury with respect to the TVPA's enactment date was plain error that affected substantial rights). The government elected not to retry Marcus on the sex trafficking count, and he was resentenced on the forced labor count. *United States v. Marcus*, No. 05–CR–457–ARR (E.D.N.Y. Mar. 12, 2012) (amended judgment).

¹³⁰ 22 U.S.C. § 7101(a) (2012) (“The purposes of this division are to combat trafficking in persons, a contemporary manifestation of slavery whose victims are predominantly women and children, to ensure just and effective punishment of traffickers, and to protect their victims.”); see also Press Release, The White House, Office of the Press Sec’y, The Obama Administration’s Record on Human Trafficking Issues (Apr. 9, 2013) (explaining the Department of State’s approach under President Obama to target trafficking, utilizing the “3P” framework of *prosecuting* traffickers, *protecting* survivors, and *preventing* victimization, which is reflected in the UN’s Palermo Protocol and the Trafficking Victims Protection Act” (emphasis added)) [<https://perma.cc/PZ7N-4834>].

¹³¹ Press Release, The White House, Office of the Press Sec’y, *supra* note 130.

¹³² *Id.*

¹³³ Jennifer A.L. Sheldon-Sherman, *The Missing “P”: Prosecution, Prevention, Protection, and Partnership in the Trafficking Victims Protection Act*, 117 PENN. ST. L. REV. 443, 469 (2012) [<https://perma.cc/F2LY-8F5S>].

¹³⁴ *Id.* at 446.

¹³⁵ Kevin Shawn Hsu, Note, *Masters and Servants in America: The Ineffectiveness of Current United States Anti-Trafficking Policy in Protecting Victims of Trafficking for the Purposes of Domestic Servitude*, 14 GEO. J. ON POVERTY L. & POL’Y 489, 501 (2007).

¹³⁶ U.S. DEP’T OF JUSTICE, NAT’L STRATEGY TO COMBAT HUMAN TRAFFICKING 1 (2017)

under the TVPA provides another tool that can be used by the DOJ. Specifically, prosecuting pornography cases provides a fruitful way to further the policy goals of the TVPA by conveying that any type of sex trafficking is intolerable, even if it is under the guise of a legitimate business. Additionally, if these cases gain media attention, it could help to educate pornography users and the larger public about the relationship between human trafficking and the pornography industry and the harms inflicted on trafficked people whose traffickers exploit them through the creation of pornographic media.

The *Marcus* court's decision to take an expansive understanding of the term "commercial sex act" also furthered TVPA's policy goals. The court noted that the congressional findings in the TVPA recognized that "[t]he sex industry has rapidly expanded over the past several decades. It involves sexual exploitation of persons, predominantly women and girls, involving activities related to prostitution, pornography, sex tourism, and other commercial sexual services."¹³⁷ The congressional findings also state that there is a lack of "comprehensive law . . . that penalizes the range of offenses involved in the trafficking scheme."¹³⁸ The court reasoned that this finding supported the idea that construing commercial sex acts broadly focuses the factual inquiry and places the emphasis on whether an individual has been sexually exploited for profit.¹³⁹ The court sought to remove the emphasis from how the traffickers profited from the exploitation, finding that instead placing the emphasis on the question of exploitation is "more consistent with the statute's purpose."¹⁴⁰

CONCLUSION

To battle the pervasive nature of domestic and international sex trafficking, prosecutors must take creative approaches to the problem. One such creative approach includes using the TVPA to address human trafficking within the pornography industry. The broad language of the act is designed to be applicable to any type of sex trafficking and this language facilitates the use of the statute as a tool to address the varieties of exploitation linked with human trafficking. Trafficking to create pornographic materials is intertwined with other forms of sex trafficking, and it is equally pernicious and exploitative. In the TVPA, federal prosecutors have a powerful tool to punish and deter all sex traffickers, including those who profit from pornography, and to protect all vulnerable people that are victimized by these traffickers. They should use it.

("Between Fiscal Years (FYs) 2009 and 2016, the Department increased the number of trafficking cases filed, in comparison to the previous eight years, by 79 percent, the number of defendants charged by 71 percent, and the number of defendants convicted by 68 percent . . .") [<https://perma.cc/9UP4-VW4K>].

¹³⁷ *United States v. Marcus*, 487 F. Supp. 2d 289, 306–07 (E.D.N.Y. 2007) (citing 22 U.S.C. § 7101(b)(2) (2006)).

¹³⁸ *Id.* at 307 (citing 22 U.S.C. § 7101(b)(14)).

¹³⁹ *Id.*

¹⁴⁰ *Id.*

Aggression and Sexual Behavior in Best-Selling Pornography Videos: A Content Analysis Update

Violence Against Women

16(10) 1065-1085

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DOI: 10.1177/1077801210382866

<http://vaw.sagepub.com>



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Abstract

This current study analyzes the content of popular pornographic videos, with the objectives of updating depictions of aggression, degradation, and sexual practices and comparing the study's results to previous content analysis studies. Findings indicate high levels of aggression in pornography in both verbal and physical forms. Of the 304 scenes analyzed, 88.2% contained physical aggression, principally spanking, gagging, and slapping, while 48.7% of scenes contained verbal aggression, primarily name-calling. Perpetrators of aggression were usually male, whereas targets of aggression were overwhelmingly female. Targets most often showed pleasure or responded neutrally to the aggression.

Keywords

content analysis, pornography

The pornography industry remains fast growing and lucrative, with annual sales growing from US\$8 billion in 1996 (Stack, Wasserman, & Kern, 2004) to more than US\$12 billion by 2005 (Adult Video News [AVN], 2006). Currently, more than 13,000 adult videos are produced annually in the United States, an increase of 60% over the same 10-year period (AVN, 2006). By comparison, the major Hollywood studios released 507 new titles in 2005,

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with domestic revenues of US\$8.8 billion (Motion Picture Association of America [MPAA], 2010). Although consumers access pornographic materials in a number of forms—including the Internet, cable and hotel video-on-demand, the telephone, and magazines—videotapes (VHS) and digital video discs (DVD) still generate the most income (AVN, 2006). In fact, rentals at adult video stores increased from US\$75 million in 1986 to US\$665 million just 10 years later (Stack et al., 2004), culminating in over 950 million adult videos rented annually by 2005 (AVN, 2006). Video rentals generated more than US\$4.28 billion in 2005, representing 34% of the total market for all adult products (AVN, 2006).¹

The research community has focused largely on the effects of pornography consumption and, consequently, hotly contested debates have surfaced regarding whether all pornography or particular types of pornography are cause for alarm. In contrast to effects studies, comparatively few studies have attempted to systematically document the content patterns in pornographic materials, leading to some unsubstantiated claims regarding its nature. As Nina Hartley (2005), a self-described feminist pornography performer and producer, states, “by focusing on one or two examples [that one] finds particularly heinous, [one] obscures the broader truth, which is that the marketplace of sexual entertainment contains products for almost every taste and orientation, including material made by and for heterosexual women and couples, lesbians and gay men” (p. 1). Such claims of content diversity elude questions about audience composition and preferences. Our study joins a relatively small number of precursors in performing a systematic content analysis of top-circulating adult videos, thereby illuminating the current status of the themes and messages apparent in popular pornography, offering a vital update to the existing bodies of work available.

At the heart of many of the controversies about pornography is the topic of aggression and degradation. The social significance of these issues is undeniable, as much of the pornography effects research has shown pornography is more likely to have a negative influence on the thoughts, attitudes, or behavior of audience members if it features aggression (e.g., Donnerstein, Linz, & Penrod, 1987; Linz, Donnerstein, & Penrod, 1987). Experimental evidence suggests that degrading pornography increases dominating and harassing behavior toward women (Hall, Hirschman, & Oliver, 1994; Mulac, Jansma, & Linz, 2002), harsher evaluations of their real-life partners (Jansma, Linz, Mulac, & Imrich, 1997), and loss of compassion for female rape victims (Zillmann, 1989; Zillmann & Bryant, 1982).

Literature Review

Defining Pornography and Other Key Terms

Difficulties in conducting a content analysis of pornographic movies include defining what constitutes such media texts and measuring key concepts such as violence, sexual violence, and degradation. The Attorney General’s Commission on Pornography (1986) defined pornography as “material predominantly sexually explicit and intended for purposes of sexual arousal” (pp. 228-229). Pornography has also been defined as “any sexually explicit material to which access was limited, either by signs or physical structure, to adults” (Barron & Kimmel, 2000, p. 162).

There is also considerable disagreement regarding whether violence and degradation are two separate concepts or one unified concept. Palys (1986), for example, treats violence and degradation separately (definitions appear in the next section), whereas Dines, Jensen, and Russo (1998) have considered degradation a type of violence, and Cowan and colleagues (Cowan, Lee, Levy, & Snyder, 1988) have conceived of violence as a type of degradation. McKee (2005) chooses to use the word *objectification* to encompass the dehumanizing depiction of some characters in pornography and has suggested violence is a subtype of (as well as a causal contributor to) objectification. A review of content analysis research (McKee, 2005) reveals that degrading depictions in pornography are typically defined as those that (a) encompass unusual or non-normative sexual practices (with the assumption that participation in these acts intrinsically is degrading to a character) and (b) imply differences in status between or among characters.

Violence, too, has proven to be a difficult concept to define and measure in past content analyses. Typically, physical acts are necessary for most content analysts to code something as violent, although verbal aggression is sometimes measured as a separate item in the analysis. Typically, definitions of violence include behaviors directed from one character to another that are intended to cause harm, with the recipient motivated to avoid such harm (Donnerstein et al., 1987). However, such definitions require knowledge about perpetrator intentions and target motivations, both difficult to codify with high reliability as they require the analysis of potentially complex sets of behaviors and subjective appraisals. Other scholars, such as Gerbner and colleagues (Gerbner, Gross, Jackson-Beeke, Jeffries-Fox, & Signorielli, 1978), have argued for the importance of coding violence that appears to be inconsequential, as this oftentimes captures aggressive or violent acts that have been naturalized. As a remedy to the “intentionality” trap, Gerbner et al. (1978) offered the definition of violence as an “overt expression of physical force, with or without weapon, against self or other, compelling action against one’s will on pain of being hurt or killed, or actually hurting or killing” (p. 179). Gerbner et al.’s definition retains the problem of the agency of the recipient of violent acts. That is to say, Gerbner et al. distinguish violence when the violent act is “against one’s will,” under duress of what might be constructed as “pain of being hurt” or “actually hurting or killing,” leaving open the subjective interpretations to the actions or expressions of the character on the receiving end of violence and aggression.

Indeed, the focus on intention of the perpetrators (or aggressors) and the response of the targets (or victims) in defining violence is an area of great debate and tension. McKee (2005) argues that “consent” is ultimately important in sex acts. Thus, acts of bondage or domination/discipline in consensual sadomasochism pornography scenes are not considered violent, even if the targets of these acts experience pain. However, the genre of pornography oftentimes requires the apparent enjoyment of actors and actresses to all that occurs (Bridges, 2010), such that any touch or position by one actor to another is met with near orgasmic pleasure. If the genre requires meeting any act bestowed on a character as an act of pleasure, and if definitions of aggression require a target to be motivated to avoid harm, then a priori we can assert that none of these acts would be coded as violent or aggressive (save for a few films that are particularly focused on overt pain or harm—certainly not mainstream pornography of the kind analyzed in McKee, 2005). This results in a rendering of aggressive acts as invisible when they occur within the context of sex.

Based on the central tenets of social cognitive theory (Bandura, 1994, 2001), a crucial element in observed instances of aggression is whether the aggressive act is met with a favorable or an unfavorable response. A favorable response—for instance, one in which a character gets away with being aggressive rather than is punished, or even one in which that character is rewarded after being aggressive—sends a permissive message about aggression to audiences. However, an unfavorable response—in which a character who is aggressive receives an admonition or punishment or in which the recipient of the aggression is shown to be harmed—sends a prohibitive message about aggression to audiences.

Evidence From Prior Content Analyses

The closest parallels to the research at hand are previous content analyses of adult videos. Other media forms used to distribute pornography have also been subject to content analysis, including magazines (Malamuth & Spinner, 1980; Matacin & Burger, 1987; Scott & Cuvelier, 1993) and the Internet (Gossett & Byrne, 2002). Yet we focus here on studies that have explored the content of pornographic videos available for purchase or rental, as the present study was of adult videos only.

Method of Sampling

Content analyses of pornographic videos oftentimes have used sampling methods of convenience, limiting their generalizability. Some studies have selected movies from only one adult video locale (Duncan, 1991; Yang & Linz, 1990). Others have used multiple adult movie rental stores and popular rental lists but continued to be bound by geographic location (Cowan et al., 1988). In an attempt to overcome geographic limitations, some researchers have used local branches of national rental chains (Monk-Turner & Purcell, 1999). Only one recent content analysis sampled best-selling adult videos from two mail order international catalogs (McKee, 2005). Sampling adult videos from lists of popular titles is particularly clever if the content analysis aims to describe what most people view, although more specific genres may be explored for other reasons.

Aggression in Pornographic Videos

Estimations of the frequency of physical aggression in adult videos have varied from as low as 1.9% (McKee, 2005) to 26.9% (Barron & Kimmel, 2000). Other estimates suggest that approximately one quarter of adult videos contain aggression (Cowan et al., 1988). Notably, McKee coded violence only when an act was clearly intended to cause harm *and* was met with resistance by the target of aggression. Therefore, acts where the target appeared to enjoy the harm or aggression, or where there was no active attempt to avoid the harm, were not coded as “violent.” This is particularly important, as frequently targets of pornographic video aggression do not actively resist the aggressive act (Prince, 1990).

Generally speaking, prior content analyses of pornographic videos have not assessed verbal aggression rates. When examined, verbal aggression rates had a tendency to be lower than physical aggression (Cowan et al., 1988), occurring in approximately 20% of adult scenes.

Regardless of levels of aggression present in these pornographic scenes, men are more frequently the perpetrators of aggression while women are more frequently the targets (Cowan & Campbell, 1994; Prince, 1990). Furthermore, studies that have examined interracial pornography have found that aggression levels increase when men and women are of different ethnicities (Cowan & Campbell, 1994; Monk-Turner & Purcell, 1999).

Sexual Behavior in Pornographic Videos

A number of content analytic studies of pornography have coded frequency and types of sexual behaviors. Again, gender disparities are often present and appear to be aimed at reflecting the desires of the (mostly) male audience. For example, women more often perform oral sex than vice versa (McKee, 2005; Yang & Linz, 1990). Such sexual acts appear to focus more on men's sexual pleasure and arousal rather than that of their female partners. Although both men and women initiated sexual encounters with approximately equal frequency across the set of studies (e.g., Prince, 1990), men were significantly more likely to be portrayed in a dominant role (Barron & Kimmel, 2000; Cowan et al., 1988).

Most sexual scenes in pornography terminate following the visible ejaculation of the male character(s). Some theorists contend that the visibility of the male ejaculation is "proof" of sexual pleasure and orgasm (Williams, 1999). Other scholars, however, have argued that the *location* of male ejaculation is a primary component of female degradation that links the male sexual imagination with misogyny and objectification (Schauer, 2005). The importance of ejaculation location is evident in prior analyses' attempts to code for this. Men ejaculate on a woman's body with high frequency: one study reported 85% of scenes depicted ejaculation on a woman (Monk-Turner & Purcell, 1999). While ejaculation on a woman's body in general may be seen as degrading, some have argued that male ejaculation on a woman's face is particularly degrading (Schauer, 2005) and occurs with regularity in pornography. For example, Cowan and Campbell (1994) found that 43% of White women and 28% of Black women in interracial pornography were portrayed with men ejaculating on their faces.

In conclusion, there is ample evidence of a disproportionately distributed agency, coupled with acts of violence, that have allowed critics to interpret a significant number of acts in pornography as degrading. Given that women are overwhelmingly the recipients of aggressive behavior and rarely have agency to either avoid or resist these acts, the placement of sexual acts within such a context has led critics to have extrapolated an interpretation suggesting that pornography caters to the sexual pleasure of men over that of women. In the interracial texts analyzed, more aggression is directed toward White women than their Black counterparts (Monk-Turner & Purcell, 1999). Forms of violence termed *extreme*, such as rape, use of weapons, or depictions of murder, are uncommon (Barron & Kimmel, 2000).

Indeed, the vicissitudes of the pornography industry and its distribution techniques prove problematic to any content analysis study. Currently, more than 13,000 sexually explicit titles are produced annually (AVN, 2006), employing diffuse and nontraditional distribution channels. Pornographic videos, unlike Hollywood films, are almost always viewed in the privacy of one's home, using VHS/DVD players, cable pay-per-view or, more recently, through Internet transmission. Pornographic videos are most commonly obtained through local retail video chains or through the recent phenomenon of online adult-only video rental services.

Reliable and consistent data that indicate the popularity of movies have historically been difficult to obtain.

Finally, differences in coding violent and degrading behavior have made it challenging to obtain consistent estimates of aggression in pornography. Definitions that are contingent on intent or target reactions are problematic for two reasons. First, abstract concepts such as “intent” and “harm” are difficult to translate into specific observable behaviors, thereby making coding a daunting task. Second, although pornography portrays real sexual activity, the portrayers remain “actors” and may not be demonstrating a genuine response to certain acts. In addition, directors are also free to edit and reshoot scenes to obtain the perpetrator and target responses that they choose.

The present study sought to overcome these obstacles by (a) using sampling methods that permit wider generalizability and limit geographic constraints, (b) using a “gold standard” for coding aggression in television (National Television Violence Study, 1998), and (c) including both the perpetrators’ and the targets’ responses to aggression. To our knowledge, this study is also the first to code certain “nonnormative” sexual acts and to relate specific sexual acts to aggression or degradation.

Study Aims

The primary aim of the study is to provide an updated content analysis of popular pornographic videos. We examine aggression in the films as well as which variables, such as character gender and sexual behaviors, are associated with the presence of aggression. For the sake of clarity and precision in coding, *aggression*—a term used instead of *violence* to signify a range of acts both severe and relatively minor—is operationalized as a specific set of behavioral variables. In contrast, degradation is inferred separately in our discussion of key findings rather than coded directly.

Furthermore, we explore the central concept of consent in defining aggressive acts in analyses of what characters express immediately in response to a violent incident or interaction. In so doing, this study permits the separation of aggressive actions by perpetrators from target responses, thereby allowing the comparison of the current results to results obtained by others who have used more narrow definitions of aggression that focus on target avoidance of harm or intention of the perpetrator of an aggressive act.

Method

Population and Sample

In the current study, the designation of the films examined as “adult films” was ready-made by employing lists provided by AVN. The population of titles for this research was drawn from a compilation of 250 best-selling and 250 most rented video lists published monthly by AVN. The researchers selected the top 30 videos appearing on each list from December 2004 to June 2005.² After deleting duplications, the population consisted of 275 titles (AVN, 2005). Fifty titles were randomly selected from this list to comprise the sample, yielding

a total of 304 scenes. The sample, therefore, is meant to be generalized to the top titles of this 7-month period.

Operational Definitions of Concepts

Two units of analysis were used in the present study: each scene and each aggressive act. A *scene* was defined through the demarcation of the DVD menu, taken from the "scene selections" option available on the main menu of most adult DVDs. In the rare instance that the DVD recording did not contain clear scene demarcations, a new scene was recorded if the primary characters changed, or if the setting changed, or if a temporal break occurred. We describe first the scene level variables we coded (characters, sex acts, ejaculation position, presence of aggression, and presence of positive behaviors). We then describe the aggressive act level variables we coded (type of aggressive act, perpetrators and targets of aggression, response of target to aggression).

Scene-Level Variables

Primary characters. Primary characters were defined as only those characters engaged in explicit sexual interaction present within the scene. Each primary character's *gender* and *race* were recorded, using definitive visual cues such as genitalia, dress, skin color, facial features, and accents. *Gender* was recorded as "male," "female," "transsexual," or "other" (for instances where a primary character was not visible, such as wearing a full body suit or other outfit that did not provide definitive visual cues). Primary character's *race* was recorded as "White," "Black," "Asian," "Latino/a," "Other," or "Unknown." Although we attempted to code primary characters' approximate ages (<18 years, 18-30 years, >30 years), analyses revealed insufficient intercoder reliability. Therefore, the age variable was dropped from further analyses. However, we conduct and report qualitative observations of film titles, costume, and dialogue that suggest underage performers.

Other visible aspects of scene. Coders were instructed to record the presence of the following scene characteristics: condoms; sex toys or other objects used sexually; and/or discussions of sexually transmitted diseases, pregnancy, or safe sex.

Ejaculation position. In scenes containing at least one male primary character who ejaculated, coders were instructed to mark the location where male ejaculation occurred, using the following choices: *mouth, face, breast, stomach, buttocks, vagina (internal), vagina (external),* or *other*. In the event of multiple, simultaneous ejaculations, coders were instructed to record *multiple locations* and specify the predominant location.

Sex acts. Coders were instructed to use definitive visual cues to determine the presence of the following sexual acts: *male-to-female oral sex* (man performing oral sex on woman), *female-to-male oral sex, female-to-female oral sex, male-to-male oral sex, vaginal penetration with penis, vaginal double-penetration* (simultaneous vaginal intercourse between one woman and two men), *simultaneous vaginal and anal penetration* (one woman being penetrated simultaneously, anally and vaginally, by two men), *group sex* (numerous characters simultaneously engaged in various sexual acts), *anal penetration with penis, anal*

double-penetration (one woman being anally penetrated simultaneously by two men), and *ass-to-mouth (ATM) sequence* (where the woman performs oral sex on a man immediately after he has penetrated her anally). To our knowledge, no previous content analysis study of pornography has coded double penetrations, simultaneous penetrations, or ATM sequences. An additional open-ended response allowed coders to code other sexual acts, including rape and bestiality.

Positive behaviors. Coders were provided with some examples of positive behaviors as identified by various sex and relationship researchers (e.g., Denney, Field, & Quadagno, 1984; Guo, Ng, & Chan, 2004), such as kissing, hugging, and/or giving one another compliments and coded for their presence. In addition, any positive behaviors represented within the scene were qualitatively described.

Aggression. Aggressive acts were recorded according to two specific subtypes: verbal and physical. *Physically aggressive acts* were (a) pushing or shoving; (b) biting; (c) pinching; (d) pulling hair; (e) spanking; (f) open-hand slapping; (g) gagging (defined as when an object or body part, e.g., penis, hand, or sex toy, is inserted into a character's mouth, visibly obstructing breathing); (h) choking (when one character visibly places his or her hands around another character's throat with applied pressure); (i) threatening with weapon; (j) kicking; (k) closed-fist punching; (l) bondage or confining; (m) using weapons; and (n) torturing, mutilating, or attempting murder. *Verbally aggressive acts* were (a) name calling or insulting and (b) threatening physical harm. Coders indicated whether each scene contained verbal aggression (yes/no) and physical aggression (yes/no).

Aggressive Act–Level Variables

Acts of aggression within each scene were recorded using the PAT technique, as outlined in the National Television Violence Study (1998). The PAT technique permits the tallying of instances of aggression by counting as a unique act each time the perpetrator (P), target (T), or specific *physical* or *verbal* aggressive act (A) changes during the course of the scene. An individual instance of aggression is recorded only when one or more of these three components changes, subsequent to initiation of the first aggressive act.

In the current study, a modified definition of aggression that was introduced by Mustonen and Pulkkinen (1993) is employed, with aggression defined as any purposeful action causing physical or psychological harm to oneself or another person, whereby psychological harm is understood as assaulting another verbally or nonverbally. This definition avoids the coding of harmful behaviors that are accidental or aggressive behaviors that occur with inanimate objects (such as throwing a vase against the wall). However, by removing the requirements that the target must avoid the harm, this definition better conforms to the manner in which aggressive acts are often depicted in pornographic movies. Furthermore these aggressive behaviors are of a sexual nature (occurring before, during, or after sex).

The genders of the perpetrators and targets of each aggressive act were recorded. *Gender of Perpetrator* was recorded as either "male," "female," "other," or "unknown" if the perpetrator was not readily visible (e.g., outside the camera lens). *Gender of Target* used the same scheme while also adding "self" to record those aggressive acts that were self-inflicted.

Response of Target to Aggression

In the study at hand, not only are aggressive acts distinguished (e.g., verbal vs. physical) and tallied but also are the responses of the characters to aggressive incidents and interactions recorded. The response of the targets and the perpetrators' reactions are critical to understand the potential media effects. Target and perpetrator responses to each aggressive act were recorded as follows: (a) *Target expresses pleasure or responds neutrally*—In this instance, the target expressed pleasure either verbally or physically or did not appear affected in any manner by the aggressive act, and the scene continued without interruption. (b) *Target expresses displeasure; perpetrator ignores*—The target expressed displeasure at being aggressed against, either verbally or physically, which the perpetrator ignored. (c) *Target expresses displeasure; perpetrator acknowledges with positive act*—The target expressed displeasure at being aggressed against, verbally or physically, and the perpetrator either stopped the aggressive action or expressed remorse. (d) *Target expresses displeasure; perpetrator acknowledges with negative act*—The target expressed displeasure at being aggressed against, either verbally or physically, and the perpetrator increased the aggressive action(s) in severity or frequency or continued with other aggressive acts.

Intercoder Reliability

The sample was coded by three female coders of differing age, race, and educational backgrounds. All were highly trained in the method and coding scheme. Prior to coding the actual sample, the authors coded a randomly chosen pornographic film to devise the method and coding schemes. Coders were given an initial training session conducted by one of the authors, where one pilot video was viewed and the coding scheme was discussed in detail. The coders then independently coded five titles from the sample (for a total of 26 scenes), and reliability results were computed. After the initial round yielded unacceptable rates of agreement, minor changes and definitional clarifications were executed. The coders recoded the same five films, reaching acceptable levels of agreement on nearly all variables. When disagreements arose, they were discussed in detail until resolved. On the third round of pilot testing, using Holsti's coefficient of reliability for all variables, it was determined that the overall composite level of agreement across all variables and all pairs of coder comparisons was 0.958 (see appendix). Having established an acceptable rate of agreement in the pilot data, the three coders coded the remaining films using the same techniques and operational definitions from the third round of pilot testing.

Analytic Strategy

To address primary aims, we provide frequencies and percents of scene-level and aggressive act-level variables. We provide means and standard deviations for the number of aggressive acts contained in scenes. We conduct chi-square analyses to explore gender differences in aggression. Furthermore, we conduct a series of binary logistic regressions to explore how the gender composition of primary characters and the sexual acts portrayed in the scenes

relate to the presence of verbal and physical aggression. Finally, we provide qualitative observations of film titles, costumes, and dialogue that relate to illegal content (specifically, pornography that gives the appearance of underage performers).

Results

Characters

The number of main characters that were portrayed in a given scene ranged from 1 to 19, with an average of 3.23 ($SD = 2.09$). Males comprised 53.1% of the main characters. The majority of characters (82.2%; $n = 804$) were White. A total of 8.8% ($n = 78$) of main characters were African American, 2.7% were Latino/a, and only 2.5% ($n = 24$) were Asian. Ethnicity was unable to be determined for 3.7% of main characters.

Sexual Health and Sexual Devices

Of the 304 scenes analyzed, only one (0.3%) showed characters discussing pregnancy concerns or the risks of sexually transmitted diseases. Condoms were used in 10.9% ($n = 33$) of scenes. Sexual devices, such as vibrators, were used in 19.1% of scenes.

Sexual Acts

The most frequent sexual act portrayed in the sample was female-to-male oral sex, appearing in 90.1% ($n = 274$) of the scenes coded. Vaginal intercourse was the second-most frequent sexual act, appearing in 86.2% ($n = 262$) of the scenes. Male-to-female oral sex was found to occur in 53.9% ($n = 164$) of the scenes coded, less than anal sex which appeared in 55.9% ($n = 356$) of the scenes. Portrayals of sexual activities between characters of the same gender occurred only for women, with female-to-female oral sex taking place in 22.7% ($n = 69$) of the scenes.

“Nonnormative” Sex Acts

The ATM sequence occurred in 41.1% ($n = 125$) of scenes. Double penetrations of any type occurred in 19.1% ($n = 58$) of scenes. Simultaneous vaginal/anal penetration was the most frequently occurring double penetration (18.1% of scenes; $n = 55$). Less common were double vaginal (1.6%; $n = 5$) and double anal penetrations (2.0%; $n = 6$). None of the scenes coded contained illegal sex acts, including bestiality, rape, and pedophilic acts.

Ejaculation

Male character ejaculation almost always occurred outside the female character's vagina, most frequently in her mouth (58.6%; $n = 178$). Less common locations included the female character's anus (11.8%; $n = 36$), breasts (6.9%; $n = 21$), and face (3.9%; $n = 12$). Multiple

Table 1. Frequency and Types of Aggressive Acts ($N = 3,376$)

	<i>n</i>	% Aggressive Acts	% Scenes
Verbal aggression	632	18.7	48.7
Insulting	614	18.2	48.7
Threatening	10	0.3	1.0
Using coercive language	7	0.2	1.6
Physical aggression	2,743	81.3	88.2
Pushing/shoving	25	0.7	6.6
Biting	9	0.3	3.0
Pinching	49	1.5	12.2
Hair pulling	276	8.2	37.2
Spanking	980	29.0	75.3
Open hand slapping	408	12.1	41.1
Gagging	759	22.5	53.9
Choking	184	5.5	27.6
Threatening with weapon	0	0.0	0.0
Kicking	3	0.1	0.7
Closed fist punching	0	0.0	0.0
Bondage/confining	30	0.9	6.6
Using weapons	7	0.2	1.3
Torturing/mutilating	0	0.0	0.0
Other	2	0.4	3.0

ejaculation sites were portrayed in 12.2% of scenes ($n = 37$), closely corresponding with the 11.5% of scenes that were coded as “group sex” scenes ($n = 35$).

Aggression

On the whole, the pornographic scenes analyzed in this study were aggressive; only 10.2% ($n = 31$) of scenes did not contain an aggressive act. Across all scenes, a total of 3,375 verbally and physically aggressive acts were observed (Table 1). Of these, 632 were coded as instances of verbal aggression and 2,743 were coded as instances of physical aggression. On average, scenes had 11.52 acts of either verbal or physical aggression ($SD = 15.04$) and ranged from none to 128. Physical aggression ($M = 9.31$, $SD = 12.30$) was much more common than verbal aggression ($M = 2.13$, $SD = 4.01$), occurring in 88.2% ($n = 268$) of the scenes, whereas expressions of verbal aggression occurred in 48.7% ($n = 148$) of the scenes. By far, the most common verbally aggressive act was name calling (e.g., “bitch,” “slut”; $n = 614$, or 97.2% of all 632 verbally aggressive acts). Spanking (35.7% of physically aggressive acts; $n = 980$), gagging (27.7%; $n = 759$), and open-hand slapping (14.9%; $n = 408$) were the most frequently observed physically aggressive acts. Other physically aggressive acts recorded included hair-pulling (10.1%; $n = 276$), choking (6.7%; $n = 184$), and bondage or confinement (1.1%; $n = 30$).

Table 2. Aggression Perpetrators, Targets, and Responses ($N = 3,375$)

	<i>n</i>	% Total Acts
Perpetrator gender		
Male	2,373	70.3
Female	991	29.4
Unknown	8	0.2
Target gender		
Male	176	5.2
Female	3,191	94.4
Unknown	12	0.4
Male perpetrator and		
Female target	2,335	69.2
Male target	11	0.3
Self-target	22	0.7
Unknown target	2	0.1
Female perpetrator and		
Female target	598	17.7
Male target	143	4.2
Self-target	241	7.1
Unknown target	5	0.1
Target response to being aggressed ^a		
Pleasure/neutral	3,206	95.1
Displeasure	90	2.7

a. Percentages do not sum to 100 due to missing data.

None of the scenes showed characters who threatened one another with a weapon, hit one another with a closed fist, or tortured and mutilated each other.

Women were overwhelmingly the targets of aggressive acts (Table 2). Across all acts of aggression, both physical and verbal, 94.4% ($n = 3,191$) were directed toward women. Men were the perpetrators of aggression more than twice as often as women, committing 70.3% ($n = 2,373$) of the aggressive acts recorded. In contrast, women were perpetrators of 29.4% ($n = 991$) of all aggressive acts. Even when women were perpetrators, their targets were frequently other women (17.7%; $n = 598$). Men were targets of only 4.2% ($n = 143$) of aggressive acts perpetrated by women. Male-to-male aggression was present in only 0.3% ($n = 11$) of the recorded instances and was most often verbal (only 4 instances of physical aggression with a male perpetrator and a male target were recorded).

There were significant differences in the types of aggressive acts males and females experienced, $\chi^2(13) = 234.51, p < .001$. Women were significantly more likely to be spanked, choked, and gagged than men. Aggregately speaking across the sample spectrum, women were verbally insulted or referred to in derogatory terms 534 times, whereas men experienced similar verbal assaults in only 65 instances. Women were spanked on 953 occasions, visibly

gagged 756 times, experienced an open-hand slap 361 times, had their hair pulled or yanked on 267 separate occasions, and were choked 180 times. Men, however, were spanked only 26 times, experienced an open-hand slap in 47 instances, and for all other aggressive acts, were aggressed against fewer than 10 times.

When aggressed against, 95.1% ($n = 3,206$) of targets responded with either expressions of pleasure (e.g., encouragement, sexual moans) or neutrally (e.g., no change in facial expression or interruption to actions). There was a significant difference between female and male target responses to aggressive acts, $\chi^2(1) = 51.31, p < .001$. Women were significantly more likely to express pleasure or neutrality when aggressed against (95.9%; $n = 3,049$) than men (84.0%; $n = 147$). In contrast, men were four times more likely to show displeasure when aggressed against (16.0%, $n = 28$) compared with women (4.1%; $n = 132$).

Positive Behaviors

A total of 9.9% ($n = 30$) of scenes analyzed contained positive behaviors. Most of the positive behaviors observed were kissing, but laughing, embracing, caressing, verbal compliments, and statements of "making love" or "I love you" were also noted. Scenes that contained positive behaviors were significantly less likely to contain aggression. On average, scenes with positive behaviors contained 4.00 acts of aggression ($SD = 5.04$), whereas scenes without contained three times this amount ($M = 12.36, SD = 15.56, t(110.88) = 6.31, p < .001$).

Predictors of Aggression

To determine what scene characteristics were related to increased likelihood of verbal aggression being present, a binary logistic regression analysis was performed. The regression included nine predictor variables: total number of male characters in the scene, total number of female characters in the scene, male-to-female oral sex, female-to-male oral sex, female-to-female oral sex, vaginal penetration, anal penetration, ATM sequence, and presence of physical aggression. A test of the full model was statistically significant, $\chi^2(9, N = 304) = 74.30, p < .001$. Nagelkerke's R^2 was .289. Table 3 shows regression coefficients, Wald statistics, odds ratios, and their 95% confidence intervals for each of the nine predictors. Five of the nine predictors were significantly related to verbal aggression. Specifically, scenes that depicted male-to-female oral sex were half as likely to contain verbal aggression and scenes with penile penetration of the vagina were one fifth as likely to show verbal aggression. In contrast, scenes that portrayed female-to-male oral sex or scenes that contained an ATM sequence were more than three times as likely to portray verbal aggression. Finally, physical aggression in the scene was significantly predictive of verbal aggression: when a scene contained some form of physical aggression, the odds of it also containing verbal aggression were increased by more than 350%.

A second binary logistic regression analysis was performed with physical aggression as the outcome variable. The same set of scene characteristics was entered into the regression, although verbal aggression replaced physical aggression as a predictor. A test of the full model was statistically significant, $\chi^2(9, N = 304) = 42.65, p < .001$. Nagelkerke's R^2 was .253.

Table 3. Logistic Regression Predicting Verbal Aggression

Predictors	B (SE)	Wald (df)	p Value	Odds Ratio (95% CI)
Total number of female characters	0.09 (.18)	0.25 (1)	.617	1.10 (0.77-1.57)
Total number of male characters	0.18 (.11)	2.98 (1)	.084	1.20 (0.98-1.48)
Male-to-female oral sex*	-0.61 (.28)	4.72 (1)	.030	0.55 (0.32-0.94)
Female-to-male oral sex*	1.26 (.63)	3.97 (1)	.046	3.52 (1.02-12.10)
Female-to-female oral sex	0.81 (.42)	3.79 (1)	.052	2.25 (0.99-5.09)
Vaginal penetration with penis*	-1.25 (.54)	5.39 (1)	.020	0.29 (0.10-0.82)
Anal penetration	0.20 (.40)	0.26 (1)	.610	1.23 (0.56-2.67)
Ass-to-mouth**	1.17 (.38)	9.53 (1)	.002	3.22 (1.53-6.75)
Physical aggression present*	1.32 (.52)	6.36 (1)	.012	3.73 (1.34-10.38)

* $p < .05$. ** $p < .01$.

Table 4 shows regression coefficients, Wald statistics, odds ratios, and their 95% confidence intervals for each of the nine predictors. Two of the nine predictors were significantly related to physical aggression. Specifically, scenes that depicted an ATM sequence were more than eight times as likely to portray physical aggression. Furthermore, verbal aggression in the scene was significantly predictive of physical aggression: when a scene contained some form of verbal aggression, the odds of it also containing physical aggression were increased by more than 400%.

Additional Qualitative Observations

Among the 50 randomly selected pornographic videos, there were 6 films with titles suggesting that the female performers are young or underage, such as "Teen Fuck Holes," "Teenage Spermaholics #3," "Anal Teen Tryouts," "Cum Craving Teens," or "Barely Legal #50." In such films, the emphasis on childlike pornography was accomplished with visual cues as to the young actress's underage status, such as employing schoolgirl uniforms, pigtails, or the presence of braces on their teeth, and character references such as babysitters. In addition, narrative references such as "doing homework" or "I can't smoke" suggested that the actresses are young students, still under parental monitoring. There are also words in the titles that are derogatory in conventional social contexts, such as "I'm Your Slut #3," "New Whores," "Cumstains #4," or "Blow Me Sandwich #6."

Discussion

There are numerous difficulties with attempting to map the content of adult videos. Although some of these difficulties reside in the nature of pornography as an ever-evolving and changing text, many of these difficulties are methodological and can be overcome. This study has attempted to improve sampling methodology and increase the scope of the sexual and aggressive acts analyzed. In so doing, we hope to lay a foundation for future studies so that changes in pornographic content of videos can be tracked more precisely over time.

Table 4. Logistic Regression Predicting Physical Aggression

Predictors	B (SE)	Wald (df)	p Value	Odds Ratio(95% CI)
Total number of female characters	-0.09 (.23)	0.15 (1)	.700	0.91 (0.58-1.45)
Total number of male characters	0.22 (.23)	0.89 (1)	.345	1.25 (0.79-1.97)
Male-to-female oral sex	-0.32 (.45)	0.49 (1)	.482	0.73 (0.30-1.76)
Female-to-male oral sex	0.87 (.84)	1.06 (1)	.303	2.38 (0.46-12.32)
Female-to-female oral sex	1.13 (.76)	2.24 (1)	.134	3.11 (0.70-13.72)
Vaginal penetration with penis	0.56 (.75)	0.56 (1)	.454	1.75 (0.41-7.54)
Anal penetration	-0.15 (.48)	0.10 (1)	.752	0.86 (0.33-2.22)
Ass-to-mouth*	2.11 (.83)	6.53 (1)	.011	8.23 (1.64-41.47)
Verbal aggression present**	1.41 (.53)	7.09 (1)	.008	4.10 (1.45-11.59)

* $p < .05$. ** $p < .01$.

Many critics of antipornography efforts have suggested that researchers pick out the most violent and aggressive videos available to alarm the public about potential harm or degradation in adult video texts (see interview with Ernest Greene in *The Price of Pleasure*, Sun & Picker, 2008). By selecting top-renting and best-selling videos for analysis, we attempted to provide a picture of what is commonly consumed. Our results suggest that popular pornographic videos contain high levels of both verbal and physical aggression. Compared with prior content analytic studies suggesting that aggression rates of pornographic films vary but rarely rise above 30% (Barron & Kimmel, 2000; Duncan, 1991), the results of the current study showed much higher rates, approaching 90%.

One of the reasons for the higher rates of aggression in the current study is the choice to define aggression as a purposeful act committed by someone that results in harm to either the self or another. This definition, unlike those used in some prior studies (e.g., McKee, 2005), does not require that the target of the aggression attempt to avoid the harm. If such a definition was used, the study would have found that only 12.2% of scenes ($n = 37$) contained aggression, as these were the only scenes where at least one of the acts of aggression was met with target displeasure and/or attempts to avoid the aggression. This figure is certainly higher than the aggression level of 1.9% found in the McKee study but more similar to those found in prior analyses (Duncan, 1991). However, by relying on definitions that emphasize consent, these previous studies are (perhaps inadvertently) complicit with naturalizing the presence of violence and aggression. In other words, treating violence or aggression as contingent on target consent masks the real asymmetries of power that exist in pornography. This masking has allowed pro-pornography critics to argue that not only does violence or aggression not exist but also all agencies equivocal rather than distributed based on social and historical conditions.

Another possible reason for the higher rates of aggression observed in our study compared with prior content analyses is that we included *gagging* as a form of aggression. However, even if every scene with gagging was excluded from the analysis, the conservative estimate is that at least 75% of scenes contained other forms of physical aggression, given that this was the percentage of scenes containing spanking. As gagging was the only physically aggressive act we included in our analysis that has not been coded in prior analyses, this

alone is insufficient to account for the increased aggression estimates we obtained in the current study.

Our study was the first to track an important trend in pornographic videos: the increasing portrayal of sexual practices that are unusual and potentially harmful to women in real life (and to the actresses in pornography videos), such as double penetrations or what the pornography industry has termed ATM sequences. In an analysis of its contextual meaning, Dines (2006) described ATM as humiliating for women, who perform fellatio subsequent to the penis being inserted into an anus and, thus, may be contaminated with feces. In the current study, ATM was depicted in 41% of scenes. Logistic regression analyses revealed that ATM was a strong predictor of the presence of both verbal and physical aggression in the scene. We argue that this provides criterion validity to ATM as an inherently degrading practice and suggest that future studies continue to code for its presence.

Our study further contributes to the scientific literature by amplifying the typical behaviors coded. For example, our study specifically sought to examine the frequencies and types of positive sexual behaviors portrayed in adult films. This permits the calculation of a ratio of positive to aggressive behaviors and thus a more complete understanding of adult video content. In the current study, only 9.9% of scenes contained positive behaviors whereas 89.8% contained some form of aggression. This is of some concern; if aggressive behaviors are occasional and occur in the context of many positive behaviors, then their presence may be less of a concern. However, we found evidence for the opposite. Sexuality, as portrayed in these popular videos, was primarily aggressive and positive behaviors were the exception rather than the rule.

Finally, although our study used a definition of aggression that included consensual aggressive acts, by coding target responses to aggression we were able to obtain a more nuanced picture of how pornography portrays aggression and highlight the importance of hiding negative responses, which would lead to reduced sexual enjoyment of the scene for most people (Loftus, 2002).

In contrast with previous studies, we did not observe depictions of rape or scenes that perpetuated the "rape myth" (in which the target first expresses pain or resistance to male dominance but eventually expresses enjoyment; Cowan et al., 1988; Duncan, 1991). In fact, although most of the targets of aggression were women, almost all of them expressed enjoyment or did not respond while being aggressed against. This finding mirrors findings in literature on pornography effects: recent studies have failed to uncover a previously robust finding that aggressive pornography increases acceptance of rape and endorsement of the rape myth (Garos, Beggan, Kluck, & Easton, 2004). Garos et al. (2004) suggest that this shift has occurred because people have become more educated about women's rights and sexual assault. However, these same researchers found that pornography increases benevolent sexism. It may be that consumers of pornography are, happily, on the whole uninterested in and unaroused by sexual dominance of unwilling women. However, what has taken its place has been sexual dominance of willing women—many of these same dominating behaviors were evident in these popular films but were met without resistance by women. This consensual depiction of aggression is concerning as we run the risk of rendering true aggression against women invisible (Sun & Picker, 2008).

Portrayals of women expressing pleasure while being aggressed against have significant implications in terms of the effects of pornography on consumers. Social cognitive theory (Bandura, 1994, 2001) suggests that whether an individual will model aggression learned from viewing a media text depends in large part on whether the act they observed was rewarded or punished. By extension, viewers of pornography are learning that aggression during a sexual encounter is pleasure-enhancing for both men and women. One may ask, what may be the social implication for this type of learning?

Limitations and Future Directions

Although this research offers advances in sampling and research design and an update of content analysis of contemporary, popular pornography, it has three notable limitations. First, the three coders were all female. Past research has indicated that women, compared with men, tend to hold different views of pornography in general and of violent and degrading pornography in particular (Cowan & Dunn, 1994). Yet recently, Glascock (2005) found no differences in ratings of degradation between men and women when they were exposed to 20 to 30 min of a pornographic film. Nonetheless, a mixture of male and female coders would have been a more ideal configuration.

Second, the study at hand is quantitative in nature, helpful in investigating patterns and frequencies but less productive in investigating meanings of the findings, such as, what exactly does ejaculating on a woman's face mean? Prince (1990) advocates for the use of content analyses to engage in the inquiry of a text's ideological values as well as to integrate quantitative measures with qualitative ones. He thus states, "content analysis can provide information about the distribution of codes across a body of material, and it may be an important means of evaluating claims regarding the ideological content of texts and of enabling theory to dialectically move forward" (p. 40). We concur with Prince's vision and particularly find the additional method of qualitative analysis valuable, if not imperative, in examining the definition and operation of "violence" and "degradation," as meanings need to be generated from a contextual field and cannot exist in isolation (Dines et al., 1998). Future studies may incorporate both content analysis and textual analysis so not only the patterns and frequencies but also the ideological construction of the meanings are investigated.

Appendix

Intercoder Agreement Matrix for All Coding Pair Comparisons Averaged Across All Variables

	Coder 1	Coder 2	Coder 3
Coder 1	—	0.854	0.836
Coder 2	0.854	—	0.888
Coder 3	0.836	0.888	—
Average agreement		0.859	
Composite coefficient agreement		0.958	

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the authorship and/or publication of this article.

Funding

The authors received no financial support for the research and/or authorship of this article.

Notes

1. According to AVN (2006), 34% of pornographic texts are consumed through video sales and rentals, 6% through cable pay-per-view, 4% through hotel in-room video on demand, and 20% through Internet sources. Clearly, video sales and rentals are the preferred method of consumption in the United States. AVN, while not a "traditional" research publication, is the leading reporter of record for the adult industry, with a monthly circulation of more than 25,000 (www.avnid.com).
2. The study started in July 2005, so we selected from the most recent lists at that time.

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Bios

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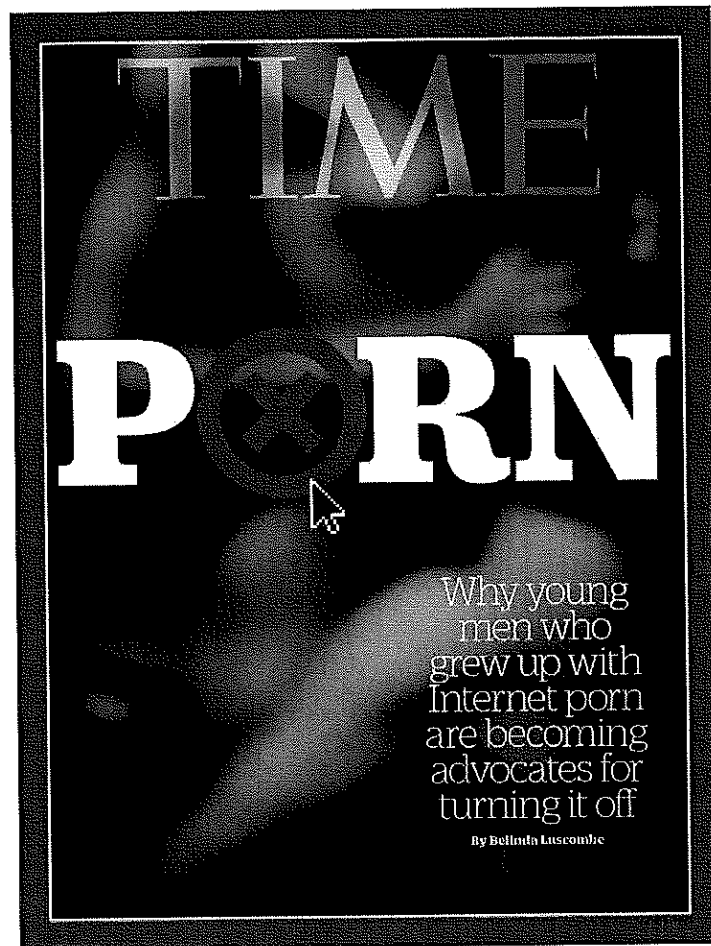
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Photograph by Mark Harris—Getty Images

LIVING

Porn and the Threat to Virility

Belinda Luscombe @luscombeland | March 31, 2016

The first generation of men who grew up with unlimited online porn sound the alarm

Noah Church is a 26-year-old part-time wildland firefighter in Portland, Ore. When he was 9, he found naked pictures on the Internet. He learned how to download explicit videos. When he was 15, streaming videos arrived, and he watched those. Often. Several times a day, doing that which people often do while watching that genre by themselves.

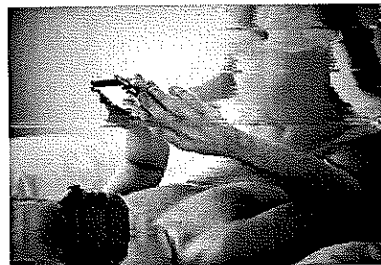


Photo-Illustration by Ben Alper for TIME
The first generation of men who grew up with unlimited online porn sound the alarm

After a while, he says, those videos did not arouse him as much, so he moved on to different configurations, sometimes involving just women, sometimes one woman and several guys, sometimes even an unwilling woman. "I could find anything I imagined and a lot of stuff I couldn't imagine," he says. After the appeal of those waned, he moved on to the next level, more intense, often more violent.

In his senior year of high school, he had an opportunity to have actual sex, with a real partner. He was attracted to her and she to him, as demonstrated by the fact that she was naked in her bedroom in front of him. But his body didn't seem to be interested. "There was a disconnect between what I wanted in my mind and how my body reacted," he says. He simply couldn't get the necessary hydraulics going.

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He put it down to first-timers' nerves, but six years went by, and no matter which woman he was with, his body was no more cooperative. It responded only to the sight of porn. Church came to believe that his adolescent Internet indulgence had somehow caused his problems and that he had what some are calling porn-induced erectile dysfunction (PIED).

A growing number of young men are convinced that their sexual responses have been sabotaged because their brains were virtually marinated in porn when they were adolescents. Their generation has consumed explicit content in quantities and varieties never before possible, on devices designed to deliver content swiftly and privately, all at an age when their brains were more plastic—more prone to permanent change—than in later life. These young men feel like unwitting guinea pigs in a largely unmonitored decade-long experiment in sexual conditioning. The results of the experiment, they claim, are literally a downer.

So they're beginning to push back, creating online community groups, smartphone apps and educational videos to help men quit porn. They have started blogs and podcasts and take all the public-speaking gigs they can get. Porn has always faced criticism among the faithful and the feminist. But now, for the first time, some of the most strident alarms are coming from the same demographic as its most enthusiastic customers.

Of course there are much broader concerns about porn's effect on society that go beyond the potential for sexual dysfunction, including the fact that it often celebrates the degradation of women and normalizes sexual aggression. In February, these issues led British Prime Minister David Cameron's government, which had previously asked Internet service providers to filter adult content unless a user opted in, to begin the process of requiring porn sites to verify the age of their users or face a fine. Shortly afterward, the Utah legislature unanimously passed a resolution to treat pornography as a public-health crisis. And compelling new research on visual stimuli is offering some support to the young men's theories, suggesting the combination of computer access, sexual pleasure and the brain's mechanisms for learning could make online porn acutely habit forming, with potential psychological effects.

For Gabe Deem, 28, porn was as much a part of adolescence as homework or acne. "It was normal and it was everywhere," he says. He grew up in an era when what used to be considered X-rated was becoming mainstream, and he and his friends used to watch explicit videos constantly, he says, even during class, on their school-issued laptops. "It wasn't something we were ashamed of." Deem, who lives in Irving, Texas, is the founder of Reboot Nation, a forum and online video channel that offers advice and support for young people who believe they are addicted to pornography, have sexual dysfunctions as a result and wish to quit.

He's a little different from many of the porn activists, because he was sexually active at a young age and consumed porn only as a side dish. But it came to dominate his diet, and some years after high school, "I got with a gorgeous girl and we went to have sex and my body had no response at all," he says. "I was freaked because I was young and fit and I was super attracted to the girl." He went to his doctor. "I said, I might have low T," Deem says, using slang for a testosterone deficiency. "He laughed."

Many of the details of his story are confirmed by his girlfriend at the time, who would prefer to remain anonymous. "He would try to start something, and then in the middle he would say, 'I think we should wait,'" she recalls. "I was just really confused and I would think, Does he not like me? What's going on?" It took nine months after he told her about his problem for him to be able to perform with her.

Having a partner with ED isn't the primary problem most young women face with porn, and only a fraction of women report feeling addicted, yet they are not immune to the effects of growing up in a culture rife with this content. Teen girls increasingly report that guys are expecting them to behave like porn starlets, encumbered by neither body hair nor sexual needs of their own.

In April 2015, Alexander Rhodes left a good job with Google to develop counseling and community-support sites for those who are struggling with a porn habit. He had started the NoFap subreddit—a list of posts on one subject—on the popular website Reddit and a companion website called NoFap.com in 2011, but it's now a full-time endeavor. (The name derives from fap, Internet-speak for masturbation.) The 26-year-old says his first exposure to porn was a pop-up ad—no, really, he swears!—when he was about 11. His father was a software engineer in Pennsylvania, and he had been encouraged to play with computers since he was a 3-year-old. "For as long as there had been an Internet, I had relatively unfiltered access," says Rhodes. The ad was for a site that showed rape, but he says he only understood there was a naked lady. Pretty soon he was printing out thumbnails of his image-search results for "women's tummies" or "pretty girls' boobies." By the time he was 14, he says, he was pleasuring himself to porn 10 times a day. "That's not an exaggeration," he insists. "That, and play video games, was all I did."

In his late teens, when he got a girlfriend, things did not go well. "I really hurt her [emotionally]," says Rhodes. "I thought it was normal to fantasize about porn while having sex with another person." If he stopped thinking about porn to focus on the girl, his body lost interest, he says. He quit porn a couple of times before finally swearing off it for good in late 2013. His two sites have about 200,000 members, and he says they get about a million unique users a month.

These men, and the thousands of others who populate their websites with stories of sexual dysfunction, are all at pains to make it clear that they are not antisex. "The reason I quit watching porn is to have more sex," says Deem. "Quitting porn is one of the most sex-positive things people can do," says Rhodes. One online commenter, sirrifo, put it more simply: "I just want to enjoy sex again and feel the desire for another person."

Do their claims of porn-induced ED have any merit? Recent statistics suggest some correlation. In 1992, about 5% of men experienced ED at age 40, according to the U.S. National Institutes of Health (NIH). A study in the July 2013 *Journal of Sexual Medicine* found that 26% of adult men seeking help for ED were under 40. In a 2014 study of 367 U.S. military personnel younger than 40, a third reported ED. And a 2012 Swiss study found the condition among a third of even younger men: 18 to 25.

Of course, there could be any number of reasons for these findings. Since the advent of Viagra and similar medications, awareness and acceptance of erectile dysfunction is much higher, and thanks to all those TV commercials, the stigma is correspondingly lower, so more people may be admitting to it. Diabetes, obesity, social anxiety or depression can also cause the condition, as can drug or alcohol abuse. As these have risen among the young, so may have instances of ED. But urologists aren't willing to rule out that pornography could be partly to blame. "I think it's possible," says Dr. Ajay Nangia, former president of the Society for Male Reproduction and Urology. "There's a kind of desensitization of these men, and they only reach the point of feeling stimulated when sex is like it is on a movie."

If the causes of the spike in ED are up for debate, the unprecedented access to porn via streaming video in the past decade is not. The advent of video sites that, like YouTube (which launched in 2005), allow users to upload, aggregate and organize videos has transformed the way people encounter porn. There's a staggeringly diverse array of free explicit content that's constantly expanding because anyone, from amateurs to professionals, can put a video online. One independent web-tracking company clocked 58 million monthly U.S. visitors to adult sites in February 2006. Ten years later the number was 107 million. One of the world's largest adult sites, Pornhub, an explicit-video-sharing site, says that it gets 2.4 million visitors per hour and that in 2015 alone,

people around the globe watched 4,392,486,580 hours of its content, which is more than twice as long as Homo sapiens has spent on earth. Porn is so ubiquitous, it has spun off memes, including Rule 34, which says, "If it exists, there is porn of it." (Leprechauns? Check. Pterodactyls? Check. Pandas? Check.) The Internet is like a 24-hour all-you-can-eat buffet restaurant that serves every type of sex snack.

And the young are devouring it. Almost 40% of British boys ages 14 to 17 said they regularly watch, according to a February 2015 study by the University of Bristol. Chyng Sun, an associate professor of media studies at New York University, says nearly half of the 487 men she surveyed in one study had been exposed to porn before they'd turned 13. A study in the *Journal of Sex Research* puts first exposure at, on average, 12 years old for young men.

A massive social shift involving the health of young people usually prompts a robust round of research to assess what's really going on. But in this case, not so much. It's hard even to get funding to study how widespread porn use is, says Janis Whitlock, a former sex educator who is now a researcher in mental health at Cornell University. NIH staff reportedly advise researchers against using the word sexual in their funding applications if possible. Neuroscientist Simone Kühn, whose study on porn watching and brain structure was published in the esteemed *JAMA Psychiatry*, says her employers at the Max Planck Institute were unhappy to be associated with it.

The lack of research is exacerbating a bitter fight in the academic community about the effects of excessive porn use. And there's not a lot of hard science to decide the outcome.

The young porn abstiners do have an unlikely guru: Gary Wilson, 59, a former part-time adjunct biology professor at Southern Oregon University and various vocational schools and the author of *Your Brain on Porn: Internet Pornography and the Emerging Science of Addiction*. His website, yourbrainonporn.com, or more commonly YBOP, is a clearinghouse for information that supports the link between heavy adolescent pornography use and sexual dysfunction. Many people find him through his 2012 TEDx talk, which has more than 6 million views.

YBOP contends that watching too much onanistic material in adolescence affects the brain in multiple ways. "Porn trains your brain to need everything associated with porn to get aroused," Wilson says. That includes not only the content but also the delivery method. Because porn videos are limitless, free and fast, users can click to a whole new scene or genre as soon as their arousal ebbs and thereby, says Wilson, "condition their arousal patterns to ongoing, ever changing novelty."

A heavy porn schedule and the resulting sustained high levels of dopamine reinforces these patterns. "The result in some Internet porn users is higher brain activation to internet porn, and less arousal to sex with a real person," Wilson argues. And then there's habituation: the need for more to get the same hit. "Extreme novelty, certain fetishes, shock and surprise and anxiety—all those elevate dopamine," he says. "So they need those to be sexually aroused."

Other researchers are dismissive of any link between porn and erectile dysfunction. "In the absence of supporting scientific data, the strength of [these young men's] belief that porn causes ED is not evidence for the validity of their belief," says David J. Ley, a clinical psychologist and the author of *The Myth of Sex Addiction*. "The overwhelming majority of porn users report no ill effects. A very, very small minority are reporting these concerns about ED."

Ley points to recent studies of young men who use porn, like a 2015 paper in the *Journal of Sexual Medicine*, in which researchers from the University of Zagreb in Croatia analyzed studies of about 4,000 sexually active heterosexual young men in three European countries and found only a very slight correlation between pornography use and erectile problems. (And only in Croatia.) Another found that porn users who were religious were more likely to think they were addicted. Nicole Prause, a psychologist and neuroscientist, as well as CEO of Liberos, a brain research company, also believes PIED is a myth: "An overwhelming number of studies have shown that the strongest predictors of ED continue to be depression and drug use."

For the young male activists, however, Exhibit A is always their own physiology. "If you can get a boner with porn and you can't get a boner without porn, that's about as hard as evidence gets in my opinion," says Deem of Reboot Nation. He crosses off every other reason for his sexual dysfunction. Inexperience? "I've been a sexually confident and experienced guy since the age of 14," he says. Obesity? He's a certified personal trainer with, he says, under 10% body fat. Drug use? He claims to have smoked about five joints in his life. And his ED couldn't have been due to performance anxiety, because he says he couldn't get aroused even when masturbating offline on a relaxed Sunday afternoon. "I ran back to my computer to double-check. I turned on porn and bam!"

Beyond the issues facing these young men, there's emerging research that should give every porn user pause. A 2014 fMRI study from the Max Planck Institute found that habitual porn use may have an effect on the brain. "The more pornography men consumed, the smaller the brain striatum, the reward center of the brain," says Kühn, the author. "And those who watched more pornography showed less response to pornographic pictures in the same area." Another study showed that more-frequent porn users were more impulsive and had less ability to delay gratification. And a brain-scan study out of the University of Cambridge in 2014 showed that men with compulsive sexual behavior responded to explicit clips in the same way users of drugs respond to drugs; they craved them, even if they didn't like them.

The lead researcher in that study, neuroscientist and neuropsychiatrist Valerie Voon, says many of her heavy-porn-using subjects report having erectile issues. But she and Kühn both note that none of this is proof that porn shrinks brains; it could be that people who have smaller reward centers have to watch more porn to get the same thrill. "I would be cautious about using a single imaging study to imply that there has been 'damage' to the brain," says Voon. "We just need more studies."

The porn-addiction debate is a rancorous subset of a disagreement in the medical and scientific communities about whether it's possible to classify so-called behavioral addictions, like those to gambling and eating, in the same category as substance addictions, like those to alcohol or prescription drugs. Prause argues that using the word addiction to describe what could simply be a high sexual appetite is unhelpful and may be worsening the problem by stigmatizing it.

But to Voon, who studies addictions, compulsive porn watching sure looks like one, even though it has different properties, including a higher appetite for novelty than other addictions. "It's possible that the combination of pornographic stimuli being highly rewarding in addition to the novelty might have some kind of greater effect," she says.

Brian Anderson, a cognitive neuroscientist at Johns Hopkins University, has an intriguing theory. His specialty is habit formation; in February his team released a study showing that visual stimuli that are linked to a reward are harder to ignore when they are encountered again. When the brain detects evidence of the enjoyable stimulus, it pays more attention and blocks out other stimuli. "Your brain is wired to develop those patterns, and when you tie them to something like porn it can be very disruptive and difficult to break," says Anderson.

He hypothesizes that the visual nature of porn makes it particularly appealing for the brain. "It lends itself to a strong and quick attention bias," he says. "The brain is going to learn that association very quickly." And because people's modern lives are very computer-heavy, there are reminders of porn everywhere. "There probably comes a point in time," he says, "where you open up your browser and you just start thinking about porn." (And that's before virtual-reality tech takes things to a whole new level.)

Since the teenagers guzzling all that porn are digesting it in a brain that is still developing, it's possible they are particularly susceptible. Philip Zimbardo, emeritus professor of psychology at Stanford University (and the guy who did the famous Stanford prison experiment), notes that porn often goes hand in hand with video games and is similarly finely tuned to be as habit-forming as possible.

"Porn embeds you in what I call present hedonistic time zone," he says. "You seek pleasure and novelty and live for the moment." While not chemically addictive, he says, porn has the same effect on behavior as a drug addiction does: some people stop doing much else in favor of pursuing it. "And then the problem is, as you do this more and more, the reward centers of your brain lose the capacity for arousal," he says. At a time

when young men are at their physical peak, he says, all the inactivity may be contributing to the unexpected sexual dysfunction.

Noah Church devotes about 20 hours a week to trying to help others eliminate porn from their lives, or at least to cut out the habit known as PMO (porn, masturbation, orgasm). He has written a free book about it, Wack, runs addictedtointernetporn.com and counsels people via Skype for a \$100 fee. Rhodes, meanwhile, tries to help guys get their mojo back by arranging “challenges,” during which young people try to abstain from PMO for a certain span of time. There are different levels of abstinence: the most extreme (known, ironically, as “hard mode”) is keeping away from any sexual activity, and the least extreme is having all the sexual encounters that present themselves, including those that occur alone, but without visual aids. Deem’s site offers similar strategies, along with a lot of community support and educational materials. A group of young men from Utah have started an organization called Fight the New Drug, which has a free recovery program for teens called Fortify.

The young men who wish to reboot their brains describe similar consequences as they titrate off the habit. Some of them have withdrawal-like symptoms such as headaches and sleeplessness. Many of them talk about “flatlining,” a period of joylessness, zero libido and even shrunken genitalia that can last several weeks. “I felt like a zombie,” says Deem. Older guys have reported similar symptoms, but they generally recover faster, possibly because they had more sexual experiences in real life. Football player turned actor Terry Crews recently posted a series of Facebook videos about the damage his porn habit did to his marriage, and his life, though not his virility. He went to rehab. Others report bouncing back more quickly. “I felt more focused, awake, socially confident, connected to others, more interested in daily activities and more emotionally sensitive,” says Church. “I started feeling these changes very soon after quitting.”

Because consuming porn is often done on impulse, NoFap’s newest product is an online emergency button, which when clicked takes users to a motivational picture, video, story or advice, like this: “PMO is not even an option. The way eating yellow snow is not an option. It doesn’t even factor into the decisionmaking process.” The Brainbuddy app, which was developed after a young Australian named David Endacott noticed how difficult it was for him to give up porn, offers a series of alternatives—an activity or an inspiring video. Not watching porn is only half the battle, he says. The brain has to develop new and different pleasurable associations with the computer. Like a Fitbit, the app also tracks how many days users have gone without resorting to the habit. It has had more than 300,000 downloads so far.

The one thing that these young men are not suggesting is an end to porn, even if that were possible. “I don’t think that pornography should be legislated or banned or restricted,” says Rhodes. In any case, legislating porn has always been fraught, and today that’s not just because of the First Amendment but also because of technology. One challenge facing the British proposal to force porn sites to verify the age of their consumers is figuring out how to make that work without invading adult privacy and despite the ease with which most teenagers can subvert online filters. (Reports showed that 1.4 million unique visitors to adult sites in Britain were under the age of 18 in May 2015, after Internet providers’ opt-in filters were in place.) Although one U.S.-based site, Pornhub, has pledged to adhere to the new British rules, the industry is dubious about the health claims. “My No. 1 gripe with the porn industry is that they have been generally unaccepting of the whole porn-addiction recovery movement,” says Rhodes. “They really trivialize it.” (Pornhub declined to answer any questions about legislation or health concerns for this story.)

“As an industry we have seen a lot of moral panics,” says Mike Stabile, communications director for the Free Speech Coalition, the adult-entertainment industry’s trade association. “There doesn’t seem to be a whole lot of reputable science. Should something emerge it might spur discussions.” The industry is not in favor of the British approach that makes Internet users opt in to adult content rather than opting out, says Stabile: “Those filters can block access to LGBTQ groups and sex-education sites.” But that’s exactly the model that state senator Todd Weiler is hoping will be used in Utah. “We’ve changed how we’ve approached tobacco, not by banning it but by putting reasonable restrictions in place,” says Weiler. He’d like places like McDonald’s and Starbucks—and even libraries—to filter their wi-fi so that they would be porn-free.

Providing a counternarrative for teens about the porn they'll inevitably encounter, despite whatever filters are put in place, is a key goal of the young activists. "Thirteen- and 14-year-olds have access to unrestricted and endlessly novel Internet porn way before they discover that it could potentially have harmful side effects," says Rhodes. Deem points out that he stayed away from cocaine because he was taught it would harm him. He'd like to see porn treated the same way, with schools teaching about the possible side effects of pornography during sex ed. "I would tell my son, I'll be straight up with you, all superstimulating things, like Internet porn, junk food and drugs, can be fun and pleasurable, temporarily," says Deem. "However, they also have the potential to desensitize you to normal, natural things and ultimately rob you of the one thing you thought they would give you, the ability to experience pleasure."

Introducing porn to sex ed at school would seem a quixotic quest. Sex education is already the source of much conflict, and schools do not wish to be accused of introducing kids to pornography, even if the science of its effects were settled. Parents too are wary of broaching the subject, afraid of what questions might be asked. But curiosity abhors a vacuum; online porn is becoming de facto sex ed for many young people.

Whitlock, the former sex educator, says she has been surprised by how reluctant her erstwhile colleagues are to speak up about porn. She believes that because sex educators were fighting a negative image of sex for so long during the years of abstinence-only education, they're allergic to anything that questions sexual appetites. She has found that even asking students to reflect on what their watching habits are doing to their mental health is met with pushback. "It makes no sense to me," she says. "It's like saying if you question the value of eating Dunkin' Donuts all the time that you're 'food negative.'"

An ideal way to deliver the message might be online, but ironically, many of these efforts are thwarted by porn blockers. That's a problem for Brainbuddy. Its creator feels it's important to get it to the 12-and-older crowd, but users must be over 17 to download it.

The shame around a compulsive porn habit makes asking for help difficult, even though neuroscientists say it could happen to anyone. Then there's the reverse stigma for young men who speak against the genre in a culture that celebrates sexuality. Deem and other advocates know they are walking into a headwind of apathy, antagonism and ridicule. But they're not dissuaded. "If anything is going to change," says Deem, "it's going to have to come through the guys who went through the trenches, who were actually clicking the tabs and watching the hardcore porn when we were 12."

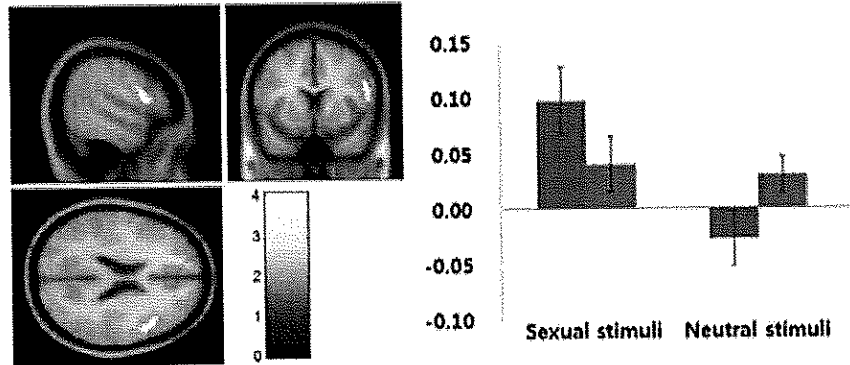
One of the newer NoFap members (known as Fapstronauts), a 30-something gay man just starting a 30-day challenge, puts it this way: "When I think about it," he writes, "I've wasted years of my life looking for a computer or mobile phone to provide something it is not capable of providing."

Correction: The original version of this story incorrectly characterized those who received payment for their advice.

Brain Studies on Porn Users & Sex Addicts

This page contains two lists (1) neuroscience-based commentaries & reviews of the literature, and, (2) neurological studies assessing the brain structure and functioning of Internet porn users and sex/porn addicts ([Compulsive Sexual Behavior Disorder](#)).

To date every neurological study offers support for the porn addiction model ([no studies falsify the porn addiction model](#)). The results of these [44 neurological studies](#) (and [upcoming studies](#)) are consistent with [330+ Internet addiction "brain studies"](#), some of which also include internet porn use. All support the premise that internet porn use can cause addiction-related brain changes, as do [over 40 studies reporting escalation/tolerance and withdrawal symptoms](#).



The page begins with the following 23 recent neuroscience-based commentaries & reviews of the literature (listed by date of publication):

Reviews of the Literature & Commentaries:

1) [Neuroscience of Internet Pornography Addiction: A Review and Update \(Love et al., 2015\)](#). A thorough review of the neuroscience literature related to Internet addiction sub-types, with special focus on internet porn addiction. The review also critiques two [headline-grabbing EEG studies](#) by teams headed by [Nicole Prause](#) (who falsely claims the findings cast doubt on porn addiction). Excerpts:

Many recognize that several behaviors potentially affecting the reward circuitry in human brains lead to a loss of control and other symptoms of addiction in at least some individuals. Regarding Internet addiction, neuroscientific research supports the assumption that underlying neural processes are similar to substance addiction... Within this review, we give a summary of the concepts proposed underlying addiction and give an overview about neuroscientific studies on Internet addiction and Internet gaming disorder. Moreover, we reviewed available neuroscientific literature on Internet pornography addiction and connect the results to the addiction model. The review leads to the conclusion that Internet pornography addiction fits into the addiction framework and shares similar basic mechanisms with substance addiction.

2) [Sex Addiction as a Disease: Evidence for Assessment, Diagnosis, and Response to Critics \(Phillips et al., 2015\)](#), which provides a chart that takes on specific criticisms of porn/sex addiction, offering citations that counter them. Excerpts:

As seen throughout this article, the common criticisms of sex as a legitimate addiction do not hold up when compared to the movement within the clinical and scientific communities over the past few decades. There is ample scientific evidence and support for sex as well as other behaviors to be accepted as addiction. This support is coming from multiple fields of practice and offers incredible hope to truly embrace change as we better understand the problem. Decades of research and developments in the field of addiction medicine and neuroscience reveal the underlying brain mechanisms involved in addiction. Scientists have identified common pathways affected by addictive behavior as well as differences between the brains of addicted and non-addicted individuals, revealing common elements of addiction, regardless of the substance or behavior. However, there remains a gap between the scientific advances and the understanding by the general public, public policy, and treatment advances.

3) [Cybersex Addiction \(Brand & Laier, 2015\)](#). Excerpts:

Many individuals use cybersex applications, particularly Internet pornography. Some individuals experience a loss of control over their cybersex use and report that they cannot regulate their cybersex use even if they experienced negative consequences. In recent articles, cybersex addiction is considered a specific type of Internet addiction. Some current studies investigated parallels between cybersex addiction and other behavioral addictions, such as Internet Gaming Disorder. Cue-reactivity and craving are considered to play a major role in cybersex addiction. Also, neurocognitive mechanisms of development and maintenance of cybersex addiction primarily involve impairments in decision making and executive functions. Neuroimaging studies support the assumption of meaningful commonalities between cybersex addiction and other behavioral addictions as well as substance dependency.

4) **Neurobiology of Compulsive Sexual Behavior: Emerging Science (Kraus et al., 2016).** Excerpts:

Although not included in DSM-5, compulsive sexual behavior (CSB) can be diagnosed in ICD-10 as an impulse control disorder. However, debate exists about CSB's classification. Additional research is needed to understand how neurobiological features relate to clinically relevant measures like treatment outcomes for CSB. Classifying CSB as a 'behavioral addiction' would have significant implications for policy, prevention and treatment efforts..... Given some similarities between CSB and drug addictions, interventions effective for addictions may hold promise for CSB, thus providing insight into future research directions to investigate this possibility directly.

5) **Should Compulsive Sexual Behavior be Considered an Addiction? (Kraus et al., 2016).** Excerpts:

With the release of DSM-5, gambling disorder was reclassified with substance use disorders. This change challenged beliefs that addiction occurred only by ingesting of mind-altering substances and has significant implications for policy, prevention and treatment strategies. Data suggest that excessive engagement in other behaviors (e.g. gaming, sex, compulsive shopping) may share clinical, genetic, neurobiological and phenomenological parallels with substance addictions.

Another area needing more research involves considering how technological changes may be influencing human sexual behaviors. Given that data suggest that sexual behaviors are facilitated through Internet and smartphone applications, additional research should consider how digital technologies relate to CSB (e.g. compulsive masturbation to Internet pornography or sex chatrooms) and engagement in risky sexual behaviors (e.g. condomless sex, multiple sexual partners on one occasion).

Overlapping features exist between CSB and substance use disorders. Common neurotransmitter systems may contribute to CSB and substance use disorders, and recent neuroimaging studies highlight similarities relating to craving and attentional biases. Similar pharmacological and psychotherapeutic treatments may be applicable to CSB and substance addictions.

6) **Neurobiological Basis of Hypersexuality (Kuhn & Gallinat, 2016).** Excerpts:

Behavioral addictions and in particular hypersexuality should remind us of the fact that addictive behavior actually relies on our natural survival system. Sex is an essential component in survival of species since it is the pathway for reproduction. Therefore it is extremely important that sex is considered pleasurable and has primal rewarding properties, and although it may turn into an addiction at which point sex may be pursued in a dangerous and counterproductive way, the neural basis for addiction might actually serve very important purposes in primal goal pursuit of individuals.... Taken together, the evidence seems to imply that alterations in the frontal lobe, amygdala, hippocampus, hypothalamus, septum, and brain regions that process reward play a prominent role in the emergence of hypersexuality. Genetic studies and neuropharmacological treatment approaches point at an involvement of the dopaminergic system.

7) **Compulsive Sexual Behaviour as a Behavioural Addiction: The Impact of the Internet and Other Issues (Griffiths, 2016).** Excerpts:

I have carried out empirical research into many different behavioural addictions (gambling, video-gaming, internet use, exercise, sex, work, etc.) and have argued that some types of problematic sexual behaviour can be classed as sex addiction, depending upon the definition of addiction used....

Whether problematic sexual behaviour is described as compulsive sexual behavior (CSB), sex addiction and/or hypersexual disorder, there are thousands of psychological therapists around the world who treat such disorders. Consequently, clinical evidence from those who help and treat such individuals should be given greater credence by the psychiatric community....

Arguably the most important development in the field of CSB and sex addiction is how the internet is changing and facilitating CSB. This was not mentioned until the concluding paragraph, yet research into online sex addiction (while comprising a small empirical base) has existed since the late 1990s, including sample sizes of up to almost 10 000 individuals. In fact, there have been recent reviews of empirical data concerning online sex addiction and treatment. These have outlined the many specific features of the internet that may facilitate and stimulate addictive tendencies in relation to sexual behaviour (accessibility, affordability, anonymity, convenience, escape, disinhibition, etc.).

8) Searching for Clarity in Muddy Water: Future Considerations for Classifying Compulsive Sexual Behavior as An Addiction (Kraus et al., 2016). Excerpts:

We recently considered evidence for classifying compulsive sexual behavior (CSB) as a non-substance (behavioral) addiction. Our review found that CSB shared clinical, neurobiological and phenomenological parallels with substance-use disorders....

Although the American Psychiatric Association rejected hypersexual disorder from DSM-5, a diagnosis of CSB (excessive sex drive) can be made using ICD-10. CSB is also being considered by ICD-11, although its ultimate inclusion is not certain. Future research should continue to build knowledge and strengthen a framework for better understanding CSB and translating this information into improved policy, prevention, diagnosis, and treatment efforts to minimize the negative impacts of CSB.

9) Is Internet Pornography Causing Sexual Dysfunctions? A Review With Clinical Reports (Park et al., 2016). An extensive review of the literature related to porn-induced sexual problems. Involving 7 US Navy doctors and Gary Wilson, the review provides the latest data revealing a tremendous rise in youthful sexual problems. It also reviews the neurological studies related to porn addiction and sexual conditioning via Internet porn. The doctors provide 3 clinical reports of men who developed porn-induced sexual dysfunctions. A second 2016 paper by Gary Wilson discusses the importance of studying the effects of porn by having subjects abstain from porn use: Eliminate Chronic Internet Pornography Use to Reveal Its Effects (2016). Excerpts:

Traditional factors that once explained men's sexual difficulties appear insufficient to account for the sharp rise in erectile dysfunction, delayed ejaculation, decreased sexual satisfaction, and diminished libido during partnered sex in men under 40. This review (1) considers data from multiple domains, e.g., clinical, biological (addiction/urology), psychological (sexual conditioning), sociological; and (2) presents a series of clinical reports, all with the aim of proposing a possible direction for future research of this phenomenon. Alterations to the brain's motivational system are explored as a possible etiology underlying pornography-related sexual dysfunctions. This review also considers evidence that Internet pornography's unique properties (limitless novelty, potential for easy escalation to more extreme material, video format, etc.) may be potent enough to condition sexual arousal to aspects of Internet pornography use that do not readily transition to real-life partners, such that sex with desired partners may not register as meeting expectations and arousal declines. Clinical reports suggest that terminating Internet pornography use is sometimes sufficient to reverse negative effects, underscoring the need for extensive investigation using methodologies that have subjects remove the variable of Internet pornography use.

3.4. Neuroadaptations Related to Internet Pornography-Induced Sexual Difficulties: We hypothesize that pornography-induced sexual difficulties involve both hyperactivity and hypoactivity in the brain's motivational system [72, 129] and neural correlates of each, or both, have been identified in recent studies on Internet pornography users [31, 48, 52, 53, 54, 86, 113, 114, 115, 120, 121, 130, 131, 132, 133, 134].

10) Integrating Psychological and Neurobiological Considerations Regarding The Development and Maintenance of Specific Internet-Use Disorders: An Interaction of Person-Affect-Cognition-Execution model (Brand et al., 2016). A review of the mechanisms underlying the development and maintenance of specific Internet-use disorders, including "Internet-pornography-viewing disorder". The authors suggest that pornography addiction (and cybersex addiction) be classified as internet use disorders and placed with other behavioral addictions under substance-use disorders as addictive behaviors. Excerpts:

Although the DSM-5 focuses on Internet gaming, a meaningful number of authors indicate that treatment-seeking individuals may also use other Internet applications or sites addictively....

From the current state of research, we suggest to include Internet-use disorders in the upcoming ICD-11. It is important to note that beyond Internet-gaming disorder, other types of applications are also used problematically. One approach could involve the introduction of a general term of Internet-use disorder, which could then be specified considering the first-choice application that is used (for example Internet-gaming disorder, Internet-gambling disorder, Internet-pornography-use disorder, Internet-communication disorder, and Internet-shopping disorder).

11) The Neurobiology of Sexual Addiction: Chapter from Neurobiology of Addictions, Oxford Press (Hilton et al., 2016) – Excerpts:

We review the neurobiological basis for addiction, including natural or process addiction, and then discuss how this relates to our current understanding of sexuality as a natural reward that can become functionally "unmanageable" in an individual's life....

It is clear that the current definition and understanding of addiction has changed based with the infusion of knowledge regarding how the brain learns and desires. Whereas sexual addiction was formerly defined based solely on behavioral criteria, it is now seen also through the lens of neuromodulation. Those who will not or cannot understand these concepts may continue to cling to a more neurologically naïve perspective, but those who are able to comprehend the behavior in the context of the biology, this new paradigm provides an integrative and functional definition of sexual addiction which informs both the scientist and the clinician.

12) Neuroscientific Approaches to Online Pornography Addiction (Stark & Klucken, 2017) – Excerpts:

The availability of pornographic material has substantially increased with the development of the Internet. As a result of this, men ask for treatment more often because their pornography consumption intensity is out of control; i.e., they are not able to stop or reduce their problematic behavior although they are faced with negative consequences.... In the last two decades, several studies with neuroscientific approaches, especially functional magnetic resonance imaging (fMRI), were conducted to explore the neural correlates of watching pornography under experimental conditions and the neural correlates of excessive pornography use. Given previous results, excessive pornography consumption can be connected to already known neurobiological mechanisms underlying the development of substance-related addictions.

Finally, we summarized the studies, which investigated the correlates of excessive pornography consumption on a neural level. Despite a lack of longitudinal studies, it is plausible that the observed characteristics in men with sexual addiction are the results not the causes of excessive pornography consumption. Most of the studies report stronger cue reactivity in the reward circuit toward sexual material in excessive pornography users than in control subjects, which mirrors the findings of substance-related addictions. The results concerning a reduced prefrontal-striatal-connectivity in subjects with pornography addiction can be interpreted as a sign of an impaired cognitive control over the addictive behavior.

13) Is excessive sexual behaviour an addictive disorder? (Potenza et al., 2017) – Excerpts:

Compulsive sexual behaviour disorder (operationalised as hypersexual disorder) was considered for inclusion in DSM-5 but ultimately excluded, despite the generation of formal criteria and field trial testing. This exclusion has hindered prevention, research, and treatment efforts, and left clinicians without a formal diagnosis for compulsive sexual behaviour disorder.

Research into the neurobiology of compulsive sexual behaviour disorder has generated findings relating to attentional biases, incentive salience attributions, and brain-based cue reactivity that suggest substantial similarities with addictions. Compulsive sexual behaviour disorder is being proposed as an impulse-control disorder in ICD-11, consistent with a proposed view that craving, continued engagement despite adverse consequences, compulsive engagement, and diminished control represent core features of impulse-control disorders. This view might have been appropriate for some DSM-IV impulse-control disorders, specifically pathological gambling. However, these elements have long been considered central to addictions, and in the transition from DSM-IV to DSM-5, the category of Impulse Control Disorders Not Elsewhere Classified was restructured, with pathological gambling renamed and reclassified as an addictive disorder. At present, the ICD-11 beta draft site lists the impulse-control disorders, and includes compulsive sexual behaviour disorder, pyromania, kleptomania, and intermittent explosive disorder.

Compulsive sexual behaviour disorder seems to fit well with non-substance addictive disorders proposed for ICD-11, consistent with the narrower term of sex addiction currently proposed for compulsive sexual behaviour disorder on the ICD-11 draft website. We believe that classification of compulsive sexual behaviour disorder as an addictive disorder is consistent with recent data and might benefit clinicians, researchers, and individuals suffering from and personally affected by this disorder.

14) Neurobiology of Pornography Addiction – A clinical review (De Sousa & Lodha, 2017) – Excerpts:

The review first looks at the basic neurobiology of addiction with the basic reward circuit and structures involved generally in any addiction. The focus then shifts to pornography addiction and studies done on the neurobiology of the condition are reviewed. The role of dopamine in pornography addiction is reviewed along with the role of certain brain structures as seen on MRI studies. fMRI studies involving visual sexual stimuli have been used widely to study the neuroscience behind pornography usage and the findings from these studies are highlighted. The effect of pornography addiction on higher order cognitive functions and executive function is also stressed.

In total, 59 articles were identified which included reviews, mini reviews and original research papers on the issues of pornography usage, addiction and neurobiology. The research papers reviewed here were centered on those that elucidated a neurobiological basis for pornography addiction. We included studies that had decent sample size and sound methodology with appropriate statistical analysis. There were some studies with fewer participants, case series, case reports and qualitative studies that were also analyzed for this paper. Both the authors reviewed all the papers and the most relevant ones were chosen for this review. This was further supplemented with the personal clinical experience of both the authors who work regularly with patients where pornography addiction and viewing is a distressing symptom. The authors also have psychotherapeutic experience with these patients that have added value to the neurobiological understanding.

15) The Proof of the Pudding Is in the Tasting: Data Are Needed to Test Models and Hypotheses Related to Compulsive Sexual Behaviors (Gola & Potenza, 2018) – Excerpts:

As described elsewhere (Kraus, Voon, & Potenza, 2016a), there is an increasing number of publications on CSB, reaching over 11,400 in 2015. Nonetheless, fundamental questions on the conceptualization of CSB remain unanswered (Potenza, Gola, Voon, Kor, & Kraus, 2017). It would be relevant to consider how the DSM and the *International Classification of Diseases* (ICD) operate with respect to definition and classification processes. In doing so, we think it is relevant to focus on gambling disorder (also known as pathological gambling) and how it was considered in DSM-IV and DSM-5 (as well as in ICD-10 and the forthcoming ICD-11). In DSM-IV, pathological gambling was categorized as an "Impulse-Control Disorder Not Elsewhere Classified." In DSM-5, it was reclassified as a "Substance-Related and Addictive Disorder.".... A similar approach should be applied to CSB, which is currently being considered for inclusion as an impulse-control disorder in ICD-11 (Grant et al., 2014; Kraus et al., 2018)....

Among the domains that may suggest similarities between CSB and addictive disorders are neuroimaging studies, with several recent studies omitted by Walton et al. (2017). Initial studies often examined CSB with respect to models of addiction (reviewed in Gola, Wordecha, Marchewka, & Sescousse, 2016b; Kraus, Voon, & Potenza, 2016b). A prominent model—the incentive salience theory (Robinson & Berridge, 1993)—states that in individuals with addictions, cues associated with substances of abuse may acquire strong incentive values and evoke craving. Such reactions may relate to activations of brain regions implicated in reward processing, including the ventral striatum. Tasks assessing cue reactivity and reward processing may be modified to investigate the specificity of cues (e.g., monetary versus erotic) to specific groups (Sescousse, Barbalat, Domenech, & Dreher, 2013), and we have recently applied this task to study a clinical sample (Gola et al., 2017). We found that individuals seeking treatment for problematic pornography use and masturbation, when compared to matched (by age, gender, income, religiosity, amount of sexual contacts with partners, sexual arousability) healthy control subjects, showed increased ventral striatal reactivity for cues of erotic rewards, but not for associated rewards and not for monetary cues and rewards. This pattern of brain reactivity is in line with the incentive salience theory and suggests that a key feature of CSB may involve cue reactivity or craving induced by initially neutral cues associated with sexual activity and sexual stimuli. Additional data suggest that other brain circuits and mechanisms may be involved in CSB, and these may include anterior cingulate, hippocampus and amygdala (Banca et al., 2016; Klucken, Wehrum-Osinsky, Schweckendiek, Kruse, & Stark, 2016; Voon et al., 2014). Among these, we have hypothesized that the extended amygdala circuit that relates to high reactivity for threats and anxiety may be particularly clinically relevant (Gola, Miyakoshi, & Sescousse, 2015; Gola & Potenza, 2016) based on observation that some CSB individuals present with high levels of anxiety (Gola et al., 2017) and CSB symptoms may be reduced together with pharmacological reduction in anxiety (Gola & Potenza, 2016)....

16) Promoting educational, classification, treatment, and policy initiatives Commentary on: Compulsive sexual behaviour disorder in the ICD-11 (Kraus et al., 2018) – The world's most widely used medical diagnostic manual, *The International Classification of Diseases* (ICD-11), contains a new diagnosis suitable for porn addiction: "Compulsive Sexual Behavior Disorder." Excerpts:

For many individuals who experience persistent patterns of difficulty or failures in controlling intense, repetitive sexual impulses or urges that result in sexual behavior associated with marked distress or impairment in personal, family, social, educational, occupational, or other important areas of functioning, it is very important to be able to name and identify their problem. It is also important that care providers (i.e., clinicians and counselors) from whom individuals may seek help are familiar with CSBs. During our studies involving over 3,000 subjects seeking treatment for CSB, we have frequently heard that individuals suffering from CSB encounter multiple barriers during their seeking of help or in contact with clinicians (Dhuffar & Griffiths, 2016). Patients report that clinicians may avoid the topic, state that such problems do not exist, or suggest that one has a high sexual drive, and should accept it instead of treating (despite that for these individuals, the CSBs may feel ego-dystonic and lead to multiple negative consequences). We believe that well-defined criteria for CSB disorder will promote educational efforts including development of training programs on how to assess and treat individuals with symptoms of CSB disorder. We hope that such programs will become a part of clinical training for psychologists, psychiatrists, and other providers of mental health care services, as well as other care providers including primary care providers, such as generalist physicians.

Basic questions on how best to conceptualize CSB disorder and provide effective treatments should be addressed. The current proposal of classifying CSB disorder as an impulse-control disorder is controversial as alternate models have been proposed (Kor, Fogel, Reid, & Potenza, 2013). There are data suggesting that CSB shares many features with addictions (Kraus et al., 2016), including recent data indicating increased reactivity of reward-related brain regions in response to cues associated with erotic stimuli (Brand, Snagowski, Laier, & Maderwald, 2016; Gola, Wordecha, Marchewka, & Sescousse, 2016; Gola et al., 2017; Klucken, Wehrum-Osinsky, Schweckendiek, Kruse, & Stark, 2016; Voon et al., 2014). Furthermore, preliminary data suggest that naltrexone, a medication with indications for alcohol- and opioid-use disorders, may be helpful for treating CSBs (Kraus, Meshberg-Cohen, Martino, Quinones, & Potenza, 2015; Raymond, Grant, & Coleman, 2010). With respect to CSB disorder's proposed classification as an impulse-control disorder, there are data suggesting that individuals seeking treatment for one form of CSB disorder, problematic pornography use, do not differ in terms of impulsivity from the general population. They are instead presented with increased anxiety (Gola, Miyakoshi, & Sescousse, 2015; Gola et al., 2017), and pharmacological treatment targeting anxiety symptoms may be helpful in reducing some CSB symptoms (Gola & Potenza, 2016). While it may not yet be possible to draw definitive conclusions regarding classification, more data seem to support classification as an addictive disorder when compared to an impulse-control disorder (Kraus et al., 2016), and more research is needed to examine relationships with other psychiatric conditions (Potenza et al., 2017).

Compulsive sexual behavior (CSB) is widely regarded as a "behavioral addiction," and is a major threat to quality of life and both physical and mental health. However, CSB has been slow to be recognized clinically as a diagnosable disorder. CSB is comorbid with affective disorders as well as substance use disorders, and recent neuroimaging studies have demonstrated shared or overlapping neural pathologies disorders, especially in brain regions controlling motivational salience and inhibitory control. Clinical neuroimaging studies are reviewed that have identified structural and/or function changes in prefrontal cortex, amygdala, striatum, and thalamus in individuals suffering from CSB. A preclinical model to study the neural underpinnings of CSB in male rats is discussed consisting of a conditioned aversion procedure to examine seeking of sexual behavior despite known negative consequences.

Because CSB shares characteristics with other compulsive disorders, namely, drug addiction, comparisons of findings in CSB, and drug-addicted subjects, may be valuable to identify common neural pathologies mediating comorbidity of these disorders. Indeed, many studies have shown similar patterns of neural activity and connectivity within limbic structures that are involved in both CSB and chronic drug use [87–89].

In conclusion, this review summarized the behavioral and neuroimaging studies on human CSB and comorbidity with other disorders, including substance abuse. Together, these studies indicate that CSB is associated with functional alterations in dorsal anterior cingulate and prefrontal cortex, amygdala, striatum, and thalamus, in addition to decreased connectivity between amygdala and prefrontal cortex. Moreover, a preclinical model for CSB in male rats was described, including new evidence of neural alterations in mPFC and OFC that are correlated with loss of inhibitory control of sexual behavior. This preclinical model offers a unique opportunity to test key hypotheses to identify predispositions and underlying causes of CSB and comorbidity with other disorders.

18) Sexual Dysfunctions in the Internet Era (2018) – Excerpt:

Low sexual desire, reduced satisfaction in sexual intercourse, and erectile dysfunction (ED) are increasingly common in young population. In an Italian study from 2013, up to 25% of subjects suffering from ED were under the age of 40 [1], and in a similar study published in 2014, more than half of Canadian sexually experienced men between the age of 16 and 21 suffered from some kind of sexual disorder [2]. At the same time, prevalence of unhealthy lifestyles associated with organic ED has not changed significantly or has decreased in the last decades, suggesting that psychogenic ED is on the rise [3]. The DSM-IV-TR defines some behaviors with hedonic qualities, such as gambling, shopping, sexual behaviors, Internet use, and video game use, as "impulse control disorders not elsewhere classified"—although these are often described as behavioral addictions [4]. Recent investigation has suggested the role of behavioral addiction in sexual dysfunctions: alterations in neurobiological pathways involved in sexual response might be a consequence of repeated, supernormal stimuli of various origins.

Among behavioral addictions, problematic Internet use and online pornography consumption are often cited as possible risk factors for sexual dysfunction, often with no definite boundary between the two phenomena. Online users are attracted to Internet pornography because of its anonymity, affordability, and accessibility, and in many cases its usage could lead users through a cybersex addiction: in these cases, users are more likely to forget the "evolutionary" role of sex, finding more excitement in self-selected sexually explicit material than in intercourse.

In literature, researchers are discordant about positive and negative function of online pornography. From the negative perspective, it represents the principal cause of compulsive masturbatory behavior, cybersex addiction, and even erectile dysfunction.

19) Neurocognitive mechanisms in compulsive sexual behavior disorder (2018) – Excerpts:

To date, most neuroimaging research on compulsive sexual behavior has provided evidence of overlapping mechanisms underlying compulsive sexual behavior and non-sexual addictions. Compulsive sexual behavior is associated with altered functioning in brain regions and networks implicated in sensitization, habituation, impulse dyscontrol, and reward processing in patterns like substance, gambling, and gaming addictions. Key brain regions linked to CSB features include the frontal and temporal cortices, amygdala, and striatum, including the nucleus accumbens.

CSBD has been included in the current version of the *ICD-11* as an impulse-control disorder [39]. As described by the WHO, 'Impulse-control disorders are characterized by the repeated failure to resist an impulse, drive, or urge to perform an act that is rewarding to the person, at least in the short-term, despite consequences such as longer-term harm either to the individual or to others, marked distress about the behaviour pattern, or significant impairment in personal, family, social, educational, occupational, or other important areas of functioning' [39]. Current findings raise important questions regarding the classification of CSBD. Many disorders characterized by impaired impulse-control are classified elsewhere in the *ICD-11* (for example, gambling, gaming, and substance-use disorders are classified as being addictive disorders) [123].

20) A Current Understanding of the Behavioral Neuroscience of Compulsive Sexual Behavior Disorder and Problematic Pornography Use (2018) – Excerpts:

Recent neurobiological studies have revealed that compulsive sexual behaviors are associated with altered processing of sexual material and differences in brain structure and function.

The findings summarized in our overview suggest relevant similarities with behavioral and substance-related addictions, which share many abnormalities found for CSBD (as reviewed in [127]). Although beyond the scope of the present report, substance and behavioral addictions are characterized by altered cue reactivity indexed by subjective, behavioral, and neurobiological measures (overviews and reviews: [128, 129, 130, 131, 132, 133]; alcohol: [134, 135]; cocaine: [136, 137]; tobacco: [138, 139]; gambling: [140, 141]; gaming: [142, 143]). Results concerning resting-state functional connectivity show similarities between CSBD and other addictions [144, 145].

Although few neurobiological studies of CSBD have been conducted to date, existing data suggest neurobiological abnormalities share communalities with other addictions such as substance use and gambling disorders. Thus, existing data suggest that its classification may be better suited as a behavioral addiction rather than an impulse-control disorder.

21) Ventral Striatal Reactivity in Compulsive Sexual Behaviors (2018) – Excerpts:

Compulsive Sexual Behaviors (CSB) are a reason to seek treatment. Given this reality, the number of studies on CSB has increased substantially in the last decade and the World Health Organization (WHO) included CSB in its proposal for the upcoming ICD-11..... From our point of view, it is worth investigating whether CSB can be distinguished into two subtypes characterized by: (1) dominant interpersonal sexual behaviors, and (2) dominant solitary sexual behaviors and pornography watching (48, 49).

The amount of available studies on CSB (and sub-clinical populations of frequent pornography users) is constantly increasing. Among currently available studies, we were able to find nine publications (Table 1) which utilized functional magnetic resonance imaging. Only four of these (36–39) directly investigated processing of erotic cues and/or rewards and reported findings related to ventral striatum activations. Three studies indicate increased ventral striatal reactivity for erotic stimuli (36–39) or cues predicting such stimuli (36–39). These findings are consistent with Incentive Salience Theory (IST) (28), one of the most prominent frameworks describing brain functioning in addiction. The only support for another theoretical framework which predicts hypoactivation of the ventral striatum in addiction, RDS theory (29, 30), comes partially from one study (37), where individuals with CSB presented lower ventral striatal activation for exciting stimuli when compared to controls.

22) Online Porn Addiction: What We Know and What We Don't—A Systematic Review (2019)– Excerpts:

In the last few years, there has been a wave of articles related to behavioral addictions; some of them have a focus on online pornography addiction. However, despite all efforts, we are still unable to profile when engaging in this behavior becomes pathological. Common problems include: sample bias, the search for diagnostic instrumentals, opposing approximations to the matter, and the fact that this entity may be encompassed inside a greater pathology (i.e., sex addiction) that may present itself with very diverse symptomatology. Behavioral addictions form a largely unexplored field of study, and usually exhibit a problematic consumption model: loss of control, impairment, and risky use. Hypersexual disorder fits this model and may be composed of several sexual behaviors, like problematic use of online pornography (POPU). Online pornography use is on the rise, with a potential for addiction considering the “triple A” influence (accessibility, affordability, anonymity). This problematic use might have adverse effects in sexual development and sexual functioning, especially among the young population.

As far as we know, a number of recent studies support this entity as an addiction with important clinical manifestations such as sexual dysfunction and psychosexual dissatisfaction. Most of the existing work is based off on similar research done on substance addicts, based on the hypothesis of online pornography as a ‘supranormal stimulus’ akin to an actual substance that, through continued consumption, can spark an addictive disorder. However, concepts like tolerance and abstinence are not yet clearly established enough to merit the labeling of addiction, and thus constitute a crucial part of future research. For the moment, a diagnostic entity encompassing out of control sexual behavior has been included in the ICD-11 due to its current clinical relevance, and it will surely be of use to address patients with these symptoms that ask clinicians for help.

23) Occurrence and development of online porn addiction: individual susceptibility factors, strengthening mechanisms and neural mechanisms (2019) – Excerpts:

Initiation and development of cybersex addiction have two stages with classical conditioning and operant conditioning. Firstly, individuals use cybersex occasionally out of entertainment and curiosity. On this stage, use of internet devices is paired with sexual arousal and The results in classical conditioning, further leads to sensitization of cybersex-related cues which trigger intense craving. Individual vulnerabilities also facilitate sensitization of cybersex-related cues. On the second stage, individuals make use of cybersex frequently to satisfy their sexual desires or During this process, cybersex-related cognitive bias like positive expectation of cybersex and coping mechanism like using it to deal with negative emotions are positively reinforced, those personal traits associated with cybersex addiction such as narcissism, sexual sensation seeking, sexual excitability, dysfunction use of sex are also positively reinforced, while common personality disorders like nervousness, low self-esteem and psychopathologies like depression, anxiety are negatively reinforced. Executive function deficits occur due to long-term cybersex use. Interaction of executive function deficits and intense craving promotes development and maintenance Of cybersex addiction. Researches using electrophysiological and brain imaging tools mainly to study cybersex addiction found that cybersex addicts may develop more and more robust craving for cybersex when facing cybersex-related cues, but they feel less and less pleasant when using it. Studies provide evidence for intense craving triggered by cybersex-related cues and impaired executive function. In conclusion, people who are vulnerable to cybersex addiction can't stop cybersex use out of more and more intense craving for cybersex and impaired executive function, but they feel less and less satisfied when using it, and search for more and more original pornographic materials online at the cost of plenty of time and money. Once they reduce cybersex use or just quit it, they would suffer from a series of adverse effects like depression, anxiety, erection dysfunction, lack of sexual arousal.

See [Questionable & Misleading Studies](#) for highly publicized papers that are not what they claim to be ([this dated paper – Ley et al., 2014 – was not a literature review](#) and misrepresented most the papers it did cite). See [this page](#) for the many studies linking porn use to sexual problems and decreased sexual & relationship satisfaction.

Neurological studies (fMRI, MRI, EEG, Neuro-endocrine, Neuropsychological) on porn users and sex addicts:

The neurological studies below are categorized in two ways: (1) by the addiction-related brain changes each reported, and (2) by the date of publication.

1) Listed by addiction-related brain change: The four major brain changes induced by addiction are described by [George F. Koob](#) and [Nora D. Volkow](#) in their landmark review. Koob is the Director of the National Institute on Alcohol Abuse and Alcoholism (NIAAA), and Volkow is the director of the National Institute on Drug Abuse (NIDA). It was published in *The New England Journal of Medicine: Neurobiologic Advances from the Brain Disease Model of Addiction (2016)*. The paper describes the major brain changes involved with both drug and behavioral addictions, while stating in its opening paragraph that sex addiction exists:

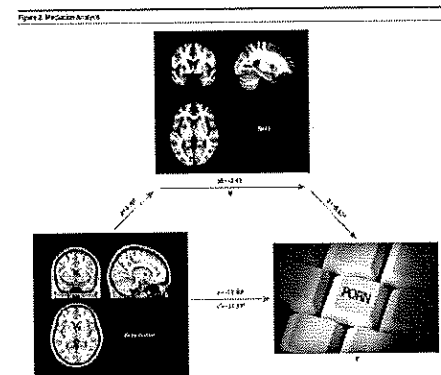
"We conclude that neuroscience continues to support the brain disease model of addiction. Neuroscience research in this area not only offers new opportunities for the prevention and treatment of substance addictions and related behavioral addictions (e.g., to food, sex, and gambling)...."

The Volkow & Koob paper outlined four fundamental addiction-caused brain changes, which are: 1) [Sensitization](#), 2) [Desensitization](#), 3) [Dysfunctional prefrontal circuits](#) (hypofrontality), 4) [Malfunctioning stress system](#). All 4 of these brain changes have been identified among the many neurological studies listed on this page:

- Studies reporting **sensitization** (cue-reactivity & cravings) in porn users/sex addicts: [1](#), [2](#), [3](#), [4](#), [5](#), [6](#), [7](#), [8](#), [9](#), [10](#), [11](#), [12](#), [13](#), [14](#), [15](#), [16](#), [17](#), [18](#), [19](#), [20](#), [21](#), [22](#), [23](#), [24](#).
- Studies reporting **desensitization** or habituation (resulting in tolerance) in porn users/sex addicts: [1](#), [2](#), [3](#), [4](#), [5](#), [6](#).
- Studies reporting poorer executive functioning (**hypofrontality**) or altered prefrontal activity in porn users/sex addicts: [1](#), [2](#), [3](#), [4](#), [5](#), [6](#), [7](#), [8](#), [9](#), [10](#), [11](#), [12](#), [13](#), [14](#), [15](#), [16](#).
- Studies indicating a **dysfunctional stress system** in porn users/sex addicts: [1](#), [2](#), [3](#).

2) Listed by date of publication: The following list contains all the neurological studies published on porn users and sex addicts. Each study listed below is accompanied by a description or excerpt, and indicates which of the 4 addiction-related brain change(s) just discussed its findings endorse:

1) Preliminary Investigation of The Impulsive And Neuroanatomical Characteristics of Compulsive Sexual Behavior (Miner et al., 2009) – [dysfunctional prefrontal circuits/poorer executive function] – fMRI study involving primarily sex addicts. Study reports more impulsive behavior in a Go-NoGo task in sex addicts (hypersexuals) compared to control participants. Brain scans revealed that sex addicts had disorganized prefrontal cortex white matter compared to controls. Excerpts:



In addition to the above self-report measures, CSB patients also showed significantly more impulsivity on a behavioral task, the Go-No Go procedure.

Results also indicate that CSB patients showed significantly higher superior frontal region mean diffusivity (MD) than controls. A correlational analysis indicated significant associations between impulsivity measures and inferior frontal region fractional anisotropy (FA) and MD, but no associations with superior frontal region measures. Similar analyses indicated a significant negative association between superior frontal lobe MD and the compulsive sexual behavior inventory.

2) Self-reported differences on measures of executive function and hypersexual behavior in a patient and community sample of men (Reid et al., 2010) – [poorer executive function] – An excerpt:

Patients seeking help for hypersexual behavior often exhibit features of impulsivity, cognitive rigidity, poor judgment, deficits in emotion regulation, and excessive preoccupation with sex. Some of these characteristics are also common among patients presenting with neurological pathology associated with executive dysfunction. These observations led to the current investigation of differences between a group of hypersexual patients ($n = 87$) and a non-hypersexual community sample ($n = 92$) of men using the Behavior Rating Inventory of Executive Function-Adult Version. Hypersexual behavior was positively correlated with global indices of executive dysfunction and several subscales of the BRIEF-A. These findings provide preliminary evidence supporting the hypothesis that executive dysfunction may be implicated in hypersexual behavior.

3) Watching Pornographic Pictures on the Internet: Role of Sexual Arousal Ratings and Psychological-Psychiatric Symptoms for Using Internet Sex Sites Excessively (Brand et al., 2011) – [greater cravings/sensitization and poorer executive function] – An excerpt:

Results indicate that self-reported problems in daily life linked to online sexual activities were predicted by subjective sexual arousal ratings of the pornographic material, global severity of psychological symptoms, and the number of sex applications used when being on Internet sex sites in daily life, while the time spent on Internet sex sites (minutes per day) did not significantly contribute to explanation of variance in IATsex score. We see some parallels between cognitive and brain mechanisms potentially contributing to the maintenance of excessive cybersex and those described for individuals with substance dependence.

4) Pornographic Picture Processing Interferes with Working Memory Performance (Lai et al., 2013) – [greater cravings/sensitization and poorer executive function] – An excerpt:

Some individuals report problems during and after Internet sex engagement, such as missing sleep and forgetting appointments, which are associated with negative life consequences. One mechanism potentially leading to these kinds of problems is that sexual arousal during Internet sex might interfere with working memory (WM) capacity, resulting in a neglect of relevant environmental information and therefore disadvantageous decision making. Results revealed worse WM performance in the pornographic picture condition of the 4-back task compared with the three remaining picture conditions. Findings are discussed with respect to Internet addiction because WM interference by addiction-related cues is well known from substance dependencies.

5) Sexual Picture Processing Interferes with Decision-Making Under Ambiguity (Lai et al., 2013) – [greater cravings/sensitization and poorer executive function] – An excerpt:

Decision-making performance was worse when sexual pictures were associated with disadvantageous card decks compared to performance when the sexual pictures were linked to the advantageous decks. Subjective sexual arousal moderated the relationship between task condition and decision-making performance. This study emphasized that sexual arousal interfered with decision-making, which may explain why some individuals experience negative consequences in the context of cybersex use.

6) Cybersex addiction: Experienced sexual arousal when watching pornography and not real-life sexual contacts makes the difference (Lai et al., 2013) – [greater cravings/sensitization and poorer executive function] – An excerpt:

The results show that indicators of sexual arousal and craving to Internet pornographic cues predicted tendencies towards cybersex addiction in the first study. Moreover, it was shown that problematic cybersex users report greater sexual arousal and craving reactions resulting from pornographic cue presentation. In both studies, the number and the quality with real-life sexual contacts were not associated to cybersex addiction. The results support the gratification hypothesis, which assumes reinforcement, learning mechanisms, and craving to be relevant processes in the development and maintenance of cybersex addiction. Poor or unsatisfying sexual real life contacts cannot sufficiently explain cybersex addiction.

7) Sexual Desire, not Hypersexuality, is Related to Neurophysiological Responses Elicited by Sexual Images (Steele et al., 2013) – [greater cue-reactivity correlated with less sexual desire: sensitization and habituation] – This EEG study was touted in the media as evidence against the existence of porn/sex addiction. Not so. Steele et al. 2013 actually lends support to the existence of both

porn addiction and porn use down-regulating sexual desire. How so? The study reported higher EEG readings (relative to neutral pictures) when subjects were briefly exposed to pornographic photos. Studies consistently show that an elevated P300 occurs when addicts are exposed to cues (such as images) related to their addiction.

In line with the Cambridge University brain scan studies, this EEG study also reported greater cue-reactivity to porn correlating with less desire for partnered sex. To put it another way – individuals with greater brain activation to porn would rather masturbate to porn than have sex with a real person. Shockingly, study spokesperson Nicole Prause claimed that porn users merely had “high libido,” yet the results of the study say the exact opposite (subjects’ desire for partnered sex was dropping in relation to their porn use).

Together these two Steele et al. findings indicate greater brain activity to cues (porn images), yet less reactivity to natural rewards (sex with a person). That’s sensitization & desensitization, which are hallmarks of an addiction. Eight peer-reviewed papers explain the truth: Peer-reviewed critiques of Steele et al., 2013. Also see this extensive YBOP critique.

Aside from the many unsupported claims in the press, it’s disturbing that Prause’s 2013 EGG study passed peer-review, as it suffered from serious methodological flaws: 1) subjects were heterogeneous (males, females, non-heterosexuals); 2) subjects were not screened for mental disorders or addictions; 3) study had no control group for comparison; 4) questionnaires were not validated for porn use or porn addiction. Steele et al. is so badly flawed that only 4 of the above 22 literature reviews & commentaries bother to mention it: two critiquing it as unacceptable junk science, while two cite it as correlating cue-reactivity with less desire for sex with a partner (signs of addiction).

8) Brain Structure and Functional Connectivity Associated With Pornography Consumption: The Brain on Porn (Kuhn & Gallinat, 2014) – [desensitization, habituation, and dysfunctional prefrontal circuits]. This Max Planck Institute fMRI study reported 3 neurological findings correlating with higher levels of porn use: (1) less reward system grey matter (dorsal striatum), (2) less reward circuit activation while briefly viewing sexual photos, (3) poorer functional connectivity between the dorsal striatum and dorsolateral prefrontal cortex. The researchers interpreted the 3 findings as an indication of the effects of longer-term porn exposure. Said the study,

This is in line with the hypothesis that intense exposure to pornographic stimuli results in a down-regulation of the natural neural response to sexual stimuli.

In describing the poorer functional connectivity between the PFC and the striatum the study said,

Dysfunction of this circuitry has been related to inappropriate behavioral choices, such as drug seeking, regardless of the potential negative outcome

Lead author Simone Kühn commenting in the Max Planck press release said:

We assume that subjects with a high porn consumption need increasing stimulation to receive the same amount of reward. That could mean that regular consumption of pornography more or less wears out your reward system. That would fit perfectly the hypothesis that their reward systems need growing stimulation.

9) Neural Correlates of Sexual Cue Reactivity in Individuals with and without Compulsive Sexual Behaviours (Voon et al., 2014) – [sensitization/cue-reactivity and desensitization] The first in a series of Cambridge University studies found the same brain activity pattern in porn addicts (CSB subjects) as seen in drug addicts and alcoholics – greater cue-reactivity or sensitization. Lead researcher Valerie Voon said:

There are clear differences in brain activity between patients who have compulsive sexual behaviour and healthy volunteers. These differences mirror those of drug addicts.

Voon et al., 2014 also found that porn addicts fit the accepted addiction model of wanting “it” more, but not liking “it” any more. Excerpt:

Compared to healthy volunteers, CSB subjects had greater subjective sexual desire or wanting to explicit cues and had greater liking scores to erotic cues, thus demonstrating a dissociation between wanting and liking

The researchers also reported that 60% of subjects (average age: 25) had difficulty achieving erections/arousal with real partners, yet could achieve erections with porn. This indicates sensitization or habituation. Excerpts:

CSB subjects reported that as a result of excessive use of sexually explicit materials..... experienced diminished libido or erectile function specifically in physical relationships with women (although not in relationship to the sexually explicit material)...

CSB subjects compared to healthy volunteers had significantly more difficulty with sexual arousal and experienced more erectile difficulties in intimate sexual relationships but not to sexually explicit material.

10) Enhanced Attentional Bias towards Sexually Explicit Cues in Individuals with and without Compulsive Sexual Behaviours (Mechelmans et al., 2014) – [sensitization/cue-reactivity] – The second Cambridge University study. An ex:

Our findings of enhanced attentional bias... suggest possible overlaps with enhanced attentional bias observed in studies of drug cues in disorders of addictions. These findings converge with recent findings of neural reactivity to sexually explicit cues in [porn addicts] in a network similar to that implicated in drug-cue-reactivity studies and provide support for incentive motivation theories of addiction underlying the aberrant response to sexual cues in [porn addicts]. This finding dovetails with our recent observation that sexually explicit videos were associated with greater activity in a neural network similar to that observed in drug-cue-reactivity studies. Greater desire or wanting rather than liking was further associated with activity in this neural network. These studies together provide support for an incentive motivation theory of addiction underlying the aberrant response towards sexual cues in CSB.

11) Cybersex addiction in heterosexual female users of internet pornography can be explained by gratification hypothesis (Laier et al., 2014) – [greater cravings/sensitization] – An excerpt:

We examined 51 female IPU and 51 female non-Internet pornography users (NIPU). Using questionnaires, we assessed the severity of cybersex addiction in general, as well as propensity for sexual excitation, general problematic sexual behavior, and severity of psychological symptoms. Additionally, an experimental paradigm, including a subjective arousal rating of 100 pornographic pictures, as well as indicators of craving, was conducted. Results indicated that IPU rated pornographic pictures as more arousing and reported greater craving due to pornographic picture presentation compared with NIPU. Moreover, craving, sexual arousal rating of pictures, sensitivity to sexual excitation, problematic sexual behavior, and severity of psychological symptoms predicted tendencies toward cybersex addiction in IPU. Being in a relationship, number of sexual contacts, satisfaction with sexual contacts, and use of interactive cybersex were not associated with cybersex addiction. These results are in line with those reported for heterosexual males in previous studies. Findings regarding the reinforcing nature of sexual arousal, the mechanisms of learning, and the role of cue reactivity and craving in the development of cybersex addiction in IPU need to be discussed.

12) Empirical Evidence and Theoretical Considerations on Factors Contributing to Cybersex Addiction From a Cognitive Behavioral View (Laier et al., 2014) – [greater cravings/sensitization] – An excerpt:

The nature of a phenomenon often called cybersex addiction (CA) and its mechanisms of development are discussed. Previous work suggests that some individuals might be vulnerable to CA, while positive reinforcement and cue-reactivity are considered to be core mechanisms of CA development. In this study, 155 heterosexual males rated 100 pornographic pictures and indicated their increase of sexual arousal. Moreover, tendencies towards CA, sensitivity to sexual excitation, and dysfunctional use of sex in general were assessed. The results of the study show that there are factors of vulnerability to CA and provide evidence for the role of sexual gratification and dysfunctional coping in the development of CA.

13) Novelty, Conditioning and Attentional Bias to Sexual Rewards (Banca et al., 2015) – [greater cravings/sensitization and habituation/desensitization] – Another Cambridge University fMRI study. Compared to controls porn addicts preferred sexual novelty and conditioned cues associated porn. However, the brains of porn addicts habituated faster to sexual images. Since novelty preference wasn't pre-existing, it is believed that porn addiction drives novelty-seeking in an attempt to overcome habituation and desensitization.

Compulsive sexual behavior (CSB) was associated with enhanced novelty preference for sexual, as compared to control images, and a generalized preference for cues conditioned to sexual and monetary versus neutral outcomes compared to healthy volunteers. CSB individuals also had greater dorsal cingulate habituation to repeated sexual versus monetary images with the degree of habituation correlating with enhanced preference for sexual novelty. Approach behaviors to sexually conditioned cues dissociable from novelty preference were associated with an early attentional bias to sexual images. This study shows that CSB individuals have a dysfunctional enhanced preference for sexual novelty possibly mediated by greater cingulate habituation along with a generalized enhancement of conditioning to rewards. An excerpt:

An excerpt from the [related press release](#):

They found that when the sex addicts viewed the same sexual image repeatedly, compared to the healthy volunteers they experienced a greater decrease of activity in the region of the brain known as the dorsal anterior cingulate cortex, known to be involved in anticipating rewards and responding to new events. This is consistent with 'habituation', where the addict finds the same stimulus less and less rewarding – for example, a coffee drinker may get a caffeine 'buzz' from their first cup, but over time the more they drink coffee, the smaller the buzz becomes.

This same habituation effect occurs in healthy males who are repeatedly shown the same porn video. But when they then view a new video, the level of interest and arousal goes back to the original level. This implies that, to prevent habituation, the sex addict would need to seek out a constant supply of new images. In other words, habituation could drive the search for novel images.

"Our findings are particularly relevant in the context of online pornography," adds Dr Voon. "It's not clear what triggers sex addiction in the first place and it is likely that some people are more pre-disposed to the addiction than others, but the seemingly endless supply of novel sexual images available online helps feed their addiction, making it more and more difficult to escape."

14) Neural Substrates of Sexual Desire in Individuals with Problematic Hypersexual Behavior (Seok & Sohn, 2015) – [greater cue reactivity/sensitization and dysfunctional prefrontal circuits] – This Korean fMRI study replicates other brain studies on porn users. Like the Cambridge University studies it found cue-induced brain activation patterns in sex addicts, which mirrored the patterns of drug addicts. In line with several German studies it found alterations in the prefrontal cortex which match the changes observed in drug addicts. What's new is that the findings matched the prefrontal cortex activation patterns observed in drug addicts: Greater cue-reactivity to sexual images yet inhibited responses to other normally salient stimuli. An excerpt:

Our study aimed to investigate the neural correlates of sexual desire with event-related functional magnetic resonance imaging (fMRI). Twenty-three individuals with PHB and 22 age-matched healthy controls were scanned while they passively viewed sexual and nonsexual stimuli. The subjects' levels of sexual desire were assessed in response to each sexual stimulus. Relative to controls, individuals with PHB experienced more frequent and enhanced sexual desire during exposure to sexual stimuli. Greater activation was observed in the caudate nucleus, inferior parietal lobe, dorsal anterior cingulate gyrus, thalamus, and dorsolateral prefrontal cortex in the PHB group than in the control group. In addition, the hemodynamic patterns in the activated areas differed between the groups. Consistent with the findings of brain imaging studies of substance and behavior addiction, individuals with the behavioral characteristics of PHB and enhanced desire exhibited altered activation in the prefrontal cortex and subcortical regions

15) Modulation of Late Positive Potentials by Sexual Images in Problem Users and Controls Inconsistent with "Porn Addiction" (Prause et al., 2015) – [habituation] – A second EEG study from Nicole Prause's team. This study compared the 2013 subjects from [Steele et al., 2013](#) to an actual control group (yet it suffered from the same methodological flaws named above). The results: Compared to controls "individuals experiencing problems regulating their porn viewing" had lower brain responses to one-second exposure to photos of vanilla porn. The [lead author](#) claims these results "[debunk porn addiction](#)." What [legitimate scientist](#) would claim that their lone anomalous study has debunked a [well established field of study](#)?

In reality, the findings of [Prause et al. 2015](#) align perfectly with [Kühn & Gallinat \(2014\)](#), which found that more porn use correlated with less brain activation in response to pictures of vanilla porn. [Prause et al.](#) findings also align with [Banca et al. 2015](#) which is #13 in this list. Moreover, [another EEG study](#) found that greater porn use in women correlated with less brain activation to porn. Lower EEG readings mean that subjects are paying less attention to the pictures. Put simply, frequent porn users were desensitized to static images of vanilla porn. They were bored (habituated or desensitized). See this [extensive YBOP critique](#). Nine peer-reviewed papers agree that this study actually found desensitization/habituation in frequent porn users (consistent with addiction): [Peer-reviewed critiques of Prause et al., 2015](#)

Prause proclaimed that her EEG readings assessed "cue-reactivity" ([sensitization](#)), rather than habituation. Even if Prause were correct she conveniently ignores the gaping hole in her "falsification" assertion: Even if [Prause et al. 2015](#) had found less cue-reactivity in frequent porn users, 24 other neurological studies have reported cue-reactivity or cravings (sensitization) in compulsive porn users: [1](#), [2](#), [3](#), [4](#), [5](#), [6](#), [7](#), [8](#), [9](#), [10](#), [11](#), [12](#), [13](#), [14](#), [15](#), [16](#), [17](#), [18](#), [19](#), [20](#), [21](#), [22](#), [23](#), [24](#). Science doesn't go with the lone anomalous study hampered by serious methodological flaws; science goes with the preponderance of evidence (unless you [are agenda-driven](#)).

16) HPA Axis Dysregulation in Men With Hypersexual Disorder (Chatzittofis, 2015) – [dysfunctional stress response] – A study with 67 male sex addicts and 39 age-matched controls. The Hypothalamus-Pituitary-Adrenal (HPA) axis is the central player in our stress response. Addictions [alter the brain's stress circuits](#) leading to a dysfunctional HPA axis. This study on sex addicts (hypersexuals) found altered stress responses that mirror the findings with substance addictions. [Excerpts from press release](#):

The study involved 67 men with hypersexual disorder and 39 healthy matched controls. The participants were carefully diagnosed for hypersexual disorder and any co-morbidity with depression or childhood trauma. The researchers gave them a low dose of dexamethasone on the evening before the test to inhibit their physiological stress response, and then in the morning measured their levels of stress hormones cortisol and ACTH. They found that patients with hypersexual disorder had higher levels of such hormones than the healthy controls, a difference that remained even after controlling for co-morbid depression and childhood trauma.

"Aberrant stress regulation has previously been observed in depressed and suicidal patients as well as in substance abusers," says Professor Jokinen. "In recent years, the focus has been on whether childhood trauma can lead to a dysregulation of the body's stress systems via so-called epigenetic mechanisms, in other words how their psychosocial environments can influence the genes that control these systems." According to the researchers, the results suggest that the same neurobiological system involved in another type of abuse can apply to people with hypersexual disorder.

17) Prefrontal control and internet addiction: a theoretical model and review of neuropsychological and neuroimaging findings (Brand et al., 2015) – [dysfunctional prefrontal circuits/poorer executive function and sensitization] – Excerpt:

Consistent with this, results from functional neuroimaging and other neuropsychological studies demonstrate that cue-reactivity, craving, and decision making are important concepts for understanding Internet addiction. The findings on reductions in executive control are consistent with other behavioral addictions, such as pathological gambling. They also emphasize the classification of the phenomenon as an addiction, because there are also several similarities with findings in substance dependency. Moreover, the results of the current study are comparable to findings from substance dependency research and emphasize analogies between cybersex addiction and substance dependencies or other behavioral addictions.

18) Implicit associations in cybersex addiction: Adaption of an Implicit Association Test with pornographic pictures (Snagkowski et al., 2015) – [greater cravings/sensitization] – Excerpt:

Recent studies show similarities between cybersex addiction and substance dependencies and argue to classify cybersex addiction as a behavioral addiction. In substance dependency, implicit associations are known to play a crucial role, and such implicit associations have not been studied in cybersex addiction, so far. In this experimental study, 128 heterosexual male participants completed an Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998) modified with pornographic pictures. Further, problematic sexual behavior, sensitivity towards sexual excitation, tendencies towards cybersex addiction, and subjective craving due to watching pornographic pictures were assessed. Results show positive relationships between implicit associations of pornographic pictures with positive emotions and tendencies towards cybersex addiction, problematic sexual behavior, sensitivity towards sexual excitation as well as subjective craving. Moreover, a moderated regression analysis revealed that individuals who reported high subjective craving and showed positive implicit associations of pornographic pictures with positive emotions, particularly tended towards cybersex addiction. The findings suggest a potential role of positive implicit associations with pornographic pictures in the development and maintenance of cybersex addiction. Moreover, the results of the current study are comparable to findings from substance dependency research and emphasize analogies between cybersex addiction and substance dependencies or other behavioral addictions.

19) Symptoms of cybersex addiction can be linked to both approaching and avoiding pornographic stimuli: results from an analog sample of regular cybersex users (Snagkowski, et al., 2015) – [greater cravings/sensitization] – Excerpt:

Some approaches point toward similarities to substance dependencies for which approach/avoidance tendencies are crucial mechanisms. Several researchers have argued that within an addiction-related decision situation, individuals might either show tendencies to approach or avoid addiction-related stimuli. In the current study 123 heterosexual males completed an Approach-Avoidance-Task (AAT; Rinck and Becker, 2007) modified with pornographic pictures. During the AAT participants either had to push pornographic stimuli away or pull them toward themselves with a joystick. Sensitivity toward sexual excitation, problematic sexual behavior, and tendencies toward cybersex addiction were assessed with questionnaires.

Results showed that individuals with tendencies toward cybersex addiction tended to either approach or avoid pornographic stimuli. Additionally, moderated regression analyses revealed that individuals with high sexual excitation and problematic sexual behavior who showed high approach/avoidance tendencies, reported higher symptoms of cybersex addiction. Analogous to substance dependencies, results suggest that both approach and avoidance tendencies might play a role in cybersex addiction. Moreover, an interaction with sensitivity toward sexual excitation and problematic sexual behavior could have an accumulating effect on the severity of subjective complaints in everyday life due to cybersex use. The findings provide further empirical evidence for similarities between cybersex addiction and substance dependencies. Such similarities could be retraced to a comparable neural processing of cybersex- and drug-related cues.

20) Getting stuck with pornography? Overuse or neglect of cybersex cues in a multitasking situation is related to symptoms of cybersex addiction (Schiebener et al., 2015) – [greater cravings/sensitization and poorer executive control] – Excerpt:

Some individuals consume cybersex contents, such as pornographic material, in an addictive manner, which leads to severe negative consequences in private life or work. One mechanism leading to negative consequences may be reduced executive control over cognition and behavior that may be necessary to realize goal-oriented switching between cybersex use and other tasks and obligations of life. To address this aspect, we investigated 104 male participants with an executive multitasking paradigm with two sets: One set consisted of pictures of persons, the other set consisted of pornographic pictures. In both sets the pictures had to be classified according to certain criteria. The explicit goal was to work on all classification tasks to equal amounts, by switching between the sets and classification tasks in a balanced manner.

We found that less balanced performance in this multitasking paradigm was associated with a higher tendency towards cybersex addiction. Persons with this tendency often either overused or neglected working on the pornographic pictures. The results indicate that reduced executive control over multitasking performance, when being confronted with pornographic material, may contribute to dysfunctional behaviors and negative consequences resulting from cybersex addiction. However, individuals with tendencies towards cybersex addiction seem to have either an inclination to avoid or to approach the pornographic material, as discussed in motivational models of addiction.

21) Trading Later Rewards for Current Pleasure: Pornography Consumption and Delay Discounting (Negash et al., 2015) – [poorer executive control: causation experiment] – Excerpts:

Study 1: Participants completed a pornography use questionnaire and a delay discounting task at Time 1 and then again four weeks later. Participants reporting higher initial pornography use demonstrated a higher delay discounting rate at Time 2, controlling for initial delay discounting. Study 2: Participants who abstained from pornography use demonstrated lower delay discounting than participants who abstained from their favorite food.

Internet pornography is a sexual reward that contributes to delay discounting differently than other natural rewards do, even when use is not compulsive or addictive. This research makes an important contribution, demonstrating that the effect goes beyond temporary arousal.

Pornography consumption may provide immediate sexual gratification but can have implications that transcend and affect other domains of a person's life, especially relationships.

The finding suggests that Internet pornography is a sexual reward that contributes to delay discounting differently than other natural rewards. It is therefore important to treat pornography as a unique stimulus in reward, impulsivity, and addiction studies and to apply this accordingly in individual as well as relational treatment.

22) Sexual Excitability and Dysfunctional Coping Determine Cybersex Addiction in Homosexual Males (Laier et al., 2015) – [greater cravings/sensitization] – Excerpt:

Recent findings have demonstrated an association between CyberSex Addiction (CA) severity and indicators of sexual excitability, and that coping by sexual behaviors mediated the relationship between sexual excitability and CA symptoms. The aim of this study was to test this mediation in a sample of homosexual males. Questionnaires assessed symptoms of CA, sensitivity to sexual excitation, pornography use motivation, problematic sexual behavior, psychological symptoms, and sexual behaviors in real life and online. Moreover, participants viewed pornographic videos and indicated their sexual arousal before and after the video presentation. Results showed strong correlations between CA symptoms and indicators of sexual arousal and sexual excitability, coping by sexual behaviors, and psychological symptoms. CA was not associated with offline sexual behaviors and weekly cybersex use time. Coping by sexual behaviors partially mediated the relationship between sexual excitability and CA. The results are comparable with those reported for heterosexual males and females in previous studies and are discussed against the background of theoretical assumptions of CA, which highlight the role of positive and negative reinforcement due to cybersex use.

23) The Role of Neuroinflammation in the Pathophysiology of Hypersexual Disorder (Jokinen et al., 2016) – [dysfunctional stress response and neuro-inflammation] – This study reported higher levels of circulating Tumor Necrosis Factor (TNF) in sex addicts when compared to healthy controls. Elevated levels of TNF (a marker of inflammation) have also been found in substance abusers and drug-addicted animals (alcohol, heroin, meth). There were strong correlations between TNF levels and rating scales measuring hypersexuality.

24) Compulsive Sexual Behavior: Prefrontal And Limbic Volume and Interactions (Schmidt et al., 2016) – [dysfunctional prefrontal circuits and sensitization] – This is an fMRI study. Compared to healthy controls CSB subjects (porn addicts) had increased left amygdala volume and reduced functional connectivity between the amygdala and dorsolateral prefrontal cortex DLPFC. Reduced functional connectivity between the amygdala and the prefrontal cortex aligns with substance addictions. It is thought that poorer connectivity diminishes the prefrontal cortex's control over a user's impulse to engage in the addictive behavior. This study suggests that drug toxicity may lead to less grey matter and thus reduced amygdala volume in drug addicts. The amygdala is consistently active during porn viewing, especially during initial exposure to a sexual cue. Perhaps the constant sexual novelty and searching and seeking leads to a unique effect on the amygdala in compulsive porn users. Alternatively, years of porn addiction and severe negative consequences are very stressful – and chronic social stress is related to increased amygdala volume. Study #16 above found that "sex addicts" have an overactive stress system. Could the chronic stress related to porn/sex addiction, along with factors that make sex unique, lead to greater amygdala volume? An excerpt:

Our current findings highlight elevated volumes in a region implicated in motivational salience and lower resting state connectivity of prefrontal top-down regulatory control networks. Disruption of such networks may explain the aberrant behavioral patterns toward environmentally salient reward or enhanced reactivity to salient incentive cues. Although our volumetric findings contrast with those in SUD, these findings may reflect differences as a function of the neurotoxic effects of chronic drug exposure. Emerging evidence suggests potential overlaps with an addiction process particularly supporting incentive motivation theories. We have shown that activity in this salience network is then enhanced following exposure to highly salient or preferred sexually explicit cues [Brand et al., 2016; Seok and Sohn, 2015; Voon et al., 2014] along with enhanced attentional bias [Mechelmans et al., 2014] and desire specific to the sexual cue but not generalized sexual desire [Brand et al., 2016; Voon et al., 2014]. Enhanced attention to sexually explicit cues is further associated with preference for sexually conditioned cues thus confirming the relationship between sexual cue conditioning and attentional bias [Banca et al., 2016]. These findings of enhanced activity related to sexually conditioned cues differ from that of the outcome (or the unconditioned stimulus) in which enhanced habituation, possibly consistent with the concept of tolerance, increases the preference for novel sexual stimuli [Banca et al., 2016]. Together these findings help elucidate the underlying neurobiology of CSB leading toward a greater understanding of the disorder and identification of possible therapeutic markers.

25) Ventral Striatum Activity When Watching Preferred Pornographic Pictures is Correlated With Symptoms of Internet Pornography Addiction (Brand et al., 2016) – [greater cue reactivity/sensitization] – A German fMRI study. Finding #1: Reward center activity (ventral striatum) was higher for preferred pornographic pictures. Finding #2: Ventral striatum reactivity correlated with the internet sex addiction score. Both findings indicate sensitization and align with the addiction model. The authors state that the "Neural basis of Internet pornography addiction is comparable to other addictions." An excerpt:

One type of Internet addiction is excessive pornography consumption, also referred to as cybersex or Internet pornography addiction. Neuroimaging studies found ventral striatum activity when participants watched explicit sexual stimuli compared to non-explicit sexual/erotic material. We now hypothesized that the ventral striatum should respond to preferred pornographic compared to non-preferred pornographic pictures and that the ventral striatum activity in this contrast should be correlated with subjective symptoms of Internet pornography addiction. We studied 19 heterosexual male participants with a picture paradigm including preferred and non-preferred pornographic material.

Pictures from the preferred category were rated as more arousing, less unpleasant, and closer to ideal. Ventral striatum response was stronger for the preferred condition compared to non-preferred pictures. Ventral striatum activity in this contrast was correlated with the self-reported symptoms of Internet pornography addiction. The subjective symptom severity was also the only significant predictor in a regression analysis with ventral striatum response as dependent variable and subjective symptoms of Internet pornography addiction, general sexual excitability, hypersexual behavior, depression, interpersonal sensitivity, and sexual behavior in the last days as predictors. The results support the role for the ventral striatum in processing reward anticipation and gratification linked to subjectively preferred pornographic material. Mechanisms for reward anticipation in ventral striatum may contribute to a neural explanation of why individuals with certain preferences and sexual fantasies are at-risk for losing their control over Internet pornography consumption.

26) Altered Appetitive Conditioning and Neural Connectivity in Subjects With Compulsive Sexual Behavior (Klucken et al., 2016) – [greater cue reactivity/sensitization and dysfunctional prefrontal circuits] – This German fMRI study replicated two major findings from Voon et al., 2014 and Kuhn & Gallinat 2014. Main Findings: The neural correlates of appetitive conditioning and neural connectivity were altered in the CSB group. According to the researchers, the first alteration – heightened amygdala activation – might reflect facilitated conditioning (greater "wiring" to previously neutral cues predicting porn images). The second alteration – decreased connectivity between the ventral striatum and the prefrontal cortex – could be a marker for impaired ability to control impulses. Said the researchers, "These [alterations] are in line with other studies investigating the neural correlates of addiction disorders and impulse control deficits." The findings of greater amygdala activation to cues (sensitization) and decreased connectivity between the reward center and the prefrontal cortex (hypofrontality) are two of the major brain changes seen in substance addiction. In addition, 3 of the 20 compulsive porn users suffered from "orgasmic-erection disorder." An excerpt:

In general, the observed increased amygdala activity and the concurrently decreased ventral striatal-PFC coupling allows speculations about the etiology and treatment of CSB. Subjects with CSB seemed more prone to establish associations between formally neutral cues and sexually relevant environmental stimuli. Thus, these subjects are more likely to encounter cues that elicit approaching behavior. Whether this leads to CSB or is a result of CSB must be answered by future research. In addition, impaired regulation processes, which are reflected in the decreased ventral striatal-prefrontal coupling, might further support the maintenance of the problematic behavior.

27) Compulsivity Across the Pathological Misuse of Drug and Non-Drug Rewards (Banca et al., 2016) – [greater cue reactivity/sensitization, enhanced conditioned responses] – This Cambridge University fMRI study compares aspects of compulsivity in alcoholics, binge-eaters, video game addicts and porn addicts (CSB). Excerpts:

In contrast to other disorders, CSB compared to HV showed faster acquisition to reward outcomes along with a greater perseveration in the reward condition irrespective of outcome. The CSB subjects did not show any specific impairments in set shifting or reversal learning. These findings converge with our previous findings of enhanced preference for stimuli conditioned to either sexual or monetary outcomes, overall suggesting enhanced sensitivity to rewards (Banca et al., 2016). Further studies using salient rewards are indicated.

28) Subjective Craving for Pornography and Associative Learning Predict Tendencies Towards Cybersex Addiction in a Sample of Regular Cybersex Users (Snagowski et al., 2016) – [greater cue reactivity/sensitization, enhanced conditioned responses] – This unique study conditioned subjects to formerly neutral shapes, which predicted the appearance of a pornographic image. Excerpts:

There is no consensus regarding the diagnostic criteria of cybersex addiction. Some approaches postulate similarities to substance dependencies, for which associative learning is a crucial mechanism. In this study, 86 heterosexual males completed a Standard Pavlovian to Instrumental Transfer Task modified with pornographic pictures to investigate associative learning in cybersex addiction. Additionally, subjective craving due to watching pornographic pictures and tendencies towards cybersex addiction were assessed. Results showed an effect of subjective craving on tendencies towards cybersex addiction, moderated by associative learning. Overall, these findings point towards a crucial role of associative learning for the development of cybersex addiction, while providing further empirical evidence for similarities between substance dependencies and cybersex addiction. In summary, the results of the current study suggest that associative learning might play a crucial role regarding the development of cybersex addiction. Our findings provide further evidence for similarities between cybersex addiction and substance dependencies since influences of subjective craving and associative learning were shown.

29) Mood changes after watching pornography on the Internet are linked to symptoms of Internet-pornography-viewing disorder (Laier & Brand, 2016) – [greater cravings/sensitization, less liking] – Excerpts:

The main results of the study are that tendencies towards Internet Pornography Disorder (IPD) were associated negatively with feeling generally good, awake, and calm as well as positively with perceived stress in daily life and the motivation to use Internet pornography in terms of excitement seeking and emotional avoidance. Furthermore, tendencies towards IPD were negatively related to mood before and after watching Internet pornography as well as an actual increase of good and calm mood. The relationship between tendencies towards IPD and excitement seeking due to Internet-pornography use was moderated by the evaluation of the experienced orgasm's satisfaction. Generally, the results of the study are in line with the hypothesis that IPD is linked to the motivation to find sexual gratification and to avoid or to cope with aversive emotions as well as with the assumption that mood changes following pornography consumption are linked to IPD (Cooper et al., 1999 and Laier and Brand, 2014).

30) Problematic sexual behavior in young adults: Associations across clinical, behavioral, and neurocognitive variables (2016) – [poorer executive functioning] – Individuals with Problematic Sexual Behaviors (PSB) exhibited several neuro-cognitive deficits. These findings indicate poorer executive functioning (hypofrontality) which is a key brain feature occurring in drug addicts. A few excerpts:

One notable result from this analysis is that PSB shows significant associations with a number of deleterious clinical factors, including lower self-esteem, decreased quality of life, elevated BMI, and higher comorbidity rates for several disorders...

...it is also possible that the clinical features identified in the PSB group are actually the result of a tertiary variable which gives rise to both PSB and the other clinical features. One potential factor filling this role could be the neurocognitive deficits identified in the PSB group, particularly those relating to working memory, impulsivity/impulse control, and decision making. From this characterization, it is possible to trace the problems evident in PSB and additional clinical features, such as emotional dysregulation, to particular cognitive deficits...

If the cognitive problems identified in this analysis are actually the core feature of PSB, this may have notable clinical implications.

31) Methylation of HPA Axis Related Genes in Men With Hypersexual Disorder (Jokinen et al., 2017) – [dysfunctional stress response, epigenetic changes] – This is a follow-up of #16 above which found that sex addicts have dysfunctional stress systems – a key neuro-endocrine change caused by addiction. The current study found epigenetic changes on genes central to the human stress response and closely associated with addiction. With epigenetic changes, the DNA sequence isn't altered (as happens with a mutation). Instead, the gene is tagged and its expression is turned up or down (short video explaining epigenetics). The epigenetic changes reported in this study resulted in altered CRF gene activity. CRF is a neurotransmitter and hormone that drives addictive behaviors such as cravings, and is a major player in many of the withdrawal symptoms experienced in connection with substance and behavioral addictions, including porn addiction.

32) Exploring the Relationship between Sexual Compulsivity and Attentional Bias to Sex-Related Words in a Cohort of Sexually Active Individuals (Albery et al., 2017) – [greater cue reactivity/sensitization, desensitization] – This study replicates the findings of this 2014 Cambridge University study, which compared the attentional bias of porn addicts to healthy controls. Here's what's new: The study correlated the "years of sexual activity" with 1) the sex addiction scores and also 2) the resu English 35

task. Among those scoring high on sexual addiction, fewer years of sexual experience were related to greater attentional bias ([explanation of attentional bias](#)). So higher sexual compulsivity scores + fewer years of sexual experience = greater signs of addiction (greater attentional bias, or interference). But attentional bias declines sharply in the compulsive users, and disappears at the highest number of years of sexual experience. The authors concluded that this result could indicate that more years of “compulsive sexual activity” lead to greater habituation or a general numbing of the pleasure response (desensitization). An excerpt from the conclusion:

One possible explanation for these results is that as a sexually compulsive individual engages in more compulsive behaviour, an associated arousal template develops [36–38] and that over time, more extreme behaviour is required for the same level of arousal to be realised. It is further argued that as an individual engages in more compulsive behaviour, neuropathways become desensitized to more ‘normalised’ sexual stimuli or images and individuals turn to more ‘extreme’ stimuli to realise the arousal desired. This is in accordance with work showing that ‘healthy’ males become habituated to explicit stimuli over time and that this habituation is characterised by decreased arousal and appetitive responses [39]. This suggests that more compulsive, sexually active participants have become ‘numb’ or more indifferent to the ‘normalised’ sex-related words used in the present study and as such display decreased attentional bias, while those with increased compulsivity and less experience still showed interference because the stimuli reflect more sensitised cognition.

33) Executive Functioning of Sexually Compulsive and Non-Sexually Compulsive Men Before and After Watching an Erotic Video (Messina et al., 2017) – [poorer executive functioning, greater cravings/sensitization] – Exposure to porn affected executive functioning in men with “compulsive sexual behaviors,” but not healthy controls. Poorer executive functioning when exposed to addiction-related cues is a hallmark of substance disorders (indicating both [altered prefrontal circuits](#) and [sensitization](#)). Excerpts:

This finding indicates better cognitive flexibility after sexual stimulation by controls compared with sexually compulsive participants. These data support the idea that sexually compulsive men do not take advantage of the possible learning effect from experience, which could result in better behavior modification. This also could be understood as a lack of a learning effect by the sexually compulsive group when they were sexually stimulated, similar to what happens in the cycle of sexual addiction, which starts with an increasing amount of sexual cognition, followed by the activation of sexual scripts and then orgasm, very often involving exposure to risky situations.

34) Can Pornography be Addictive? An fMRI Study of Men Seeking Treatment for Problematic Pornography Use (Gola et al., 2017) – [greater cue reactivity/sensitization, enhanced conditioned responses] – An fMRI study involving a unique cue-reactivity paradigm where formerly neutral shapes predicted the appearance of pornographic images. Excerpts:

Men with and without problematic porn use (PPU) differed in brain reactions to cues predicting erotic pictures, but not in reactions to erotic pictures themselves, consistent with the [incentive salience theory of addictions](#). This brain activation was accompanied by increased behavioral motivation to view erotic images (higher ‘wanting’). Ventral striatal reactivity for cues predicting erotic pictures was significantly related to the severity of PPU, amount of pornography use per week and number of weekly masturbations. Our findings suggest that like in substance-use and gambling disorders the neural and behavioral mechanisms linked to anticipatory processing of cues relate importantly to clinically relevant features of PPU. These findings suggest that PPU may represent a behavioral addiction and that interventions helpful in targeting behavioral and substance addictions warrant consideration for adaptation and use in helping men with PPU.

35) Conscious and Non-Conscious Measures of Emotion: Do They Vary with Frequency of Pornography Use? (Kunaharan et al., 2017) – [habituation or desensitization] – Study assessed porn users’ responses (EEG readings & Startle Response) to various emotion-inducing images – including erotica. The study found several neurological differences between low frequency porn users and high frequency porn users. Excerpts:

Findings suggest that increased pornography use appears to have an influence on the brain's non-conscious responses to emotion-inducing stimuli which was not shown by explicit self-report.

4.1. Explicit Ratings: Interestingly, the high porn use group rated the erotic images as more unpleasant than the medium use group. The authors suggest this may be due to the relatively "soft-core" nature of the "erotic" images contained in the IAPS database not providing the level of stimulation that they may usually seek out, as it has been shown by Harper and Hodgins [58] that with frequent viewing of pornographic material, many individuals often escalate into viewing more intense material to maintain the same level of physiological arousal. The "pleasant" emotion category saw valence ratings by all three groups to be relatively similar with the high use group rating the images as slightly more unpleasant on average than the other groups. This may again be due to the "pleasant" images presented not being stimulating enough for the individuals in the high use group. Studies have consistently shown a physiological downregulation in processing of appetitive content due to habituation effects in individuals who frequently seek out pornographic material [3, 7, 8]. It is the authors' contention that this effect may account for the results observed.

4.3. Startle Reflex Modulation (SRM): The relative higher amplitude startle effect seen in the low and medium porn use groups may be explained by those in the group intentionally avoiding the use of pornography, as they may find it to be relatively more unpleasant. Alternatively, the results obtained also may be due to a habituation effect, whereby individuals in these groups do watch more pornography than they explicitly stated—possibly due to reasons of embarrassment among others, as habituation effects have been shown to increase startle eye blink responses [41, 42].

36) Exposure to Sexual Stimuli Induces Greater Discounting Leading to Increased Involvement in Cyber Delinquency Among Men (Cheng & Chiou, 2017) – [poorer executive functioning, greater impulsivity – causation experiment] – In two studies exposure to visual sexual stimuli resulted in: 1) greater delayed discounting (inability to delay gratification), 2) greater inclination to engage in cyber-delinquency, 3) greater inclination to purchase counterfeit goods and hack someone's Facebook account. Taken together this indicates that porn use increases impulsivity and may reduce certain executive functions (self-control, judgment, foreseeing consequences, impulse control). Excerpt:

People frequently encounter sexual stimuli during Internet use. Research has shown that stimuli inducing sexual motivation can lead to greater impulsivity in men, as manifested in greater temporal discounting (i.e., a tendency to prefer smaller, immediate gains to larger, future ones).

In conclusion, the current results demonstrate an association between sexual stimuli (e.g., exposure to pictures of sexy women or sexually arousing clothing) and men's involvement in cyber delinquency. Our findings suggest that men's impulsivity and self-control, as manifested by temporal discounting, are susceptible to failure in the face of ubiquitous sexual stimuli. Men may benefit from monitoring whether exposure to sexual stimuli is associated with their subsequent delinquent choices and behavior. Our findings suggest that encountering sexual stimuli can tempt men down the road of cyber delinquency

The current results suggest that the high availability of sexual stimuli in cyberspace may be more closely associated with men's cyber-delinquent behavior than previously thought.

37) Predictors for (Problematic) Use of Internet Sexually Explicit Material: Role of Trait Sexual Motivation and Implicit Approach Tendencies Towards Sexually Explicit Material (Stark et al., 2017) – [greater cue reactivity/sensitization/cravings] – Excerpts:

The present study investigated whether trait sexual motivation and implicit approach tendencies toward sexual material are predictors of problematic SEM use and of the daily time spent watching SEM. In a behavioral experiment, we used the Approach-Avoidance Task (AAT) for measuring implicit approach tendencies towards sexual material. A positive correlation between implicit approach tendency towards SEM and the daily time spent on watching SEM might be explained by attentional effects: A high implicit approach tendency can be interpreted as an attentional bias towards SEM. A subject with this attentional bias might be more attracted to sexual cues on the Internet resulting in higher amounts of time spent on SEM sites.

38) Pornography Addiction Detection based on Neurophysiological Computational Approach (Kamaruddin et al., 2018) – Excerpt:

In this paper, a method of using brain signal from frontal area captured using EEG is proposed to detect whether the participant may have porn addiction or otherwise. It acts as a complementary approach to common psychological questionnaire. Experimental results show that the addicted participants had low alpha waves activity in the frontal brain region compared to non-addicted participants. It can be observed using power spectra computed using Low Resolution Electromagnetic Tomography (LORETA). The theta band also show there is disparity between addicted and non-addicted. However, the distinction is not as obvious as alpha band.

39) Gray matter deficits and altered resting-state connectivity in the superior temporal gyrus among individuals with problematic hypersexual behavior (Seok & Sohn, 2018) – [gray matter deficits in temporal cortex, poorer functional connectivity between temporal cortex and precuneus & caudate] – An fMRI study comparing carefully screened sex addicts (“problematic hypersexual behavior”) to healthy control subjects. Compared to controls sex addicts had: 1) reduced gray matter in the temporal lobes (regions associated with inhibiting sexual impulses); 2) reduced precuneus to temporal cortex functional connectivity (may indicate abnormality in ability to shift attention); 3) reduced caudate to temporal cortex functional connectivity (may inhibit the top-down control of impulses). Excerpts:

These findings suggest that the structural deficits in the temporal gyrus and the altered functional connectivity between the temporal gyrus and specific areas (i.e., the precuneus and caudate) might contribute to the disturbances in tonic inhibition of sexual arousal in individuals with PHB. Thus, these results suggest that changes in structure and functional connectivity in the temporal gyrus might be PHB specific features and may be biomarker candidates for the diagnosis of PHB.

Gray matter enlargement in the right cerebellar tonsil and increased connectivity of the left cerebellar tonsil with the left STG were also observed.... Therefore, it is possible that the increased gray matter volume and functional connectivity in the cerebellum is associated with compulsive behavior in individuals with PHB.

In summary, the present VBM and functional connectivity study showed gray matter deficits and altered functional connectivity in the temporal gyrus among individuals with PHB. More importantly, the diminished structure and functional connectivity were negatively correlated with the severity of PHB. These findings provide new insights into the underlying neural mechanisms of PHB.

40) Tendencies toward Internet-pornography-use disorder: Differences in men and women regarding attentional biases to pornographic stimuli (Pekal et al., 2018) – [greater cue reactivity/sensitization, enhanced cravings]. Excerpts:

Several authors consider Internet-pornography-use disorder (IPD) as addictive disorder. One of the mechanisms that has been intensively studied in substance- and non-substance-use disorders is an enhanced attentional bias toward addiction-related cues. Attentional biases are described as cognitive processes of individual's perception affected by the addiction-related cues caused by the conditioned incentive salience of the cue itself. It is assumed in the I-PACE model that in individuals prone to develop IPD symptoms implicit cognitions as well as cue-reactivity and craving arise and increase within the addiction process. To investigate the role of attentional biases in the development of IPD, we investigated a sample of 174 male and female participants. Attentional bias was measured with the Visual Probe Task, in which participants had to react on arrows appearing after pornographic or neutral pictures. In addition, participants had to indicate their sexual arousal induced by pornographic pictures. Furthermore, tendencies toward IPD were measured using the short-Internetsex Addiction Test. The results of this study showed a relationship between attentional bias and symptom severity of IPD partially mediated by indicators for cue-reactivity and craving. While men and women generally differ in reaction times due to pornographic pictures, a moderated regression analysis revealed that attentional biases occur independently of sex in the context of IPD symptoms. The results support theoretical assumptions of the I-PACE model regarding the incentive salience of addiction-related cues and are consistent with studies addressing cue-reactivity and craving in substance-use disorders.

41) Altered Prefrontal and Inferior Parietal Activity During a Stroop Task in Individuals With Problematic Hypersexual Behavior (Seok & Sohn, 2018) – [poorer executive control- impaired PFC functionality]. Excerpts:

Accumulating evidence suggests a relationship between problematic hypersexual behavior (PHB) and diminished executive control. Clinical studies have demonstrated that individuals with PHB exhibit high levels of impulsivity; however, relatively little is known regarding the neural mechanisms underlying impaired executive control in PHB. This study investigated the neural correlates of executive control in individuals with PHB and healthy controls using event-related functional magnetic resonance imaging (fMRI). Twenty-three individuals with PHB and 22 healthy control participants underwent fMRI while performing a Stroop task. Response time and error rates were measured as surrogate indicators of executive control. Individuals with PHB exhibited impaired task performance and lower activation in the right dorsolateral prefrontal cortex (DLPFC) and inferior parietal cortex relative to healthy controls during the Stroop task. In addition, blood oxygen level-dependent responses in these areas were negatively associated with PHB severity. The right DLPFC and inferior parietal cortex are associated with higher-order cognitive control and visual attention, respectively. Our findings suggest that individuals with PHB have diminished executive control and impaired functionality in the right DLPFC and inferior parietal cortex, providing a neural basis for PHB.

42) Trait and state impulsivity in males with tendency towards Internet-pornography-use disorder (Antons & Brand, 2018) – [enhanced cravings, greater state & trait impulsivity]. Excerpts:

Results indicate that trait impulsivity was associated with higher symptom severity of Internet-pornography-use disorder (IPD). Especially those males with higher trait impulsivity and state impulsivity in the pornographic condition of the stop-signal task as well as those with high craving reactions showed severe symptoms of IPD.

The results indicate that both trait and state impulsivity play a crucial role in the development of IPD. In accordance with dual-process models of addiction, the results may be indicative of an imbalance between the impulsive and reflective systems which might be triggered by pornographic material. This may result in loss of control over the Internet-pornography use albeit experiencing negative consequences.

43) Facets of impulsivity and related aspects differentiate among recreational and unregulated use of Internet pornography. (Stephanie et al., 2019) – [enhanced cravings, greater delayed discounting (hypofrontality), habituation]. Excerpts:

Because of its primarily rewarding nature, Internet pornography (IP) is a predestinated target for addictive behaviors. Impulsivity-related constructs have been identified as promoters of addictive behaviors. In this study, we investigated impulsive tendencies (trait impulsivity, delay discounting, and cognitive style), craving toward IP, attitude regarding IP, and coping styles in individuals with recreational–occasional, recreational–frequent, and unregulated IP use. Groups of individuals with recreational–occasional use ($n = 333$), recreational–frequent use ($n = 394$), and unregulated use ($n = 225$) of IP were identified by screening instruments.

Individuals with unregulated use showed the highest scores for craving, attentional impulsivity, delay discounting, and dysfunctional coping, and lowest scores for functional coping and need for cognition. The results indicate that some facets of impulsivity and related factors such as craving and a more negative attitude are specific for unregulated IP users. The results are also consistent with models on specific Internet use disorders and addictive behaviors.... Furthermore, individuals with unregulated IP use had a more negative attitude toward IP compared to the recreational–frequent users. This result might suggest that individuals with unregulated IP use have a high motivation or urge to use IP, although they may have developed a negative attitude toward IP use, perhaps because they have already experienced negative consequences linked to their IP use pattern. This is consistent with the incentive-sensitization theory of addiction (Berridge & Robinson, 2016), which proposes a shift from liking to wanting during addiction.

A further interesting result is that the effect size for post-hoc tests duration in minutes per session, when comparing unregulated users with recreational–frequent users, was higher in comparison to the frequency per week. This might indicate that individuals with unregulated IP use especially have difficulties to stop watching IP during a session or need longer time to achieve the desired reward, which might be comparable with a form of tolerance in substance use disorders. This is consistent with the results from a diary assessment, which revealed that pornographic binges are one of the most characteristic behaviors in treatment-seeking males with compulsive sexual behaviors (Wordecha et al., 2018).


44) Approach bias for erotic stimuli in heterosexual male college students who use pornography (2019) – [enhanced approach bias (sensitization)]. Excerpts:

The results support the hypothesis that heterosexual male college students who use pornography are faster to approach than to avoid erotic stimuli during an AAT task..... These findings are also in line with several SRC tasks suggesting that addicted individuals display an action tendency to approach rather than avoid addictive stimuli (Bradley et al., 2004; Field et al., 2006, 2008).

Overall, the findings suggest that approach for addictive stimuli may be a more rapid or prepared response than avoidance, which may be explained by the interplay of other cognitive biases in addictive behaviors..... Moreover, total scores on the BPS were positively correlated with approach bias scores, indicating that the greater the severity of problematic pornography use, the stronger the degree of approach for erotic stimuli. This association was further supported by results suggesting that individuals with problematic pornography use, as classified by the PPUS, showed more than a 200% stronger approach bias for erotic stimuli compared to individuals without problematic pornography use.

Taken together, the results suggest parallels between substance and behavioral addictions (Grant et al., 2010). Pornography use (particularly problematic use) was linked to faster approaches to erotic stimuli than neutral stimuli, an approach bias similar to that observed in alcohol-use disorders (Field et al., 2008; Wiers et al., 2011), cannabis use (Cousijn et al., 2011; Field et al., 2006), and tobacco-use disorders (Bradley et al., 2004). An overlap between cognitive features and neurobiological mechanisms involved in both substance addictions and problematic pornography use seems likely, which is consistent with prior studies (Kowalewska et al., 2018; Stark et al., 2018).

Together these neurological studies found:

1. The 3 major addiction-related brain changes: sensitization, desensitization, and hypofrontality.
2. More porn use correlated with less grey matter in the reward circuit (dorsal striatum).
3. More porn use correlated with less reward circuit activation when briefly viewing sexual images.
4. More porn use correlated with disrupted neural connections between the reward circuit and prefrontal cortex.
5. Addicts had greater prefrontal activity to sexual cues, but less brain activity to normal stimuli (matches  English)

6. Porn use/exposure to porn related to greater delayed discounting (inability to delay gratification). This is a sign of poorer executive functioning.
7. 60% of compulsive porn addicted subjects in one study experienced ED or low libido with partners, but not with porn: all stated that internet porn use caused their ED/low libido.
8. Enhanced attentional bias comparable to drug users. Indicates sensitization (a product of DeltaFosb).
9. Greater wanting & craving for porn, but not greater liking. This aligns with the accepted model of addiction – incentive sensitization.
10. Porn addicts have greater preference for sexual novelty yet their brains habituated faster to sexual images. Not pre-existing.
11. The younger the porn users the greater the cue-induced reactivity in the reward center.
12. Higher EEG (P300) readings when porn users were exposed to porn cues (which occurs in other addictions).
13. Less desire for sex with a person correlating with greater cue-reactivity to porn images.
14. More porn use correlated with lower LPP amplitude when briefly viewing sexual photos: indicates habituation or desensitization.
15. Dysfunctional HPA axis and altered brain stress circuits, which occurs in drug addictions (and greater amygdala volume, which is associated with chronic social stress).
16. Epigenetic changes on genes central to the human stress response and closely associated with addiction.
17. Higher levels of Tumor Necrosis Factor (TNF) – which also occurs in drug abuse and addiction.
18. A deficit in temporal cortex gray matter; poorer connectivity between temporal cortex and several other regions.
19. Greater state impulsivity

Articles listing relevant studies and debunking misinformation:

Debunking misinformation

- Gary Wilson exposes the truth behind 5 studies propagandists cite to support their assertions that porn addiction doesn't exist and that porn use is largely beneficial: [Gary Wilson – Porn Research: Fact or Fiction \(2018\)](#).
- [Debunking "Why Are We Still So Worried About Watching Porn?"](#), by Marty Klein, Taylor Kohut, and Nicole Prause (2018).
- [How to recognize biased Articles: They cite Prause et al. 2015 \(falsely claiming it debunks porn addiction\), while omitting over 3 dozen neurological studies supporting porn addiction.](#)
- If you are looking for an analysis of a study that you cannot find on this "Critiques of Questionable & Misleading Studies" page, check this page: [Porn Science Deniers Alliance \(AKA: "RealYourBrainOnPorn.com" and "PornographyResearch.com"\)](#). It examines the [YBOP trademark infringers'](#) "research page," including its cherry-picked outlier studies, bias, egregious omission, and deception.
- [Is Joshua Grubbs pulling the wool over our eyes with his "perceived porn addiction" research? \(2016\)](#)
- [Research suggests the Grubbs, Perry, Wilt, Reid review is disingenuous \("Pornography Problems Due to Moral Incongruence: An Integrative Model with a Systematic Review and Meta-Analysis"\) 2018.](#)
- [Religious People Use Less Porn and Are No More Likely to Believe They Are Addicted \(2017\)](#)
- [Critique of: Letter to the editor "Prause et al. \(2015\) the latest falsification of addiction predictions"](#)
- [Op-ed: Who exactly is misrepresenting the science on pornography? \(2016\)](#)
- [Debunking Justin Lehmler's "Is Erectile Dysfunction Really on the Rise in Young Men" \(2018\)](#)
- [Debunking Kris Taylor's "A few hard truths about porn and erectile dysfunction" \(2017\)](#)
- [Debunking "Should you be worried about porn-induced erectile dysfunction?" – by The Daily Dot's Claire Downs. \(2018\)](#)
- [Debunking the "Men's Health" article by Gavin Evans: "Can Watching Too Much Porn Give You Erectile Dysfunction?" \(2018\)](#)
- [How porn is messing with your manhood](#), by Philip Zimbardo, Gary Wilson & Nikita Coulombe (March, 2016)
- [More on porn: guard your manhood—a response to Marty Klein](#), by Philip Zimbardo & Gary Wilson (April, 2016)
- [Dismantling David Ley's response to Philip Zimbardo: "We must rely on good science in porn debate" \(March, 2016\)](#)
- [YBOP response to Jim Pfaus's "Trust a scientist: sex addiction is a myth" \(January, 2016\)](#)
- [YBOP response to claims in a David Ley comment \(January, 2016\)](#)
- [Sexologists deny porn-induced ED by claiming masturbation is the problem \(2016\)](#)
- [David Ley attacks the Nofap movement \(May, 2015\)](#)

Lists of relevant studies

- [Over 70 studies linking porn use to less sexual and relationship satisfaction.](#)
- [This list contains over 30 studies linking porn use/porn addiction to sexual problems and lower arousal to sexual stimuli](#)
- [At least 25 studies falsify the claim that sex & porn addicts "just have high sexual desire"](#)
- [Over 35 studies reporting findings consistent with escalation of porn use \(tolerance\), habituation to porn, and even withdrawal symptoms](#)
- [Studies linking porn use to poorer mental-emotional health & poorer cognitive outcomes](#)
- [Studies linking porn use to "un-egalitarian attitudes" toward women](#)

Comments are closed.

- [David Ley Attacks the NoFap Movement \(May, 2015\)](#)
- [Dismantling David Ley's Response to Philip Zimbardo: "We Must Rely on Good Science in Porn Debate" \(2016\)](#)
- [How to recognize biased articles: They cite Prause et al., 2015 \(falsely claiming it debunks porn addiction\), while omitting over 40 neurological studies supporting porn addiction](#)
- [Upcoming Studies From 3rd & 4th International Conference on Behavioral Addictions](#)
- [YBOP response to claims in a David Ley comment \(January, 2016\)](#)
- [YBOP response to Jim Pfaus's "Trust a Scientist: Sex Addiction Is a Myth" \(January, 2016\)](#)



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Introduction

- Research has demonstrated that the majority of men in the U.S. view pornography (Kraus & Rosenberg, 2014; Tykka, 2014). In fact, one study found 87% of young adult men report viewing pornography, with 50% watching it weekly (Carroll et al., 2008).
- Additionally, younger age at first exposure to pornography has been associated with greater current pornography consumption (Hald, 2006).
- Greater consumption of pornography is related to stronger adherence to traditional masculine norms, such as playboy behavior (i.e., sexual promiscuity) and valuing power over women (Mikorski & Szymanski, 2016).

- The goal of the present study was to examine how age of first exposure to pornography and the nature of said first exposure (e.g., intentional, accidental, or forced) may predict conformity to two masculine norms: playboy behavior and seeking power over women.
- Hypotheses**
- It was hypothesized that lower age of first exposure would predict stronger adherence to the masculine norms of playboy behavior and seeking power over women. In addition, it was hypothesized that there would be significant differences in adherence to those same masculine norms between participants reporting that their first exposure to pornography was intentional, accidental, or forced.

Age and Experience of First Exposure to Pornography: Relations to Masculine Norms

Alyssa Bischmann, M.A., Christina Richardson, M.A., Justine Diener O'Leary, M.A., Marco Gullickson, B.A., M. Meghan Davidson, Ph.D., & Sarah J. Gervais, Ph.D.
University of Nebraska-Lincoln

Method

- Participants**
- Approval was obtained from the IRB, and the participants ($N = 330$) were undergraduate men at a large, Midwestern university, ranging in age from 17-54 years ($M = 20.65$, $SD = 3.06$). They mostly identified as White (84.9%) and heterosexual (92.6%). Participants completed the study online after providing informed consent.

- Instruments**
- **Age of exposure and experience.** Two items were used to assess age of first exposure to pornography and whether the exposure was intentional, accidental, or forced. The average age of first exposure was 13.37 ($SD = 2.43$) and 43.5% of participants indicated that their first exposure was accidental, 33.4% indicated that it was intentional, and 17.2% indicated that it was forced.

Results Cont.

- Descriptive statistics and correlations among variables are reported in Table 1.
- Results of two single regression analyses indicated that age of first exposure significantly predicted adherence to both the Power over Women masculine norm ($F(1, 311) = 6.656$, $p < .01$) and the Playboy masculine norm ($F(1, 311) = 6.835$, $p < .01$).

- Results of two one-way ANOVAs indicated no significant differences in adherence to the Power over Women masculine norm and the Playboy masculine norm between participants grouped by the nature of their first exposure to pornography (i.e., intentional, accidental, or forced, see Table 2).

Table 1: Descriptive Statistics and Correlations for all Variables

	M	SD	1	2	3
1. Age of First Exposure	13.371	2.427			
2. CMNI POW	0.960	1.268	-0.145**		
3. CMNI Playboy	2.190	1.614	0.147**	0.211**	

Table 2: ANOVA Statistics

	SS	df	MS	F	p
CMNI POW	Between 5.607	8	0.701	1.393	0.199
	Within 154.503	307	0.503		
CMNI Playboy	Between 1.726	8	0.216	0.418	0.910
	Within 158.385	307	0.516		

Note: ** $p \leq 0.01$. POW denotes the Power over Women subscale.

Peter presented at the annual American Psychological Association convention, August 2017. Please send all inquiries to alyssabischmann@gmail.com

Discussion

- This study investigated the relations between age of first exposure, type of first exposure (i.e., intentional, accidental, forced), and conformity to two masculine norms: Power over Women (POW) and Playboy.
- Age of first exposure significantly predicted adherence to POW and Playboy masculine norms such that the older an individual was when first exposed to pornography, the greater his endorsement of Playboy masculine norms (i.e., men's desire for multiple sexual relationships and heightened sexuality) and the younger an individual was when first exposed to pornography, the greater his endorsement of POW masculine norms (i.e., men's belief in male superiority over women).

- The unexpected direction of regression results may be related to unexamined variables such as valence of first exposure (e.g., positive or negative), religiosity, sexual performance anxiety, or negative sexual experiences.
- Results indicated no differences in adherence to these two masculine norms depending on the type of exposure (i.e., intentional, accidental, or forced), suggesting that exposure type does not significantly impact adherence to POW and Playboy masculine norms.


- Future Directions**
- Future research should attempt to replicate the current findings.
 - Future research should explore the mechanism by which age of exposure impacts these, and other, masculine norms.
 - Future research should also investigate the outcomes of these relationships by including measures of relationship satisfaction, wellbeing, and perpetration of violence against women, as these variables may be related to masculine norms and pornography.

May 2018

Pornography as a Public Health Issue: Promoting Violence and Exploitation of Children, Youth, and Adults

Elisabeth Taylor

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Recommended Citation

Taylor, Elisabeth (2018) "Pornography as a Public Health Issue: Promoting Violence and Exploitation of Children, Youth, and Adults," *Dignity: A Journal on Sexual Exploitation and Violence*: Vol. 3: Iss. 2, Article 8.

DOI: [10.23860/dignity.2018.03.02.08](https://doi.org/10.23860/dignity.2018.03.02.08)

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Pornography as a Public Health Issue: Promoting Violence and Exploitation of Children, Youth, and Adults

Abstract

The pornography industry is expanding exponentially as a result of ongoing technological advances. The ability to stream videos over the internet and the ubiquity of the smart phone have meant that pornography producers are able to use algorithms to target potential consumers, to cultivate new sexual tastes and to deliver content to a more diverse audience over mobile devices. The advent of virtual reality pornography with interactive sex toys and sex robots imbued with artificial intelligence promises to unleash a further step-change in the extent to which pornography influences 'real-world' sexual culture. The critical analysis of pornography undertaken over decades largely by feminist academics and activists has produced a compelling account of how pornography serves to manipulate ordinary sexual interests and direct consumers towards more extreme content. The objectification of pornography performers and the promotion of the idea that they are consenting are both essential strategies to allow normal men (and, though less often, women) to feel comfortable with their pornography viewing. Drawing on interational academic literature from a range of disciplines, together with evidence from popular culture, contemporary news, and criminal law cases, this paper examines the growing body of evidence that pornography plays a pivotal and causal role in shaping real-world sexual behaviours and expectations. As the increasingly brutal fantasies represented in pornography continue to inform expectations for sexual experiences, the evidence for the detrimental consequences of this also proliferates. The nature and extent of these detrimental consequences are explored particularly with reference to three population groups: women, adolescents, and children. Having described the nature of modern pornographic content and isolated pornography as an important agent of change in sexual culture, this paper then explores the connection between the behaviours celebrated in gonzo porn and real-world sexual violence towards women. The promotion of sexually risky practices to adolescents through pornography has a material impact on sexual health as well as social wellbeing. The long-term effects of this can only be guessed at, since no generation has previously been saturated with such extreme sexual content available through such a variety of media. Measurable health outcomes as well as self-reported effects on teenagers highlight the dangers of the current trajectory. Finally, the dangers to children are emphasised in a discussion of how the fantasies encouraged by 'pseudo child porn' genres engender a sexual interest in genuine child exploitation material (CEM), which in turn increases the risk of contact abuse for children. CEM is also used by paedophiles to groom future victims and forms 'currency' within online communities of men with paedophilic interests. The rise of child-on-child sexual assault can, in many cases, be causally linked to children's access to pornography or to previous experience of sexual abuse, which is very often filmed.

Keywords

pornography, public health, violence, sexual abuse, harm, objectification, women, men, children

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PORNOGRAPHY AS A PUBLIC HEALTH ISSUE: PROMOTING VIOLENCE AND EXPLOITATION OF CHILDREN, YOUTH, AND ADULTS

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ABSTRACT

The pornography industry is expanding exponentially as a result of ongoing technological advances. The ability to stream videos over the internet and the ubiquity of the smart phone have meant that pornography producers are able to use algorithms to target potential consumers, to cultivate new sexual tastes and to deliver content to a more diverse audience over mobile devices. The advent of virtual reality pornography with interactive sex toys and sex robots imbued with artificial intelligence promises to unleash a further step-change in the extent to which pornography influences 'real-world' sexual culture. The critical analysis of pornography undertaken over decades largely by feminist academics and activists has produced a compelling account of how pornography serves to manipulate ordinary sexual interests and direct consumers towards more extreme content. The objectification of pornography performers and the promotion of the idea that they are consenting are both essential strategies to allow normal men (and, though less often, women) to feel comfortable with their pornography viewing. Drawing on interational academic literature from a range of disciplines, together with evidence from popular culture, contemporary news, and criminal law cases, this paper examines the growing body of evidence that pornography plays a pivotal and causal role in shaping real-world sexual behaviours and expectations. As the increasingly brutal fantasies represented in pornography continue to inform expectations for sexual experiences, the evidence for the detrimental consequences of this also proliferates. The nature and extent of these detrimental consequences are explored particularly with reference to three population groups: women, adolescents, and children. Having described the nature of modern pornographic content and isolated pornography as an important agent of change in sexual culture, this paper then explores the connection between the behaviours celebrated in gonzo porn and real-world sexual violence towards women. The promotion of sexually risky practices to adolescents through pornography has a material impact on sexual health as well as social wellbeing. The long-term effects of this can only be guessed at, since no generation has previously been saturated with such extreme sexual content available through such a variety of media. Measurable health outcomes as well as self-reported effects on teenagers highlight the dangers of the current trajectory. Finally, the dangers to children are emphasised in a discussion of how the fantasies encouraged by 'pseudo child porn' genres engender a sexual interest in genuine child exploitation material (CEM), which in turn increases the risk of contact abuse for children. CEM is also used by paedophiles to groom future victims and forms 'currency' within online communities of men with paedophilic interests. The rise of child-on-child sexual assault can, in many cases, be causally linked to children's access to pornography or to previous experience of sexual abuse, which is very often filmed.

KEYWORDS

pornography, public health, violence, sexual abuse, harm, objectification, women, men, children

Researching the pornography industry in 2001, the British writer Martin Amis observed the soul-destroying effects of pornography both on the consumer and on the consumed. He concluded that, for this very reason, pornography could never become mainstream:

Porno is littered — porno is heaped — with the deaths of feelings ... For porno to become mainstream, human beings would have to change.¹

His words are peculiarly prescient. Amis was writing when the primary distribution platform for filmed pornography was still the VCR. Now, with the proliferation of the internet and the ubiquity of the smartphone, pornography is increasingly mainstream, and it is apparent that Amis was right; pornography is changing human beings in ways we cannot afford to ignore.

Pornography now accounts for 35% of all internet downloads.² Porn Hub boasted a total of 2.8 billion visitors to its site in 2017, which equates to an average of 81 million visitors every day.³ Australia is the eighth largest consumer of pornography in the world.⁴ With an estimated annual income of a \$100 billion per year worldwide, successful pornography directors and performers are no longer social pariahs. Money brings glamour, influence and an air of artistic legitimacy. These strong international revenues also speak of a large support base of consumers who would similarly argue for the unfettered proliferation of a product they enjoy.

Concerns about the effects of pornography relate to its influence on culture, the way it shapes intimate relationships and impacts on individual physical and mental health. These concerns are particularly acute for young people, whose social, relational, neurological, and sexual development is most vulnerable to the unhealthy messages of pornography. As the market grows and competitive forces demand the production of more extreme content, this content is also being delivered to an ever-younger audience. In only three years, between 2008 and 2011, as the smartphone was taken up, the percentage of children under the age of 13 exposed to pornography jumped from 14% to 49%.⁵

¹ Martin Amis, "Rough Trade," *The Guardian*, 17 March 2001. (Available at: <https://www.theguardian.com/books/2001/mar/17/society.martinamis1>)

² "Internet pornography by the numbers; a significant threat to society," *Webroot*. (Available at: <https://www.webroot.com/au/en/home/resources/tips/digital-family-life/internet-pornography-by-the-numbers>.) See also, Culture Reframed. (Available at: <http://www.culturereframed.org/>) Some sources place this estimate at 50%.

³ Pornhub, "2017 Year in Review," op.cit.

⁴ Pornhub, "2017 Year in Review," op.cit.

⁵ C. Sun, A. Bridges, J.A. Johnson and M.B. Ezzell, "Pornography and the Male Sexual Script: an analysis of consumption and sexual relations," *Archive of Sexual Behaviour*, vol. 45(4), May 2016, pp. 983–94. (Available at:

Partly as a result of its enormous success, internet pornography has created its own commercial problem. Having attracted viewers to their websites, pornography producers must then keep them interested enough to return and to continue spending money. Viewers who are bored, or whose sexual appetites are sated, disengage and move away from the website. The proliferation of pornography therefore only increases competition in the market. “As more and more pornographic images become readily available, it takes much more to scratch one’s sexual itch ... that leads to the necessity for extremism. Even when it comes at the expense of the performers.”⁶ This pressure to supply consumer demand fuels so-called innovation and explains the trend towards mainstream acceptance of pornography genres that were formerly marginalised as too extreme.

In this way, the health risks endemic to the pornography industry – which include physical injury, sexually transmitted infections (STIs) and psychological trauma – are magnified through popular emulation of the sexual activity normalised through hardcore pornography. The sexual behaviours of those who consume pornography are inevitably shaped by the stories and situations that pornography producers deploy to fuel the sexual fantasies of their audience. By re-enacting pornography scripts in bedrooms across the country, pornography users communicate the influence of porn-inspired expectations to their real-life partners.

A weighty body of evidence now stands in support of the contention that pornography is indeed at the heart of “the health crisis of the digital age.”⁷ The extent of the damage wrought by exposure of young people to pornography may not be fully understood until this first generation of children growing up in “Pornland”⁸ reach maturity. Already we can observe the corrosive effect of amplifying and broadcasting the toxic content of pornography into mainstream culture. This paper proposes to summarise some of the implications of the normalisation of hardcore pornography for public health, looking particularly at:

- safety risks to women that result from the eroticisation of violence;
- evidence of the detrimental influence of pornography on the physical, mental and sexual health of adolescents;

<https://www.ncbi.nlm.nih.gov/pubmed/25466233>), <https://doi.org/10.1007/s10508-014-0391-2>.) Seventy percent of porn viewing in Australia is over portable devices. “Going Down Under: Australia,” Porn Hub, 5 November 2015. (Available at: <https://www.pornhub.com/insights/pornhub-australia>).

⁶ Mark Shrayber, “Here’s the Dangerous and Grotesque Anal Sex Trend You’ve Always Wanted,” *Jezebel*, 19 June 2014. (Available at: <http://jezebel.com/heres-the-dangerous-and-grotesque-anal-sex-trend-you-ve-1593038946>). The effects of pornography viewing on the brain indicate that there is a biochemical reason for this, as the brain craves sexual novelty to stimulate new releases of dopamine. (See S. Negash, N. Van Ness Sheppard, N.M. Lambert, and F.D. Fincham, “Trading Later Rewards for Current Pleasure: Pornography Consumption and Delay Discounting,” *The Journal of Sex Research*, vol. 53(6), 2016, pp. 698–700. <https://doi.org/10.1080/00224499.2015.1025123> ; P. Banca et al., “Novelty, conditioning, and attentional bias to sexual rewards,” *Journal of Psychiatric Research*, vol. 72, 2016, pp. 91–101. <https://doi.org/10.1016/j.jpsychires.2015.10.017>

⁷ *Culture Reframed* Web site. See <http://www.culturereframed.org/>.

⁸ Gail Dines, *Pornland: How Porn Has Hijacked our Sexuality*, North Melbourne, 2010.

- and the danger pornography poses to children through the normalisation of sexual attraction for minors as well as evidence that pornography is implicated in rising levels of child-on-child sexual assault.

Hardcore pornography is now mainstream

Before the effects of pornography can be properly understood, it is important to describe the nature of the material commonly consumed in today's market. It is particularly important to expunge any fond ideas that the majority of modern pornography consists of 'soft porn'; films aimed at the couples market, intended to engage, interest, and titillate⁹. Many may associate soft porn with girls in frilly knickers having unlikely sex throughout a laughably weak plot-line. Even 20 years ago, these films were becoming unexciting, and consumer revenues began to be diverted instead to 'gonzo' or 'wall-to-wall' pornography, characterised by non-stop sexual acts, with no attention to plot, but featuring up-close camera involvement in the sexual activity and/or point of view (POV) camera angles, showing heterosexual sex from the man's point of view. This was usefully summarised by the Alannah and Madeline Foundation in their submission to the 2016 Australian Senate Inquiry into the *harm being done to Australian children through access to pornography on the Internet*:

Typical X-rated pornographic scenarios comprise 'kissing, sexual touching, masturbation, fellatio, vaginal intercourse, anal intercourse, and cunnilingus. Typical practices depicted also include 'double penetration' (where two men simultaneously have vaginal and anal intercourse with one woman, one woman kneeling between two or more men and practising fellatio on each in turn, and one woman engaged simultaneously in vaginal or anal intercourse with one man or two men and fellatio with a second or third man. 'Two additional sexual practices have become staples in pornography. It is standard practice in heterosexual pornography for the male partner to withdraw from intercourse or fellatio before orgasm to ejaculate on the body or face of his female partner. Male-female anal intercourse is a second, almost mandatory, inclusion in pornographic depictions of heterosexual sex. These scenarios, which would have been judged obscene 50 years ago now are part of 'mainstream' pornographic experience.¹⁰

⁹ Some commentators have argued that pornography might have a positive influence on established relationships. (See, for example, Bettina Arndt, *The Sex Diaries*, Melbourne, 2009). These arguments are generally made in defense of soft porn, not hardcore porn. Renowned clinical psychologists, Drs John & Julie Gottman, who specialise in intimate relationships and sexuality describe their own shift from initial acceptance of pornography as potentially beneficial to couples, to recognising it as "a serious threat to couple intimacy and relationship harmony." (Drs John and Julie Gottman, "An Open Letter on Porn," *The Gottman Institute: A research-based approach to strengthening relationships*, 5 April 2016. Available at: <https://www.gottman.com/blog/an-open-letter-on-porn/>).

¹⁰ The Alannah and Madeline Foundation, Submission 89, Australian Senate Inquiry into the *Harm being done to Australian children through access to pornography on the Internet*, 2016, p. 4. (Available at: https://www.apf.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Online_access_to_porn/Submissions); Michael Flood and Clive Hamilton, "Youth and Pornography in Australia –

Dr Robi Sonderegger's 2007 analysis of 50 best-selling gonzo films revealed:

- physical aggression in over 88% of the scenes (including shoving, biting, pinching, hair pulling, open-hand slapping or spanking, gagging, choking, whipping, threatening with a weapon, kicking, closed-fist punching, bondage/confining, using weapons, torturing, mutilating and attempting murder);
- an average of 11.5 of these acts featured per scene;
- verbal aggression towards women in 48% of the scenes (name calling/insults, threatening physical harm and/or using coercive language);
- negative responses from the women (such as a request to stop) in fewer than 5% of the scenes; and
- positive behaviours towards women (such as compliments, kissing or laughter) in fewer than 10% of the scenes.¹¹

Depictions of non-consenting sexual acts, including 'upskirting', rape, bestiality, and sexual torture are also common tropes in gonzo pornography:

There is no way to tell if the sites show images of actual rapes or staged depictions. The victims are usually tied with rope or other restraints, a weapon is shown being used, and typically the victim's face is depicted as screaming or expressing pain... Accompanying text accentuates the violent nature of the images depicted or available for a fee, using such language as 'rape', 'torture', 'abuse', 'brutal' and 'pain.'¹²

Videos featuring these would be 'Refused Classification' and banned from sale or hire by the Office of Film and Literature Classification but, in Australia, they are accessible over the internet, often without paying for the images and without the need for age verification.¹³

The gonzo genre was pioneered by Paul Little, aka "Max Hardcore," who now has over 800 titles to his name, including *Anally Ripped Whores*, *Anal Agony*, *Hardcore Schoolgirls* and *Max! Don't F*** Up My Mommy*. The promotional copy

evidence on the extent of exposure and likely effects," *The Australia Institute*, 2003, p. ix. (Available at: <http://www.tai.org.au/node/915>).

¹¹ Robi Sonderegger, "Neurotica: Modern Day Sexual Repression," Melinda Tankard Reist, and Abigail Bray, (eds.), *Big Porn Inc: exposing the harms of the global pornography industry*, Melbourne, 2015, p. 70; Ana Bridges, Robert Wosnitzner, Erica Scharrer, Chyng Sun and Rachel Liberman, "Aggression and sexual behaviour in best-selling pornography videos: a content analysis update," *Violence Against Women*, 2010, vol. 16(10), pp. 1065–1085. <https://doi.org/10.1177/1077801210382866>

¹² Submission 89, The Alannah and Madeline Foundation, op. cit., p. 4. (Available at: https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Online_access_to_porn/Submissions).

¹³ Unlike Australia, the UK implemented filters for pornography in 2013 and now has age-verification for access to pornography sites. ("Stricter Age-Verification For Porn Sites Now Required In The UK," *Fight the New Drug*, 6 November 2017. (Available at: <https://fightthenewdrug.org/age-verification-for-porn-sites-now-required-in-the-uk/>)

for *Anally Ripped Whores* indicates the sexual tastes that Hardcore aims to cater for:

F**k softcore couples movies! We, at Pure Filth, know exactly what you want, and we're giving it to you. Chicks being ass f**ked till their sphincters are pink, puffy and totally blown out. Adult diapers just might be in store for these whores when their work is done!¹⁴

Max Hardcore's style is now commonly emulated by other pornography producers. In one of these imitations, for example:

... a young woman is gangbanged, instructed to crawl across the floor on all-fours while stating repeatedly, "I'm a f***ing whore," and then directed to drink the contents of a dog bowl, the side of which reads "SH**-HOLE," into which her costars (sic) have ejaculated.¹⁵

Analysing the content of gonzo pornography, Dr Gail Dines has noted that each sex act is designed to eroticise the power imbalance depicted between men and women:

Whether the man is choking her with a penis or pounding away at her anus until it is red raw, the goal of porn sex is to illustrate how much power he has over her. It is what he wants when, where, and how he wants it because he controls the pace, the timing and the nature of the acts ... The power that men have over women in porn sex is encoded into the sex acts and the physical and verbal abuse that accompanies them.¹⁶

One of the main hallmarks of gonzo pornography is extremely rough anal sex, the goal of which is to hurt and/or physically and psychologically damage the woman. Gagging or choking are important expressions of male dominance; quantities of mascara are applied so the viewer can clearly appreciate the evidence of tears streaming down the woman's face as she is being choked. The message of gonzo pornography is repeated over and over: "You can't debase these women enough, because they love it – however much you hurt her, she loves it and wants more."¹⁷

Sexual pathology normalised

Although gonzo is mainstream and always hardcore, it is not the only form of degradation eroticised in pornography. A variety of pornography sub-genres cater

¹⁴ <https://www.hotmovies.com/video/28517/Anally-Ripped-Whores/>

¹⁵ Susannah Breslin, "The Reverse Cowgirl," 6 October, 2008. (Available at: <https://web.archive.org/web/20081010120322/http://reversecowgirlblog.blogspot.com/2008/10/to-max.html>)

¹⁶ Gail Dines, *Pornland*, p. xxiv–xxv. This explains why gonzo contains very few scenes in which one man has sex with multiple women, despite the fact that, for many men, this represents "a time-worn fantasy." Such a ratio could potentially invert the presumption of absolute male dominance which is essential to the erotic fantasy of gonzo porn. (Gail Dines, *Pornland*, p. xxv).

¹⁷ Dines, *Powerful Pornland Conference*, Melbourne, 2011.

for every fetish. In 2017, Pornhub's most popular genres included: lesbian; hentai, MILF (Mothers I would Love to F***), step mom, step sister, mom, teen, Japanese, massage, anal, ebony, cartoon, overwatch; Asian; threesome; virtual reality; creampie (which involves condomless ejaculation into either a vagina or anus with subsequent visible dripping of semen); big ass, cheerleader and gangbang.¹⁸ Sonderegger's 2010 study of popular pornographic sub-genres observed that many of these fetishes represented in pornography subgenres "almost perfectly match the clinical forms of sexual paraphilia acknowledged in forensic psychiatry."¹⁹

The empirical literature refers to sexually neurotic thoughts and behaviours as paraphilia. According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-4) 'paraphilia is characterised by recurrent, intense sexual urges, fantasies, or behaviours that involve unusual objects, activities, or situations.' More specifically, paraphilia generally involves '1) nonhuman objects, 2) the suffering or humiliation of oneself or one's partner, or 3) children or nonconsenting persons.'²⁰

Most mainstream pornography celebrates and normalises sexual behaviours which are thus recognised as pathological. Amis's reflections also frankly observed the potential of pornography to uncover hidden pathologies, even in well-adjusted individuals:

Gore Vidal once said that the only danger in watching pornography is that it might make you want to watch more pornography; it might make you want to do nothing else but watch pornography. There is, I contend, another danger. As I sampled some extreme productions on the VCR in my hotel room, I kept worrying about something. I kept worrying that I'd like it. Porno services the 'polymorphous perverse': the near-infinite chaos of human desire. If you harbour a perversity, then sooner or later porno will identify it. You'd better hope that this doesn't happen while you're watching a film about a coprophagic pig farmer – or an undertaker.²¹

Pornography consumers are now venturing where Amis knew better than to tread. The common indulgence of personal 'perversities' by consumers of internet pornography means that these perversities are no longer fringe; they are no longer hidden, recognised as shameful or even acknowledged as peculiar.

A logic of non-judgement has emerged, supported by sexual rights activists and academics,²² which challenges the traditional "charmed inner circle of acceptable sexualities."²³ Just because something isn't your cup of tea, why deny anyone else

¹⁸ Pornhub, "2017 Year in Review," op. cit. Further pornographic subgenres are listed in Wikipedia: https://en.wikipedia.org/wiki/List_of_pornographic_subgenres

¹⁹ Sonderegger, op.cit., p. 72.

²⁰ Sonderegger, op. cit., p. 71, quoting the *Diagnostic and Statistical Manual of Mental Disorders (DSM-4)*, American Psychiatric Association, 2000, pp. 535, 566.

²¹ Amis, "Rough Trade."

²² For example, Alan McKee, Katherine Albury, and Catharine Lumby, *The Porn Report*, Melbourne University Publishing, 2008.

²³ Gayle Rubin (noted feminist anthropologist and founder of the first lesbian S&M nightclub in Chicago) used this term in her 1984 essay "Thinking Sex: Notes for a Radical

their harmless pleasure? This normalisation of formerly fringe sexual practices feeds a cultural narrative which celebrates and demands free sexual expression for the individual. Pursuit of a sexual thrill justifies behaviour such as violence and brutality which, in other contexts, would be regarded as criminal. This has created a situation in which even those (particularly children but also women) who may have nothing to do with pornography themselves – and who may be entirely ignorant of its socially corroding influences – are affected by the behaviours of those who have as they re-enact the sexual scripts of pornography.²⁴

Isolating pornography as the agent of change in sexual behaviours

Dines has explained that the objectification of women in pornography is essential to the commercial success of the product. Since most men who use pornography are not sexual sadists and would not normally find the torture of a woman in real life arousing, it is essential for pornography producers to present the pornography performer as essentially different from real-life women; rather, these performers are ‘whores,’ ‘sluts,’ or ‘cum dumpsters’ – strange creatures who enjoy their humiliation and degradation:

That woman who is grimacing and is in pain and is crying, she’s not like your mother, your girlfriend, your sister, she’s different, she a whore, she’s a slut, she’s a cum dumpster ... If men who were using porn looked in her eye and they saw her as a human being, that would kill the erection stone dead.²⁵

Professor Michael Flood has pointed out that several factors mediate the impact of pornography on different viewers and in different circumstances. The age, gender, maturation, and sexual experience of the viewer all constitute important variables that may moderate the influence of pornography viewing. Other variables include the individuals’ cultural background, their family circumstances, their personality, and their current emotional state. Some viewers are more active and involved than others. Young men watching pornography in company with other boys may be erotically less engaged with the material than an individual using pornography as a masturbatory aid on his own. On the other hand, the collective experience may have the effect of normalising acceptance of the sexual practices and attitudes depicted. Many factors therefore influence the degree to which viewing pornography impacts different individuals.²⁶

Theory of the Politics of Sexuality” to describe the divide between sexualities that adhere to the traditional, married heterosexual model and those that fall outside this model. (Available at: <https://web.archive.org/web/20121224204605/http://www.feminish.com/wp-content/uploads/2012/08/Rubin1984.pdf>)

²⁴ According to Porn Hub figures, porn consumers are still predominantly men, although female viewers now constitute a significant minority. In 2017, 26% pornography viewers were women. (“2017 Year in Review,” op.cit).

²⁵ Dines, *Powerful Pornland Conference*, op. cit.

²⁶ Michael Flood, Submission 250, Australian Senate Inquiry into *the Harm being done to Australian children through access to pornography on the Internet*, 2016, p. 9. (Available at: https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Online_access_to_porn/Submissions).

Culture is complex, and some may argue that it is overly simplistic to draw a direct cause-effect connection between the consumption of pornography and subsequent real-life emulation of porn-inspired sexual behaviours. This may be true on an individual level; not every man who views pornography will be equally tempted to mistreat their next sexual partner. On the other hand, at a cultural level, the connection is undeniable. The influence of commercial pornography can be isolated as a causal factor with more surgical precision where the introduction of pornography can be seen to result in changes to sexual behaviour within a narrow timespan and in the absence of other obvious influences. Sheila Jeffreys comments that:

[w]here pornography is introduced quite suddenly to an indigenous culture it may be possible to identify more easily the ways in which women's status is damaged. In western societies, pornography has been normalized over 40 years. As this has taken place the rhetoric of sexual freedom, free speech and sexual liberation has been used to justify it. It may be hard now for citizens to turn around and observe the harm that pornography has wrought because its values have become so much a part of many areas of culture.²⁷

In traditional societies then, where the observed changes in sexual behaviour can be attributed to no other obvious cause and where the pornography consumers themselves attribute their new sexual appetites to pornography consumption, the arguments for a direct causal connection between consumption and re-enactment of porn-inspired behaviour become much harder to dismiss. Jeffreys has pinpointed pornography as the significant factor in the transformation of sexual behaviours in traditional communities in the Northern Territory of Australia and Papua New Guinea.²⁸ In both places, traditional restrictions on sexual activity for adolescents were swept aside shortly following the introduction of commercial pornography, with the result that sexual abuse of children, gang rape and sexual violence are now alarmingly frequent.²⁹

Jeffreys quotes the earlier work of Dr Carol Jenkins who recorded the results of interviews conducted with focus groups in Papua New Guinea. When asked about his recent movie viewing, one boy replied that he couldn't remember the title of the movie but that it was acted by white people:

I saw them naked, they played around with their sexual organs, sucking each other's sexual organs – they f*** like wild dogs ... [I] could not control my feelings. I lost control, my penis expanded and expanded. Some of the boys, when they saw it, they held on to their expanded penis and tried to control it, but they couldn't ... when I came outside when I saw girls I really was tempted to rape them. I wanted to put into practice what I saw that made me sexy.³⁰

²⁷ Sheila Jeffreys, *The Industrial Vagina: The political economy of the global sex trade*, Abingdon, 2009, pp. 81–82

²⁸ Jeffreys, *op. cit.*, pp. 82–84

²⁹ *Ibid.*

³⁰ Quoted in Jeffreys, *op. cit.*, p. 84.

A similar swift change in sexual behaviour following the introduction of pornography has been noted more recently among the Maasai of Tanzania, where the introduction of the smartphone (and thus pornography) led to changes in sexual practices which had been regulated by a long tradition in order to protect women's procreative capacities. An Australian development worker living in Tanzania between 2010 and 2015 has recalled the concerns of the Maasai women at the implications of these changes for their status as child-bearers:

In the first half of 2015, some of the women approached my team members and myself (all women) to discuss Western sexual practices. It became apparent as the conversation unfolded that they had begun experiencing changes in male expectations during sex since the introduction of smartphones into their community over the preceding twelve months. When asked for details regarding common sexual practice in Maasai relationships the women stated that there were clear rules and taboos when it came to intercourse and that, up until recently, women, as child-bearers, were able to enforce these restrictions through various rites and social pressures. However, as the men became more exposed to pornographic material they also became more demanding of sexual deviations from normal practice.

Some of the notable changes in behaviour included:

- Fondling of the breasts – traditionally breasts were considered the purview of babies and not part of the sex act;
- Rapid and aggressive penetration – there are many cultural taboos surrounding penetration during intercourse. These are considered of central importance to protecting a woman's fertility;³¹
- Sex during pregnancy – as with restricted penetration, taboos surrounding sex during pregnancy are considered vital for ensuring the safety of an unborn child. Now, however, women are for more likely to be pressured into having sex during pregnancy; and
- Anal sex, oral sex and other abnormal sexual positions – Maasai have a standard sexual position from which there has historically been very little deviation. However, as a result of pornography, the women are being required to adopt a variety of positions and roles during the sex act that they find painful, strange and degrading.³²

The use of pornography as an aid to masturbation presupposes a certain level of imaginative engagement with sexual fantasy presented as reality. It should hardly be surprising that the sexual behaviour of those who consume pornography is shaped by it and this is now confirmed by an abundance of scientific literature, even for western societies where the cultural influences may be more diffuse. One expert has written:

³¹ According to the same source: "Men who are identified as having a member of longer than acceptable proportions are required to pay a higher bride price (to compensate for the risk of damage) and limit their penetration during sex. With the introduction of pornography, the women reported more violent penetration and an increasing disregard for the value inherent to their status as child-bearers."

³² This text was kindly contributed by an Australian development worker known personally to the author.

An overwhelming number of empirical studies have now established a significant relationship between the consumption of sexually explicit media and sexual delinquency. Irrespective of additional mediating/moderating variables, pornography contributes directly to pro-sexual-offending attitudes, intimate relationship difficulties, sexual callousness, disinterest in the suffering of others, and desensitisation to violence against women, acceptance of male dominance and female servitude, leniency toward rapists in legal proceedings, accepting various rape myths (that rape can be justified), self-assessed proclivity to force sex on women, and the direct instigation of sexual assault.³³

Almost invariably, women in gonzo pornography respond to aggression and violence either with “expressions of pleasure (such as encouragement, sexual moans) or neutrally.”³⁴ The message that women love being degraded, hurt, injured and insulted is the crucial message that pornography is communicating to its predominantly male audience.³⁵ Inevitably, this message is reshaping male sexuality. Dines warns that “never before have we brought up a generation of boys with hardcore pornography accessible 24/7.”³⁶ This is a social experiment. We can have no clue as to where it will end. The indications so far are that, particularly for women, teenagers and children, the dangers incubated by pornography are far from hypothetical.

Pornscripts re-enacted: sexual violence for real-world women

Pornography perpetuates various myths about rape and sexual coercion – that women actually enjoy it, or, even if they don’t enjoy it, that they deserve it; that they are ‘dirty sluts’ who ‘asked for it.’ Women in pornography never say ‘no,’ and even when they do, the projected narrative is that ‘they don’t really mean it.’ The acts depicted in pornography films are legitimised by the presupposition that the performers consented to participate in making the film. In reality, this consent may be mythical or highly compromised.³⁷ For example, Regan Starr, who performed in *Rough Sex 2*, described her subjective experience of her treatment on set:

³³ Sonderegger, op. cit., pp. 74–75. Quoting Davide Dettore and Alberto Giannelli, “Explorative survey on the level of online sexual activities and sexual paraphilias,” *Abstracts from the 9th Conference of the European Federation of Sexology*, vol. 17(1), 2008, [https://doi.org/10.1016/S1158-1360\(08\)72539-8](https://doi.org/10.1016/S1158-1360(08)72539-8); William Marshall, “Revisiting the use of pornography by sexual offenders: Implications for theory and practice,” *Journal of Sexual Aggression*, vol. 6(1/2), 2000, pp. 67–77, <https://doi.org/10.1080/13552600008413310>; and Max Waltman, “Rethinking Democracy: Pornography and Sex Inequality,” *Paper presented at the Western Political Science Association (WPSA)*, San Diego, 2008, pp. 1–41.

³⁴ Robert Jensen “Stories of a rape culture: pornography as propaganda,” Melinda Tankard Reist, and Abigail Bray, (eds.), *Big Porn Inc: exposing the harms of the global pornography industry*, Melbourne, 2015, p. 31.

³⁵ According to Porn Hug figures 26% of those who view pornography are women. (“2017 Year in Review,” op. cit.)

³⁶ Dines, *Powerful Pornland Conference*, Melbourne, 2011.

³⁷ Melissa Farley, “Pornography is Infinite Prostitution,” Melinda Tankard Reist, and Abigail Bray, (eds.), *Big Porn Inc: exposing the harms of the global pornography industry*, Melbourne, 2015, pp. 150–159; M. Tyler, “Harms of production: Theorising pornography as a form of prostitution,” *Women’s Studies International Forum*, vol. 48, 2015, p. 114.

I got the s**t kicked out of me ... I was told before the video – and they said this very proudly, mind you – that in this line most of the girls start crying because they're hurting so bad... I couldn't breathe. I was being hit and choked. I was really upset, and they didn't stop. They kept filming. You can hear me say, 'Turn the f***ing camera off,' and they kept going.³⁸

The scenes depicted in pornography are not the result of special effects, as in other movie genres. The physical punishments of gonzo are enacted upon real women, whose bodies have real limits.³⁹ In the pursuit of 'more extreme stuff,' gonzo pornography tests those limits, challenging the boundaries of legality in its quest. The sexual excitement generated for the viewer is predicated upon the woman's powerlessness and the man's (or men's) unrestricted prerogative to do whatever he wants to her.

"Wild sex" can be deadly

The events leading to the death of Lynette Daley in 2011 on a beach in northern New South Wales exemplify the dangers that the normalisation of violent sexual practices poses for women. The Coroner's report found that Daley died of massive blood loss from internal injuries which "were more severe than those which occur in even precipitous childbirth."⁴⁰ Evidence presented in court spoke of two lacerations, located on the inner and outer parts of Daley's genitals, caused when Adrian Attwater inserted his fist or part of his hand into her body, "thrusting vigorously." When questioned by police, Attwater admitted: "It was my f***** hand." In other words, 'fisting' (which is celebrated in pornography sex) appears to have caused the violent death of Lynette Daley.⁴¹

At the time of her death, Daley had a blood alcohol content of 3.52 as well as traces of methamphetamine. The Director of Public Prosecutions correctly noted that, in these circumstances, her lack of resisting cannot be interpreted as consent. Despite this, Attwater and Paul Maris (who was implicated in the sex proceeding Dailey's death) pleaded not guilty to rape, manslaughter and aggravated sexual assault in company. Attwater maintained that the "wild sex session" that killed Daley was consensual, that Daley never indicated she was in pain and that he and Daley had engaged in such activity previously, without the need for subsequent hospitalisation. His comment on camera that "girls will be girls and boys will be

<https://doi.org/10.1016/j.wsif.2014.11.014> ; Catharine A. MacKinnon, "Pornography as trafficking," *Michigan Journal of International Law*, vol. 26(4), 2005, pp. 993–1012.

³⁸ Martin Amis, op. cit., (Khan Tusion, the director of the Rough Sex series, denying the evidence of his own film, simply contradicted her saying "Regan Starr categorically misstates what occurred").

³⁹ Dines, *Powerful Pornland Conference*, Melbourne, 2011.

⁴⁰ "Two men who had violent sex with a woman too drunk to consent left her for dead and burned the blood-soaked mattress," *Yahoo News*, 3 February 2016. (Available at: <https://au.news.yahoo.com/nsw/a/30724520/two-men-who-had-violent-sex-with-a-woman-too-drunk-to-consent-left-her-for-dead-and-burned-the-blood-soaked-mattress/#page1>).

⁴¹ Clair Morton, "Lynette Daley rape trial hears shocking evidence," *The Dailey Examiner*, 1st August 2017. (Available at: <https://www.dailyexaminer.com.au/news/trial-over-lynette-daleys-death-begins/3207155/>).

boys"⁴² appears to indicate that he does not regard fisting as an unusual sexual activity. Indeed, the defence case argued that Attwater could not have “reasonably assumed that the sexual activity they engaged in could have caused her serious injury.”

It seems unlikely that Attwater would consider fisting to be a normal part of ‘wild sex’ without some prior exposure to pornography or its narratives.⁴³ No information on his personal viewing history is publicly available. Nor is it necessary to establish that pornography was the principle inspiration behind Attwater and Maris’s behaviour to nevertheless make the point that the very behaviour which is glamorised in pornography and presented as erotic ‘wild sex,’ is potentially lethal to real-life women.

Gang rape or consensual group sex?

A 2017 case heard by the Downing Centre District Court in Sydney provides further illustration of how pornography celebrates behaviours that are criminally culpable in the real world. In this case, three men (aged from 25 to 27) pleaded not guilty to multiple charges including aggravated sexual assault in company and inflicting actual bodily harm. Their 16-year-old victim was a Facebook friend of one of the men who invited her to a party where she was the only female present and where, according to her testimony, she had a spiked beer poured down her throat. The Crown argued that she was too intoxicated to consent to sex.

The girl professed to have no recollection of events at the party other than waking up naked, sore and bleeding. The case only came before the court because a GoPro video of events at the party later came to the attention of police who, recognising the behaviour shown as probably criminal, then searched for the girl in question. According to one newspaper report of this case, the 17-minute video shows a group of men having sex with the girl, “sometimes ... simultaneously, sometimes taking turns.” The teen (who is understood to be intellectually challenged with the verbal capacity of an eight-year-old) can repeatedly be heard saying she’s tired and wants a blanket before one man says “I’ll get this f***ing party started, c***.” Other notable comments include, “just bend her over the bed,” “one by one we’ll all get a f***.”⁴⁴

The behaviour described mirrors a pornography script: there are several men having sex with one girl; “sometimes simultaneously” strongly suggests double penetration; her wishes to be left alone are ignored; she is objectified, stripped of personality, feelings, and humanity and reduced, insultingly, only to ‘c***.’

⁴² Clair Morton, op.cit.

⁴³ The Second Australian Study of Health and Relationships (ASHR2) in 2014, found that fisting was practiced by less than 1% of the population and then, most commonly, in the gay community. (J. Richters, R.O. de Visser, P.B. Badcock, A.M.A. Smith, C. Rissel, J.M. Simpson and A.E. Grulich, “Masturbation, paying for sex, and other sexual activities: the second Australian Study of Health and Relationships,” *Sexual Health*, vol. 11, 2014, p. 461–471, <https://doi.org/10.1071/sh14116>).

⁴⁴ Andrew Koubaridis, “Gang rapists, who filmed victim with a GoPro camera, jailed,” *News.com*, 19 January 2018. (Available at: <http://www.news.com.au/national/nsw-act/courts-law/gang-rapists-who-filmed-victim-with-a-gopro-camera-jailed/news-story/8ab01a8c9571502e5192ed74913f95c5>)

Intriguingly, the three principal defendants and their respective lawyers argued that this sexual contact was consensual and that “the complainant can be seen co-operating.”⁴⁵ According to Stevenson, one of the defendants:

[She was] actively participating ... She never tried to stop anything, never said no ... to stop ... I had no doubt it was consensual.⁴⁶

The beliefs informing these arguments deserve closer examination. Since the video evidence (a rarity for a rape trial) prevents the defence casting doubt on what the men did and said, their case rested entirely on questioning the girl’s response to these behaviours – whether she consented; whether she ‘participated’ or ‘co-operated’ (we can infer that they meant willingly).

In the absence of positive evidence to affirm that this particular 16-year-old girl had a pre-established predilection for multi-partner sex, double penetration, and verbal abuse, it is difficult to imagine how *consent* could possibly be construed from the scene described, unless the defence believed – or, more importantly, expected the court to believe – that positive responses to the behaviours described might be normal for a very young woman in this situation. The idea that this girl was exercising sexual agency in consenting to her treatment ignores the obvious fact that (just as in pornography films), the sexual excitement for the men is derived from her complete powerlessness.⁴⁷

Understanding that the defence must clutch at whatever straws might present themselves, it is nevertheless astonishing, given the video evidence that a not guilty plea was even advanced by the defendants. What took place is either an horrific gang rape of a vulnerable young girl barely over the legal age for sex, criminally punishable by significant prison sentences, or this is a picture of a young girl who enjoys a harmless bit of kink. The fact that it takes a court to decide which of these polar opposites is represented by the footage demonstrates that the savage narratives of pornography are leaking into assumptions about human sexuality among the general population – that sexual pathology is normal. This ‘leakage’ poses inherent dangers for real-world women everywhere. If a court-room of trained legal minds, who (unlike the defendants themselves) are not affected by the excitement of a drunken party, can still argue that the sexual activity depicted was consensual (and the case for the defence depended on establishing sufficient doubt on this score), what hope has the average porn-affected man on the street (or at a party) to distinguish between rape and consensual sex?

Normalising, even celebrating, sexual aggression towards women

Headlines are, of course, only the tip of the iceberg. The blurring of the lines of what is normal and what is brutal is affecting women every day in ways that are unlikely to reach the courts or attract media attention. Anyone cocooned in a stable

⁴⁵ “GoPro rape accusation: Video allegedly shows men having sex with 16-year-old,” *The Daily Telegraph*, 6 July 2017. (Available at: <http://www.dailytelegraph.com.au/news/nsw/gopro-rape-accusation-video-allegedly-shows-men-having-sex-with-16yearold/news-story/3040c558e6beca2b5c3d33974c60e44f>).

⁴⁶ Andrew Koubaridis, op.cit.

⁴⁷ In the end, the court did not believe this was consensual. Seven men were charged over the assault, three received jail sentences of between six and 13 years.

relationship or over the age of 35 might be shocked at how singles dating culture is changing. Sex is now expected, even on the first date,⁴⁸ and anecdotal reports from women being choked during this sex abound. Sometimes, women in this situation communicate their distaste by voting with their feet but others, disturbingly, are resigning themselves to the idea that this treatment is an inevitable part of a sexually active lifestyle.

Evidence for this is anecdotal but commonplace. When it first came to my attention, I was shocked and skeptical. I mentioned it to the very next single woman in her 30s that I met – a confident, intelligent, tertiary-educated feminist. I wondered if she had heard similar rumours. After a small hesitation, she said “Oh, well ... I’ve been choked.” She then provided me with a brief account of the circumstances: casual sex with a partner she didn’t know well, and in the middle of it, unexpectedly finding she was being throttled. She told me that she just froze at which point her partner also stopped. Feeling the sudden need for a shower, she extricated herself from his grip. On returning, her partner reproached her for her sudden frigidity, saying, “Well! That was a big turn-off.”⁴⁹

This young woman found this experience traumatic, but, being analytical, was still confused months later about his reaction, wondering why this man had thought choking was so normal as to require no previous conversation. “Surely,” she reasoned, “If you had a thing for dressing up in furry suits, you would mention that beforehand? Equally, if you have a thing for choking your partner, wouldn’t that be worthy of prior discussion?” She guessed that something must be going on in male culture to account for his expectation that she would respond positively to strangulation. As in the case examined earlier, the connection between the behaviours celebrated in gonzo pornography and real-world violence to women seems inescapable. This woman’s one-time partner – apparently respectable and intelligent – was rehearsing the behaviours he had observed in pornography or heard communicated through a male culture influenced by pornography. Without apparent malice, he was acting upon popular myths promulgated by pornography that sexual violence is normal and that women will appreciate it.⁵⁰

Choking in popular culture

Further research reveals that choking is widely promoted in both male and female popular literature as bringing an extra *frisson* to the bedroom. A Google search on “choking as sex play” brings up 62,100,000 results. In an article entitled “Choking as a Sex Move—Is It for You?” *Women’s Health Magazine* explains to its readers:

⁴⁸ Emma Gray, “On Aziz Ansari And Sex That Feels Violating Even When It’s Not Criminal,” *Huffington Post*, 19 January 2018. (Available at: http://www.huffingtonpost.com/au/entry/aziz-ansari-sex-violating-but-not-criminal-us_5a5e445de4b0106b7f65b346).

⁴⁹ Some while later, in the course of treatment, this woman’s physiotherapist touched her on the neck and she recoiled violently. Recovering herself quickly, she apologised and explained her reaction, to which the physiotherapist replied understandingly that she had a lot of women clients who reported something similar.

⁵⁰ See Kate Manne, *Down girl: The logic of misogyny*, New York, 2018 for discussion of prevalence of woman killing through strangulation. Choking and gagging that features in pornography and heterosexual sexual situations also features in the murder of women.

Experimenting with breath control, or scarfing (using a scarf to constrict breathing), can be an exhilarating experience for some people ... Having a man's hands around your neck plays into the fantasy of being taken, also known as ravishment ... The biggest turn on here is that he wants you so much that he is prepared to do anything to have you.⁵¹

Women's Health does acknowledge some dangers:

The reality is that it's crazy dangerous for beginners. 'If you're choking your partner while in the throes of sexual excitement, it is so easy to actually kill the person ... If you press on someone's larynx too hard, you can choke them to death in under a minute.' Gulp.

Recognising this behaviour is potentially lethal, *Women's Health*, with dubious regard to its responsibility to the public, recommends that those who wish to try this out seek proper instruction from their local S&M club first.⁵²

In a popular internet blog, "How to Choke a Woman During Sex," the US social-media personality Mike Cernovich advises his readers:

Once you start choking women, you'll be addicted. Women love it, too. Choking is also a useful indicator of your strength as a man. If you are an alpha male, a woman will crave your domination and show of strength. If women do not regularly let you choke them, your game is weak. You are giving off a weak, beta male vibe and are lucky to be getting any sex at all.⁵³

The comments immediately following this article reveal a variety of opinion from both men and women. Some find a penchant for choking is indicative of a depraved mindset. 'Tom Sawyer', for example, writes:

And even if 99% of people like something that still doesn't make it decent ... I bet you right before Rome fell choking sex was all the rave.

Others (of both sexes) say choking is highly enjoyable, even unexpectedly so. 'Happy Girl' comments:

I do not agree that if I pass out that it is enjoyable, but I do like being choked ... I enjoy rough sex. I am extremely excited by it.

It is not necessary to pick sides in this debate to point out that the line between what is intended to be enjoyable sex play and what constitutes criminal violence is razor-thin, turning only on the levels of enjoyment of those participating; enjoyment levels that may change dramatically from pleasure to panic in a single

⁵¹ Molly Triffin, "Choking as a Sex Move—Is It for You?" *Women's Health Magazine*, 23 March 2016. (Available at: <http://www.womenshealthmag.com/sex-and-love/choking-during-sex>).

⁵² Molly Triffin, op.cit.

⁵³ Mike Cernovich, "How to Choke a Woman During Sex," Word Press, 26 December 2011. (Available at: https://www.dangerandplay.com/2011/12/26/how-to-choke-a-woman/#disqus_thread).

moment. Particularly where the erotic thrill is linked with the fantasy of female powerlessness and male dominance, the potential for misunderstanding about female consent is huge. Although enjoyment of choking as sex play may be professed by men and women equally, it is noteworthy that there does not exist in popular culture the 'sexual practice' of women choking men as erotically thrilling, and it is the women who suffer when choking goes wrong.⁵⁴

How, indeed, can anyone distinguish now between violence and fun? In response to Cernovich's article mentioned earlier, 'H' says:

I enjoy choking my wife against the wall. Like randomly when she's putting away groceries. Look into her eyes, psychopath style, then kiss her. What he's describing is a blood-choke or strangle, and girls do indeed love it.

Do they? What about when they don't? In a separate string of exclusively male comments on this article, 'RSP: Male feminist' seems to have been wrongly directed by the choking advice:

I think I'm doing it wrong. I brought a girl home Friday night who claimed to be a virgin. I roughoused her in bed, to the point she walked out half way through, dragged her friend off my mate in the other room and went home. Any pointers?

'Pusscrook,' who describes himself as an 'Alpha Male' posted this:

I like to hem them up in the rape position, with one hand, snatch a good bundle of hair, and with the other hand, hook it in right under their chin and squeeze. I am surprised I haven't been charged with something.⁵⁵

Sexual negotiation is inherently incompatible with the aura of confident, masculine dominance that is necessary for 'ravishment' narratives. Pausing to ask "Excuse me dear, but do you mind if I choke you now? Is that alright? Too hard?" presumably defeats the object of the exercise. Since the erotic success of this strategy depends at least on the illusion of lack of female consent, men embarking on this course of action must avoid disclosure of their intentions to choke their partners beforehand and run the risk (despite the fulsome reassurances from their online mates), that this may not be well received. It may, indeed, be rewarded with criminal charges. On the whole, it is easy to see that furry suits might be more conducive to prior discussion than choking.

⁵⁴ The 2014 case of 16-year-old Jessica Burlew who strangled her 43-year-old boyfriend, Jason Ash, with an electrical cord during 'consensual rough sex' is a highly unusual example of a male victim of these practices. Burlew claimed that the strangulation was accidental, because Ash didn't say the 'safe word'. Even in this case, his Facebook posts suggest that Ash sometimes enjoyed strangling his much-younger female partner as well. (Sarah Goldstein, "Goth Arizona teen strangled 43-year-old boyfriend to death during sex: cops", *New York Daily Times*, 5 February 2014. (Available at: <http://www.nydailynews.com/news/crime/arizona-teen-strangled-43-year-old-boyfriend-death-sex-cops-article-1.1603989>).

⁵⁵ Roosh v Forum "How to choke a woman." (Available at: <https://www.rooshvforum.com/thread-9169.html>)

For those who deny the effect of pornography on women in the real world, Melinda Tankard Reist offers the evidence of this letter sent to her in 2015 by Di Macleod, the Director of the Gold Coast Centre Against Sexual Violence:

In the past few years, we have had a huge increase in intimate partner rape of women from 14 to 80+. The biggest common denominator is consumption of porn by the offender. With offenders not able to differentiate between fantasy and reality, believing women are 'up for it' 24/7, ascribing to the myth that 'no means yes and yes means anal,' oblivious to injuries caused and never ever considering consent. We have seen a huge increase in deprivation of liberty, physical injuries, torture, drugging, filming and sharing footage without consent. I founded the centre 25 years ago and what is now considered to be the norm in 2015 is frightening.⁵⁶

In 2016, a Bill presented to the Queensland Parliament to make non-fatal strangulation or suffocation a stand-alone offense in the Criminal Code received bi-partisan support.⁵⁷ The initiative followed recommendations of the Special Taskforce on Domestic, and Family Violence presented in their report, *Not Now, Not Ever*, which advised that perpetrators should be held to account for their conduct "to reinforce the message that such actions are not acceptable in our society."⁵⁸ Strangulation is recognised as a life-threatening offense. "The risk of death to victims of domestic violence is multiplied by 800 times where strangulation has previously occurred."⁵⁹ In 2016–2017, the city of Townsville alone reported 63 cases of choking, indicating that the government is not over-stating the need for such legislation.⁶⁰ In this proposed framework, the above-mentioned 'RSP Male feminist' would potentially face up to seven years in jail for choking his wife 'while she puts away the groceries.' The violence eroticised in pornography and promulgated through popular culture is at the centre of a new absurdity; horrific crime and harmless recreation have become indistinguishable. Behaviour that is celebrated in pornography, promoted to both women and men as enjoyable, and broadcast through popular culture is also subject to significant jail sentences.

⁵⁶ Melinda Tankard Reist, "Growing Up in Pornland: Girls Have Had It with Porn Conditioned Boys," *ABC Religion and Ethics*, 7 March 2016. (Available at: <http://www.abc.net.au/religion/articles/2016/03/07/4420147.htm>)

⁵⁷ Media Release: "Strangulation to be a stand-alone offence under Queensland's Criminal Code," *Queensland Cabinet and Ministerial Directory*, 19 April 2016. (Available at: <http://statements.qld.gov.au/Statement/2016/4/19/strangulation-to-be-a-standalone-offence-under-queenslands-criminal-code>).

⁵⁸ *Not Now, Not Ever: Putting an end to domestic and family violence in Queensland*, February 2015, p. 15. (Available at: <https://www.communities.qld.gov.au/gateway/end-domestic-family-violence/about/not-now-not-ever-report>).

⁵⁹ Chief Superintendent Kev Guteridge quoted in Chris McMahon, "Alarming number of choking cases in Townsville," *Townsville Bulletin*, 14 July 2017. (Available at: <http://www.townsvillebulletin.com.au/news/alarming-number-of-choking-cases-in-townsville/news-story/c3a8d98fbaa427eacd39d0b3498d6631>).

⁶⁰ McMahon, op. cit., (Available at: <http://www.townsvillebulletin.com.au/news/alarming-number-of-choking-cases-in-townsville/news-story/c3a8d98fbaa427eacd39d0b3498d6631>)

Pornographic 'fantasy' informing reality

When men become immersed in a world of pornographic 'fantasy,' it is perhaps inevitable that at least some of them will wish to take that further step to make fantasy a reality by re-enacting the behaviours eroticised by pornography. This can be seen in the way that consumption of pornography fuels demand for prostitution. In their 2011 comparison of men who bought sex with men who did not, Melissa Farley and her colleagues found:

[S]ex buyers masturbated to pornography more often than non-sex buyers, imitated it with partners more often, and had more often received their sex education from pornography than the non-sex buyers. Over time, as a result of their prostitution and pornography use, sex buyers reported that their sexual preferences changed such that they sought more sadomasochistic and anal sex. Significantly more of the sex buyers learned about sex from pornography compared to the non-sex buyers.⁶¹

Some men with regular sexual partners visit prostitutes to act out sexual behaviours that their wives or girlfriends would find degrading or unacceptable (behaviours that are unthinkable for the woman who is the mother of his children, for example). The freedom to enact fantasy conferred by the anonymity of a brothel is still more obvious when the prostitute visited is a sex doll, rather than a human being. In this context, the recent comments of Sergi Prieto, co-founder of Lumidolls, one of the world's first sex doll brothels, are particularly interesting, confirming the strong connection between the habitual indulgence of pornographic fantasy and the wish to act on those fantasies in reality. The company promotes the fact that, "with Lumidolls, customers can perform any of their sexual fantasies they do not dare to do with a woman."⁶² Experiences are tailored to the preferences of each customer: "Tell us how you want to encounter your doll, what kind of clothes you want her to wear and in what position she should be."⁶³

Nevertheless, despite the promises that Lumidolls will "cater for all preferences," and its invitation for men to "live out their wildest fantasies," even Prieto feels obliged to turn down some clients, specifically those with rape fantasies and those who request child-like sex dolls. Prieto has ethical objections to encouraging rape and paedophilic behaviours that he regards as 'too extreme.' It is impossible to avoid observing that porn-inspired fantasy informs these men's desires for real-world re-enactment of extreme sexual behaviours.

In the same way, 'rape myth' promulgated by pornography aligns with actual rape in real-world experiences; consistent evidence demonstrates the correlation

⁶¹ Melissa Farley, Emily Schuckman, Jacqueline M. Golding, Kristen Houser, Laura Jarrett, Peter Qualliotine, Michele Decker, "Comparing Sex Buyers with Men Who Don't Buy Sex," *Psychologists for Social Responsibility Annual Conference*, Boston, Massachusetts, 15 July 2011, p. 4. (Available at: <http://www.prostitutionresearch.com/pdfs/Farley-et-al2011ComparingSexBuyers.pdf>)

⁶² Felix Allen, "The one disgusting request sex doll brothel owner always turns down" *News.com*, 10 October 2017. (Available at: <http://www.news.com.au/lifestyle/relationships/sex/the-one-disgusting-request-sex-doll-brothel-owner-always-turns-down/news-story/753540f4caa90e15d7dada09da899fe2>)

⁶³ Felix Allen, op. cit.

between pornography consumption and rape-supportive attitudes and cultures.⁶⁴ Men who view violent pornography are more likely to believe that women who are raped enjoyed the experience or were ‘asking for it.’ Pornography is recognised as a significant risk-factor for violence towards women, correlating with increases in sexual harassment, physical or verbal coercion to have sex, using drugs or alcohol to sexually coerce women, date rape, marital rape or incest, as well as the sexual abuse of children and greater willingness to have sex with 13/14-year-olds.⁶⁵ In Australia, it is clear that sexual assault rates continue to trend upward, as other types of offence trend downwards. It is also clear that this cannot be attributed entirely to the reduced stigma around reporting. The link with real-life sexual assaults of women cannot be ignored. “After 40 years of peer-reviewed research, scholars can say with confidence that pornography is an industrial product that shapes how we think about gender, sexuality, relationships, intimacy, sexual violence and gender equality – for the worse.”⁶⁶

The expected take-up of virtual reality pornography can only be expected to accentuate this problem. As noted earlier, Pornhub’s most popular 2017 genres includes hentai (based on anime characters), cartoon, overwatch (inspired by Blizzard Entertainment’s 2016 video game of the same name) and virtual reality,⁶⁷ indicating that online gaming technology is already shaping popular sexual fantasies. Virtual reality pornography introduces interactive toys – and therefore real physical sensation – to the already ‘immersive’ experience of watching pornography, making the fantasy seem even more ‘real.’ The market in virtual reality pornography is still nascent, but developers are tremendously excited about its revenue-earning potential. One producer likens the difference between regular pornography viewing and virtual reality pornography to the difference between looking at a Polaroid photo and watching an Imax film.⁶⁸ By heightening the degree of concordance between the viewer’s sensory responses and the world of manufactured sexual fantasy presented on a screen, virtual reality pornography makes it even harder for a consistent user to distinguish between the world of pornographic fantasy and the real world.

Molding adolescent sexuality

The effect of pornography consumption on teenagers even in western societies, where the influence of pornography is more diffused through culture, is worthy of particular attention. Adolescents often lack the skills necessary to navigate the

⁶⁴ Farley, *et al.*, *op cit.*, p.4.

⁶⁵ Recognition of this is not new. See Marlene Goldsmith, “Sexual Offenders and Pornography: a causal connection?” Patricia Weiser Easteal (ed.), *Without Consent: confronting adult sexual violence*, Australian Institute of Criminology, Proceedings of a conference held 27–29 October 1992, pp. 253–261. (Available at: <https://aic.gov.au/sites/default/files/publications/proceedings/downloads/20-goldsmith.pdf>)

⁶⁶ Gail Dines, “Is porn immoral? That doesn’t matter: It’s a public health crisis,” *Washington Post*, 8 April 2016.

⁶⁷ Pornhub, “2017 Year in Review,” *op. cit.* Further pornographic subgenres are listed in Wikipedia: https://en.wikipedia.org/wiki/List_of_pornographic_subgenres

⁶⁸ Amelia Butterfly, “Is virtual reality the future of online pornography?” *newsbeat*, 19 August 2016. (Available at: <http://www.bbc.co.uk/newsbeat/article/37057814/is-virtual-reality-the-future-of-online-pornography>).

highly sexualised environment of the Internet with safety and yet teenagers are extensive users of internet devices. Even if first exposure to pornography is accidental, it apparently creates an appetite.⁶⁹ A study commissioned by the UK government found that, in May 2015, one in 10 visitors to adult sites in the UK were children⁷⁰ and one in five children under 18 visited a pornographic website.⁷¹ Similarly, a study by the National Society for the Prevention of Cruelty to Children Childline found that nearly 10% of children aged 12–13 years old expressed worry that they were addicted to pornography, and 18% said that they had seen images which shocked or upset them. Twelve percent admitted to making or being a part of a sexually explicit video.⁷²

Research also suggests that children and adolescents may be disproportionately vulnerable to the negative consequences of exposure to sexually explicit material.⁷³ Puberty is a period of significant and critical physical, emotional, cognitive and social development. Studies indicate that lifelong sexual tastes are formed in puberty.⁷⁴ Concerns that the sexual acts depicted in pornography become normative – that vanilla pornography viewing habits will evolve to include more extreme content – apply to all age groups but particularly attach to the young, whose sexual tastes are not yet fixed.

The continual novelty offered by internet pornography differs qualitatively to regular sexual encounters in that it fuels the production of abnormally high levels of dopamine. Dopamine acts to stimulate the reward-centres of the brain. Produced in high quantities, dopamine over-rides the brain's mechanisms for registering satiation, fuelling further search for novelty. In this way, prolonged exposure to pornography creates 'arousal addiction', whereby regular pleasure responses to

⁶⁹ Jennifer Johnson describes how this is achieved through deliberate commercial strategies used by online commercial pornography producers. (J. Johnson, "Mapping the feminist political economy of the online commercial pornography industry: A network approach," *International Journal of Media and Cultural Politics*, vol. 7(2), 2011, pp. 189–208, https://doi.org/10.1386/macp.7.2.189_1).

⁷⁰ "Curbing access to pornographic websites for under 18s," *Media Release from the UK Prime Minister's Office*, 30 July 2015. (Available at: <https://www.gov.uk/government/news/curbing-access-to-pornographic-websites-for-under-18s>).

⁷¹ Patrick Wintour, "Cameron tells pornography websites to restrict access by children or face closure," *The Guardian*, 20 July 2015. (Available at: <https://www.theguardian.com/culture/2015/jul/30/cameron-promises-action-to-restrict-under18s-accessing-pornography>).

⁷² Patrick Wintour, op. cit.

⁷³ E.W. Owens, R.J. Behun, J.C. Manning, R.C. Reid, "The impact of internet pornography on adolescents: a review of the research," *Sex Addict Compulsivity*, vol. 19, 2012, pp. 99–122. <https://doi.org/10.1080/10720162.2012.660431> ; Frances E. Jensen and Amy Ellis Nutt, *The Teenage Brain: A Neuroscientist's Survival Guild to Raising Adolescents and Young Adults*, New York, 2015); Tamara L. Doremus-Fitzwater, Elena I. Varlinskaya, and Linda P. Spear, "Motivational Systems in Adolescence: Possible Implications for Age Differences in Substance Abuse and Other Risk-Taking Behaviors," *Brain and Cognition*, vol. 71(1), 2010, pp. 114–123. <https://doi.org/10.1016/j.bandc.2009.08.008>

⁷⁴ "Porn, A User's Manual: Hardcore, abundant and free: what is online pornography doing to sexual tastes—and youngsters' minds?" *The Economist*, 26 September 2015. (Available at: <http://www.economist.com/news/international/21666113-hardcore-abundant-and-free-what-online-pornography-doing-sexual-tastesand>)

sex become ‘numbed’ in favour of novelty provided by internet pornography.⁷⁵ A 2014 study conducted by Valerie Voon and her colleagues found neural differences in the processing of sexual-cue reactivity for sexual addicts, in regions of the brain previously implicated in drug-cue reactivity studies.⁷⁶

Scientists now recognize that as well as producing drug-like chemical rewards for the brain, pornography used as a masturbatory aid produces a “deeply satisfying state of focused attention” that is ideal for forming strong and enduring neuronal pathways, particularly in adolescents.⁷⁷ (This state is sometimes referred to as ‘the flow’). These pathways are naturally created and strengthened when any new skill is learned and practiced, making this a satisfying process. With repeated use, the association between pornography and erotic response may become so well-established as to over-ride even the reward system that would normally make real-life sexual contact stimulating. This then explains the increasing incidence of sexual dysfunction in men under the age of 40, which is strongly associated with pornography viewing.⁷⁸ The neural system designed for a sexual relationship is diverted instead towards an object. Since the brain is continually reforming neural pathways, both addiction and sexual dysfunction appear to be treatable over time, but only if pornography consumption stops.⁷⁹ As many pornography addicts are finding, this may be no simple matter.⁸⁰ In the meanwhile, those habitually using pornography, particularly young people, are learning and reinforcing associations between what they see in pornography and feelings of gratification that will ultimately prove detrimental to their ability to form sexually satisfying relationships with real people.⁸¹

⁷⁵ Gary Wilson, “The Great Porn Experiment”, *Ted X Talks*, 1 February 2013. (Available at: <https://yourbrainonporn.com/garys-tedx-talk-great-porn-experiment>).

⁷⁶ Valerie Voon, Thomas B. Mole, Paula Banca, Laura Porter, Laurel Morris, Simon Mitchell, Tatyana R. Lapa, Judy Karr, Neil A. Harrison, Marc N. Potenza, Michael Irvine, “Neural correlates of sexual cue reactivity in individuals with and without compulsive sexual behaviours,” *PLoS ONE*, 11 July 2014, <https://doi.org/10.1371/journal.pone.0102419>

⁷⁷ “How Porn Changes the Brain,” *Fight the New Drug*, 23 August 2017. (Available at: <https://fightthenewdrug.org/how-porn-changes-the-brain/>); William M. Stuthers, *Wired for Intimacy: How Pornography Hijacks the Male Brain*, Downer Grove, IL, 2010.

⁷⁸ B.Y. Park, G. Wilson, J. Berger, M. Christman, B. Reina, F. Bishop, W.P. Klam, A.P. Doan, “Is Internet Pornography Causing Sexual Dysfunctions? A Review with Clinical Reports” *Behavioural Science*, vol. 6, 2016, p. 17, <https://doi.org/10.3390/bs6030017>

⁷⁹ R. Porto, “Habitudes Masturbatoires et Dysfonctions Sexuelles Masculines,” *Sexologies*, vol. 25(4), 2016), pp. 160–65, <https://doi.org/10.1016/j.sexol.2016.03.004>

⁸⁰ Kevin Skinner, “5 Steps for Fighting a Porn Addiction,” 23 September 2016. (Available at: <http://drkevinskinner.com/5-steps-for-fighting-a-porn-addiction/#more-295>).

⁸¹ Paul J. Wright, Robert S. Tokunaga, Ashley Kraus, and Elyssa Klannm, “Pornography Consumption and Satisfaction: A Meta-Analysis,” *Human Communication Research*, vol. 43(3), March 2017, <https://doi.org/10.1111/hcre.12108>

Instead, pornography compounds the feelings of social isolation (which is one predisposing factor towards pornography use)⁸² and exacerbates anti-social behaviours. Examining the extensive international research from multiple studies on the effects of exposure to pornography in adolescence, Eric Owens and his colleagues list several behaviours associated with more frequent consumption of pornography for adolescents. These include:

- attitudes towards sex that regard it as primarily physical and casual, rather than affectionate and relational;
- greater sexual uncertainty due to dissonance between the sexual attitudes and beliefs communicated through pornography and those instilled by families or schools;
- beliefs that pornography can contribute to a more stimulating sex life;
- stronger preoccupation with sex to the exclusion of other thoughts; high levels of distraction;
- fewer progressive gender role attitudes for both males and females; acceptance of the narrative of male dominance and female submission;
- increased likelihood that adolescents, regardless of gender, would regard women as sex objects, sexual playthings, eager to fulfil male sexual desires;
- positive attitudes toward casual or recreational sex, uncommitted sexual exploration and extramarital sexual relations;
- increased likelihood of having casual intercourse with a friend, group sex, oral sex, anal sex and using drugs or alcohol during sex;
- earlier reported ages for sexual intercourse;
- among boys, increased sexual harassment of female peers;
- increased insecurity for boys about their ability to perform sexually;
- increased insecurity for girls about body image; and
- Increased levels of social maladjustment.⁸³

Regarding social development, those adolescents with lower degrees of social integration and less functional support networks of friends and family seem most susceptible to being drawn to pornography, to consume pornography more frequently and to be more adversely affected by this exposure. Adolescents who consume pornography are more likely to demonstrate social maladjustment, violence at school, clinical symptoms of depression, theft, truancy, manipulation of others, arson, to force sexual intercourse and be convicted of criminal sexual behaviour. For boys with 'predisposing risk levels' towards aggressive sexual behaviour, frequent exposure to pornography was found to exacerbate this predisposition, making them four times as likely to exhibit sexual aggression compared with those only infrequently exposed. This aggression includes coerced vaginal penetration, forced

⁸² Mark H. Butler et al., "Pornography Use and Loneliness: A Bi-Directional Recursive Model and Pilot Investigation," *Journal of Sex & Marital Therapy*, 7 March 2017, <https://doi.org/10.1080/0092623X.2017.1321601>

⁸³ E.W. Owens et al., op. cit.

sexual acts such as oral or digital penetration, sexually aggressive remarks (obscenities), and increased propensity to engage in sex with animals.⁸⁴ Exposure to unpleasant or bizarre material between the ages of 12 and 18 correlates with significantly higher rates of sexual paraphilia in later life.⁸⁵

The significant causal link between increased sexual offending and viewing of pornography is well-established. According to Flood:

Youth may expect that these behaviours should feel erotic and arousing and, if they hurt, may choose to ignore that or avoid saying something to a partner, for fear of being seen as prudish or inexperienced.⁸⁶

Dr Jill Manning, an experienced Australian family therapist, corroborates this:

I am ... witnessing more female adolescents tolerating emotional, physical and sexual abuse in dating relationships, feeling pressure to make out with females as a way to turn boys on, looking at or producing pornography so that their boyfriends will think they are 'open-minded' and 'cool', and normalising sexual abuse done to them because they see the same acts eroticized in pornography – after all, how bad can it be if the larger culture around you find abusing and demeaning acts a turn on?⁸⁷

Indeed, therapists around the world are corroborating that young girls are buying the lie that porn sex is normal. If the women in pornography love it and they don't, girls assume the problem is with them.

Promoting risky sexual behaviour

The correlation between consumption of pornography and engagement in risky sexual behaviours such as unprotected anal or oral sex, sex with multiple partners,

⁸⁴ E.W. Owens, et al., op. cit.

⁸⁵ M.S Kaplan and R.B. Krueger, "Chapter 45: Adolescent Sexual Offenders," in R. Rosner (ed), *Principles and Practice of Forensic Psychiatry*, Oxford University Press, New York, 2003, p. 456. (Available at: <http://www.paraphilias.nyc/wp-content/uploads/2015/10/11874-Kaplan-Adolesce.pdf> f). Boys who have experienced sexual abuse after the age of 12 are more likely than those abused as younger children to be subsequently convicted of a sexual offense. (James Ogloff, Margaret Cutajar, Emily Mann and Paul Mullen, "Child sexual abuse and subsequent offending and victimisation: A 45 year follow-up study," *Trends & issues in crime and criminal justice*, No. 440, Australian Institute of Criminology, p. 5. (Available at: <http://www.aic.gov.au/publications/current%20series/tandi/421-440/tandi440.html>).

⁸⁶ Michael Flood, "Young men using pornography," Karen Boyle (ed), *Everyday Pornography*, New York, 2010.

⁸⁷ Quoted by Tankard Reist, *Pornography and Violence: What is the connection?*

and using drugs or alcohol in sex, is also well established in academic literature.⁸⁸⁹ This is an international phenomenon, affecting liberal western countries in particular.⁹⁰ The Second Australian Study of Health and Relationships (ASHR2) attributes this increase to the ‘sexualisation’ of popular media, advertising and with pornography in particular:

The increased availability of pornography via the Internet, which frequently depicts oral and anal sex, may also have contributed to increased experimentation.⁹¹

Heteroanal sex

This suggestion is supported by growing evidence that the connection is causal.⁹² A 2014 UK study of anal heterosex among 16–18-year-olds noted that the 130 teenagers interviewed frequently cited pornography as the motivation for anal sex.⁹³ Mutuality and consent did not feature in men’s narratives of anal sex; rather, it was considered normal for men to badger women for anal sex. Women said they continued to be asked, sometimes forcefully, even after repeated refusals.⁹⁴ Both

⁸⁸ Miranda A.H. Horvath, Llian Alys, Kristina Massey, Afroditi Pina, Mia Scally, and Joanna R. Adler, “Basically ... porn is everywhere”: A rapid evidence assessment on the effects that access and exposure to pornography has on children and young people, *Office of the Children’s Commissioner*, London, 2011, p. 7. (Available at: http://www.mdx.ac.uk/data/assets/pdf_file/0026/48545/BasicallyporniseverywhereReport.pdf)

⁸⁹ L.W. Smith, B. Liu, L. Degenhardt, J. Richters, G. Patton, H. Wand, D. Cross, J. S. Hocking, S.R. Skinner, S. Cooper, C. Lumby, J.M. Kaldor and R. Guy, “Is sexual content in new media linked to sexual risk behaviour in young people? A systematic review and meta-analysis,” *Sexual Health*, 2016, vol. 13(6), pp. 501–515, <https://doi.org/10.1071/SH16037>.

⁹⁰ J. Richters, et al., op. cit., p. 469. In the UK between 1995 and 2004, heterosexual anal sex doubled. (See William Saletan, “The Ass Man Cometh: Experimentation, orgasms, and the rise of anal sex,” *Slate*. (Available here: http://www.slate.com/articles/health_and_science/human_nature/2010/10/the_ass_man_cometh.html). Chris Rissel et al., indicate results for Australia between the reporting periods 2002/3 and 2012/13 that reflect similar developments around the world. (See Chris Rissel, Paul B. Badcock, Anthony M. A. Smith, Juliet Richters, Richard O. de Visser, Andrew E. Grulich and Judy M. Simpson, “Heterosexual experience and recent heterosexual encounters among Australian adults: the Second Australian Study of Health and Relationships,” *Sexual Health*, vol. 11, 2014, p. 416–426, <https://doi.org/10.1071/sh14105>

⁹¹ Rissel et al., op. cit., p. 424.

⁹² See, for example, the work of Melinda Tankard Reist, “Growing Up in Pornland”; Baughman A. ““Without porn...I wouldn’t know half the things I know now”: A qualitative study of pornography use among a sample of urban, low-income, black and Hispanic youth,” *Journal of Sex Research*, 2015, vol. 52 (7), pp.736–46, <https://doi.org/10.1080/00224499.2014.960908>.

⁹³ C. Marston, R. Lewis, “Anal heterosex among young people and implications for health promotion: a qualitative study in the UK,” *BMJ Open*, 2014, vol. 4(8), pp. 1–7, <https://doi.org/10.1136/bmjopen-2014-004996>

⁹⁴ “Porn, A User’s Manual.” (Available at: <http://www.economist.com/news/international/21666113-hardcore-abundant-and-free-what-online-pornography-doing-sexual-tastesand?zid=319&ah=17af09b0281b01505c226b1e574f5cc1>).

men and women expected anal sex to be painful for women. This pain was seen as inevitable and techniques to reduce the pain were not discussed:

Interviewees often spoke casually about penetration where women were likely to be hurt or coerced (“you can rip ‘em if you try and force anal sex”; “you just keep going till they get fed up and let you do it anyway”).⁹⁵

“Accidental” anal penetration was reported by some interviewees, and in at least one interview it was clear that these accidents may happen on purpose. Although this behaviour could be classed as rape (non-consensual penetration), it is ambiguous enough to make prosecution problematic.

The study concluded that anal sex appears to be a marker of (hetero)sexual achievement or experience, particularly for men. Women who did not enjoy it were considered either flawed, naïve, uptight or else were suspected of being reluctant to confess to secret enjoyment of the experience. These beliefs about anal sex were found to “support the erroneous idea that a man pushing for anal sex is simply ‘persuading’ his partner to do something that ‘most girls would like.’” On the other hand, women who participate in heteroanal sex risk reputational loss:

The common portrayal of anal heterosex in terms of men breaking women’s resistance can be compared with narratives about first vaginal intercourse and perhaps have superseded them to some degree in the British context where premarital vaginal intercourse is considered normal and so perhaps less of a ‘conquest.’⁹⁶

The connection between these teenagers’ interest in anal sex and pornography consumption was strengthened by evidence that pornography is shaping the interviewees’ understanding of sex more generally:

The researchers asked them to name all the sexual practices they knew of. They listed many porn tropes, such as threesomes and gang bangs, and some scatological and extremely violent acts made notorious by particular clips and films.⁹⁷

This is consistent with messages of young people highlighted in Tankard Reist’s work in Australian high schools:

The proliferation and globalisation of hypersexualised imagery and pornographic themes makes healthy sexual exploration almost impossible. Sexual conquest and domination are untempered by the bounds of respect, intimacy, and authentic human connection. Young people are not learning about intimacy, friendship and love, but about cruelty and humiliation.⁹⁸

⁹⁵ C. Marston, R. Lewis, op. cit., p. 5.

⁹⁶ C. Marston, R. Lewis, op. cit., p. 5.

⁹⁷ “Porn, A User’s Manual.”

⁹⁸ Melinda Tankard Reist, *Growing up in Pornland*.

Apart from the background of coercion and harassment associated with heteroanal sex in teenagers, this practice poses risks to sexual health through both physical damage and by increasing the risk of STIs:

- **Physical damage:** The vagina is supported by a network of muscles and composed of a multi-layer squamous epithelium that allows it to endure friction without damage and to resist the immunological actions caused by semen and sperm. By contrast, the anus is a delicate mechanism of small muscles. With repeated trauma, friction and stretching, the sphincter loses tone and its ability to maintain a tight seal. For this reason, anal receptive intercourse is associated with reduced resting pressure in the anal canal and an increased risk of faecal incontinence.⁹⁹ Prolapse can be treated with surgery but this in itself carries a high risk of infection and is unlikely to restore the anus to its pre-trauma condition. Young girls who require such anal surgery are unlikely to be able to deliver a baby vaginally without significantly increased risk of further rectal prolapse.¹⁰⁰
- **Infection:** The intestine is highly vascular, with a single layer of tissue separating the inside of the intestine and blood. This layer of tissue is not suited to withstand the friction associated with penile penetration. Micro-tears are common, and microfold cells found in the rectum (but absent from the vagina) capture viruses and deliver them directly to the lymphatic system.¹⁰¹ Organisms introduced into the rectum, therefore, establish a foothold for infection more easily than they would in the vagina. Trauma to the rectum exposes both sexual partners to blood, micro-organisms in faeces, and a mixing of bodily fluids. The list of diseases found with increased frequency among male homosexual practitioners as a result of anal intercourse includes anal cancer, chlamydia, herpes simplex virus, human papilloma virus (HPV), gonorrhoea, viral hepatitis types B & C and syphilis. Human immunodeficiency virus (HIV) is, of course, the most well-advertised risk of anal sex. In Australia, two thirds (68%) of new HIV transmissions occur among men who have sex with men, with a further

⁹⁹ A.J. Miles, T.G Allen-Mersh and C. Wastell, "Effect of anoreceptive intercourse on ano-rectal function," *Journal of the Royal Society of Medicine*, March 1993, vol. 86(3), pp. 144–47. (Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1293903/>).

¹⁰⁰ Pornography now celebrates even the rectal prolapse. Recognised as occupational risk for porn actresses, prolapse would once have signalled the end of a career. However, in more recent developments, the prolapse has been repackaged and is now celebrated as "rosebudding." Mark Shrayber, whose familiarity with pornography derives from his previous work running an adult bookstore describes rosebudding as "worse than anything I've seen in legal pornography before." To be able to rosebud effectively, actresses need to have prolonged sessions with multiple massive objects so that their rectal walls become loose and easy to push right out. Training might also include sleeping with toys in the anus the night before a shoot ... In general, an individual is immediately rushed to the emergency room when such an event happens. In [pornography], the cameras keep turning as the prolapse is looked at, touched, licked, and prodded until the director believes that the viewer will have enough to satiate them. Sometimes honey is poured all over it. (Mark Shrayber, op. cit.).

¹⁰¹ Sinead C. Corr, Cormac C.G.M Gahan and Colin Hill, "M-Cells: origin, morphology and role in mucosal immunity and microbial pathogenesis," *FEMS Immunology and Medical Microbiology*, vol. 52(1), January 2008, pp. 2–12, <https://doi.org/10.1111/j.1574-695X.2007.00359.x>.

20% through heterosexual sex.¹⁰² Increases in heteroanal sex and group sex can reasonably be expected to expose a broader portion of the population to these infections, thus amplifying the risk.

Any mention of the health risks associated with heteroanal sex is peculiarly absent from popular blogs and magazine articles on the subject, which confine themselves with encouraging sexual exploration while advising the generous use of lubricant.

In Australia, data from *ASHR2* indicates that nearly 12% of sexually active 16–19 year-old-girls have had anal sex and are unlikely to have used a condom.¹⁰³ Possibly because pregnancy is not a risk with anal sex, condoms are worn in heteroanal sex in only a small number of cases.¹⁰⁴ Similarly, a Swedish study of 718 students reported 16% had anal intercourse, again with infrequent condom use. This study explicitly noted the association of group sex, anal sex and early sexual debut with consumption of pornography.¹⁰⁵

Oral sex

Oral sex is sometimes represented in sex education programs as safe and normal, so it is perhaps impossible to attribute the rise in this activity to pornography alone, although pornography is still an important factor. *ASHR2* (2012–2013) reported increased rates of oral sex and at younger ages compared with the *ASHRI* survey (2001–2002):

¹⁰² *HIV, Viral Hepatitis and Sexually Transmissible Infections in Australia: Annual Surveillance Report 2016*, The Kirby Institute, Sydney, 2016, p. 11. (Available at: https://kirby.unsw.edu.au/sites/default/files/kirby/report/SERP_Annual-Surveillance-Report-2016_UPD170627.pdf).

¹⁰³ See Chris Rissel, et al., op. cit., p. 424. A 2009 US study of women aged 16–21 years old found that 16% had experience of heteroanal sex and noted that these women were “more likely to be living with a sexual partner, to have had 2 or more partners, and to have experienced coerced intercourse ... among females, the variables associated with anal intercourse relate to the context and power balance of sexual relationships.” (Carol F. Royce, Beatrice J. Krauss, Paula L. Silverman, “Prevalence and Correlates of Heterosexual Anal Intercourse Among Black and Latina Female Adolescents,” *Journal of the Association of Nurses in AIDS Care*, July–August 2010, vol. 21(4), pp. 291–301. <https://doi.org/10.1016/j.jana.2009.12.002>; Anal sex was surveyed in the 5th National Survey of Australian Secondary Students and Sexual Health but this was not surveyed in the 4th National Survey, so exact data on changes are not yet possible. (Anne Mitchell, Kent Patrick, Wendy Heywood, Pamela Blackman and Marian Pitts, *5th National Survey of Australian Secondary Students and Sexual Health*, ARCSHS 2013, p. 25).

¹⁰⁴ Richard O. de Visser, Paul B. Badcock, Chris Risse, Juliet Richters, Anthony M. A. Smith, Andrew E. Grulich and Judy M. Simpson, “Safer sex and condom use: findings from the Second Australian Study of Health and Relationships,” *Sexual Health*, vol. 11, 2014, p. 500. Condom use among the men who have sex with men is also declining: “Results from the 2015 Gay Community Periodic Survey indicate that 41% of gay men reported condomless anal intercourse with casual partners in the six months prior to the survey, an increase on the 33% reporting condomless anal intercourse in 2006.” (*HIV, Viral Hepatitis and Sexually Transmissible Infections in Australia: Annual Surveillance Report 2016*, The Kirby Institute, Sydney, 2016, p. 25).

¹⁰⁵ E. Häggström-Nordin, U. Hanson, T. Tydén, “Associations between pornography consumption and sexual practices among adolescents in Sweden,” *International Journal of STD & AIDS*, vol. 16(2), pp. 102–107. <https://doi.org/10.1258/0956462053057512>.

A decade ago, among people aged 16–59, 79% of men and 67% of women had ever had oral sex, but now 88% of men and 86% of women have done so. People also experience oral sex earlier. Among people under 20, 21% of men and 17% of women had had oral sex before they had intercourse, but this was true of only 3% of men and women in their 60s.¹⁰⁶

Once a sexual taboo, oral sex is now common practice, particularly among the young:

... more adolescents [are] now having their first experience of oral sex and intercourse around the same time and [there is] a decrease in the numbers of adolescents who have never tried oral. Only 12 per cent of sexually active 16–19-year males have never indulged in this sexual practice.¹⁰⁷

It has been suggested that oral sex is on the rise because young people consider it safer than genital intercourse in terms of risk of pregnancy and transmission of STIs. For these reasons, condom use with oral sex is not common and, in any event, would not offer sufficient protection from many of the STIs transferred through genital-oral contact. The most common STIs of the mouth are herpes, chlamydia, gonorrhoea, and syphilis. It is also possible to contract Hepatitis A, B and C, as well as other gastrointestinal infections in this way. Gonorrhoea of the throat may only manifest as a sore throat, and so 80% of those infected with gonorrhoea are unaware of the fact.¹⁰⁸ Young adults and teenagers are the most likely to be infected and the least likely to be tested. Gonorrhoea can be transmitted genitals to throat through oral sex, and new research from the Melbourne Sexual Health Centre suggests that kissing is now the main driver of gonorrhoea transmission for inner-city dwellers.¹⁰⁹

In addition to the usual list of STIs, 10 years ago researchers first noticed increasing incidence of oral cancer (normally associated with older adults with a history of heavy drinking and smoking) in younger adults. Studies concluded that tumours affecting the base of the tongue and the throat were the result of the transference of HPV virus from the genitals to the mouth through oral sex and that incidence was “markedly elevated among patients with a high lifetime number of such partners.”¹¹⁰

¹⁰⁶ “Sex in Australia Summary,” *Australian Study of Health and Relationships*. (Available at: http://www.ashr.edu.au/wp-content/uploads/2015/06/sex_in_australia_2_summary_data.pdf).

¹⁰⁷ Bettina Ardnt, “Teen survey offers a reality check against alarm over sexual activity,” *The Australian*, 8 November 2014. (Available at: <http://www.theaustralian.com.au/national-affairs/opinion/teen-survey-offers-a-reality-check-against-alarm-over-sexual-activity/news-story/d430a80a40a3f7b3ec020413f3449a08>).

¹⁰⁸ James Purtill, “Can you get gonorrhoea from kissing?” *Triple J Hack, ABC*, 8 November 2017. (Available at: <http://www.abc.net.au/triplej/programs/hack/can-you-get-gonorrhoea-from-kissing/9131440>).

¹⁰⁹ Purtill, *op. cit.*

¹¹⁰ Gypsyamber D'Souza, Aimee R. Kreimer, Raphael Viscidi, Michael Pawlita, Carole Fakhry, Wayne M. Koch, William H. Westra, and Maura L. Gillison, “Case–Control Study of Human Papillomavirus and Oropharyngeal Cancer,” *New England Journal of Medicine*, vol. 356, 2007, pp. 1944–56, <https://doi.org/10.1056/nejmoa065497>

Multiple partner sex

Multiple partner sex (MPS), as observed earlier, is frequently depicted in pornography (particularly with multiple men having sex with one woman) and obviously multiplies the health risks associated with non-monogamous sexual activity. *ASHR2* showed steady levels of MPS over the last decade, with 2.1% of men and 0.6% of women reporting group sex in the last 12 months.¹¹¹ Data specifically relating to MPS among Australian adolescents is not available, but there is strong international evidence to suggest that socially vulnerable individuals are disproportionately represented in the population involved with group sex. For example, a 2006 US survey of 328 women, aged 14–20 years old, found that 7.3% reported ever having had a MPS experience. The majority of participants reported that MPS occurred in the context of pressure, coercion, threats, or force. Condom non-use was again a significant feature of this sexual activity.¹¹² This study found MPS was associated with cigarette smoking, sexual initiation prior to age 15, ever being diagnosed with an STI, dating violence victimization, suicidal ideation and behaviour, childhood sexual abuse victimization, and past-month pornography exposure.¹¹³ The study found that:

the strong association between exposure to pornography, having been forced to do things that their sex partner saw in pornography, and MPS suggests that pornography may have influenced directly the sexual experiences of the girls in this sample, as has been found elsewhere.¹¹⁴

Increasing risk of STIs

Recent STI figures for Australia show steady rates of new HIV transmission. Though survival rates have improved, the lifetime risk of HIV sufferers subsequently developing anal cancer has increased dramatically. This results from repeated exposure to HPV and is 100 times more likely for HIV-positive gay and bisexual men than it is for HIV-negative exclusively heterosexual men.¹¹⁵ Significant increases in chlamydia, gonorrhoea, and syphilis, can be found in people of all

¹¹¹ Ritchers et al., op. cit., p. 468.

¹¹² Emily F. Rothman, Michele R. Decker, Elizabeth Miller, Elizabeth Reed, Anita Raj and Jay G. Silverman, "Multi-person sex among a sample of adolescent female urban health clinic patients," *Journal of Urban Health: Bulletin of New York Academy of Medicine*, vol. 89(1), February 2012, pp. 129–137. (Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3284585/>).

¹¹³ J.C. Abma, G.M. Martinez, W.D. Mosher, B.S. Dawson, "Teenagers in the United States: sexual activity, contraceptive use, and childbearing," *Vital and Health Statistics Series No. 23*, vol. 24, 2004, Table 8, p.23, <https://doi.org/10.1037/e609162007-001> (Available at: https://www.cdc.gov/nchs/data/series/sr_23/sr23_024.pdf.) This study also found that early sexual activity is also associated with an increased likelihood that this sex is unwanted).

¹¹⁴ Emily F. Rothman, et al., op. cit.

¹¹⁵ Ashish A. Deshmukh, Elizabeth Chiao, Jagpreet Chhatwal, Scott B. Cantor, "How the anal cancer epidemic in gay and bi HIV-positive men can be prevented," *The Los Angeles Times*, 26 September 2017. (Available at: <http://www.latimes.com/sns-how-the-anal-cancer-epidemic-in-gay-and-bi-hiv-positive-men-can-be-prevented-80358-20170926-story.html>).

sexual orientations but are particularly prevalent among teenagers and young adults. According to the 2016 surveillance report produced by the Kirby Institute:

- Chlamydia was the second most frequently reported notifiable condition with a total of 66,033 notifications in 2015. 77% of these notifications were among 15–29 year-olds;
- Gonorrhoea has nearly doubled for both men and women between 2006 and 2015. 18,588 new cases were reported in 2015, with the highest rates occurring among men aged 20–29 years; and
- Infectious syphilis has also increased in the past ten years, with the highest rates again reported among males aged 25–29 years.¹¹⁶

The data emphasise sexually active adolescents and young adults as priority populations because of their susceptibility to disease transmitted through (among other things) risky sexual activity and multiple sexual partners. Data from the American Centre for Disease Control confirm similar findings for the US population. Although 15–24-year-olds make up only 27% of the sexually active population, they account for 50% of new STIs each year.¹¹⁷

Since the bodies of adolescent girls are more vulnerable to disease than older women's bodies, early sexual activity is particularly inadvisable for this group.¹¹⁸ Multiple partners compound the risk of infection. Young bisexual women are at higher risk, being more likely than heterosexual women both to engage in sexual contact with gay or bisexual men and to do so without protection.¹¹⁹ The effects of infection for women in this age group are also more deleterious for potentially causing loss of fertility. In the US, 24,000 young women per year become infertile because of STIs.¹²⁰

Pornography, in promoting risky sexual activity such as heteroanal sex, group sex, oral sex, casual sex, as well as early sexual initiation, needs to be understood as heightening the risk of STIs that already effect young people disproportionately. The first Australian study to examine the associations between frequency and age

¹¹⁶ HIV, Viral Hepatitis and Sexually Transmissible Infections in Australia, pp. 12–16.

¹¹⁷ "Sexually Transmitted Infections Among Young Americans," *Centre for Disease Control*. (Available at: <https://www.cdc.gov/std/products/youth-sti-infographic.pdf>).

¹¹⁸ Miriam Grossman, *You're Teaching My Child What?* New York, 2009, pp. 77–82.

¹¹⁹ L. Robin, N.D. Brener, S.F. Donahue, T. Hack, K. Hale and C. Goodenow, "Associations between health risk behaviours and opposite-, same-, and both-sex sexual partners in representative samples of Vermont and Massachusetts high school students," *Archive of Paediatrics and Adolescent Medicine*, vol. 156(4), 2002, pp. 349–55, <https://doi.org/10.1001/archpedi.156.4.349>. Women are unlikely to infect other women and lesbians who have never had sexual contact with a male sexual partner have lower rates of STIs than heterosexual women. However, this group constitutes a small minority. In a 2000 US study of 1400 women who have had sex with women, only 7% reported never having had sexual contact with a man. (Katherine Fethers, Caron Marks, Adrian Mindel, and Claudia S. Estcourt, "Sexually Transmitted Infections and risk behaviours in women who have sex with women," *Sexually Transmitted Infections*, vol. 76, 2000, pp. 345–49, <https://doi.org/10.1136/sti.76.5.345>).

¹²⁰ Fethers et al., "Sexually Transmitted Infections Among Young Americans," op. cit.

of first pornography use and sexual behaviour, mental health and other characteristics of young people, concluded that:

pornography viewing is common and frequent among young Australians from a young age. Pornography use was associated with potentially harmful outcomes, such as mental health problems, sex at a younger age and anal intercourse.¹²¹

Pornography endangers children

Of the total \$100 billion annual revenue for the pornography industry worldwide, \$13 million is thought to derive from child exploitation material (CEM) alone.¹²² Significant as this figure may be, it does not accurately reflect the extent of abuse occurring in the production of CEM. International Network of Internet Hotlines (INHOPE) estimates that 79% of CEM produced is non-commercial.¹²³ Whereas paedophiles were previously isolated, the Internet has allowed online communities to organise. These communities share content, fantasies, and techniques of child abuse. Importantly, 'fresh' material forms the currency required for members to join and maintain their membership of such communities.¹²⁴ In this way, an increase in the number of viewers results directly in increased numbers of children being exploited.

A 2017 report released by Anti-Slavery Australia into online child exploitation in Australia (the first of its kind to attempt to describe the reach of the global industry in sex trafficking of children into Australia) describes child exploitation as "a pandemic ... with some statistics suggesting the volume of child sexual abuse imagery increasing as much as 400% between 2013 and 2015." The police report, "Back in the early 2000s we were dealing with kilobytes and megabytes. Now we are dealing with petabytes, mainly terabytes when we do our seizures."¹²⁵

Research into this area is urgent and ongoing, but initial studies suggest that these online communities are not simply attracting members who always identified as paedophiles. Rather, it seems that the availability of CEM is "contributing to the crystallization of those interests in people with no explicit prior sexual

¹²¹ Megan S.C. Lim, Paul A. Agius, Elise R. Carrotte, Alyce M. Vella, Margaret E. Hellard, "Australians' use of pornography and associations with sexual risk behaviours," *Australian and New Zealand Journal of Public Health*, June 2017, vol. 14(4), pp. 438–443, <https://doi.org/10.1111/1753-6405.12678>.

¹²² Melinda Tankard Reist, *Pornography and Violence*.

¹²³ Jennifer Burns et al., *Behind the Screen: Online Child Exploitation in Australia*, Anti-Slavery Australia, 2017, p. 6. (Available at: <http://www.antislavery.org.au/images/behind%20the%20screen%20-%20report.pdf>)

¹²⁴ Sally Treeby, speaking at the *Summit Against Sexual Exploitation*, Brisbane, 6 May 2017. Fresh material is evidence of a member's continued commitment to the shared interests of the community. It also ensures that all members are criminally culpable, which is an effective strategy for insuring against information being passed to authorities from anyone within the group.

¹²⁵ Senior Officer of the Queensland Police Project Argos. Quoted in *Behind the Screen*, p. 1.

interest in children.”¹²⁶ As well as those with an established, exclusive sexual interest in children, these communities are also attracting members who are not consistently paedophilic, and who have had adult-to-adult sexual relationships. As a result, men in prison for possession of CEM may be offended to be referred to as paedophiles.¹²⁷ Their interest in CEM results from the organic progression of the search for “more extreme stuff,” as described earlier.¹²⁸

CEM offenders are a heterogeneous group. They do not fit stereotypes of the aberrant village pervert, instantly recognisable by his dirty macintosh and involuntary facial tick. Studies show that factors such as substance abuse, antisocial orientation, deviant sexual interest and situational factors may distinguish those who commit contact sexual crimes against children from those who engage online only.¹²⁹ There might be various ways to understand this, but possibilities include the idea that “pre-disposing factors to paedophilia might be amplified through Internet pornography” or that exposure to adult-child sex through the internet may cause the adult-adult sexual adaptation to unravel.¹³⁰

Dines has constructed a compelling case for the argument that legal “pseudo child pornography” (PCP) plays a crucial part in grooming online users of internet pornography toward an interest in “the real thing.”¹³¹ PCP must still use performers over the age of 18 (for the purposes of legality) but pornography producers select those with young-looking bodies and use visual cues that suggest pre-pubescence. The fashion for removing all pubic hair (known popularly as ‘the Brazilian’) began with PCP.¹³² Performers are shown, for example, wearing school uniforms, knee-high socks, cuddling stuffed toys in a children’s bedroom, wearing pig tails and/or sucking lollipops. The language used to describe the girls on the PCP sites is strikingly different to the terms of abuse typically used for adult women on other hardcore pornography sites. In PCP material, girls’ bodies (including their vaginas) are described as “tiny,” “teeny,” “petite” or “tight.” Pornographers emphasise that their websites offer genuine depictions of a girl’s first sexual experience (“our girls are fresh and inexperienced and very sexy in an innocent kind of way”) and, in order to support the fantasy of innocence defiled, typically advertise “fresh girls every week.”

“Solo” PCP genres serve as an entry level for an audience that may still find the association of childhood and sexual activity shocking. These sites depict young

¹²⁶ Heather Wood, “Internet pornography and paedophilia,” *Psychoanalytic Psychotherapy*, vol. 27(4), 2013, pp. 319–388, <https://doi.org/10.1080/02668734.2013.847851>

¹²⁷ Dines, *Powerful Pornland*.

¹²⁸ Dines, *Pornland*, p. 161.

¹²⁹ Jennifer A. McCarthy, “Internet Sexual Activity: a comparison between contact and non-contact child pornography offenders,” *Journal of Sexual Aggression*, vol. 16(2), 2010, pp. 181–195, <https://doi.org/10.1080/13552601003760006>

¹³⁰ Heather Wood, *op. cit.*

¹³¹ The following discussion summarises Dines’ analysis of PCP genres (Dines, *Pornland*, pp. 141–162). See also, Gail Dines, “The New Lolita: Pornography and the sexualization of childhood,” Melinda Tankard Reist and Abigail Bray (eds.), *Big Porn Inc: exposing the harms of the global pornography industry*, Melbourne, 2015, pp. 3–9.

¹³² Vibeke Venema, “The women who invented the Brazilian wax,” BBC World Service, 31 December 2016. (Available at: <http://www.bbc.com/news/magazine-37896963>)

girls on their own. They begin as nervous, giggling, smiling and blushing innocents but, with a little coaxing from off-stage men happily strip and masturbate for the camera. The narrative constructed indicates that the girl's innocence was really only ever a pretence, disguising the underlying truth that she really was a slut all along. The transference of the culpability onto the girl divests the viewer of any feelings of guilt he may otherwise have in masturbating to such a scene. The fantasy of sexual agency on the part of the girl is essential to the success of the solo pornography genre.¹³³

In PCP depictions of penetrative sex, the movie may involve more kissing and touching than adult pornography genres, and the girls are rarely referred to by derogatory names. According to Dines:

What is also striking to anyone who is familiar with the codes and conventions of Internet porn is that the male actually keeps asking the female, in a tender way, if the sex feels okay or if he is hurting her. These differences should not be seen as positive steps toward a less violent type of porn; what they actually represent are techniques aimed at authenticating the supposed consensual loss of virginity. On these sites, there is no mention of coercion or even subtle manipulation; the performer is depicted as eager to lose her virginity.¹³⁴

PCP genres extend to sadistic, gonzo pornography (where, although virgins, the girls are actually revealed to be “dirty little whores,” eager for rough sex) and incest pornography (where the girls are depicted as coaxing a reluctant father or, at least, amazed at how satisfying the sex initiated by her father turns out to be). The power imbalance, typical of other pornography genres, is accentuated in PCP. The girl is often economically vulnerable, a babysitter or a cleaner—therefore younger than the man, present in his home and happy to be paid for sex instead of other services. The age disparity between the teenage girl and her male partner – who may be in his 60s or 70s – is also emphasised in these films. Dines described the process:

Once he clicks on these sites, the user is bombarded, through images and words, with an internally consistent ideology that legitimizes, condones, and celebrates a sexual desire for children.¹³⁵

Dines' analysis explains how these sites act as socializing agents for their users by constructing a particular set of ideologies that normalize children as legitimate sexual partners for adult men. The user enters a virtual community that offers him inclusion:

For these men, PCP sites can be seen as a kind of low-stakes primer nudging, encouraging, and in a way seducing them into joining the club with promises of community, friendship, and understanding – the very things that a nascent paedophile may lack the most. In a perverse way, the sites are seasoning the would-be user in much the same way a professional

¹³³ Dines, “The New Lolita,” p. 7.

¹³⁴ Dines, *Pornland*, p. 149.

¹³⁵ Dines, *Pornland*, p. 158.

predator seasons his prey since they first find out what that mark lacks and then tease and manipulate him into compliance with the promise of fulfilling these deeply felt needs.¹³⁶

PCP attracts pornography viewers who are bored with the usual fare. Men interviewed in prison for possession of CEM have expressed surprise at how quickly they overcome the initial exciting shock of watching sex with children and were led thereby to continue on their quest for still “more extreme stuff.”¹³⁷

The supportive nature of the online community is bolstered by a shared understanding that, although the outside world considers such behaviour deviant, those within the community know better – that sex with children has nothing to do with violence, aggression or sexual abuse. The same narratives of consent discussed earlier regarding adult pornography – where the viewer is invited to believe the pornography performer enjoys the experience – applies to CEM also. The child is shown looking like a willing, eager accomplice, sometimes even as ‘the seducer.’ Dines points out:

Of course, this is a lie but one that ... many perpetrators – and indeed sometimes lawyers, social workers, and police – believe, since they view the image as the truth rather than as a carefully constructed representation of reality that is produced with specific goals in mind.¹³⁸

Fueling further abuse of children

Discussions about the rates and prevalence of consumption of CEM must always acknowledge the limitations of such data. Such highly illegal activity is obscured using sophisticated technologies to protect vast online networks and communities of users under the relative protection and anonymity of the darknet.¹³⁹ Although CEM was a problem even when printed media was the only form of distribution, the internet again is responsible for an explosion in this material and in the numbers of users who can access it anonymously from anywhere in the world. According to Anti-Slavery Australia, the information they have gathered:

... demonstrates what can only be described as a crime epidemic that has grown alongside the proliferation of online technologies and the ease with which online child exploitation offenders are able to access, store, produce and disseminate huge volumes of material. As this report reveals, these images increasingly depict crimes committed against young children and highly depraved acts of sexual violence and torture.¹⁴⁰

The number of consumers of CEM has been growing steadily in recent years. In 2014, the number of users in the UK alone was estimated at 50,000. Of these, it

¹³⁶ Dines, *Pornland*, p. 159.

¹³⁷ Dines, *Pornland*, p. 161.

¹³⁸ Dines, *Pornland*, p. 151.

¹³⁹ Burns, op. cit., p. 7.

¹⁴⁰ Burns, op. cit., p. 5.

was thought that half would go on to physically abuse a child.¹⁴¹ Now arresting 400 offenders every month, the UK justice system has officially announced its inability to cope with the volume of new referrals. In February 2017, Chief Constable Simon Bailey, who heads the police ‘Operation Hydrant,’ which investigates child abuse cases, announced a new policy whereby those offenders thought to represent low risk of contact abuse for children could be dealt with in the community, rather than through the over-loaded courts, which were already spending 40%–50% of their time hearing sex abuse cases. With potentially 150,000,000 CEM images available on the internet, the criminal justice system simply cannot prosecute all the online pornography users who view CEM:

We are having to deal with more referrals than we ever have done. So, three years ago we would receive 400 referrals a month into the National Crime Agency from the United States of America, that is now approaching, on occasions, 5000 a month.¹⁴²

The Australian Federal Police received 11,000 online child exploitation reports in 2015. A report from the International Child Sexual Exploitation (ICSE) image database indicated that, as of 1 June 2016, there were 194 identified Australia-based child victims and 102 identified Australian offenders.¹⁴³ Australia-based offenders are not only viewers of online CEM, but also procurers, groomers and administrators of vast online child exploitation networks. Australia-based offenders are also major contributors to these networks and have been known to drive the exploitation of children both locally, and in countries overseas such as the Philippines and areas of Eastern Europe.¹⁴⁴

This global problem will only grow as online communities interested in CEM continue to expand. Figures released recently that attempt to measure the scale of the problem warn that what we know cannot be taken as a holistic representation of the contents of vast online networks that work under the protection of the Darknet. These figures, nevertheless, may shock:

Data from the International Child Sexual Exploitation (ICSE) database reveals that in 2015 the database held 6,672 unique identified victims in different age ranges, with approximately 40,000 victims who were not yet to be identified and who were very young children. Recent figures from the same database indicate that approximately seven new child victims are identified daily. The number of new images uploaded daily is enormous with a total figure of 8510 in April 2016.¹⁴⁵

¹⁴¹ Keith Baker and Chris Greenwood, “Don’t lock up web perverts ... treat them on the NHS: Anger as police chief insists many will never abuse a child,” *Daily Mail*, 5 December 2014. (Available at: <http://www.dailymail.co.uk/news/article-2861958/Officer-says-view-child-porn-dont-abuse-helped.html>).

¹⁴² Interview with Simon Bailey on *BBC Radio 4’s Today Program*, 28 February 2017. (Available at: <http://www.bbc.com/news/uk-39112911>).

¹⁴³ Burns, op. cit., p. 10.

¹⁴⁴ Ibid.

¹⁴⁵ Burns, op. cit., p. 9.

The Internet Watch Foundation found from 2015 data that:

- 69% of the victims were assessed as aged 10 or under;
- 3% (of 1,788) of the victims were assessed as aged 2 or under; and
- 34% of the images were assessed as 'Category A' images, depicting rape or sexual torture of children.

According to a member of the New Zealand Government's International Affairs team:

As well as children of very young ages, even babies, being filmed, the nature of the material is also becoming 'extremely sadistic, brutal ... INTERPOL put out a statement a number of years ago that the majority of material these days was between the ages of zero and five, and they believed that was because the victim could not voice or speak for themselves [making them] difficult to identify ... We are seeing, and know, that some of the children that have been videoed have since been killed.'¹⁴⁶

It would be hard to argue that the onward progression of some internet pornography users through PCP genres to CEM, in the quest for 'more extreme stuff' was not fuelling this exponential rise in demand for CEM and the unmeasurable (and unimaginable) increase in child abuse that accompanies this demand. Obviously, not all pornography users will venture this far, but they are not encouraged to desist from their exploration by the advertising and promotion strategies of pornographers. The commercial success of the pornography business depends on locating and exploiting whatever secret perversions may be kindled in even those men (and, much less often, women) who would not otherwise be sexually interested in children. The creation of secret communities of like-minded men only serves to normalise deviant behaviour and give life to the fantasy of children's sexual agency, further feeding paedophilic narratives that sex with children is not abusive.¹⁴⁷

Children as sex offenders

As well as affecting the children filmed to create individual images or videos, CEM is used by paedophiles to groom other children for exploitation, desensitising them to sexual contact with adults and instructing them in various sex acts. According to the late Emerita Professor Frieda Briggs, exposure to pornography, either for grooming purposes or just casual exposure in the home, is an aggravating factor in child-on-child sexual assault, not just between adolescents but even for

¹⁴⁶ Member of the New Zealand Government's Internal Affairs team, quoted in Burns, op. cit., p. 2.

¹⁴⁷ A study of those serving prison sentences for possession of child pornography also indicates a worsening of the crimes for which offenders are incarcerated. See, for example, Michael C. Seto, Lesley Reeves and Sandy Jung, "Explanations given by child pornography offenders for their crimes," *Journal of Sexual Aggression*, vol. 16(2), 2010, pp. 169–80, <https://doi.org/10.1080/13552600903572396>. "There was evidence to suggest that the recently arrested offenders were more sexually deviant, as they were more likely to have images of boys, larger collections, images depicting sexual violence or other paraphilic content and more involvement in online trading and communication."

children in the early years of primary school. Commenting on the rising rates of such sexual assaults, Briggs noted three possible explanations:

- (a) They have been traumatized/influenced by exposure to pornography and repeat what they have seen. In the writer's interviews with more than 700 children for the ARC, some boys aged 6–8 years revealed that “fun” activities with their fathers included watching pornography on the internet because “that’s what guys do;”
- (b) They have been traumatized by sexual abuse and are repeating what they have experienced; and
- (c) They have inappropriately witnessed sexual activity in the home environment.¹⁴⁸

International longitudinal studies demonstrate that intentional exposure to violent X-rated material over time predicted an almost six-fold increase in the odds of self-reported sexually aggressive behaviour for boys aged 10–15 years old.¹⁴⁹ Flood concurs:

Pornography's role in children's sexual offending is likely to be similar to its role in adults' sexual offending. Yes, pornography exposure is a significant risk factor for sexual violence perpetration by children and young people. There is no doubt: pornography exposure increases the risk of children's and young people's perpetration of sexual assault ... In addition, children's pornography exposure itself may be a part or symptom of a range of forms of abuse and trauma experienced by children who themselves are engaged in problem sexual behaviour.¹⁵⁰

Although not all abused children will grow up to reproduce this abuse, a history of being abused is well-established as a predisposing factor. “Studies suggest anywhere between 33% and 75% of child sex offenders report being sexually abused as children.”¹⁵¹ The connection demonstrated earlier between regular viewing of online pornography and perpetration of sexual violence also applies to children

¹⁴⁸ Frieda Briggs, Submission 2, Australian Senate Inquiry into the *Harm being done to Australian children through access to pornography on the Internet*, 2016, p. 5. Available at: https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Online_access_to_porn/Submissions).

¹⁴⁹ M. L. Ybarra, K.J. Mitchell, M. Hamburger, M. Diener-West, and P.J. Leaf, “X-rated material and perpetration of sexually aggressive behavior among children and adolescents: is there a link?” *Aggressive Behavior*, vol. 37(1), 2011, pp. 1–18, <https://doi.org/10.1002/ab.20367> .

¹⁵⁰ Michael Flood, Submission 250, p. 19. (Available at: https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Online_access_to_porn/Submissions).

¹⁵¹ Xanthe Mallett, “Psychology of a paedophile: why are some people attracted to children?” *The Conversation*, 26 May 2016. (Available at: <http://theconversation.com/psychology-of-a-paedophile-why-are-some-people-attracted-to-children-59991>). See also A. Gray, W.D. Pithers, A. Busconi, P. Houchens, “Developmental and etiological characteristics of children with sexual behaviour problems, treatment implications,” *Child Abuse and Neglect*, vol. 23(6), 1999, pp. 601–21, [https://doi.org/10.1016/S0145-2134\(99\)00027-7](https://doi.org/10.1016/S0145-2134(99)00027-7).

where it is even less surprising that children who regularly view pornography are inspired to believe the fantasy depicted in pornography and emulate what they have seen onscreen by doing 'what the grown-ups do.'¹⁵²

It is estimated that adolescent boys are responsible for approximately a fifth of rapes of adult women and between a third and half of all reported sexual assaults of children.¹⁵³

Research has confirmed that the age of the abuser has no effect on the degree of harm caused to the victims: "Abuse by a school peer or sibling can be just as frightening and harmful as abuse by an adult."¹⁵⁴

As with sexual offending in adults, exposure to pornography is often one of a number of aggravating factors for child perpetrators of assault. Others may include dysfunctional family background, exposure to domestic violence, an environment of drug and alcohol abuse, and previously having been the victim of sexual assault, either directly by an adult or by another child who in turn has been abused by an adult. Although it is therefore impossible to draw simplistic conclusions that attribute all child-on-child sexual assault to the direct inspiration of pornography, it is necessary to note that pornography feeds into such situations and exacerbates the vulnerability of children in a number of ways that may be cyclical or self-perpetuating:

- Pornography is used to groom children for sex;
- Sexual abuse of children is filmed for the instruction of other children in particular sex acts, or to blackmail the child into silence and for sale to other adult abusers (thus increasing the demand for CEM as described above);
- Children who have been abused are more likely to abuse other children; and
- Merely watching pornography is a risk factor for subsequent coercion of other children into unwanted sex acts.

Joe Tucci, head of Childhood Foundation in Australia, runs programs for young people who have engaged in problematic sexual behaviours. In 2016, he commented that "pornography is a factor in 100 percent of the cases we see, whereas it used to just account for a small portion of cases 10 years ago."¹⁵⁵

¹⁵² Briggs, op. cit., p. 2.

¹⁵³ M.L. Bourke and B. Donohue, "Assessment and treatment of juvenile sex offenders: An empirical review," *Journal of Child Sexual Abuse*, vol. 5, 1996, pp. 47–65, https://doi.org/10.1300/J070v05n01_03. See also D. Finkelhor, R. Ormrod, and M. Chaffin, *Juveniles who commit sexual offenses against minors*. Washington, DC: Office of Juvenile and Delinquency Prevention, 2009.

¹⁵⁴ Cameron Boyd and Leah Bromfield, "Young people who sexually abuse: key issues," *Australian Centre for the Study of Sexual Assault (ACSSA)*, Wrap No3, December 2006, Commonwealth of Australia. (Available at: <https://aifs.gov.au/publications/young-people-who-sexually-abuse>).

¹⁵⁵ Antoinette Lattouf, "Sexual assault among young people is on the rise. But why?" *ABC News*, 3 September 2016. (Available here: <http://www.abc.net.au/news/2016-09-03/sexual-assault-among-young-people-is-on-the-rise.-but-why/7810866>).

Australian Bureau of Statistics figures relating to sexual offenses committed by school-aged children quadrupled from 430 in 2007 to 1709 in 2011.¹⁵⁶

Conclusion

The contribution of pornography to cultural change since the rise of the Internet and the ubiquity of the smartphone is complex. Undoubtedly, pornography affects some members of the community more than others. An individual's predisposition to view pornography, his susceptibility to encouragement to explore new genres, the degree to which belief systems promulgated by pornography are accepted and internalised, and the degree to which these are played out in subsequent behaviour are inter-related in complex ways. Other variables include social isolation, environments of abuse, previous sexual experience, age, gender, sexual orientation and maturity levels and the context in which pornography is viewed. The influence of pornography is also diffused through culture, feeding increasing popular acceptance of sexualised music, advertising, and TV programming. It is therefore impossible to reduce the influence of pornography down to a simple equation.

If exact quantification is difficult, the harmful consequences of pornography's proliferation can nevertheless be clearly discerned in cultural and attitudinal change. Pornography (particularly the increasingly popular hardcore pornography genres), depicts a 'fantasy' world in which the harassment, rape, intimidation, and coercion of women is received positively. Even well-intentioned and seemingly well-adjusted individuals may be unable to sufficiently critique the beliefs they imbibe through pornography narratives that sexual dominance of women is necessary to the expression of healthy male sexuality. The promulgation of such ideas within male online discussion groups demonstrates that the beliefs of pornography are being accepted and internalised by their predominantly male audiences. The consequences for women include sexual violence, being choked and being coerced into sexual acts they find painful and/or degrading. The evidence connecting pornography with rape-supportive attitudes and actual perpetration of sexual violence is now compelling.

So too is the evidence that pornography is changing the sexual behaviours and expectations of teenagers, for whom the negative influence of pornography is increased by lack of sexual experience that might cause more experienced adults to question the idea that pornography sex is normal. Changes to teenage sexual behaviour, including risky sexual behaviours, are clear. So too are the negative consequences in terms of incidence of STIs.

Perhaps most concerning is the evidence that pornography is serving to expand mainstream sexual tastes into the few areas still considered taboo, such as sex with children. The role of PCP in presenting children as legitimate sexual partners for men has encouraged the proliferation of extensive international networks sharing massive quantities of content and driving demand for the creation of fresh content. The children abused in the process are filmed to groom others. The alarming

¹⁵⁶ Lisa Cornish, "Teenage sex offences increase, Australian Bureau of Statistics figures show," *The Sunday Telegraph*, 28 October 2012. (Available at: <https://www.dailytelegraph.com.au/teenage-sex-offences-increase-australian-bureau-of-statistics-figures-show/news-story/787e74808cc07b998ad98b99cac3cf63>).

incidence of child-on-child sexual assault is causally linked to exposure to pornography and/or experiences of sexual abuse.

The debate has moved well beyond whether pornography is morally supportable or ethically produced. It has come to the point of forcing an acknowledgement that pornography is feeding “the health crisis of the digital age.” The various negative effects of pornography are too profound to allow this industry to continue in its current trajectory of exponential growth. Unfettered, pornography producers have proven to be far too clever at making the fantasy real and thereby discovering and exploiting latent sexual paraphilia, which had much better remain latent.

AUTHOR BIOGRAPHY

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RECOMMENDED CITATION

Taylor, Elisabeth. (2018). Pornography as a public health issue: Promoting violence and exploitation in children, youth and adults. *Dignity: A Journal of Sexual Exploitation and Violence*. Vol. 3, Issue 2, Article 8. <https://doi.org/10.23860/dignity.2018.03.02.08>. Available at <http://digitalcommons.uri.edu/dignity/vol3/iss2/8>.

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July 2017

The Public Health Harms of Pornography: The Brain, Erectile Dysfunction, and Sexual Violence

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Recommended Citation

Foubert, John D. (2017) "The Public Health Harms of Pornography: The Brain, Erectile Dysfunction, and Sexual Violence," *Dignity: A Journal on Sexual Exploitation and Violence*: Vol. 2: Iss. 3, Article 6.
DOI: 10.23860/dignity.2017.02.03.06
Available at: <https://digitalcommons.uri.edu/dignity/vol2/iss3/6https://digitalcommons.uri.edu/dignity/vol2/iss3/6>

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THE PUBLIC HEALTH HARMS OF PORNOGRAPHY: THE BRAIN, ERECTILE DYSFUNCTION, AND SEXUAL VIOLENCE

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KEYWORDS

pornography, permission-giving beliefs, sexual scripts, public health, erectile dysfunction, sexual violence, rape, brain, neurology, sexual dysfunction

I HAVE STUDIED HOW TO END SEXUAL VIOLENCE for 25 years. It wasn't until 10 years ago when I came to the realization that the secret ingredient in the recipe for rape was not secret at all, though at the time it was rarely identified. That ingredient, responsible for giving young men the permission-giving beliefs¹ that make rape so much more likely and telling young women they should like it, is today's high speed Internet pornography.² Pornography itself is a recipe for rape that has rewritten the sexual script for the sexual behavior of the millennial generation and is currently rewiring the brains of the generation to follow.³

The Problem

Today's Internet porn is nothing like your father's *Playboy* magazine. The endless supply of novel images that can be clicked through in seconds have fused the concepts of sex and violence into the developing brains of today's pre-adolescents, adolescents, and young adults. Research of popular pornography films found that in 88% of the scenes—not just the movies, but the scenes in these movies—there

¹ Ana J. Bridges, "Pornography's Effects on Interpersonal Relationships," in *The Social Costs of Pornography*, eds. James R. Stoner and Donna M. Hughes (Princeton, NJ: Witherspoon Institute, 2010), doi: 10.1177/1077801210382866.

² Ana J. Bridges, Robert Wosnitzer, Erica Scharrer, Chyng Sun, and Rachel Liberman, "Aggression and Sexual Behavior in Best-selling Pornography Videos: A Content Analysis Update," *Violence Against Women* 16, (2010): 1065-1085.

³ Jeffrey A. Hall, "Interpreting Social-Sexual Communication: Relational Framing Theory and Social-Sexual Communication, Attraction, and Intent," *Human Communication Research* 42, no. 1 (2016): 138-164, doi: 10.1111/hcre.12071; Paul J. Wright, "A Three-Wave Longitudinal Analysis of Preexisting Beliefs, Exposure to Pornography, and Attitude Change," *Communication Reports* 26, no. 1 (2013):13-25, doi:10.1080/08934215.2013.773053; Chyng Sun, Ana J. Bridges, Jennifer A. Johnson, and Matthew B. Ezzell, "Pornography and the Male Sexual Script: An Analysis of Consumption and Sexual Relations," *Archives of Sexual Behavior* (2014) 1-12, doi: 10.1007/s10508-014-0391-2; Gary Wilson, *Your Brain on Porn: Internet Pornography and the Emerging Science of Addiction*. (London: Commonwealth Publishers, 2014); William M. Struthers, *Wired for Intimacy: How Pornography Hijacks the Male Brain*, (Wheaton, IL: InterVarsity Press, 2009).

for gratification than people who use less pornography.¹² Brain studies also now show that increased porn use leads to a slowing down of short-term memory.¹³

The Impact: Sexual Dysfunction

Today's pornography is having a devastating impact on the sexual health of the Internet generation. For example, rates of erectile dysfunction among young men are skyrocketing, and are directly related to the more frequent use of increasingly interactive Internet pornography. In the 1940's, less than 1% of men under 30 experienced erectile dysfunction (ED).¹⁴ In 1992, 7% of men under 30 experienced ED.¹⁵ Several recent studies now show that 30% of young men experience ED.¹⁶ In fact, in just the last 10 years, the rate of erectile dysfunction doubled in the U.S. military.¹⁷ If a man's use reaches the level of addiction, he is 60% more likely to have ED. And all of these men have erectile dysfunction when they are with a person—but not when they are alone with their porn.¹⁸

The Impact: Sexual Violence

The research connecting pornography and sexual violence is conclusive.

There are over 100 studies showing that pornography use is both correlated with and is the cause (shown through experimental studies) of a wide range of violent behaviors. Over 50 studies show a strong connection between pornography

¹² Sesen Negash, Nicole Van Ness Sheppard, Nathaniel M. Lambert, and Frank D. Fincham, "Trading Later Rewards for Current Pleasure: Pornography Consumption and Delay Discounting," *Journal of Sex Research* 53, no. 6 (2015): 689–700.

¹³ Christian Laier, Frank P. Schulte, and Matthias Brand, "Pornographic Picture Processing Interferes with Working Memory Performance," *Journal of Sex Research* 50, no. 7 (2013): 642–652, doi:10.1080/00224499.2012.716873.

¹⁴ Alfred C. Kinsey, Wardell B. Pomeroy, and Clyde E. Martin, *Sexual Behavior in the Human Male* (Philadelphia: W.B. Saunders Company, 1948); Wilson, *ibid*.

¹⁵ Edward O. Laumann, Anthony Paik, and Raymond C. Rosen, "Sexual Dysfunction in the United States: Prevalence and Predictors," *Journal of the American Medical Association* 281, no. 6 (1999): 537–544, doi:10.1001/jama.281.6.537.

¹⁶ Lucia F. O'Sullivan, Lori A. Brotto, E. Sandra Byers, Jo Anne Majerovich, and Judith A. Wuest, "Prevalence and Characteristics of Sexual Functioning among Sexually Experienced Mid to Late Adolescents," *The Journal of Sexual Medicine* 11 (2014): 630–641, doi: 10.1111/jsm.12419; Anaïs Mialon, A. Berchtold, Pierre-André Michaud, Gerhard Gmel, and Joan-Carles Suris, "Sexual Dysfunctions among Young Men: Prevalence and Associated Factors," *Journal of Adolescent Health* 51, no. 1 (2012): 25–31, doi: 10.1016/j.jadohealth.2012.01.008.

¹⁷ Armed Forces Health Surveillance Center, "Erectile Dysfunction among Male Active Component Service Members, U.S. Armed Forces," *Monthly Surveillance Monthly Report* 21, no. 9 (2014): 13–16.

¹⁸ Valerie Voon, Thomas B. Mole, Paula Banca, Laura Porter, Laurel Morris, Simon Mitchell, Tatyana R. Lapa, Judy Karr, Neil A. Harrison, Marc N. Potenza, et al. "Neural Correlates of Sexual Cue Reactivity in Individuals with and without Compulsive Sexual Behaviors." *PLoS ONE* 9, no. 7 (2014), doi: 10.1371/journal.pone.0102419

How big is that number? Enough to fill one billion Empire State buildings floor to ceiling with pennies. So you can go with the odds equal to finding that one penny in a billion Empire State buildings and pretend that pornography and sexual violence are unrelated, or you can go with the weight of the evidence.

Pornography use has become nearly ubiquitous for men in the United States, for a growing number of women, for a majority of teens, and a growing number of younger people.²⁵ The lessons they learn from porn shape our culture—the culture we all inhabit. Porn is a devastating harm to the public health of our society. It is time we started treating it as such.

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John D. Foubert, Ph.D. is National President of One in Four, an Endowed Professor of College Student Development at Oklahoma State University and Principal of John D. Foubert, LLC. Dr. Foubert is an interdisciplinary scholar with over 50 peer-reviewed publications. Dr. Foubert has written seven books about the prevention of sexual violence and two about managing life in college residence halls. His tenth book is titled *How Pornography Harms* (2017). His federally funded, interdisciplinary research program has produced scholarship that is featured in some of the

most respected peer-reviewed journals in education, gender studies, and psychology. Dr. Foubert has given over 200 professional presentations to conferences, universities, community and military organizations worldwide. In 1998, he and a group of colleagues founded One in Four, a non-profit organization dedicated to ending rape on college campuses and in the military through means shown to be most effective through scientific research. Dr. Foubert has testified to the U.S. Congress and has been called upon by the White House and the Pentagon for his scholarly expertise. He consults with colleges and the military regularly about the harms of pornography and ending sexual violence.

RECOMMENDED CITATION

Foubert, John D. (2017). The public health harms of pornography: The brain, erectile dysfunction, and sexual violence. *Dignity: A Journal of Sexual Exploitation and Violence*. Vol. 2, Issue 3, Article 6. DOI:10.23860/dignity.2017.02.03.06. Available at <http://digitalcommons.uri.edu/dignity/vol2/iss3/06>.

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ORIGINAL ARTICLE

A Meta-Analysis of Pornography Consumption and Actual Acts of Sexual Aggression in General Population Studies

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Whether pornography consumption is a reliable correlate of sexually aggressive behavior continues to be debated. Meta-analyses of experimental studies have found effects on aggressive behavior and attitudes. That pornography consumption correlates with aggressive attitudes in naturalistic studies has also been found. Yet, no meta-analysis has addressed the question motivating this body of work: Is pornography consumption correlated with committing actual acts of sexual aggression? 22 studies from 7 different countries were analyzed. Consumption was associated with sexual aggression in the United States and internationally, among males and females, and in cross-sectional and longitudinal studies. Associations were stronger for verbal than physical sexual aggression, although both were significant. The general pattern of results suggested that violent content may be an exacerbating factor.

Keywords: Violence, Aggression, Pornography, Sexually Explicit Media, Meta-Analysis.

doi:10.1111/jcom.12201

Whether the consumption of pornography is associated with sexual aggression risk has been the subject of decades of scholarly inquiry and multiple government investigations. Rationales for why consuming pornography should, and should not, increase the likelihood of sexual aggression have been put forward by numerous researchers. Scholars who maintain that pornography is a risk factor point to theories of classical conditioning, operant learning, behavioral modeling, sexual scripting, construct activation, and gendered power (see D'Abreu & Krahe, 2014; Kingston, Malamuth, Fedoroff, & Marshall, 2009; Seto et al., 2010). Scholars who maintain that pornography reduces sexual aggression risk or that any effect is inconsequential argue for masturbatory catharsis, that pornography must be violent to affect aggression and violent pornography is extremely rare, or that countervailing prosocial influences dwarf

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any possible aggression-promoting messages that appear in pornography (see Diamond, Jozifkova, & Weiss, 2011; Ferguson & Hartley, 2009; Fisher & Grenier, 1994).

The former set of theories would lead to the hypothesis that people who consume pornography are more likely to behave in sexually aggressive ways than people who do not consume pornography or who less frequently consume pornography. The latter set of assertions would lead to the hypothesis that people who consume pornography are either less likely to behave in sexually aggressive ways or are indistinguishable in terms of sexual aggression from people who do not consume pornography or who less frequently consume pornography. To better understand which hypothesis provides a better match to the accumulated research findings, this article reports a meta-analysis of studies correlating direct measures of pornography consumption with direct measures of sexual aggression in general population studies. Following Hald, Malamuth, and Yuen's (2010) recent meta-analysis of aggression-related attitudes, pornography is defined as media featuring nudity and explicit sexual acts designed to arouse the consumer.

Previous meta-analyses

One tactic for investigating whether pornography impacts sexual aggression is to compare individuals who have and have not been charged with sexual offending. In a meta-analysis of eight studies, Seto and Lalumiere (2010) found that male adolescent sex offenders reported more exposure to sex or pornography than male adolescent nonsex offenders. Allen, D'Alessio, and Emmers-Sommer's (1999) meta-analysis included adult sex offenders and assessed both the use of and arousal to pornography. Sex offenders scored slightly higher than nonoffenders across 13 studies that assessed some indicator of use. A larger difference was found across the 32 studies that assessed sexual arousal, with sex offenders showing more arousal to pornography than nonoffenders.

While sex offender studies are suggestive, they assume that individuals who have not been charged with a sexual offense are sexually nonaggressive. Because most sexual assaults go unreported and a minority of reported sexual assaults lead to arrests, equating a lack of formal charges with a lack of sexual aggressiveness is problematic (Planty, Langton, Krebs, Berzofsky, & Smiley-McDonald, 2013; Rape Abuse Incest National Network (RAINN), 2015). Sex offender studies also conflate charges with actual offenses. For these reasons, Malamuth, Addison, and Koss (2000) argued that studies on pornography and sexually aggressive behavior in general population samples would be an important contribution to the literature, but noted that as of their writing, no meta-analysis had been conducted because of a paucity of studies.

General population studies that have been meta-analyzed involve (a) the effects of experimental exposure to pornography on nonsexual aggression and attitudes supportive of violence (ASV) and (b) naturalistic (i.e., self-selected) pornography consumption and ASV. Allen, D'Alessio, and Brezgel (1995a) meta-analyzed 33 experiments and found that pornography exposure increased nonsexual aggression.

Nonsexual aggression was operationalized as intentional physical, material, or psychological aggression (e.g., the administration of electric shocks). Allen, Emmers, Gebhardt, and Giery (1995b) meta-analyzed 16 experiments and found that pornography exposure increased ASV. Hald et al. (2010) meta-analyzed nine survey studies and found that naturalistic pornography consumption was associated with higher levels of ASV. Examples of ASV include acceptance of interpersonal violence, rape myth acceptance, and sexual harassment proclivities. Important both for experimentalists interested in further tests of the effects of pornography and for policy makers interested in the potential remedial role of media literacy efforts is a meta-analysis by Allen, D'Alessio, Emmers, and Gebhardt (1996) on educational briefings. This meta-analysis of 10 experimental studies suggested that educational preexposure briefing and postexposure debriefing materials informing participants about the fictional nature of pornography and the harms of sexual aggression may mitigate its adverse attitudinal effects.

Current meta-analysis

Despite years of research and social concern about pornography and sexually aggressive behavior, arguably the most important meta-analysis has yet to be conducted. Prior meta-analyses have shown that pornography consumption is associated with higher levels of nonsexual aggressive behavior and ASV, but nonsexual aggression in the laboratory cannot be directly equated to real-life acts of sexual aggression and attitudes do not always predict behavior. Accordingly, the first research question of the present meta-analysis asks whether pornography consumption is positively correlated with actual acts of sexual aggression (RQ1).

Potential moderators

The association between pornography consumption and sexual aggressive behavior may not be uniform across samples and methods (Hald et al., 2010; Mundorf, Allen, D'Alessio, & Emmers-Sommer, 2007). The exploration of moderating variables in a meta-analysis is limited by the characteristics of the located studies. The studies found for the present meta-analysis did allow, however, for the exploration of several potential moderators suggested by relevant literatures.

Biological sex

Because aggression in pornography is generally directed toward women (Bridges, Wosnitzer, Scharrer, Sun, & Liberman, 2010), it might be expected that pornography would more strongly predict the sexually aggressive behavior of males than females. However, women have been found to aggress against other women in pornography (Sun, Bridges, Wosnitzer, Scharrer, & Liberman, 2008) and females' social learning of aggression is not limited to same-sex models (Bandura, Ross, & Ross, 1961). This meta-analysis' second research question asks whether pornography consumption is differentially associated with sexually aggressive behavior among males and females (RQ2).

Age

Conventional theorizing would suggest that the effect of pornography on sexual aggression would be stronger for adolescents than adults due to adolescents' lack of sexual experience and less developed critical thinking and forethought capacities. But adults may also be affected for a number of reasons, including the possession of more gendered beliefs about sex and a longer history of exposure (Peter & Valkenburg, 2011; Wright & Tokunaga, 2015a). This meta-analysis' third research question asks whether pornography consumption is differentially associated with sexually aggressive behavior among adolescents and adults (RQ3).

National/International

It has long been suggested that the effect of pornography on sexual aggression is different outside of the United States (Malamuth & Billings, 1986), where most studies have been conducted. However, many recent studies of pornography consumption and other sexual behaviors in the United States and internationally have shown more similarity than difference (Wright, Bae, & Funk, 2013). This meta-analysis' fourth research question asks whether pornography consumption is differentially associated with sexually aggressive behavior in national and international studies (RQ4).

Pre-/post-Internet

Pornography is increasingly accessed online. Factors such as easier access to more violent content, anonymity, and increased control over content selection may enhance the effects of online pornography (Dines, 2010; Fisher & Barak, 2001; Shim & Paul, 2014). However, pornography had been suggested as a risk factor in sexual aggression and violent pornography was available well before the advent of the Internet (Donnerstein & Hallam, 1978; U.S. Attorney General, 1986). This meta-analysis' fifth research question asks whether pornography consumption is differentially associated with sexually aggressive behavior in pre-Internet and post-Internet studies (RQ5).

Type of pornography

If facilitating effects of pornography on sexual aggression depend on overt displays of force or coercion, then violent pornography consumption should correlate with sexual aggressiveness while nonviolent pornography consumption should not (Allen et al., 1995b). Translated methodologically, measures assessing naturalistic exposure to violent pornography will correlate with sexual aggression while measures assessing naturalistic exposure to nonviolent pornography will be unrelated to sexual aggression.

The violent/nonviolent binary may be flawed, however. An infrequently investigated—but often discussed—third category is nonviolent but objectifying and degrading pornography (Kingston et al., 2009; Seto et al., 2010). Not explicitly violent, but nevertheless dehumanizing, depictions may also affect aggressive attitudes and disinhibit aggressive behaviors (Wright & Tokunaga, 2015b). In their meta-analyses, Allen and colleagues found that experiments in which investigators

classified content as “nonviolent” did not result in a statistically weaker aggressive response (Allen et al., 1995a, p. 271) or, across all experiments, a statistically weaker increase in ASV (although content labeled “violent” produced a stronger effect than content labeled “nonviolent” within studies that included both conditions; Allen et al., 1995b, p. 19). If, in naturalistic studies, individuals who consume objectifying and degrading pornography record their exposure in relation to questions about their nonviolent pornography viewing, these studies may still find significant associations. Accordingly, this meta-analysis’ sixth research question asks if there is a difference in correlational strength between indices of violent pornography consumption and sexual aggression and indices of nonviolent pornography consumption and sexual aggression (RQ6).

Most measures of pornography consumption in naturalistic studies do not ask about exposure to various types of content, such as nonviolent, nonviolent but degrading, violent, and so forth, however. Instead, participants are simply asked about their frequency of consumption of content featuring nudity and explicit sex. These general, content nonspecific measures offer an opportunity to probe another important question. Recent studies suggest that the majority of popular pornography has themes of aggression, degradation, or objectification (Bridges et al., 2010; Dines, 2010; Sun et al., 2008). If these studies are accurate and the pornography consumed by most individuals features one or more of these themes, then content nonspecific measures and measures of violent consumption should both correlate with sexual aggression. However, if these studies are inaccurate and the pornography consumed by most individuals is devoid of aggression, degradation, or objectification, then content nonspecific measures of pornography consumption should be unrelated to sexual aggression. This meta-analysis’ seventh research question asks if there is a difference in correlational strength between indices of violent pornography consumption and sexual aggression and indices of general, content nonspecific pornography consumption and sexual aggression (RQ7).

Type of sexual aggression

Sexual aggression can take many forms. Two of the more researched types of sexual aggression are physical and verbal (Centers for Disease Control and Prevention (CDCP), 2014). Physical sexual aggression refers to the use or threat of physical force to obtain sex. Examples of physical force provided by the CDCP include “pinning the victim’s arms, using one’s body weight to prevent movement or escape, use of a weapon or threats of use, and assaulting the victim” (p. 11). Verbal sexual aggression refers to verbally coercive but not physically threatening communication to obtain sex, and sexual harassment. Examples of verbal coercion and harassment provided by the CDCP include “being worn down by someone who repeatedly asked for sex or showed they were unhappy; feeling pressured by being lied to, or being told promises that were untrue; having someone threaten to end a relationship or spread rumors; sending unwanted sexually explicit photographs; creating a sexually hostile climate, in person or through the use of technology” (p. 12).

Given that the unethicity of and penalties for physical sexual aggression are more apparent than for verbal sexual aggression, physical sexual aggression may be more difficult to disinhibit. Indeed, physical sexual aggression is rarer than verbal sexual aggression (Boeringer, 1994; Kennair & Bendixen, 2012). It is important to see if pornography consumption is correlated with both types of aggression and if these correlations differ in magnitude. This meta-analysis' eighth research question asks whether pornography consumption is differentially associated with physical sexual aggression and verbal sexual aggression (RQ8).

Cross-sectional/longitudinal data

Cross-sectional data are those gathered on a single occasion. They allow for assessment of covariation, but not the temporal sequencing of associations. Longitudinal data are those gathered on two or more occasions. Longitudinal data allow for the assessment of both covariation and time-ordering. Because causality is more strongly suggested by prospective than concurrent associations (Malamuth *et al.*, 2000), it is important to see if pornography consumption is associated with sexually aggressive behavior in both cross-sectional and longitudinal data. Additionally, as motives and opportunities for aggressive behavior may take time to arise or appear (Huesmann, 1998), it is important to test if there are differences in the magnitude of pornography–sexual aggression correlations in cross-sectional and longitudinal studies. This meta-analysis' ninth research question asks whether pornography consumption is differentially associated with sexually aggressive behavior in cross-sectional and longitudinal data (RQ9).

Report type

It is important to compare unpublished and published reports for two reasons. First, published reports may be of higher quality, having been vetted by anonymous peer reviewers (Neuman, Davidson, Joo, Park, & Williams, 2008). Second, unpublished reports may be more likely to report null correlations, if journal editors prefer to publish significant findings (Rothstein & Bushman, 2012). This meta-analysis' tenth research question asks whether pornography is differentially associated with sexually aggressive behavior in published and unpublished reports (RQ10).

Method

Literature search

The literature search was conducted as part of an ongoing effort to archive and review studies on media and sexual socialization. The search for the current study was continued until the end of 2014. Electronic database (e.g., Academic Search Premier, All Academic, Cinahl Complete, Communication & Mass Media Complete, ERIC, Google Scholar, JSTOR, Medline, ProQuest, PsycINFO, PubMed, and Sociological Abstracts) and ancestral (e.g., Bauserman, 1996; Flood, 2009; Hald, Seaman, & Linz, 2014; Kingston *et al.*, 2009; Linz & Malamuth, 1993; Seto, Maric, &

Barbaree, 2001) searches were used to locate published and unpublished scientific reports. Searches were conducted by the study's authors. After this compilation effort, eight leading media and aggression scholars were contacted and asked to identify omissions.

Criteria for inclusion in the meta-analysis were threefold. First, the study had to sample from a general population. Sex offender/clinical studies were not included (see Allen et al., 1999; Seto & Lalumiere, 2010). Second, the study had to measure pornography consumption. Pornography was defined as sexually explicit media intended to arouse the consumer (Hald et al., 2010; Seto et al., 2001). Studies that measured exposure to sexually nonexplicit content in mainstream media only were not included. Third, the study had to assess sexually aggressive behavior. Studies that assessed sexually aggressive beliefs and attitudes only were not included (see Allen et al., 1995b; Hald et al., 2010). Authors were contacted directly when the search criteria were met but data necessary to extract an effect size (e.g., zero-order correlations) were not described in the report (Chang et al., 2014; Gorman, 2014; Thompson, Koss, Kingree, Goree, & Rice, 2010; Williams, Cooper, Howell, Yuille, & Paulhus, 2009; Ybarra, Mitchell, Hamburger, Diener-West, & Leaf, 2011). Authors were able to provide the needed information in all but one instance (Harries, 2011). Studies that did not measure pornography consumption and sexual aggression directly, but instead measured indirect indicators of pornography exposure (e.g., reductions in legal restrictions to access) and indirect indicators of sexual aggression (e.g., crime reports) were not included, as they are not able to inform the question of whether the people consuming the pornography are the ones who are or who are not committing the sexually aggressive acts.

Studies meeting these criteria are overviewed in Table 1. Twenty-two studies from 21 reports were identified (Seto et al., 2010, reported on two studies, one conducted in Sweden, the other in Norway).

Moderator coding

Biological sex

Fifteen reports either sampled males only or reported data from their male sample only. Six reports sampled and reported on both males and females. One paper reported on females only.

Age

Five studies' sample descriptions suggested that all or the majority of their participants were adolescents (teenagers aged 17 and younger). Seventeen studies' sample descriptions suggested that all or the majority of their participants were adults (individuals aged 18 and older).

National/International

Fourteen studies were conducted in the United States and eight studies were conducted internationally.

Table 1 Overview of Studies in Meta-Analysis

Study	Age of Sample	Sex of Sample	Design of Study	Report Type	Country of Study
Boeringer (1994)	Adult	Male	Cross-sectional	Article	United States
Bonino et al. (2006)	Adolescent	Male and female	Cross-sectional	Article	Italy
Bouffard (2010)	Adult	Male	Cross-sectional	Article	United States
Brown and L'Engle (2009)	Adolescent	Male and female	Longitudinal	Article	United States
Carr and VanDeusen (2004)	Adult	Male	Cross-sectional	Article	United States
Chang et al. (2014)	Adolescent	Male and female	Longitudinal	Article	Taiwan
Crossman (1994)	Adult	Male	Cross-sectional	Thesis	United States
D'Abreu and Krahe (2014)	Adult	Male	Longitudinal	Article	Brazil
Demare et al. (1993)	Adult	Male	Cross-sectional	Article	United States
Gorman (2014)	Adult	Male and female	Cross-sectional	Thesis	United States
Hardit (2013)	Adult	Male	Cross-sectional	Thesis	United States
Kennair and Bendixen (2012)	Adolescent	Male and female	Cross-sectional	Article	Norway
Kjellgren et al. (2011)	Adult	Female	Cross-sectional	Article	Norway and Sweden
Malamuth et al. (2000)	Adult	Male	Cross-sectional	Article	United States
Peeks (2006)	Adult	Male	Cross-sectional	Thesis	United States
Seto et al. (2010)	Adult	Male	Cross-sectional	Article	Sweden
Seto et al. (2010)	Adult	Male	Cross-sectional	Article	Norway
Simons et al. (2012)	Adult	Male	Cross-sectional	Article	United States
Thompson et al. (2010)	Adult	Male	Longitudinal	Article	United States
Vega and Malamuth (2007)	Adult	Male	Cross-sectional	Article	United States
Williams et al. (2009)	Adult	Male	Cross-sectional	Article	Canada
Ybarra et al. (2011)	Adolescent	Male and female	Longitudinal	Article	United States

Pre-/post-Internet

Few studies demarcated pornography found online and offline. As historians have identified 1995 as an important turning point for popular Internet use (Campbell, 2015; Dominick, Messere, & Sherman, 2008), it was noted if a study was published in/before or after 1995. Three studies were published in 1995 or before. In one instance, Malamuth et al. (2000) published their study after 1995 but gathered their data in the 1980s, so this study was included in studies conducted in/before 1995. Thus, four studies were identified as “pre” Internet and eighteen as “post” Internet.

Type of pornography

Measures of pornography consumption were classified as violent, nonviolent, and general. Following prior meta-analyses (Hald et al., 2010; Mundorf et al., 2007), violent pornography was defined as content depicting sex without consent, with coercive acts, or with aggressive behavior. As an example of nonconsensual content, Boeringer (1994, p. 293) asked about men's exposure to depictions where “force is used and there is an explicit lack of consent.” As an example of coercive content, Peeks (2006, p. 93)

asked about men's exposure to depictions of women "receiving negative treatment" or being "drunk or on drugs." As an example of aggressive content, Seto *et al.* (2010, p. 222) asked whether men and Kjellgren, Priebe, Svedin, Mossige, and Langstrom (2011, p. 3357) asked whether women had "ever watched violent pornography." Eight studies included measures of violent pornography consumption.

Nonviolent pornography was defined as content depicting consensual sex, without coercive acts, and without aggressive behavior. Only two studies included measures that approximated this definition. Demare, Lips, and Briere (1993) asked about men's exposure to depictions of "mutually consenting sex" (p. 289) and classified affirmative responses as nonviolent pornography exposure. Ybarra *et al.* (2011, p. 5) asked about boys' and girls' exposure to depictions of individuals being "physically hurt by another person while they were doing something sexual." Ybarra *et al.* classified boys and girls who indicated consuming pornography, but not being exposed to any depictions featuring violence, as nonviolent pornography consumers.

Fourteen studies included only a general, content nonspecific measure of pornography consumption. As one illustration, Simons, Simons, Lei, and Sutton (2012, p. 384) asked men how often during the past year they had "viewed an X-rated movie or visited an X-rated website on the Internet." As another illustration, Bonino, Ciairano, Rabaglietti, and Cattelino (2006, p. 272) asked boys and girls how frequently they had "read or seen pornographic magazines or comics in the last six months and had watched pornographic films or videos in the last six months." While some of these measures identified particular delivery mechanisms (e.g., website, movie, and magazine), none of them identified the type of content being delivered (e.g., violent and nonviolent).

Type of sexual aggression

Following the CDCP (2014), physical sexual aggression was defined as the use or threat of physical force to obtain sex, and verbal sexual aggression was defined as verbally coercive but not physically threatening communication to obtain sex, and sexual harassment. Six studies assessed physical sexual aggression. Kennair and Bendixen (2012, p. 483), for example, measured boys and girls' "use of explicit physical force" to obtain sex. As another example, Crossman (1994, p. 67) assessed if men had "tried to obtain sexual intercourse through threatening to use physical force" or had "obtained sexual acts, such as oral or anal intercourse, through using threats or physical force." Six studies assessed verbal sexual aggression. As one illustration, Demare *et al.* (1993, p. 289) assessed whether men had engaged in verbally coercive tactics with women such as "threatening to end your relationship" or "pressuring her with continual argument." As another illustration, Chang *et al.* (2014, p. 4) assessed harassing behaviors among boys and girls such as "asked someone to do something sexual online when they did not want to."

Cross-sectional/longitudinal data

Seventeen studies were cross-sectional and five were longitudinal.

Report type

Four reports were unpublished theses and 18 were published journal articles.

Effect size extraction and correction for measurement error

Reports were examined for their effect size estimates. In many instances, the r correlation between pornography use and sexual aggression was reported; however, in some cases, the correlation had to be estimated through unadjusted odds ratios and chi-square values. In reports where a 2×2 contingency table was presented, the log odds ratio was first transformed into Cohen's d and then into r .

The effect sizes were corrected for measurement error, which attenuates the maximum theoretical effect size (Schmidt & Hunter, 2015). Because attenuation can sometimes occur disproportionately across classes of reports, it is particularly important when testing for moderators to correct for measurement error. The scale reliability reported in each study was used in the correction equation for measurement. The Spearman–Brown formula was used to estimate a case's reliability when one was not reported. The single-item alphas used to estimate the reliability were as follows: pornography consumption ($\alpha_{\text{single-item}} = .42$, $M_{\text{item}} = 4$) and sexual aggression ($\alpha_{\text{single-item}} = .27$, $M_{\text{item}} = 6$).

Results**Analytic approach**

The corrected correlations were summarized using a random-effects model meta-analysis. Random-effects procedures are based on the assumption that variation in the true effects exists beyond variation due to sampling error alone (Anker, Reinhart, & Feeley, 2010; Borenstein, Hedges, Higgins, & Rothstein, 2009; Hedges & Vevea, 1998). The effect sizes of the relationship between pornography consumption and sexual aggression are presumed to be normally distributed, and in accounting for this variation, generalizations can be made beyond the set of studies included in this meta-analysis (Hedges & Vevea, 1998). To test the potential moderators, mixed-effects model subgroup analyses were conducted. In the mixed-effects model, a random-effects model is used to estimate the effects *within* subgroups but a fixed-effect model is used to estimate the variance *between* subgroups.

Research Question 1: overall association

Effect sizes for 22 cases were extracted from the 21 reports identified in the literature search (see Table 2). The total number of participants evaluated in the meta-analysis was 20,820 (males = 13,234, females = 7,586), with an average of 947 ($Mdn = 479$) per case. Across the cases, the sample-weighted mean effect size of the association between pornography use and sexual aggression was positive and significant, $r = .28$, $SE = 0.01$, 95% CI [.24, .32], $p < .001$, random-effects variance (v) = .007. Accordingly, consumption of pornography was associated with an increased likelihood of committing actual acts of sexual aggression.

Table 2 Raw and Corrected Effect Sizes for Studies in Meta-Analysis ($N = 20,820$)

Study	<i>N</i>	Raw Overall <i>r</i>	Corrected Overall
Boeringer (1994)	477	.268	.390
Bonino et al. (2006)	779	.233	.463
Bouffard (2010)	325	.180	.201
Brown and L'Engle (2009)	967	.190	.277
Carr and VanDeusen (2004)	99	.300	.382
Chang et al. (2014)	2,268	.135	.218
Crossman (1994)	480	.218	.260
D'Abreu and Krahe (2014)	120	.200	.254
Demare et al. (1993)	383	.153	.283
Gorman (2014)	415	.078	.115
Hardit (2013)	177	.120	.191
Kennair and Bendixen (2012)	1,123	.185	.261
Kjellgren et al. (2011)	4,212	.221	.221
Malamuth et al. (2000)	2,652	.170	.203
Peeks (2006)	154	.230	.291
Seto et al. (2010, Sweden)	1,978	.325	.325
Seto et al. (2010, Norway)	1,971	.304	.304
Simons et al. (2012)	308	.170	.235
Thompson et al. (2010)	644	.110	.136
Vega and Malamuth (2007)	102	.480	.655
Williams et al. (2009)	88	.090	.095
Ybarra et al. (2011)	1,098	.384	.427

Research Question 2: biological sex

Research Question 2 asked whether biological sex moderates the association between pornography consumption and sexual aggression. The mixed-effects model subgroup analysis did not indicate a moderating effect of biological sex, $Q_{\text{bet}}(1) = 0.24$, $Z_{\text{diff}} = 0.49$, $p = .62$. The average correlation for the 21 cases sampling males ($r = .29$, 95% CI [.24, .33], $p < .001$) did not significantly differ from the average correlation for the seven cases that sampled females ($r = .26$, 95% CI [.18, .34], $p < .001$).

Research Question 3: age

The question of whether the correlations between pornography consumption and sexual aggression changed as a function of age groups was asked in Research Question 3. The cases were categorized into a group that used adolescent samples and a group that sampled adults. The results of the subgroup analysis demonstrated that the association between pornography consumption and sexual aggression was not moderated by age group, $Q_{\text{bet}}(1) = 2.11$, $Z_{\text{diff}} = 1.45$, $p = .15$. The mean correlation for the cases that sampled adolescents ($r = .33$, 95% CI [.25, .40], $p < .001$, $k = 5$) did not differ from the cases that sampled adults ($r = .26$, 95% CI [.21, .31], $p < .001$, $k = 17$).

Research Question 4: national/international

Research Question 4 asked whether a difference in the average correlations between pornography consumption and sexual aggression exists between studies conducted in the United States and those conducted internationally. The international studies ($r = .28$, 95% CI [.21, .34], $p < .001$, $k = 8$) yielded almost the identical mean effect size as studies conducted in the United States ($r = .28$, 95% CI [.22, .34], $p < .001$, $k = 14$). Accordingly, whether the study was conducted nationally or internationally did not affect the relationship between pornography consumption and sexual aggression, $Q_{bet}(1) = 0.001$, $Z_{diff} = 0.03$, $p = .97$.

Research Question 5: pre-/post-internet

Study year was tested as a possible moderator in Research Question 5. The cases were grouped into one of two categories: reports released in or before 1995 and reports made available in or after 1996. This categorization makes it possible to probe whether the association between pornography consumption and sexual aggression differed prior to and after the adoption of the Internet on a mass scale. The results of the subgroup analysis demonstrated that year was not a significant moderator, $Q_{bet}(1) = 0.001$, $Z_{diff} = 0.03$, $p = .97$. The average correlation of the four studies conducted prior to 1995 ($r = .28$, 95% CI [.17, .37], $p < .001$) was similar in magnitude to the average correlation of the 18 studies conducted after 1996 ($r = .28$, 95% CI [.23, .33], $p < .001$).

Research Question 6: nonviolent/violent pornography

The content of the pornography consumed was tested as a moderator of associations between pornography consumption and sexual aggression in Research Question 6. Correlations with nonviolent pornography consumption were compared to correlations with violent pornography consumption. Although violent pornography consumption ($r = .37$, 95% CI [.28, .45], $p < .001$, $k = 8$) produced a stronger association on average than nonviolent pornography consumption ($r = .27$, 95% CI [.07, .45], $p = .008$, $k = 2$), the moderation was nonsignificant, $Q_{bet}(1) = 0.91$, $Z_{diff} = 0.95$, $p = .34$.

Research Question 7: general assessment/violent assessment

Whether indices that assess exposure to violent pornography specifically yield stronger associations than indices that evaluate pornography consumption more generally was asked in Research Question 7. In the eight cases that measured violent pornography consumption ($r = .37$, 95% CI [.28, .45], $p < .001$), a stronger sample-weighted mean correlation was reported in comparison to the 14 cases that measured general pornography consumption ($r = .26$, 95% CI [.19, .34], $p < .001$). This difference was marginally significant in the mixed-effects model subgroup analysis, $Q_{bet}(1) = 3.34$, $Z_{diff} = 1.83$, $p = .07$.

Research Question 8: type of sexual aggression

Cases that measured verbal or physical sexual aggression were identified. This categorization was performed to test whether associations between pornography consumption and sexual aggression differed depending on if the aggression was verbal or

physical in Research Question 8. Pornography consumption was associated with both verbal ($r = .30$, 95% CI [.24, .36], $p < .001$, $k = 6$) and physical ($r = .20$, 95% CI [.13, .26], $p < .001$, $k = 6$) sexual aggression, but the association was significantly larger for verbal sexual aggression, $Q_{\text{bet}}(1) = 5.49$, $Z_{\text{diff}} = 2.34$, $p = .02$.

Research Question 9: cross-sectional/longitudinal data

Studies that employed a cross-sectional design were compared to studies that used a longitudinal design in Research Question 9. The design of the study was not a significant moderator of the association between pornography consumption and sexual aggression across the 22 cases, $Q_{\text{bet}}(1) = 0.05$, $Z_{\text{diff}} = 0.22$, $p = .83$. The average cross-sectional correlation (i.e., the correlation of pornography consumption and sexual aggression at the same data collection: $r = .28$, 95% CI [.23, .33], $p < .001$, $k = 17$) was nearly equivalent in direction and magnitude to the average prospective correlation (i.e., the correlation of pornography consumption at an earlier data collection with sexual aggression at a later data collection: $r = .27$, 95% CI [.18, .36], $p < .001$, $k = 5$).

Research Question 10: report type

The potential moderating effect of report type was tested in Research Question 10. The cases were categorized into published and unpublished reports. No difference was detected by the moderator analysis, $Q_{\text{bet}}(1) = 1.44$, $Z_{\text{diff}} = 1.20$, $p = .23$. The average correlation of published reports ($r = .29$, 95% CI [.24, .33], $p < .001$, $k = 18$) did not differ from the average correlation of unpublished reports ($r = .21$, 95% CI [.10, .33], $p < .001$, $k = 4$).

Discussion

The meta-analysis reported in this article investigated associations between naturalistic pornography consumption and actual acts of sexual aggression in 22 general population studies. The results are reviewed and contextualized in the remainder of the study. Directions for future research are also considered.

Overall association

Associations between pornography consumption and sexual aggression in the general population can be examined at the aggregate or individual level. Using secondary statistical indices, the former technique correlates an indirect metric of consumption, such as the number of pornographic movies available during a particular time period, with an indirect assessment of sexual aggression, such as government data on rape during the same time period. Using experimental and survey methods, the latter technique correlates attributes of individuals' sexual aggression which are measured directly with those individuals' actual patterns of pornography consumption. Because aggregate methods cannot inform the key question of whether those who consume more pornography differ in their sexually aggressive behavior

from those who consume less pornography and have to rely on group-level data to conjecture about individual-level behavior, the vast majority of pornography and sexual aggression research has been conducted at the individual level (Kingston & Malamuth, 2011; Malamuth & Pitpitan, 2007). Individual-level data should be privileged over aggregate-level data when they are available (MacInnis & Hodson, 2015). Accordingly, the results of the present meta-analysis are situated within the individual-level, general population literature.

Noting continued disagreement about pornography consumption and sexual aggression, Allen et al. (1995a, 1995b) meta-analyzed experimental studies on pornography exposure, nonsexual aggression, and ASV. Pornography exposure was found to have a consistent effect on nonsexual aggression and ASV, resolving the debate about the reliability of experimental studies (Fisher & Grenier, 1994; Malamuth et al., 2000). The debate about the validity of pornography experiments in general, however, remained. Fisher and Grenier, for example, questioned the information value of experiments, in addition to their consistency. They argued that experiments suffer from limitations such as subject awareness, selective attrition, and lack of ecological validity. They called for “naturalistic studies of the development of sexually violent behavior” (p. 37). Later, Fisher and Barak (2001, p. 317) noted the need for “research concerning effects of exposure to sexually explicit materials on those who choose to consume them.” The only design capable of assessing effects is the experimental design, and random assignment to conditions is necessary for a study to be an experiment. Without random assignment, any group differences postexposure may be due to self-selection dynamics and preexisting attitudes and behaviors. Additionally, ethical considerations preclude attempts at sexual aggression inducement. In sum, experiments cannot make the requested contributions. They can only be made by correlational investigations, such as survey studies.

Hald et al.'s (2010) meta-analysis of naturalistic pornography consumption and ASV was directly related to these calls. This meta-analysis found that higher levels of pornography consumption were associated with stronger ASV. Fisher, Kohut, Gioacchino, and Fedoroff (2013) were not swayed by these results, however, and emphasized that sexually aggressive behavior is the chief cause for concern.

The general population studies in the present meta-analysis assessed both self-selected pornography consumption and actual acts of sexual aggression, aligning with the requests of prior evaluative commentaries. Although previous meta-analyses have had far smaller total sample sizes than the present synthesis' 20,000 plus total ($N = 2,040$ in Allen et al., 1995a; $N = 4,268$ in Allen et al., 1995b; $N = 2,309$ in Hald et al., 2010), results were consistent with these earlier summaries in that pornography consumption was correlated with heightened sexual aggression risk. It is worth noting that the magnitude of both the overall corrected ($r = .28$) and uncorrected ($r = .22$) associations in the present meta-analysis, which focused on actual acts of sexual aggression, were larger than the overall association sizes found in prior syntheses that included a surrogate for sexual aggression risk ($r = .13$ in Allen et al., 1995a; $r = .10$ in Allen et al., 1995b; $r = .18$ in Hald et al., 2010). It should also be

noted that the uncorrected correlations for verbal ($r = .23$, 95% CI [.18, .28], $p < .001$) and physical ($r = .16$, 95% CI [.10, .21], $p < .001$) sexual aggression were also significant.

Association contingencies

Of the nine moderation tests, seven were null, one was marginal, and one was significant. This general lack of moderation is consistent with past meta-analytic research on pornography and nonsexual aggressive behavior (Allen *et al.*, 1995a) and media consumption and aggression more generally (Anderson *et al.*, 2010). Yet, it is suggested that this homogeneity of results be viewed tentatively, as Hald *et al.*'s (2010) meta-analysis on naturalistic pornography consumption and ASV suggested the likely presence of moderating factors and several moderation comparisons in the present study were based on limited cases or measures. Additional research is needed before any firm conclusions can be drawn about moderating factors. Given that all 22 studies yielded a positive overall correlation, though, it appears likely that any differences found in future research will be more in degree than kind.

Consistent with Allen *et al.*'s (1995a) meta-analysis of laboratory aggression, biological sex was not a significant moderator. Pornography consumption was associated with an increased likelihood of sexually aggressive behavior for females as well as males. As men's arousal to pornography is stronger than women's (Allen *et al.*, 2007), this finding aligns with the finding of Mundorf *et al.* (2007) that arousal to pornography is not a reliable predictor of its effects on aggression. Rather, pornography consumption may affect females' aggressive behavior due to the observation of aggressive female models or to identification with male aggressors. Future studies should test whether pornography consumption is more strongly associated with females' verbal sexual aggression than physical sexual aggression (Crick & Grotpeter, 1995) and if pornography consumption more strongly predicts females' same-sex sexual aggression (e.g., insults and harassment) than males' same-sex sexual aggression (Sun *et al.*, 2008). Research is also needed on shifts in women's negative psychological reactions to pornography with repeated exposures. Brief exposure studies have found that women respond more negatively to pornography than men (Allen *et al.*, 2007) and negative reactions would appear to inhibit the likelihood of a modeling effect. Pornographic scripts may become normalized with repeated exposures, however, decreasing negative reactions and increasing the likelihood of script application (Wright, 2011; Zillmann & Bryant, 1982, 1986).

Age was not a moderating factor. Pornography consumption was associated with an equivalent likelihood of sexual aggression among adults and adolescents. Adults' sexually aggressive scripts may be influenced by pornography due to repeated exposures and the possession of scripts congruent with pornography's presentation of gendered power. It is important to note, though, that most of the adult samples were of college students or college-aged students. Because perpetrators of sexual aggression are generally acquainted with their targets and targets of sexual aggression are predominantly adolescents and young adults (Felson & Cundiff, 2014; Planty *et al.*,

2013), this similarity is perhaps not surprising. Interestingly, the weakest association was found in the study with the oldest sample (Gorman, 2014; average participant age = 46). Future studies should incorporate a wider range of adults so that associations can be compared across a breadth of age groups.

Associations between pornography consumption and sexually aggressive behavior in international studies were not significantly different from those conducted in the United States. What is clear from this analysis is that the association between pornography consumption and sexual aggression is not unique to the United States. What remains unclear is whether the association varies in degree between countries. The reports available for the present meta-analysis allowed only for a basic national/international comparison. A variety of countries were represented (e.g., Brazil, Italy, Norway, Sweden, and Taiwan), but no more than two studies were conducted in any country other than the United States. Only when multiple reports are available within particular countries will a more nuanced analysis be possible.

It has been suggested that the content of pornography found online and novel elements of the online experience may enhance the effects of Internet pornography. As few studies differentiated mechanisms of delivery, a direct comparison of online and offline pornography consumption was not possible. It was found, however, that associations in studies published or conducted before 1995 did not differ from those in subsequent reports. While this finding does not support the contention of exacerbated impacts of Internet pornography, it should certainly not discourage researchers interested in further tests of this hypothesis. Future survey studies on sexually aggressive behavior can ask specific questions about medium of delivery (Peter & Valkenburg, 2007) and future experiments on sexually aggressive attitudes can manipulate aspects of users' experience that mimic online versus offline dynamics (Shim & Paul, 2014).

Violent and nonviolent pornography consumption were each associated with sexual aggression and the difference between the associations was not significant. Two important points are in order regarding these findings. First, that nonviolent pornography consumption was associated with sexual aggression is consistent with the results of prior meta-analyses (Allen et al., 1995a, 1995b; Hald et al., 2010). Measures of self-reported nonviolent pornography consumption may predict sexually aggressive behavior because acts that are indeed violent are not perceived as such by desensitized consumers (Jensen, 2007) or because content that is nonviolent is still objectifying and degrading (Wright & Tokunaga, 2015b). Second, caution is suggested regarding the conclusion from these findings that pornography with violence is no more impactful on the likelihood of sexual aggression than pornography without violence. Although the difference was not statistically significant, the violent pornography association was stronger ($r_{\Delta} = .10$) than the nonviolent pornography association. Significance tests are impacted by sample size, and only two studies assessed nonviolent pornography consumption—the smallest comparison group in the meta-analysis. Additionally, descriptions of the pornography measures that authors called “nonviolent” did not clearly indicate whether each met all the criteria of nonviolence: fully consensual sex without any coercion or any aggressive behavior.

The comparison between general, content nonspecific measures of pornography consumption and measures of violent pornography consumption is informative of this question. Although the difference between the violent and content nonspecific associations was similar to the difference between the violent and nonviolent associations (i.e., violent association .11 stronger than the content nonspecific association), the former comparison involved more cases and was marginally significant. If the content of pornography was uniform or irrelevant to an effect, it appears unlikely that these patterns would emerge in the data. Taken together with research that has found significant nonviolent/violent differences (Hald *et al.*, 2010) and content analyses of popular pornography (Bridges *et al.*, 2010; Sun *et al.*, 2008), it appears most likely that (a) the level of violence, degradation, and objectification matters, but (b) the pornography consumed by the average individual contains enough of these elements that it is associated with an elevated likelihood of sexual aggression. Future studies should be comprehensive and explicit when defining and measuring pornography labeled as “nonviolent,” and should evaluate whether nonaggressive, nondegrading, nonobjectifying pornography is so infrequently consumed that its existence is largely irrelevant to discussions of pornography’s social impact.

Pornography consumption was associated with both verbal and physical sexual aggression, but the association was stronger for verbal sexual aggression. It is important to emphasize, however, that sexual harassment can be extremely damaging and verbal coercion to obtain sex, even without the threat of physical force, is still an act of sexual violence (CDCP, 2014). It is also important to reiterate that the association for physical sexual aggression, although smaller than the association for verbal sexual aggression, was still positive and significant. Pornography consumption was associated with an increased probability of the use or threat of force to obtain sex. Future studies should more frequently demarcate different types of sexual aggression and investigate the circumstances under which pornography consumption is most likely to correlate with each type.

Pornography consumption was associated with sexually aggressive behavior in both cross-sectional and longitudinal studies. The significant average association in longitudinal research, along with the findings of individual longitudinal studies in the meta-analysis, does not support the position that pornography–sexual aggression associations are simply due to sexually aggressive individuals watching content that conforms to their already established aggressive sexual scripts (Fisher *et al.*, 2013). Brown and L’Engle (2009), for example, found that pornography consumption predicted boys’ later sexual aggression even after controlling for their earlier sexual aggression. Relatedly, D’Abreu and Krahe (2014) found that prior sexual aggression was a poor predictor of later pornography use.

Finally, the possibility that significant pornography–sexual aggression associations are due to publication bias was not supported. Pornography consumption was associated with sexual aggression in both published and unpublished reports.

Implications for theory

Assessing the magnitude and direction of the association between pornography consumption and sexually aggressive behavior has been the primary goal of naturalistic studies to date. Most studies are guided by the overall question of whether sexual media are a source of social learning, as opposed to testing specific elements of models developed to explain the role of pornography in sexual aggression specifically (e.g., the confluence model of sexual aggression) or the mechanisms, pathways, and moderators operable in sexual media effects on sexual behavior more generally (e.g., the sexual script acquisition, activation, application model of sexual media socialization, or $\text{}_3\text{AM}$). This limits the theoretical implications that can be drawn from the results of the present meta-analysis. Nevertheless, several of the aggregated results, results from individual studies, and results from related studies can be used to broach the following points for theory development consideration.

First, the extant data would not support a theory postulating inherent sex differences in the effects of pornography on aggression. Predictions of gender dissimilarity would have to be based on differentiating proximal factors as opposed to uniform biological variance. Second, while there are certainly developmental differences between adolescents and emerging adults, the extant data would not support a theory predicting that these differences lead to one group or the other being more or less susceptible to the effects of pornography on sexual aggression. Third, the extant data would not support a catharsis theory of violent pornography and sexual aggression. From a catharsis perspective, individuals who consume violent pornography purge their sexually aggressive inclinations vicariously, reducing their likelihood of manifest sexual aggression. Without such an outlet, individuals who do not consume violent pornography become more likely to enact their aggressive inclinations on real-life victims. Contrary to the catharsis perspective, violent pornography consumers were more—not less—likely to commit actual acts of sexual aggression. Fourth, the finding that pornography consumption was more strongly associated with verbal than physical sexual aggression would support a theory hypothesizing that the disinhibiting effects of pornography will be stronger for behaviors that individuals perceive as less antisocial or that are associated with less severe penalties.

Fifth, although the studies taken together did not allow for a meta-analytic test of personal attributes, the results of a few individual studies included in the meta-analysis did indicate the importance of individual differences. Future studies should more frequently assess characteristics that are associated with sexual aggression and report zero-order correlations for groups at differing levels of risk (Hald, Malamuth, & Lange, 2013; Kingston et al., 2009). This will allow for a better understanding of the individual differences that interact with pornography exposure to most strongly increase the likelihood of sexual aggression. Three specific attributes suggested by prior research are an impersonal orientation toward sex, a hostile approach to gender relations, and a disagreeable personality. Both naturalistic and experimental research indicate that associations between pornography consumption and sexually aggressive behavior are likely higher when these attributes are present

(Hald & Malamuth, 2015; Malamuth, Hald, & Koss, 2012; Malamuth & Pitpitan, 2007; Malamuth et al., 2000; Vega & Malamuth, 2007).

Conclusion

Meta-analyses have now found that pornography consumption affects nonsexual aggression and ASV in laboratory studies and is correlated with ASV and sexually aggressive behavior in naturalistic studies. As with all behavior, sexual aggression is caused by a confluence of factors and many pornography consumers are not sexually aggressive. However, the accumulated data leave little doubt that, on the average, individuals who consume pornography more frequently are more likely to hold attitudes conducive to sexual aggression and engage in actual acts of sexual aggression than individuals who do not consume pornography or who consume pornography less frequently.

It is acknowledged that the results of the present meta-analysis will not change the minds of those committed to the position that pornography cannot affect sexual aggression (see Linz & Malamuth, 1993; Malamuth & Pitpitan, 2007). The field will have to accept a “weight of evidence” approach to evaluation as opposed to a “consensus among scholars” approach. Following the call of Malamuth et al. (2000) for a meta-analysis of naturalistic pornography consumption and sexually aggressive behavior in general population samples, the present synthesis contributes to the weight of the evidence.

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*Indicates a study included in the meta-analysis.

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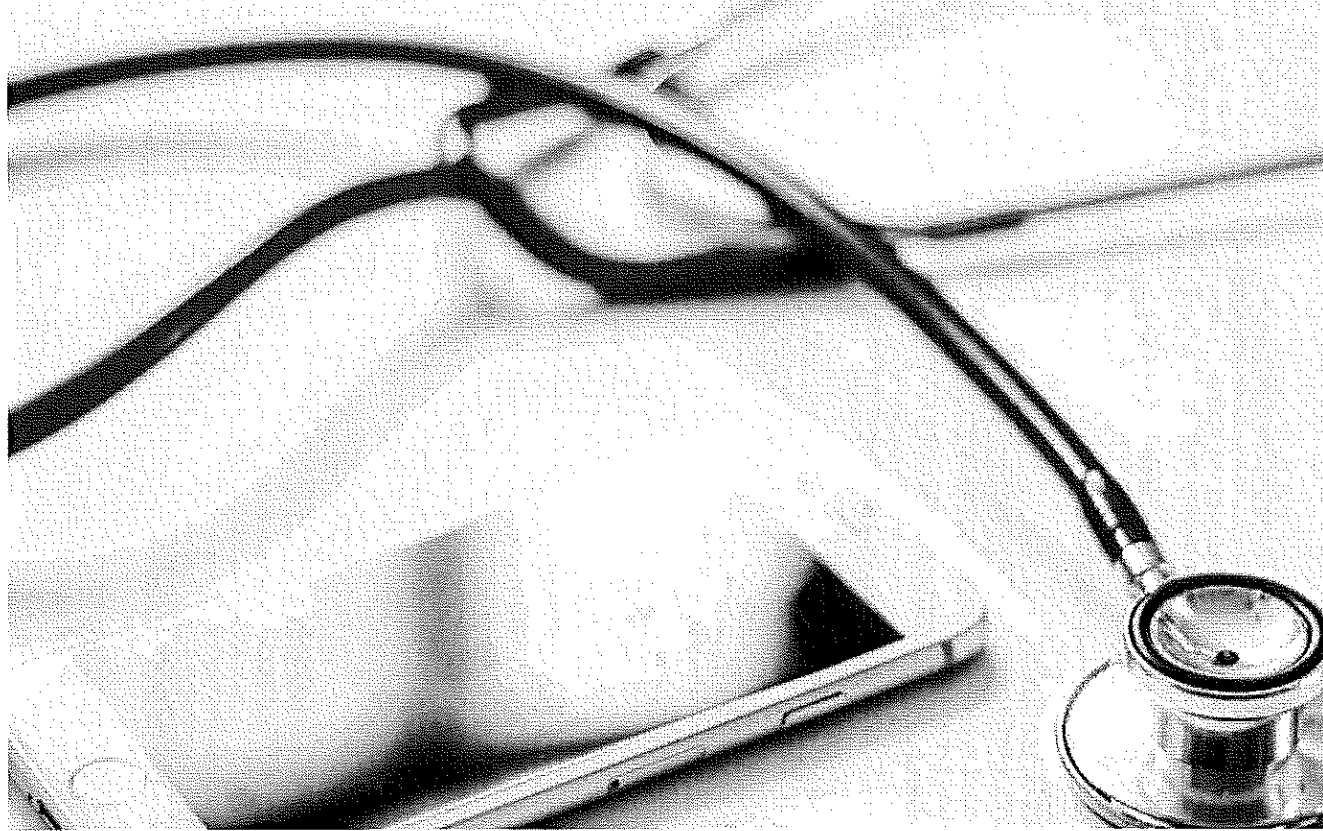
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THE PUBLIC HEALTH HARMS OF

PORNOGRAPHY

How pornography fuels child sexual abuse, compulsive sexual behavior, violence against women, commercial sexual exploitation, and more.



**Research Summaries of Key Peer-Reviewed Studies
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NATIONAL CENTER ON SEXUAL EXPLOITATION

Founded	1962
Headquarters	Washington, DC 20001
Vision	All individuals have a right to be free from the effects of pornography and all other forms of sexual exploitation.
Mission	Defending human dignity. Confronting sexual exploitation.
About	<p>The National Center on Sexual Exploitation (NCOSE) is the leading national organization exposing the links between all forms of sexual exploitation such as child sexual abuse, prostitution, sex trafficking and the public health crisis of pornography. As the thread of pornography in the web of sexual exploitation is systemically overlooked by society, the National Center on Sexual Exploitation has prominently advanced this issue as a central pillar of its projects in order to promote more holistic solutions.</p> <p>To accomplish this vision of abolition from sexual exploitation, NCOSE operates on the cutting edge of policy activism to combat corporate and government policies that foster exploitation, advance public education and empowerment, and spur united action by leading the movement through the international Coalition to End Sexual Exploitation.</p>
Areas of Concentration	Pornography Sex Trafficking of Adults & Children Prostitution Violence Against Women Sexualization of Children Sexual Addictions and Compulsivity Sexual Assault and Violence Child Pornography Sexually Oriented Businesses Child Sexual Abuse Sexual Coercion
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Pornography: A Public Health Crisis

February 2018

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Introduction

Lisa L. Thompson
Vice President of Policy and Research,
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Pornography is a social toxin that destroys relationships, steals innocence, erodes compassion, breeds violence, and kills love. The issue of pornography is ground zero for all those concerned for the sexual health of our loved ones, communities, and society as a whole. As the following points illustrate, the breadth and depth of pornography's influence on popular culture has created an intolerable situation that impinges on the freedoms and wellbeing of countless individuals.

- **Young Age of First Exposure:** A study of university students found that 93% of boys and 62% of girls had seen Internet pornography during adolescence. The researchers reported that the degree of exposure to paraphilic and deviant sexual activity before age 18 was of "particular concern."¹ Another sample has shown that among college males, nearly 49% first encountered pornography before age 13.²

A study in Australia of 941 15–29 year olds, reported the median age for first viewing pornography was 13 years for males and 16 years for females. This same study reported that 100% of males and 82% of females reported they had ever viewed pornography. Among those who had viewed pornography within the last 12 months prior to the survey, 84% of males and 19% of females used pornography on a weekly or daily basis.³

- **Pervasive Use:** A nationally representative survey found that 64% of young people, ages 13–24, actively seek out pornography weekly or more often.⁴ A popular tube site reports that in 2016, people watched 4.6 billion hours of pornography on its site alone;⁵ 61% of visits occurred via smartphone.⁶

1 Chiara Sabina, Janis Wolak, and David Finkelhor, "The Nature and Dynamics of Internet Pornography Exposure for Youth," *CyberPsychology & Behavior* 11, no. 6 (2008): 691–693.

2 Chyng Sun, Ana Bridges, Jennifer Johnson, and Matt Ezzell, "Pornography and the Male Sexual Script: An Analysis of Consumption and Sexual Relations," *Archives of Sexual Behavior* 45, no. 4 (May, 2016): 983–94.

3 Megan S. C. Lim, Paul A. Agius, Elise R. Carroette, et al., "Young Australians Use of Pornography and Associations with Sexual Risk Behaviours," *Australian and New Zealand Journal of Public Health* 41, no. 4 (2017): 438–443.

4 Barna Group, *The Porn Phenomenon: The Impact of Pornography in the Digital Age*, (Ventura, CA: Josh McDowell Ministry, 2016).

5 Pornhub, "Pornhub's 2016 Year in Review," (2016).

6 Ibid.

Eleven pornography sites are among the world's top 300 most popular Internet sites. The most popular such site, at number 18, outranks the likes of eBay, MSN, and Netflix.⁷

- **Infringement on Individual Rights:** The pornification of culture (i.e. softcore, hypersexualized imagery) is widespread and evident everywhere, from the grocery store checkout lane to advertising, popular entertainment, unsolicited email, and beyond. It's becoming increasingly difficult—if not impossible—to live a porn-free life.
- **Both Genders:** While hardcore pornography users are typically male, use among younger females use is increasing. Teenage girls and young women are significantly more likely to actively seek out porn than women 25 years old and above.⁸
- **Unmanageable at the Individual Level:** The pervasive depictions of softcore and hardcore pornography in popular culture, and their easy accessibility via streaming and mobile devices, produce problems and significant risks outside the ability of individuals and families to manage on their own.
- **Private Behavior with Public Consequences/Porn Users Shape Culture:** The large-scale private use of hardcore pornography by millions of people has public ramifications. The attitudes, beliefs, and behaviors shaped by pornography use have a profound impact on not only users' private relationships, but also their professional and social relationships. Pornography use, to varying degrees, shapes the lens by which users view, interact, and construct the world.
- **Pornography is Prostitution for Mass Consumption:** The medium by which the prostitution is conveyed—photographs, magazines, books, videos, and the Internet—allows for masses of individuals to derive sexual stimulation and gratification from the acts of prostitution that they portray.

Drawing from recent peer-reviewed research literature, as well as the latest reports and surveys, the research summary herein presents evidence supporting the view that pornography constitutes a public health crisis. While independently these studies do not prove that pornography *causes* harm, taken in totality, the converging evidence overwhelming suggests that pornography is correlated

7 Jonathan Marciano, "Top 300 Biggest Websites: Based on Both Mobile and Desktop Data for the First Time!" Similar Web (July 19, 2016), <https://www.similarweb.com/blog/new-website-ranking> (accessed July 24, 2016).

8 Barna Group, "News Conference on Barna's New Study: 'The Porn Phenomenon,'" (January 15, 2016), <https://www.barna.org/blog/culture-media/barna-group/porn-press-conference#.VrS9OrSJndI> (accessed June 27, 2016).

THE PUBLIC HEALTH HARMS OF PORNOGRAPHY

with a broad array of harms that adversely impact the public health of the nation. These include higher incidence of STIs, increased verbal and physical sexual aggression, acceptance of rape myths, risky sexual behaviors among adolescents, reduced impulse control and reckless decision making, increased sexual dysfunction, and more.

In light of the mounting evidence of harm documented below, we call on the general public, educators, health professionals, corporate executives, and elected officials to recognize pornography as a public health crisis.

Research Summary

Impact on Sexual Violence and Exploitation

- **Hardcore Pornography Portrays Paraphilic Disorders and Extreme Sex:** Since the 1950s, the distribution and availability of pornography has become increasingly normalized.¹ Pornography exposure among college males is now almost universal.² Boys and men are consuming hardcore pornography, which may include depictions of sex with persons who look like children or teens, scenarios portraying incest, and other paraphilic interests such as sex with animals (i.e. zoophilia), excretory activities (i.e. coprophilia/urophilia), and violence against women, including rape (i.e. biastophilia) and torture (i.e. algolania).³ Today "... mainstream commercial pornography has coalesced around a relatively homogenous script involving violence and female degradation."⁴
- **Teaches Users that Women Enjoy Sexual Violence and Degradation:** A content analysis of 172 videos from the website PornHub.com examined the influence of age (teenage performer vs. adult performer) on aggression and pleasure depicted in popular heterosexual pornographic videos uploaded to the site between the years 2000 and 2016. One hundred and seventeen videos exhibited "adult" performers, 55 "teenage" performers. To determine "age," researchers used a variety of cues including: 1) performers' self-declaration of their age, 2) titles of the videos, 3) the categories in which videos were classified, and 4) tags ascribed to each video. The findings were as follows:
 - 43% of videos included what the researchers categorized as "visible aggression" and 15% included "nonconsensual aggression."
 - Teenagers were more likely to experience particular forms of aggression and degrading or risky sex acts. Specifically, teenagers were more than twice as likely as adults (21.8 vs 9.4%) to be in videos featuring anal penetration, and about five times more likely (12.7 vs. 2.5%) to be in videos featuring forceful anal penetration with an apparent intent to

1 Gail Dines, *Pornland: How Porn Has Hijacked Our Sexuality*, (Boston, MA: Beacon Press, 2010), 1–23.

2 John D. Foubert, Matthew W. Brosi, and R. Sean Bannon, "Effects of Fraternity Men's Pornography Use on Bystander Intervention, Rape Myth Acceptance and Behavioral Intent to Commit Sexual Assault," *Sexual Addiction & Compulsivity: The Journal of Treatment & Prevention* 18, no. 4 (2011): 212–231.

3 Robert Peters, "How Adult Pornography Contributes to Sexual Exploitation of Children" (September 2009); Foubert, *ibid*; Ana Bridges, Robert Wosnitzer, Erica Scharrer, Chyng Sun, and Rachael Liberman, "Aggression and Sexual Behavior in Best-Selling Pornography Videos: A Content Analysis Update," *Violence Against Women* 16, no. 10 (2010): 1065–1085; Gail Dines, *ibid*.

4 Sun, *ibid*.

cause pain. Yet, when broadly considering aggression in pornography, teenagers were subject to similar levels of aggression experienced by older performers.

- Teenagers were also more likely to be in pornography in which the male ejaculated in their mouth or on their face than adults (65.4 vs. 45.3%).
- 90% of teenage females in videos containing visible aggression displayed pleasure, compare to 54% when visible aggression was not present.
- 40% of teenagers displayed sexual climax in videos containing aggression, compared to 8.5% when visible aggression was not present.
- Teenagers were significantly more likely to display pleasure in videos that included spanking, forced vaginal or anal penetration, and forced gagging than in videos that did not include these acts.
- Females of all ages were more likely to display pleasure in videos featuring physical aggression than those that did not.

In response to these findings, the researcher noted that the prevalence of aggressive and demeaning acts in videos featuring teenagers, “may signal to viewers of all ages that these acts are not only normative and legitimate, but perhaps even expected,” thus creating social pressure on both young women and men to re-enact them with their sexual partners. Of further concern, it was noted that “the high prevalence of unprotected anal intercourse in such videos may lead female teenagers to engage more frequently in unprotected anal sex,” thus increasing their risk for various STDs.⁵

In a separate content analysis of free, Internet pornography, researchers found that nearly half of all videos in which two or more persons were present ended with the act of ejaculation on the face or mouth of a female by one or more males.⁶

A 2010 analysis of the 50 most popular pornographic videos (those bought and rented most often) found that 88% of scenes contained physical

5 Eran Shor, “Age, Aggression, and Pleasure in Popular Online Pornographic Videos,” *Violence Against Women* (2018): 1-19, doi: 10.1177/1077801218804101. Of note, videos including more than two participants were not included in the analysis.

6 Stacy Gorman, Elizabeth Monk-Turner, and Jennifer N. Fish, “Free Adult Internet Web Sites: How Prevalent Are Degrading Acts?” *Gender Issues* 27, no. 3-4 (2010): 131-45, doi:10.1007/s12147-010-9095-7.

- violence, and 49% contained verbal aggression.⁷ Eighty-seven percent of aggressive acts were perpetrated against women, and 95% of their responses were either neutral or expressions of pleasure.⁸
- **Committing Sexual Offenses and Accepting Rape Myths:** A meta-analysis of 46 studies reported that the effects of exposure to pornographic material are “clear and consistent,” and that pornography use puts people at increased risk for committing sexual offenses and accepting rape myths.⁹
 - **Increased Verbal and Physical Aggression:** A 2015 meta-analysis of 22 studies from seven countries found that internationally the consumption of pornography was significantly associated with increases in verbal and physical aggression, among males and females alike.¹⁰
 - **Sibling Sexual Abuse:** In a study that analyzed 166 cases of males aged 13-17 who were referred to a residential sex offender program in the Midwestern United States from 1994-2005, the cases were divided into two groups: sibling perpetrator (biological, half, step, foster, or adopted; n=100) or non-sibling (n=66). According to the study, compared to those in the non-sibling group, sibling abusers had higher rates of previous sexual abuse (58% to 35%), physical abuse (49.5% to 44.6%), neglect (33% to 21%), domestic violence exposure (58% to 20%) and had higher rates of pornography exposure (58% to 24%). The study concluded that, “Exposure to domestic violence and a sexualized home environment (in this case, exposure to pornography and/or child sexual abuse) may render adolescents particularly at risk for sexual violence.” Researchers also suggested that, “exposure to pornography may negatively impact the sibling-victim in addition to the sibling-offender,” and “early exposure to pornography may impact a child’s view of what is normative and impair the ability to avoid, deter, or negotiate from dangerous situations ... ”¹¹
 - **Link to Harmful/Problem Sexualized Behavior in Youth:** A study of 950 child patients presenting for suspected child abuse (primarily sexual abuse, but also some cases of severe physical abuse) to a Child Advocacy Center

7 Ana J. Bridges, Robert Wosnitzer, Erica Scharrer, Chyng Sun, and Rachael Liberman, “Aggression and Sexual Behavior in Best-Selling Pornography Videos: A Content Analysis Update,” *Violence against Women* 16, no. 10 (2010): 1065–1085.

8 Ibid.

9 Elizabeth Paolucci-Oddone, Mark Genuis, and Claudio Violato, “A Meta-Analysis of the Published Research on the Effects of Pornography,” *The Changing Family and Child Development*, ed. Claudio Violato, Elizabeth Paolucci, and Mark Genuis (Aldershot, England: Ashgate Publishing, 2000), 48–59.

10 Paul J. Wright, Robert S. Tokunaga, and Ashley Kraus, “A Meta-Analysis of Pornography Consumption and Actual Acts of Sexual Aggression in General Population Studies,” *Journal of Communication* 66, no. 1 (February 2016): 183–205.

11 Natasha E. Latzman, Jodi L. Viljoen, Mario J. Scalora, and Daniel Ullman, “Sexual Offending in Adolescence: A Comparison of Sibling Offenders and Nonsibling Offenders Across Domains of Risk and Treatment Need,” *Journal of Child Sexual Abuse* 20, no. 3 (2011): 245–263.

in the Midwestern U.S., examined intake and self-reported assessment data collected in 2015. The children ranged in age from 3 to 18; 74% were female. Analysis found that children who disclosed exposure to pornography were at 3.3 times greater likelihood of engaging in problem sexualized behavior (PSB) compared to those who did not disclose pornography exposure.

The researchers explained: “Having exposure to pornography at a young age may not only introduce children to behaviors they may eventually acquire, but the children may have those behaviors reinforced by seeing the models (e.g. the individuals shown in the pornography medium, the person who exposed the child to pornography, etc.) being rewarded by the behavior. If the benefits of such sexual behavior are reinforced for the child, they may have a higher likelihood of adopting the behavior themselves.”¹²

In a separate qualitative study of children with harmful sexual behavior (HSB), 14 young people aged 16-21 years old participated in one-hour, semi-structured interviews. The participants were past clients of a government-funded treatment program for youth in Victoria, Australia. Six treatment-providing staff members were also interviewed. From the study:

- Eighty-six percent (n=12) of youth reported being exposed to pornography and 21% (n=3) described pornography as one of the factors that triggered their HSB. One young person told how he was introduced to pornography at age 11 at school and started to view it at home when his parents were gone. Another boy expressed that watching pornography at his grandmother’s house and discussing it with his cousin lead him to later sexually abuse his cousin. Youth workers also agreed that pornography was a factor in the harmful sexual behavior exhibited by these, and other, youth. One worker said: “So from a young age they’ve accessed pornography ... and they’re exposed to this idea that sex and aggression is linked and they’re exposed to these ideas that you don’t necessarily need consent, and that ‘no’ might mean ‘try harder.’”
- The study suggested that the issue of pornography is spiraling out of the ability of individuals and families to control and that there is “merit in government taking an active role in holding industry to account for the harms of pornography against children and young people.” Specifically, the researchers recommended government regulation of pornography and telecommunication industries, as well as an

12 Rebecca Dillard, Kathryn Maguire-Jack, Kathryn Showalter, et al., “Abuse Disclosures of Youth with Problem Sexualized Behaviors and Trauma Symptomology,” *Child Abuse & Neglect* 88 (2019): 201-211, doi: 10.1016/j.chiabu.2018.11.019.

adjustment of sexually abusive treatment models to take pornography into account.¹³

- **Increased Female Sexual Victimization:** A study of 14- to 19-year-olds found that females who watched pornographic videos were at significantly greater likelihood of being victims of sexual harassment or sexual assault.¹⁴
- **Increased Likelihood of Selling and Buying Sex:** A Swedish study of 18-year-old males found that frequent users of pornography were significantly more likely to have sold and bought sex than other boys of the same age.¹⁵
- **Fuels Demand for Sexual Exploitation:** Some pornography consumers use pornography to build sexual excitement in advance of purchasing sex from prostituted persons; others seek to reenact pornographic scenes on prostituted persons.¹⁶ An analysis of 101 sex buyers, compared to 100 men who did not buy sex, found that sex buyers masturbate to pornography more often than non-sex buyers, masturbate to more types of pornography, and reported that their sexual preferences changed so that they sought more sadomasochistic and anal sex.¹⁷ Other research also demonstrates an association between purchase of commercial sex acts and pornography use.¹⁸
- **Interconnectivity of Mainstream, Deviant, and Child Sexual Abuse Images:** A survey from a general population of Internet pornography users found that users of pornography depicting sexual abuse of children also consume both hardcore pornography (featuring ostensibly adult

13 Gemma McKibbin, Cathy Humphreys, and Bridget Hamilton, "Talking About Child Sexual Abuse Would Have Helped Me': Young People Who Sexually Abused Reflect on Preventing Harmful Sexual Behavior," *Child Abuse & Neglect* 70, (2017): 210-221.

14 Silvia Bonino, Silvia Ciairano, Emanuela Rabagliette, and Elena Cattelino, "Use of Pornography and Self-Reported Engagement in Sexual Violence among Adolescents," *European Journal of Developmental Psychology* 3, no. 3 (2006): 265-288.

15 Carl Göran Svedin, Ingrid Åkerman, and Gisela Priebe, "Frequent Users of Pornography. A Population Based Epidemiological Study of Swedish Male Adolescents," *Journal of Adolescence* 34, no. 4 (2011): 779-788.

16 Mimi H. Silbert and Ayala M. Pines, "Pornography and Sexual Abuse of Women," *Sex Roles* 10, no. 11/12 (1984): 857-868; Rachel Durchslag and Samir Goswami, *Deconstructing the Demand for Prostitution: Preliminary Insights from Interviews with Chicago Men Who Purchase Sex*, (Chicago, IL: Chicago Alliance Against Sexual Exploitation, 2008); Victor Malarek, *The Johns: Sex for Sale and the Men Who Buy It* (New York: NY Arcade Publishing, Inc. 2009).

17 Farley et al., "Comparing Sex Buyers with Men Who Don't Buy Sex: 'You Can Have a Good Time with the Servitude' vs. 'You're Supporting a System of Degradation.'" Paper presented at Psychologists for Social Responsibility Annual Meeting July 15, 2011, Boston, MA. San Francisco: Prostitution Research & Education (2011).

18 Steven Stack, Ira Wasserman, and Roger Kern, "Adult Social Bonds and Use of Internet Pornography," *Social Science Quarterly* 85 (2004): 75-88; Martin A. Monto and Nick McRee, "A Comparison of the Male Customers of Female Street Prostitutes With National Samples of Men," *International Journal of Offender Therapy and Comparative Criminology* 49, no. 5 (2005): 505-529; Martin A. Monto, "Summary Report for National Institute of Justice Grant #97-IJ-CX-0033 'Focusing on the Clients of Street Prostitutes: A Creative Approach to Reducing Violence Against Women'" (October 30, 1999); Durchslag, *ibid.*

performers), as well as animal pornography. There were *no* consumers of child sexual abuse images who *only* collected child sexual abuse images.¹⁹

A separate study examining 231 Swiss men charged in a 2002 case for possession of child sexual abuse images (i.e. child pornography), found that 60% percent also used pornography that depicted sexual acts with animals, excrement, or brutality; 33% consumed at least three or more types of deviant pornography. Researchers also found that those convicted for possessing child sexual abuse images were more likely to subscribe to commercial websites containing legal (according to Swiss law) pornographic material (19% vs. 4%).²⁰

- **Intent to Rape:** Fraternity men who consumed *mainstream* pornography expressed a greater intent to commit rape if they knew they would not be caught than those who did not consume pornography. Those who consumed *sadomasochistic* pornography expressed significantly less willingness to intervene in situations of sexual violence, greater belief in rape myths, and greater intent to commit rape. Among those who consumed *rape-themed* pornography, the researchers described “serious effects” including less bystander willingness to intervene, greater belief in rape myth, and greater intent to commit rape. In other words, there was *no* type of pornography that did not result in a greater intent to commit rape by a user if they knew they would not be caught.²¹
- **Pornography as a Form of Sexual Exploitation:** “Pornography may meet the legal definition of trafficking to the extent that the pornographer recruits, entices, or obtains the people depicted in pornography for the purpose of photographing commercial sex acts.”²²

Impact on Adolescents

- **Harm to Young Brains:** A survey of 813 U.S. teens and young adults (13–25), found that 26% of adolescents aged 13–17 actively seek out pornography weekly or more often.²³ Research has demonstrated

19 Kathryn C. Seigfried-Spellar and Marcus K. Rogers, “Does Deviant Pornography Use Follow a Guttman-like Progression,” *Computers in Human Behavior* 29 (2013): 1997–2003.

20 Endrass et al., “The Consumption of Internet Child Pornography and Violent and Sex Offending,” *BMC Psychiatry* 9, no. 43 (2009).

21 Foubert, *ibid.*

22 Farley et al., “Comparing Sex Buyers with Men Who Do Not Buy Sex: New Data on Prostitution and Trafficking,” *Journal of Interpersonal Violence*, (2015).

23 Barna Group, *The Porn Phenomenon: The Impact of Pornography in the Digital Age*, (Ventura, CA: Josh McDowell Ministry, 2016).

that children are more susceptible than adults to addictions and to developmental effects on the brain.²⁴

- **Emotional Bond with Caregivers:** A nationally representative survey of youth ages 9–17 reported that online pornography users were significantly more likely to report a poor emotional bond with their caregiver than adolescents who viewed pornography offline or not at all.²⁵ A poor emotional bond between caregiver and child is also associated with sexually aggressive behavior.²⁶
- **Women as Sex Objects:** Internet pornography is shown to normalize the notion that women are sex objects among both adolescent boys and girls.²⁷
- **Sexual Uncertainty and Casual Sexual Exploration:** More frequent use of sexually explicit Internet material is shown to foster greater sexual uncertainty in the formation of sexual beliefs and values, as well as a shift away from sexual permissiveness with affection to attitudes supportive of uncommitted sexual exploration.²⁸
- **Sending Sexually Explicit Images:** A survey of 4,564 adolescents aged 14–17 in five European countries found that viewing Internet pornography is significantly associated with an increased probability of having sent sexual images and messages (sexting) among boys.²⁹ A separate survey of 617 college freshman found that 30% of participants sent nude pictures at some time during high school; 45% had received nude pictures on their cell phones. The most important motivation for sexting was coercion such as blackmail or threats. About half of all sexting may be coercive.³⁰

24 Frances E. Jensen with Amy Ellis Nutt, *The Teenage Brain: A Neuroscientist's Survival Guild to Raising Adolescents and Young Adults*, (New York: Harper Collins, 2015); Tamara L. Doremus-Fitzwater, Elena I. Varlinskaya, and Linda P. Spear, "Motivational Systems in Adolescence: Possible Implications for Age Differences in Substance Abuse and Other Risk-Taking Behaviors," *Brain and Cognition* 71, no. 1 (2010):114–123.

25 Michele L. Ybarra and Kimberly Mitchell, "Exposure to Internet Pornography among Children and Adolescents: A National Survey," *CyberPsychology & Behavior* 8, no. 5 (2005): 473–486.

26 Ibid.

27 Jochen Peter and Patti Valkenburg, "Adolescent's Exposure to a Sexualized Media Environment and Their Notions of Women as Sex Objects," *Sex Roles* 56 (2007): 381–395; Jane D. Brown and Kelly L. L'Engle, "X-Rated: Sexual Attitudes and Behaviors Associated with U.S. Early Adolescents' Exposure to Sexually Explicit Media," *Communication Research* 36, no. 1 (February 2009): 129–151.

28 Jochen Peter and Patti M. Valkenburg, "Adolescents' Exposure to Sexually Explicit Internet Material, Sexual Uncertainty, and Attitudes toward Uncommitted Sexual Exploration, Is There a Link?" *Communications Research* 35, no. 5 (2008): 579–601.

29 Nicky Stanley et al., "Pornography, Sexual Coercion and Abuse and Sexting in Young People's Intimate Relationships: A European Study," *Journal of Interpersonal Violence* (2016): 1–26.

30 Elizabeth Englander, *Low Risk Associated with Most Teenage Sexting: A Study of 617 18-Year-Olds*, (Massachusetts Aggression Reduction Center, 2012).

In a systematic review and meta-analysis of 14 cross-sectional studies about young people aged 10-24 years, sexting was strongly correlated with having had sexual intercourse, recent sexual activity, alcohol and other drug use before sexual intercourse, as well as having multiple recent sexual partners.³¹

- **Risky Sexual Behaviors:** Internet pornography use is linked to increases in problematic sexual activity at younger ages, and a greater likelihood of engaging in risky sexual behavior, such as hookups, multiple sex partners, anal sex, group sex, and using substances during sex as young adolescents.³² A recent UK survey found that 44% of males aged 11–16 who viewed pornography reported that online pornography gave them ideas about the type of sex they wanted to try.³³
- **Physical and Sexual Victimization:** A nationally representative survey of pornography use among youth aged 9–17, found that those with increased exposure to Internet pornography were significantly more likely to report physical and sexual victimization.³⁴
- **Association with Adolescent Delinquency, Sexually Aggressive/Coercive, and Other Criminal Behavior:** A 36-month longitudinal study published in 2011 surveyed 1,588 youth (ages 10-15 years old) about their exposure to “X-rated” material and linkages to sexually aggressive behavior. Participants were 49% male, 51% female, and an average of 12.6 years old. The survey consisted of questions about their exposure to X-rated material, the medium of exposure (online, magazine, etc.), and sexual behaviors the youth engaged in. Results found that:
 - Exposure to pornography was relatively common with 23% of youth reporting intentional exposure to X-rated material. The researchers noted that prevalence rates were likely underestimates of actual behaviors.

31 Lucy Watchirs Smith, Bette Liu, Louisa Degenhardt, Juliet Richters, George Patton, Handan Wand, Donna Cross, et al., “Is Sexual Content in New Media Linked to Sexual Risk Behaviour in Young People? A Systematic Review and Meta-Analysis,” *Sexual Health*, August 11, 2016, doi:10.1071/sh1.6037.

32 Debra K. Braun-Courville and Mary Rojas, “Exposure to Sexually Explicit Web Sites and Adolescent Sexual Attitudes and Behaviors,” *Journal of Adolescent Health* 45 (2009): 156–162; C. Marston and R. Lewis, “Anal Heterosex among Young People and Implications for Health Promotion: A Qualitative Study in the UK,” *BJM Open* 4 (February 4, 2016): 1–6; Emily R. Rothman, et al., “Multi-Person Sex among a Sample of Adolescent Female Urban Health Clinic Patients,” *Journal of Urban Health: Bulletin of the New York Academy of Medicine* 89, no. 1 (2011): 129–137; E. Haggström-Nordin, U. Hanson, and T. Tydén, “Association between Pornography Consumption and Sexual Practices among Adolescents in Sweden,” *International Journal of STD & AIDS* 16 (2005): 102–107.

33 Elena Martellozzo et al., “‘I Wasn’t Sure It Was Normal To Watch It ...’ A Quantitative and Qualitative Examination of the Impact of Online Pornography on the Values, Attitudes, Beliefs and Behaviours of Children and Young People,” London: Middlesex University (2016), https://www.mdx.ac.uk/_data/assets/pdf_file/0021/223266/MDX-NSPCC-Occ-pornography-report.pdf (accessed August 7, 2016).

34 Ybarra, *ibid.*

- Youth who reported intentional exposure to violent X-rated material over time were nearly six times more likely than those who did not consume X-rated material to self-report sexually aggressive behavior. This association remained significant even after controlling for other factors that may contribute to sexually aggressive behavior (e.g., sexual aggression victimization, alcohol and drug use, witnessing family violence, and general aggressive behavior). The study hypothesized that “viewing pornography that portrays sexual aggression as rewarding may reinforce an individual’s own proclivity toward sexually aggressive behavior.”³⁵
- In a meta-analysis of eight studies, male adolescent sex offenders reported more exposure to sex or pornography than non-sex offenders.³⁶
- A study of sexually reactive children and adolescents (SRCAs) found that those who used pornography compared to those who did not use pornography were more likely to engage in a prominent pattern of lying, a persistent pattern of theft/stealing, to be truant, to frequently con/manipulate others, to engage in arson/fire setting behaviors, to engage in coerced vaginal penetration and forced sexual acts such as oral or digital penetration, to express sexually aggressive remarks (obscenities), and to engage in sex with animals.³⁷ Other research also demonstrates an association between pornography consumption and adolescent delinquent behavior.³⁸
- **Impact of Young Exposure:** Research has found that among males the younger their age of first exposure to pornography, the higher their current consumption of pornography, as well as their greater integration of pornography into sexual activity, and less enjoyment of partnered sex.³⁹
- **Future Use of Deviant Pornography:** A 2013 survey of a general population of Internet pornography users revealed that those who intentionally sought pornography at a younger age were significantly more likely to be users of pornography exhibiting the sexual abuse of animals and children.⁴⁰

35 Michele L. Ybarra, Kimberly J. Mitchell, Merle Hamburger, et al., “X-Rated Material and Perpetration of Sexually Aggressive Behavior among Children and Adolescents: Is There a Link?” *Aggressive Behavior* 37 (2011): 1–8, doi: 10.1002/ab.20367.

36 Michael C. Seto and Martin L. Lalumière, “What Is So Special About Male Adolescent Sexual Offending? A Review and Test of Explanations through Meta-Analysis,” *Psychological Bulletin* 136, no. 4 (2010): 526–575.

37 Eileen M. Alexy, Ann W. Burgess, and Robert A. Prentky, “Pornography Use as a Risk Marker for an Aggressive Pattern of Behavior among Sexually Reactive Children and Adolescents,” *Journal of the American Psychiatric Nurses Association* 14, no. 4 (2009): 442–453.

38 Ybarra, *ibid.*

39 Sun, *ibid.*

40 Seigfried-Spellar, *ibid.*

- **Sex with Younger Adolescents:** In a cross-sectional study of 710 Norwegian 18- to 19-year-olds, 19.1% of males who indicated some likelihood of having sex with a 13- to 14-year old also reported more high-frequency use of pornography and having more friends with an interest in child pornography and violent pornography.⁴¹
- **Sexual Satisfaction:** In a longitudinal study of 1,052 Dutch adolescents aged 13-20, research revealed that exposure to sexually explicit Internet material consistently reduced adolescents' satisfaction with their sexual lives. The negative influence of sexually explicit Internet material was equally strong among both males and females.⁴²

Impact on Females

- **Negative Body Image and Pressure to Perform Pornographic Acts:** As a result of viewing pornography, women reported lowered body image, criticism from their partners regarding their bodies, increased pressure to perform acts seen in pornographic films, and less actual sex. Men reported being more critical of their partner's body and less interest in actual sex.⁴³
- **Acceptance of Rape Myths:** Women who were exposed to pornography as children were more likely to accept rape myths and to have sexual fantasies that involved rape.⁴⁴
- **Domestic Violence & Sexual Abuse:** The use of pornography by batterers significantly increased a battered woman's odds of being sexually abused. Pornography use alone increased the odds by a factor of almost 2, and the combination of pornography and alcohol increased the odds of sexual abuse by a factor of 3.⁴⁵ Other research has found that pornography use by batterers is associated with learning about sex through pornography, imitation of behaviors seen in pornography, comparison of women to pornography

41 Kristinn Henga, Svein Mossige, and Lars Wichstrom, "Older Adolescents' Positive Attitudes toward Younger Adolescents as Sexual Partners," *Adolescence* 39, no. 156, (2004): 627–651.

42 Jochen Peter and Patti M. Valkenburg, "Adolescents' Exposure to Sexually Explicit Internet Material and Sexual Satisfaction: A Longitudinal Study" *Communications Research* 35, no. 5 (2009): 171–194. doi:10.1111/j.1468-2958.2009.01343.x.

43 Julie M. Albright, "Sex in America Online: An Exploration of Sex, Marital Status, and Sexual Identity in Internet Sex Seeking and Its Impacts," *Journal of Sex Research* 45 (2008): 175–186, doi:10.1080/00224490801987481.

44 Shawn Corne, John Briere, and Lillian M. Esses, "Women's Attitudes and Fantasies about Rape as a Function of Early Exposure to Pornography," *Journal of Interpersonal Violence* 7, no. 4 (1992): 454–461.

45 Janet Hinson Shope, "When Words Are Not Enough: The Search for the Effect of Pornography on Abused Women," *Violence Against Women* 10, no. 1 (2004): 56–72.

performers, introduction of other sexual partners, filming sexual acts without consent, and the broader culture of pornography (e.g., fetishes).⁴⁶

- **Increased Marital Rape:** Males who use pornography and go to strip clubs were found to engage in more sexual abuse, stalking, and marital rape than abusers who did not use pornography and go to strip clubs.⁴⁷
- **Sexual Satisfaction and Softcore Pornography:** In a cross-sectional study of 200 sexually active married women, women who did not watch soft-core pornography were more satisfied with their sexual life when compared to their counterparts. Researchers also found that soft-core pornography affects the sex lives of females by increasing sexual boredom in both men and women, causing relational difficulties.⁴⁸
- **Anal Sex:** Women who reported an experience of anal sex were more likely to watch pornography more frequently than those who had not.⁴⁹
- **Sexually Aggressive Behavior:** Girls who reported consumption of violent X-rated material were equally likely as boys to report sexually aggressive behavior. The longitudinal study showed that girls and boys were more than five times more likely to exhibit sexually aggressive behavior if violent X-rated material consumption was reported. The researchers suggested that X-rated material may have a similar effect regardless of sex and that studies examining sexual violence perpetration among youth should ask both boys and girls questions about perpetration as well as victimization experiences.⁵⁰

Impact on Males

- **Lower Sexual Satisfaction and Sexual Dysfunction:** A 2015 study of online sexual activities among males found 20.3% reported that “one motive for their porn use was to maintain arousal with their partner.” It also found that pornography use was linked to higher sexual desire, but lower overall sexual satisfaction, and lower erectile function.⁵¹ Other research has correlated

46 Walter S. DeKeseredy and Amanda Hall-Sanchez, “Adult Pornography and Violence against Women in the Heartland: Results from a Rural Southeast Ohio Study,” *Violence against Women* (May 2016), 1–20.

47 C. Simmons, P. Lehmann, and S. Collier-Tenison, “Linking Male Use of the Sex Industry to Controlling Behaviors in Violent Relationships: An Exploratory Analysis,” *Violence Against Women* 14, no. 4 (2008): 406–417.

48 Abd El-Rahman, Eman M. Sanad, and Hanaa H. Bayomy, “Effect of Soft-Core Pornography on Female Sexuality,” *Human Andrology* 6, no. 2 (June 2016): 60–64, doi:10.1097/01.xha.0000481895.52939.a3.

49 Lim, et al., *ibid.*

50 Ybarra, et al., 2011.

51 Aline Wéry and Joel Billieux, “Online Sexual Activities: An Exploratory Study of Problematic and Non-Problematic Usage Patterns in a Sample of Men,” *Computers in Human Behavior* 56 (2016): 257–266.

pornography use with “negative effects on partnered sex, decreased enjoyment of sexual intimacy, less sexual and relationship satisfaction.”⁵²

- **Negative Body Image:** A 2015 study found that men’s frequency of pornography use is positively linked to body image insecurity regarding muscularity and body fat, and to increased anxiety in romantic relationships.⁵³
- **Pornography Induced Erectile Dysfunction:** Historically, erectile dysfunction (ED) has been viewed as an age-dependent problem, with rates in men ages 18–59 as low as 2–5%.⁵⁴ In the early 2000s, the Global Study of Sexual Attitudes and Behavior (GSSAB) reported that the ED rate among men aged 40–80 was approximately 13%.⁵⁵ In 2011, among males aged 18–40 the GSSAB found ED rates of 14–28%.⁵⁶ This dramatic increase in ED rates among young men coincides with the sharp increase in the availability and accessibility of Internet pornography tube sites.

A 2-year longitudinal study of sexually active young males (n=180) aged 16–21 published in 2016 (which did not assess pornography use), found high rates of sexual dysfunction among young males. Specifically, the study found:

- low sexual satisfaction (47.9%)
- low desire (46.2%)
- problems in erectile function (45.3%)⁵⁷

Another study reported that one in four patients seeking medical help for new onset ED were under 40, with severe ED rates being 10% higher than those in men over 40.⁵⁸

A study on men (mean age 36) seeking help for excessive sexual behavior—frequent use of pornography and masturbation—found that ED

52 Brian Y. Park et al., “Is Internet Pornography Causing Sexual Dysfunctions? A Review with Clinical Reports,” *Behavioral Sciences* 6, no. 17 (2016): 1–25.

53 Wéry, *ibid.*

54 Park, *ibid.*

55 Alfredo Nicolosi et al., “Sexual Behavior and Sexual Dysfunctions after Age 40: The Global Study of Sexual Attitudes and Behaviors,” *Urology* 64 (2004): 991–997.

56 Ivan Landripet and Aleksandar Štulhofer, “Is Pornography Use Associated with Sexual Difficulties and Dysfunctions among Younger Heterosexual Men?” *The Journal of Sexual Medicine* 12 (2015): 1136–1139.

57 Lucia F. O’Sullivan et al., “A Longitudinal Study of Problems in Sexual Functioning and Related Sexual Distress among Middle to Late Adolescents,” *The Journal of Adolescent Health* 59 (2016): 318–324.

58 Paolo Capogrosso, et al., “One Patient Out of Four with Newly Diagnosed Erectile Dysfunction Is a Young Man—Worrisome Picture from the Everyday Clinical Practice,” *The Journal of Sexual Medicine* 10 (2013): 1833–1841.

combined with low desire for partnered sex is a common observation in clinical practice.⁵⁹

An investigation examining subgroups of men struggling with sexual compulsivity, found that among those who reported seven or more hours of pornography viewing (or seven episodes of masturbation) per week, 71% reported sexual dysfunctions, and 33% reported delayed ejaculation.⁶⁰

A Cambridge University study that was evenly divided between men with compulsive sexual behavior (CSB) and those without, found that 60% of those with CSB experienced diminished libido or erectile function in physical relationships with women.⁶¹

In a study of gay men recruited from bathhouses, bars, and STI clinics, 50% of the men (average age 29) reported erectile dysfunction with video pornography. The men spent considerable amounts of time in environments where pornography was omnipresent and continuously playing. The men explained that high exposure to sexually explicit media resulted in a lower responsivity to “vanilla sex” media and an increased need for novelty and variation. This is evidence of tolerance, a key indicator of addiction. Researchers revised the experiment allowing the men to choose many more varieties of pornography. In the new experiment, 25% of men still could not become aroused to the pornography of their choice.⁶²

In a clinical study of 35 men with erectile dysfunction or anorgasmia, a French psychiatrist found that addictive masturbation is often associated with cyber-pornography. Most of the men viewed pornography, and some were addicted to it, with the study pointing to it as a key player in these problems. With treatment, which included the removal of pornography, participants saw a reduction of symptoms and were able to enjoy satisfactory sexual activity.⁶³

- **Correlated to Male Sexual Objectification of Women and Attitudes Supporting Violence against Women:** Among collegiate men, frequency of exposure to men’s lifestyle magazines, reality TV programs that objectify

59 Verena Klein, Tanja Jurin, Peer Briken, and Aleksandar Štulhofer, “Erectile Dysfunction, Boredom, and Hypersexuality among Couple Men from Two European Countries,” *The Journal of Sexual Medicine* 12, no. 11 (2015): 2160–2167.

60 Katherine S. Sutton et al., “Patient Characteristics by Type of Hypersexuality Referral: A Quantitative Chart Review of 115 Consecutive Male Cases,” *Journal of Sex & Marital Therapy* 41, no. 6 (2015): 563–580.

61 Valerie Voon et al., “Neural Correlates of Sexual Cue Reactivity in Individuals with and without Compulsive Sexual Behaviors,” *PLOS ONE* 9, no. 7 (2014): 1–10.

62 Erick Janssen. *The Psychophysiology of Sex*. Bloomington: Indiana University Press, 2007.

63 R. Porto, “Habitudes Masturbatoires et Dysfonctions Sexuelles Masculines,” *Sexologies* 25, no. 4 (August 17, 2016): 160-65, doi:10.1016/j.sexol.2016.03.004.

women, and pornography, predicted more objectified cognitions about women and stronger attitudes supportive of violence against women.⁶⁴

- **Risky Behaviors and Other Harms:** For males, increased pornography use is correlated with more sex partners, more alcohol use, more binge drinking, greater acceptance of sex outside of marriage for married individuals, greater acceptance of sex before marriage, and less child centeredness during marriage.⁶⁵
- **Pornography as Sex Ed:** A study of male high school seniors in Sweden found that nearly 70% of those who frequently used pornography reported that pornography made them want to try out what they had seen compared to 42% of boys in a reference group.⁶⁶ Frequent users of pornography viewed all forms of pornography more often, especially advanced or more deviant forms of pornography including violence and sexual abuse of children and animals.⁶⁷
- **Sexual Harassment and Coercion:** A study of 804 Italian males and females aged 14 to 19, found that males who viewed pornography were significantly more likely to report having sexually harassed a peer or forcing someone to have sex.⁶⁸
- **Psychological Symptoms:** An online survey of 71 homosexual males showed strong correlations between cybersex addiction symptoms and indicators of coping by sexual behaviors and psychological symptoms. These psychological symptoms included emotional avoidance, loss of control/time management, and social problems.⁶⁹
- **Addiction:** In a study of 360 undergraduate students in the United States, researchers discovered a significant correlation between being male and being clinically addicted to cybersex, with 19% of men in the sample scoring in the clinical range.⁷⁰

64 Paul J. Wright and Robert S. Tokunaga, "Men's Objectifying Media Consumption, Objectification of Women, and Attitudes Supportive of Violence against Women," *Archives of Sexual Behavior* 45, no. 4 (2015): 955–64, doi: 10.1107/s10508-015-0644-8.

65 Jason S. Carroll et al., "Generation XXX: Pornography Acceptance and Use Among Emerging Adults," *Journal of Adolescent Research* 23, no. 1 (2008): 6–30; Svedin, *ibid.*

66 Svedin, *ibid.*

67 *Ibid.*

68 Bonino, *ibid.*

69 Christian Laier, Jaro Pekal, and Matthias Brand, "Sexual Excitability and Dysfunctional Coping Determine Cybersex Addiction in Homosexual Males," *Cyberpsychology, Behavior, and Social Networking* 18, no. 10 (2015): 575–80. doi:10.1089/cyber.2015.0152.

70 Amanda L. Giordano and Craig S. Cashwell, "Cybersex Addiction among College Students: A Prevalence Study," *Sexual Addiction & Compulsivity*, 2017, 1-11, doi:10.1080/10720162.2017.1287612.

A study analyzing the brainwaves of 52 men aged 18-30 found that pornography use may downregulate sexual arousal—i.e., cause habituation or desensitization. These symptoms are signs of addiction.⁷¹

- **Interpersonal Satisfaction:** In a meta-analysis of fifty studies encompassing cross-sectional and longitudinal surveys, as well as experimental research methods, pornography consumption was associated with lower interpersonal outcomes. The meta-analysis, which collectively included more than 50,000 participants from 10 countries, revealed a significant negative association between pornography consumption and interpersonal satisfaction. Specifically, male viewers of pornography reported significantly lower sexual and relational satisfaction.⁷²
- **Impulsivity/Discounting Long-term Consequences:** In a study of 122 undergraduate students, male participants exposed to pictures of “sexy” women were more likely to discount the future (i.e., a tendency to prefer smaller, immediate gains to larger, future ones) and were more inclined to make cyber-delinquent choices (e.g., cyberbullying, cyber fraud, cyber theft, and illegal downloading), compared with those exposed to less sexy opposite-sex pictures. In a second experiment within the same study of 72 males, participants exposed to sexual primes showed a greater willingness to purchase a wide range of counterfeit rather than authentic products online and experienced a higher likelihood of logging into the other person’s Facebook webpage (i.e., invading online privacy). These sexual primes may engender a “short-sighted” self-state in men, which leads to them yielding to short-term gains while failing to consider the long-term costs of delinquent behavior.⁷³

Impact on Mental Health

- **Loneliness:** The results of a study revealed that the association between loneliness and viewing pornography was positive and significant. Survey data of 1,247 participants seeking help for pornography use, revealed that those who viewed pornography were more likely to experience loneliness, and that those who were experiencing loneliness were more likely to view pornography.

71 Sajeew Kunaharan et al., “Conscious and Non-Conscious Measures of Emotion: Do They Vary with Frequency of Pornography Use?” *Applied Sciences* 7, no. 5 (2017): 493, doi:10.3390/app7050493.

72 Paul J. Wright, Robert S. Tokunaga, Ashley Kraus, and Elyssa Klannm, “Pornography Consumption and Satisfaction: A Meta-Analysis,” *Human Communication Research*, 2017, doi:10.1111/hcre.12108.

73 Wen Cheng, and Wen-Bin Chiou, “Exposure to Sexual Stimuli Induces Greater Discounting Leading to Increased Involvement in Cyber Delinquency among Men,” *Cyberpsychology, Behavior, and Social Networking*, 2017, doi:10.1089/cyber.2016.0582.

The researchers explained:

Conceptualizing the potential for pornography viewing and the sexual response to be employed as a maladaptive coping strategy fits the behavioral and psychological contours of addiction. The sexual response cycle, with its twin aspects of intense, preoccupying physical pleasure during the arousal phase, followed by comforting, soothing experience during the resolution phase, mediated by the brain's dopaminergic reward structure in part by oxytocin, allows for the possibility of a two-stage drug-like experience providing both euphoric and narcotic brain effects, permitting temporary escape into "fantasy" and/or "obliviousness" to real-world concerns and stressors. A person may experience palliative relief from distressing experience through the preoccupying, distracting euphoria or fantasy accompanying pornography and sexual arousal. Pornography use readily becomes a tightly integrated component of that recurring compulsive, addictive pattern. In this manner, pornography may provide a self-soothing, autoerotic narcosis from real life circumstances, an experience that mirrors a drug-like intoxication... .

Emotional attachment, and other demands of relational pair-bond sexuality help ground sexual expression and can help circumvent (though not entirely) it being formed and fitted to maladaptive purpose and addictive use... .

Pornography use that is only temporarily palliative while failing to address root causes of loneliness, and which in turn intensifies triggering conditions qualifies as a maladaptive coping strategy.⁷⁴

- **Mood & Anxiety Disorder/Impulse-control Disorders:** In a U.S. study utilizing a convenience sample of 103 male patients seeking treatment for compulsive pornography use and sexual promiscuity, 70% self-identified as gay, 17% heterosexual, 6% bisexual, and 8% transgendered. More than half (51.5%) reported only using pornography compulsively, and the remainder (48.5%) reported compulsive pornography use and frequent anonymous sex with strangers. Using results from a scale of compulsivity adapted for compulsive sexual behavior, researchers found that two-thirds of the men reported moderate to severe levels of obsessive and compulsive symptoms related to their underlying pornography use or sex with strangers. Similar to other studies, this study found frequent co-occurring mood (71%), anxiety (40%), substance-use (41%), and impulse-control disorders such as pathological gambling (24%) among patients. The researchers therefore

⁷⁴ Mark H. Butler et al., "Pornography Use and Loneliness: A Bi-Directional Recursive Model and Pilot Investigation," *Journal of Sex & Marital Therapy*, March 7, 2017, doi:10.1080/0092623x.2017.1321601.

stress the importance of careful psychiatric assessment of individuals with compulsive sexual behavior, and screening for CSB in psychiatric patients.⁷⁵

- In a cross-sectional study of 792 emerging adults from college campuses, researchers observed that higher pornography use was significantly associated with less self-worth and more depressive symptoms. This was consistent after controlling for age, religiosity, impulsivity, race, and parent's marital status.⁷⁶
- A study in Australia of 941 15–29 year olds reported that those who reported mental health problems during the previous six months were 65% more likely to report watching pornography less than monthly and 52% more likely to watch pornography weekly or more frequently compared to those that did not report mental health problems.⁷⁷

Impact on the Brain/Evidence of Addiction

- **Detrimental Impacts on the Brain:** Since 2011, there have been 30 peer-reviewed studies which reveal pornography use has negative and detrimental impacts on the brain.⁷⁸
- **Similarity to Substance or Behavioral Addictions:** A functional MRI (fMRI) study of men seeking clinical treatment for problematic pornography use (PPU) found that those with pornography addictions share similar brain reactions to other behavioral addictions such as gambling or substance abuse. PPU is often accompanied by excessive masturbation and is a form of compulsive sexual behavior. Researchers also extrapolated that, when compared to those addicted to gambling or drugs, problematic pornography users experience more powerful and faster conditioning to anything associated with their use (computer, being alone, pop-ups, etc.).⁷⁹

In a fMRI study of 23 men with problematic hypersexual behavior (PHB) and 22 men without PHB, researchers found alterations and activation

75 Shane W. Kraus, Marc N. Potenza, Steve Martino, and Jon E. Grant, "Examining the Psychometric Properties of the Yale-Brown-Obsessive-Compulsive Scale in a Sample of Compulsive Pornography Users," *Comprehensive Psychiatry* 59 (2015): 117-122, doi: 10.1016/j.comppsy.2015.02.007.

76 Brian J. Willoughby et al., "Associations between Relational Sexual Behaviour, Pornography Use, and Pornography Acceptance among US College Students," *Culture, Health & Sexuality* 16, no. 9 (2014): 1052-69, doi:10.1080/13691058.2014.927075.

77 Lim, et al., *ibid.*

78 Your Brain on Porn, "Brain Studies on Porn Users," (2014) <http://yourbrainonporn.com/brain-scan-studies-porn-users> (accessed July 13, 2016).

79 Mateusz Gola et al., "Can Pornography be Addictive? An fMRI Study of Men Seeking Treatment for Problematic Pornography Use," *Neuropsychopharmacology*, 2017, doi:10.1038/npp.2017.78.

patterns in the prefrontal cortex which matched those observed in drug addicts. They had greater cue-reactivity (i.e. physiological and subjective reactions to presentations of addiction-related stimuli) to sexual images, yet inhibited response to other normal stimuli.⁸⁰

In a study of 20 men with compulsive sexual behavior (CSB) and 20 men without CSB, the neural correlates of appetitive conditioning and neural connectivity were altered in the CSB group. According to the researchers, the first alteration—heightened amygdala activation—might reflect facilitated conditioning (greater “wiring” to previously neutral cues predicting porn images). The second alteration—decreased connectivity between the ventral striatum and the prefrontal cortex—could be a marker for impaired ability to control impulses. The findings of greater amygdalar activation to cues (sensitization) and decreased connectivity between the reward center and the prefrontal cortex (hypofrontality) are two of the major brain changes seen in substance addiction.⁸¹

- **Decreased Brain Matter in the Right Caudate of the Caudate Nucleus:** A 2014 fMRI study of 64 pornography users found that increased pornography use (i.e. pornography dosage) is linked to decreased grey matter in brain regions associated with motivation and to less brain activation for sexual images. The authors speculate that the brain structural volume deficit and reduced activation “may reflect the results of tolerance after desensitization to sexual stimuli.”⁸²
- **Enlargement of the Amygdala:** Structural MRI data comparing healthy adult males to those with compulsive sexual behaviors (CSB) concluded that there was increased volume of amygdala grey matter in the brains of those with CSB. The amygdala plays a key role in processing emotions, including response to stress, enlarging under moderate to severe stress. Perhaps the chronic stress related to compulsive porn use stimulates amygdala hypertrophy. The study also reported poorer connectivity between the amygdala and the prefrontal cortex, mirroring findings in drug addicts, reflecting reduced ability to control impulsive behaviors.⁸³

80 Ji-Woo Seok, and Jin-Hun Sohn, “Neural Substrates of Sexual Desire in Individuals with Problematic Hypersexual Behavior,” *Frontiers in Behavioral Neuroscience* 9 (November 30, 2015), doi:10.3389/fnbeh.2015.00321.

81 Tim Klucken et al., “Altered Appetitive Conditioning and Neural Connectivity in Subjects with Compulsive Sexual Behavior,” *The Journal of Sexual Medicine* 13, no. 4 (2016): 627-36, doi:10.1016/j.jsxm.2016.01.013.

82 Simone Kühn and Jürgen Gallinat, “Brain Structure and Functional Connectivity Associated with Pornography Consumption,” *JAMA Psychiatry* 71, no. 7 (2014): 827-834.

83 Casper Schmidt et al., “Compulsive Sexual Behavior: Prefrontal and Limbic Volume and Interactions,” *Human Brain Mapping* 38, no. 3 (October 27, 2016): 1182-190, doi:10.1002/hbm.23447.

- **Hijacks the Brain's Reward System:** Motivation and reward are regulated by the mesolimbic system. There is ample evidence that the mesolimbic system is activated in response to both substance abuse and natural rewards such as sex.⁸⁴ Addiction occurs when the pleasure/rewards pathways of the brain are hijacked by drugs such as cocaine or by natural process vital to survival such as eating and sex.⁸⁵ The constant novelty of Internet pornography, as well as properties such as violation of expectations, anticipation of reward, and the act of seeking (i.e. surfing) stimulate mesolimbic dopamine activity.⁸⁶

Growing evidence suggests that pornography use hijacks the brain's reward system in the same way that drug use does. For instance, a study of 19 men with compulsive sexual behavior (CSB) and 19 men without CSB, the same brain activity pattern in pornography addicts (CSB subjects) was seen as in drug addicts and alcoholics. The study also identified a dissociation between desiring or wanting but not liking sexually explicit materials—a finding consistent with theories of incentive motivation underlying drug addiction.⁸⁷

- **Interference and Desensitization:** A study of sexually active individuals found that higher sexual compulsivity scores correlated with greater interference (increased distraction) during a task. Additionally, more years of “compulsive sexual activity” lead to greater habituation or a general numbing of the pleasure response (desensitization).⁸⁸
- **The Addiction Gets Worse:** Using functional MRI, a 2015 study from Cambridge found that compulsive sexual behavior is characterized by novelty-seeking, conditioning, and habituation to sexual stimuli in males—meaning users need more extreme content over time in order achieve the same level of arousal.⁸⁹
- **Addictive Potential:** Longitudinal research has found that among Internet activities, searching for pornography has the most addictive potential and

84 K.S. Frohmader et al., “Methamphetamine Acts on Subpopulations of Neurons Regulating Sexual Behavior in Male Rats,” *Neuroscience* 166, (2010):771–784.

85 Donald L. Hilton, Jr., and Clark Watts, “Pornography Addiction: A Neuroscience Perspective.” *Surgical Neurology International* 2, no. 19 (2011). doi:10.4103/2152-7806.76977.

86 Park, *ibid.*

87 Voon, *ibid.*

88 Ian P. Albery, et al., “Exploring the Relationship between Sexual Compulsivity and Attentional Bias to Sex-Related Words in a Cohort of Sexually Active Individuals,” *European Addiction Research* 23, no. 1 (November 14, 2016): 1–6, doi:10.1159/000448732.

89 Voon, *ibid.*

should be regarded as the most important risk factor for the development of Compulsive Internet Use (also referred to as Internet addiction).⁹⁰

- **Working Memory Performance:** In a study of 28 healthy, heterosexual men, researchers found that viewing pornographic pictures significantly negatively affected working memory (WM) performance. WM performance was not significantly impacted by neutral pictures (e.g. unmoved faces, people at work, walking in a street), negative pictures (e.g. a mugging, a person with a weapon, harassment), nor positive pictures (e.g. laughing people, a bride, sport awards). WM is responsible for the short-term holding, processing, and manipulation of information. It is essential for understanding, reasoning, problem solving, learning and development of speech, and decision making.⁹¹

Impact on Sexually Transmitted Infections

- **Pornography and STI's:** Pornography use among adult males in America is associated with increased engagement in sexual behaviors that increase the risk of STIs. Internet pornography consumption has been positively associated with having sex with multiple partners, engaging in paid sex, and having had extramarital sex.⁹²
- **Increased STI's Among Adolescent Minority Females:** Exposure to X-rated movies among Black females 14 to 18 years old was associated with being more likely to have negative attitudes toward using condoms, to have multiple sex partners, to have sex more frequently, to have not used contraception during the last intercourse, to have not used contraception in the past 6 months, to have a strong desire to conceive, and to test positive for chlamydia.⁹³
- **Condom Use:** In a systematic review and meta-analysis of cross-sectional studies about young people aged 10-24 years, exposure to sexually explicit websites was correlated with condomless sexual intercourse.⁹⁴

90 G.J. Meerkerk, R. J. J. M. V. D. Eijnden, and H.F.L. Garresten, "Predicting Compulsive Internet Use: It's All about Sex!" *CyberPsychology & Behavior* 91, no. 9 (2006): 95–103.

91 Christian Laier, Frank P. Schulte, and Matthias Brand, "Pornographic Picture Processing Interferes with Working Memory Performance," *Journal of Sex Research* 50, no. 7 (2013): 642–52, doi:10.1080/00224499.2012.716873.

92 Paul J. Wright and Ashley K. Randall, "Internet Pornography Exposure and Risky Sexual Behavior among Adult Males in the United States," *Computers in Human Behavior* 28 (2012): 1410–1416.

93 Gina M. Wingood et al., "Exposure to X-Rated Movies and Adolescent's Sexual and Contraceptive-Related Attitudes and Behaviors," *Pediatrics* 107, no. 5 (2001): 1116–1119.

94 Smith, *ibid.*

Impact on Relationships and Sexual Behaviors

- Earlier Sexual Debut, Multiple Partners, and Risky Sexual Practices:** Pornography consumption is linked to initiating sex at an earlier age, multiple sexual partners, more frequent practice of anal sex, use of psychoactive substances, and lack of protection against STIs.⁹⁵ Bulot, Leurent, and Collier (2015) report that, "All the work done in this area is in fact unanimous in concluding that pornography is a pervasive influence on young people."⁹⁶
- Casual Sexual Behavior:** Longitudinal research has found that pornography exposure was associated with a nearly twofold increase in the odds of casual sexual behavior. This association was found even after controlling for age, ethnicity, religiosity, education, and gender. Casual sex increases the risk of undesirable outcomes such as physical and sexual aggression, STIs, and unwanted pregnancies.⁹⁷
- Dissatisfaction with Partners:** Research has demonstrated that the more pornography a man watches, the more likely he is to deliberately conjure images of pornography during sex to maintain arousal, and to experience decreased enjoyment of intimate behaviors with a partner.⁹⁸

A separate cross-sectional study of 405 sexually active men and women who had viewed pornography, frequency of pornography consumption was directly related to a relative preference for pornographic rather than partnered sexual excitement. This preference, as well as devaluing sexual communication, was associated with less sexual satisfaction for both men and women.⁹⁹

- Negative Impact on Marriage Formation:** Researchers report that declining rates of marriage formation bring demographic and socio-economic changes that negatively impact society, while marriage formation creates substantial socio-economic improvements. Pornography has been shown

95 C. Bulot, B. Leurent, and F. Collier, "Pornography Sexual Behavior and Risk Behaviour at University," *Sexologies* 24, (2015): 78–83; Debra K. Braun-Courville and Mary Rojas, *ibid*; Jane D. Brown and Kelly L. L'Engle, *ibid*; Elizabeth M. Morgan, "Associations between Young Adults' Use of Sexually Explicit Materials and Their Sexual Preference, Behaviors, and Satisfaction," *The Journal of Sex Research* 48, no. 6 (2011): 520–530; Shane W. Kraus and Brenda Russell, "Early Sexual Experiences: The Role of Internet Access and Sexually Explicit Material," *Cyberpsychology & Behavior* 11, no. 2 (2008): 162–168.

96 Bulot, Leurent, and Collier, *ibid*.

97 Paul J. Wright, "A Longitudinal Analysis of US Adults' Pornography Exposure. Sexual Socialization, Selective Exposure, and the Moderating Role of Unhappiness," *Journal of Media Psychology* 24, no. 2 (2012): 67–76.

98 Chyng Sun, Ana Bridges, Jennifer Johnason, and Matt Ezzell, "Pornography and the Male Sexual Script: An Analysis of Consumption and Sexual Relations," *Archives of Sexual Behavior* 45, no. 4 (2014): 983–994.

99 Paul J. Wright et al., "Associative Pathways between Pornography Consumption and Reduced Sexual Satisfaction," *Sexual and Relationship Therapy*, (2017): 1–18, doi:10.1080/14681994.2017.1323076.

to significantly negatively impact marriage formation, and in light robust controls, the effect is likely causal.¹⁰⁰

- **Negative Impact on Marital Quality:** A longitudinal study of married couples found that those who used pornography more often reported lower satisfaction with their sex-life and decision-making as a couple. Pornography use was strongly and negatively related to marital quality over time. “The findings provide qualified support for the notion that more frequent pornography viewing—rather than simply being a proxy for the participants’ dissatisfaction with sex-life or marital decision-making—may negatively influence marital quality over time.”¹⁰¹
- **Extramarital Affairs:** A study found that persons who have had an extramarital affair were more than 3 times more apt to have used Internet pornography than ones who had lacked affairs.¹⁰² Other research affirms that pornography consumption is associated with more positive attitudes towards extramarital affairs.¹⁰³
- **Romantic Breakups:** A longitudinal study of Americans found those who viewed pornography at all in 2006 were nearly twice as likely as those who never viewed pornography to report experiencing a romantic breakup by 2012. Additionally, a statistically significant relationship was found between frequently viewing pornography and experiencing a breakup. Researchers also extrapolated that earlier pornography use significantly predicts relational instability, particularly for men.¹⁰⁴
- **Divorce Rates:** In a nationally representative longitudinal study, researchers found the probability of divorce roughly doubles for men and women who begin viewing pornography. Conversely, women who quit using pornography were significantly less likely to get divorced.¹⁰⁵
- **Sexual Dissatisfaction:** In a study of 832 French men and women, researchers discovered that, even when controlling for perceived addiction

100 Michael Malcolm and George Naufal, “Are Pornography and Marriage Substitutes for Young men?” *Eastern Economic Journal* 42 (2016): 317–334.

101 Samuel L. Perry, “Does Viewing Pornography Reduce Marital Quality Over Time? Evidence from Longitudinal Data,” *Archives of Sexual Behavior*, (2016).

102 Steven Stack, Ira Wasserman, and Roger Kern, “Adult Social Bonds and Use of Internet Pornography,” *Social Science Quarterly* 85 (2004): 75–88.

103 Paul J. Wright, Robert S. Tokunaga, and Soyoung Bae, “More Than a Dalliance? Pornography Consumption and Extramarital Sex Attitudes among Married U.S. Adults,” *Psychology of Popular Media Culture* 3, no. 2 (2014): 97–109.

104 Samuel L. Perry and Joshua T. Davis, “Are Pornography Users More Likely to Experience A Romantic Breakup? Evidence from Longitudinal Data,” *Sexuality and Culture*, https://www.academia.edu/32868948/Are_Pornography_Users_More_Likely_to_Experience_A_Romantic_Breakup_Evidence_from_Longitudinal_Data.

105 Samuel L. Perry and Cyrus Schleifer, “Till Porn Do Us Part? A Longitudinal Examination of Pornography Use and Divorce,” *The Journal of Sex Research*, 2017, 1–13, doi:10.1080/00224499.2017.1317709.

SUMMARIES OF KEY RESEARCH ON PORNOGRAPHY

to cyberpornography and overall sexual functioning, cyberpornography use was directly associated with sexual dissatisfaction. Additionally, cyberpornography use had a significant negative indirect effect on sexual satisfaction through increased sexual dysfunction and sexual avoidance. Sexual dysfunction encompassed the quality of sex drive, arousal, vaginal lubrication/penile erection, ability to reach orgasm, satisfaction from orgasm, and pain during sex.¹⁰⁶

In a study of 15,246 Americans, a symmetrical relationship was revealed between men and women as a result of viewing pornography. Women reported more negative consequences, including: lowered body image; that their partner was more critical of their body; increased pressure to perform acts seen in pornography; and less actual sex. Meanwhile, men reported being more critical of their partners' bodies and less interest in actual sex. The findings also suggest that males are more likely to use Internet pornography as a solitary, autoerotic activity.¹⁰⁷

106 Sarah Blais-Lecours et al., "Cyberpornography: Time Use, Perceived Addiction, Sexual Functioning, and Sexual Satisfaction," *Cyberpsychology, Behavior, and Social Networking* 19, no. 11 (2016): 649–55, doi:10.1089/cyber.2016.0364.

107 Albright, *ibid.*

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Collection of papers
from a Symposium held at the
U.S. Capitol on July 14, 2015

HONORARY SPONSOR **U.S. Senator Charles Grassley**
HOSTED BY **National Center on Sexual Exploitation**

The purpose of the briefing was to bring together Members of Congress, their staffs, the national press, and the public to educate on the public health crisis resulting from pornography and sexual exploitation. Experts—including medical doctors, a cognitive therapist, sociologists, leading child safety advocates, and the former head of the National Center for Missing & Exploited Children—discussed many facets of the issue.

Today's Pornography and the Crisis of Violence Against Women and Children

Gail Dines, Ph. D.

Professor of Sociology, Wheelock College, Boston, MA

Founder and Chair, Culture Reframed

I have studied the nature and extent of pornography for over twenty-five years, during which time the porn industry has grown to be one of the world's most lucrative and harmful businesses. As an academic and founding chair of the non-profit health education organization Culture Reframed, I am here today to speak about porn as what we recognize to be the public health crisis of the digital age. For many in this room today, porn may seem like a minor issue given the tsunami of violence against women and children and the prevailing misrepresentation of porn as harmless or even empowering. In reality, porn is deeply and increasingly implicated in virtually all forms of sexual violence. We cannot speak about rape, child sexual abuse, commercial sexual exploitation, teen dating violence, domestic violence, sexual harassment, college sexual assault, sexting, or teen suicide following cyberbullying without understanding porn as a driving force behind the normalization and legitimization of violence against women and children. Failure to see and address the role pornography can play in sexual violence, as well as myriad other health problems related to exposure such as PTSD, depression, compulsive use, and hypersexualized behavior, is to turn a blind eye on an environmental risk factor of epic proportions. Ignoring the role porn plays in socializing our children and youth is a dereliction of our collective duty to protect the safety and well-being of the next generation.

The most important point I want to make today is that mainstream porn, the porn you see within 15 seconds of typing "porn" into Google, is cruel, abusive, violent, and **free**. No credit card is needed to enter this world of sexual abuse. Advances in technology, especially mobile devices, enable pornography to be viewed anywhere, anytime, by any child or adult who has Internet access. Never before have we reared a generation of boys on hardcore porn, and we are in the midst of a social experiment that few have signed on for, but everyone will ultimately pay a price for.

Today's porn is not your father's Playboy. Type "porn" into Google, and you won't see anything that looks like the old pinups; instead, you will be catapulted into a world of sexual cruelty and brutality where women are subject to body-

punishing sex and called vile names. You will see women being gagged with a penis till they almost pass out, spat on, penetrated by multiple men in all orifices, ejaculated on, and treated as disposable objects.

In porn, sex is not about making love. The feelings and emotions we normally associate with such an act—connection, empathy, tenderness, caring, affection—are missing. In their place are those emotions we normally associate with hate—fear, disgust, anger, loathing and contempt. In porn, the man “makes hate” to the woman, as each sex act is designed to deliver the maximum amount of degradation. Yet, the women are still portrayed as enjoying these scenes. Now commonplace and pervasive throughout the Internet, these images are shaping the way a whole generation of boys thinks about and relates to sex, relationships, and intimacy.

Today, the average age of first viewing porn is eleven years old. This is not an unfortunate byproduct of easily accessible porn, but a business strategy developed by the porn industry to attract younger and younger viewers. The younger the boy starts masturbating to porn, the more likely he is to develop habitual and/or addictive porn use. Porn is often misleadingly defined as fun or fantasy, but in reality, it is a predatory multi-billion dollar industry that has our sons (and daughters) in its crosshairs.

Andrew Edmond, President and CEO of Flying Crocodile, a \$20 million pornography Internet business, succinctly explained why so few people understand the scale and scope of the industry. He stated that “a lot of people [outside adult entertainment], get distracted from the business model by [the sex]. It is just as sophisticated and multilayered as any other market place. We operate just like any Fortune 500 company.”¹ Similarly, 2009, Steven Yagielowicz, a well known porn industry journalist, stated in an article for XBIZ:

The corporatization of porn isn't something that will happen or is happening, it is something that has happened—and if you're unaware of that fact then there truly is no longer a seat at the table for you. It's Las Vegas all over again: the independent owners, renegade mobsters and visionary entrepreneurs pushed aside by mega-corporations that saw a better way of doing things and brought the discipline needed to attain a whole new level of success to the remaining players.²

The size and scale of the pornography business has important cultural implications. The entertainment industries do not just influence us, they constitute our dominant culture, our identities, our conceptions of the world, and our norms of acceptable behavior. Moreover, in the void of comprehensive school-based sex education, porn fills the knowledge gap for children and youth and significantly shapes adolescent sexual templates. This is especially

worrisome given the findings from a comprehensive content analysis of contemporary porn by Bridges (2010) and her team. They found that the majority of scenes from 50 of the top-rented and downloaded porn movies contained both physical and verbal abuse targeted against the female performers. Physical aggression, which included spanking, open-hand slapping, and gagging, occurred in over 88% of scenes, while expressions of verbal aggression—calling the woman names such as “bitch” or “slut”—were found in 48% of the scenes. The researchers concluded that 90% of scenes contained at least one aggressive act if both physical and verbal aggression were combined.³

Porn as a major industry engages in the normal business activities that other industries pursue. Porn businesses raise capital, hire managers and accountants, undergo mergers and acquisitions, organize trade shows, have their own lobbying group (The Free Speech Coalition, FSC) and enter into co-marketing arrangements with other companies. While these activities are in themselves unremarkably normal business operations, they signal that porn is becoming a mainstream, normal, business—a legitimate business, being taken more seriously by Wall Street, the media, and the political establishment. The porn business is embedded in a complex value chain, linking not just film producers and distributors, but also bankers, software producers, Internet providers, cable companies, and hotel chains. These other businesses become allies and collaborators, with a vested interest in the growth and continued viability of the porn business. Banks, for example, make money from the porn industry, as the revenue it generates is invested in stocks, bonds, mutual funds etc. Indeed, everyone in the supply chain from production to consumption is complicit in building and strengthening the porn industry.

This is a business with considerable political clout, with the capacity to lobby politicians, engage in expensive legal battles, and use public relations to influence public debate. Like the tobacco industry, this is not a simple matter of consumer choice; rather the business is increasingly able to deploy a sophisticated and well-resourced marketing machine, not just to push its wares but also to cast the industry's image in a positive light. Indeed, one of the key myths that the industry promotes is that porn is harmless fun: that it is all about fantasy and play, and that we should not take it too seriously.

Over forty years of empirical research tells a very different story. My colleagues here today will discuss the major findings, but to give a snapshot view of the research, I will list some of the most consistent results that span a range of studies using varied methodologies.

Youth with greater pornography exposure have been found more likely to ⁴

- have sex at a younger age
- engage in risky sexual behavior
- have negative attitudes toward using condoms
- have oral sex, anal sex, and sex with multiple partners, which increases their risk for sexually transmitted infections
- view women as sex objects
- have attitudes that support violence against women
- believe “rape myths”—beliefs that justify or defend rape
- report decreased empathy for rape victims
- choose not to intervene when witnessing college sexual assault
- have increasingly aggressive behavioral tendencies
- report increased interest in coercing partners into unwanted sex acts
- experience increased difficulty in developing intimate relationships with partners
- report decreased sexual interest in their girlfriends or wives
- develop compulsive Internet use

Teen Porn as a Major Growth Niche

In 2002, the FSC took a case to the US Supreme Court to change the 1996 Child Pornography Prevention Act, which prohibited any image that “is, or appears to be, of a minor engaging in sexually explicit conduct.” Arguing that the term “appears-to-be” limiting the free speech of the pornographers, the coalition succeeded in removing this “limitation,” and the law was narrowed to cover only those images in which an actual person (rather than one who appears to be) under the age of eighteen was involved in the making of porn. Thus, the path was cleared for the porn industry to use either computer-generated images of children or real porn performers who, although age eighteen or over, are “childified” to look much younger.

Since that 2002 decision, there has been an explosion in the number of sites that childify women, as well as those that use computer-generated imagery. Pseudo Child Pornography (PCP) sites that use adults (those people defined by law as eighteen years of age or over) to represent children are never called child pornography by the industry. Instead, almost all of those sites that childify the female porn performer are found in the sub-genre called “teen-porn” or “teen-sex” by the industry. There are any number of ways to access these sites, the most obvious one being through Google. Typing “Teen Porn” into Google yields over sixteen million hits, giving the user his⁵ choice of thousands of porn sites. A number of the hits are actually for porn portals where “teen porn” is one sub-

category of many, and when the user clicks on that category, a list of sites comes up that runs over ninety pages.

Many of the actual sites in this category have the word “teen” in the name—for example, *Solo Teen*, *Solo Teen Babe*, *Sexy Teen Girl*, *Teen Cuties*, and *Solo Teen Girls*. When the user clicks on any one of these sites, the first and most striking feature is the body shape of the female porn performers. In place of the large-breasted, curvaceous bodies that populate regular porn websites, one sees small-breasted, slightly built women with adolescent-looking faces that are relatively free of makeup. Many of these performers do look younger than eighteen, but they do not look like children, so the pornographers use a range of techniques to make them appear more childlike than they actually are. Primary among these is the use of childhood clothes and props such as stuffed animals, lollipops, pigtails, pastel-colored ribbons, ankle socks, braces on the teeth, and, of course, the school uniform. It is not unusual to see a female porn performer wearing a school uniform, sucking a lollipop, and hugging a teddy bear while she masturbates with a dildo.

Evidence as to just how this win on the part of the FSC shaped the content of mainstream porn can be found in the fact that “teen porn” has grown rapidly, and is now the largest single genre, whether measured in terms of search term frequency or proportion of web sites. In original research I conducted in 2013 with David Levy (Professor of Management at U/Mass Boston), for the Department of Justice in the case [*Free Speech Coalition, Inc., et al. vs. Holder*,] a Google Trends analysis indicates that searches for “Teen Porn” have more than tripled between 2005–2013, and teen porn was the fastest-growing genre over this period. Total searches for teen-related porn reached an estimated 500,000 daily in March 2013, far larger than other genres, representing approximately one-third of total daily searches for pornographic web sites. Moreover, the content of the three most popular “porntubes,” the portals that serve as gateways to online porn contained about 18 million teen-related pages—again, the largest single genre and about one-third of the total content.

There is a wealth of research within media studies that shows that people construct their notions of reality from the media they consume, and the more consistent and coherent the message, the more people believe it to be true.⁶ Thus, the images of girls in PCP do not exist within a social vacuum, but rather are produced and consumed within a society where the dominant pop culture images are of childfied women and hypersexualized, youthful female bodies. Encoded within all of these images is an ideology that encourages the sexual objectification of the female body, an ideology that is internalized by both males and females, and has become so widespread that it normalizes the sexual use and abuse of females. This does not mean that all men who masturbate to

PCP will rape a child, or even be sexually attracted to a child. What it does mean, however, is that on a cultural level, when we sexualize the female child, we chip away at the norms that define children as off limits to male sexual use. The more we undermine such cultural norms, the more we drag girls into the category of "woman," and in a porn-saturated world, to be woman is to be a sexual object deserving of male contempt, use, and abuse.

To prevent unprecedented emotional, psychological, and physical damage to the generations born in the digital age, we must first recognize pornography as a public health crisis, and then respond with skillfully prepared and executed intervention. The pornography epidemic requires collaborative, comprehensive, evidence-based response across the lifespan and diverse ecology of human experience. Committed to urgent, effective action, Culture Reframed pursues a multilevel, multidisciplinary, multiculturally competent solution to prevent, build resilience to, and ultimately eradicate the harmful effects of pornography. We aim to build the public's capacity to deal with pervasive sexually violent online pornography through education and support that promote healthy development, relationships, and sexuality.

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- 1 Brandweek, October 2000, v41, p 1Q48.
- 2 Yagielowicz, Stephen. 2009. The State of the Industry. *XBIZ News*. <http://www.xbiz.com/articles/106157/>. Accessed March 20, 2009
- 3 Bridges, A., Wosnitzer, R., Scharrer, E., Sun, C. & Liberman, R. (2010). Aggression and Sexual Behavior in Best-Selling Pornography Videos: A Content Analysis Update. *Violence Against Women*, 16, 1065-1085
- 4 For a more detailed account of the studies, see Owens, E.W., Behun, R., Manning, J., & Reid, R. (2012). The impact of Internet pornography on adolescents: A review of the research. *Sexual Addiction and Compulsivity* 19, 99-122
- 5 I refer to the user in the masculine since the majority of porn consumers are men. While it is impossible to give an accurate breakdown of male and female consumers, Mark Kernes, senior editor of the pornography trade magazine *Adult Video News*, stated: "Our statistics show that 78% of the people that go into adult stores are men. They may have women with them, but it's men, and 22%, conversely, is women or women with other women or women alone." Interview at the Adult Entertainment Expo in Las Vegas with Robert Jensen, January 7, 2005.
- 6 See Jhally, S. (2012). "Image-Based Culture: Advertising and Popular Culture." *Gender, Race, and Class in Media*. Eds. Gail Dines and Jean Humez. Thousand Oaks, CA: Sage, 199-204

Why Pornography is a Public Health Issue

Cordelia Anderson, M.A.

Founder and Director of Sensibilities Prevention Services

- A therapist calls first thing in the morning; she is looking for a referral for a ten-year-old girl who is developing problematic thoughts and behaviors after repeated exposure to pornography. After a training on the impact of pornography, a participant says she is concerned about her own porn use and preference for violent images. It never bothered her before; she is a therapist who works with men who've committed sex offenses. However, since becoming a mother she is no longer comfortable with the shift in her own arousal, which is focused solely on these sexually violent images.
- A mother called frustrated and in search of better help for her family. Her spouse had a life-threatening illness and they were also dealing with a fourteen-year-old son who quickly became so obsessed with Internet pornography that they had to lock up all their technology. Attempts to find a therapist who would actually talk about the pornography and the way it had become problematic in his life failed. Even after the boy's behavior escalated to include behaving in sexually inappropriate ways with a young girl, the therapists were not attentive to his and his family's stated concerns with his pornography use.
- A young female college student said her abuser seemed to get more aroused the more she suffered. It seemed like he was reenacting a scene from pornography.
- An adult male survivor of child sexual abuse who often speaks about his childhood victimization only recently began considering how his early trauma was linked to what he now considered to be his problematic use of pornography.

Individual stories and realities do not constitute a public health concern, but because the reach of today's pornography—through ever expanding and changing technologies—create what some researchers, academics, and activists have called “the largest unregulated social experiment ever,” (Dines, 2010; Seto, 2013; Carr, 2014) we have reason to be concerned. When the increased access and excessive use of pornography is linked to problematic behaviors, this trend then becomes a public health issue. As a public health concern we must go

beyond the individual responsibility to also include a system-wide response to address pornography's toxic reach and impact.

Yesterday's pornography is today's mainstream media and it, along with the pornography industry, has been the country's main "sex" educator of young people. Contrary to common arguments protecting the industry, there is ample research that shows a wide-range of harms from ease of access, exposure and use. Understanding the research that is outlined by the other speakers that are part of this Symposium is critical to laying the foundation of pornography as a public health issue. Additionally, many children/teens learn more about sex, gender and relationships from mainstream media (pop culture) and today's pornography than from parents and other caring adults in their lives. Certainly adults who care about the healthy development of children need to know what they are learning and how to have deeper conversations with their children to counter the harm. However, the harms related to pornography cannot be addressed only through individual parent's application of filters, education, treatment, prosecution, or incarceration of sex offenders. This massive unregulated social experiment has been allowed to go unchecked for too long and requires broader social change and leadership. Until now, our approach to this growing concern has been to allow complete individual freedom and choice, but few are considering the long-term costs to their own health or the expense of the broader well being of society.

Part of the challenge is that images and other depictions of sexual harm have become normalized in the hyper-sexualized mainstream media. Images of women as sexual objects in mainstream media and especially in pornography have become so common as to no longer be a novelty. Novelty sells, and from a pornography business point of view, is needed to keep the viewers' attention (Wilson, 2013). So business decisions were made to use images using younger and younger children, designed to shock and hook more and more "customers."

Many argue that pornography and the industry behind it are simply an established reality that is harmless, or is too big and pervasive to challenge. Other defenders argue that any concerns about pornography stem only from a religious or moral basis or from those who are anti-male, or who have repressive or prudish sexual norms. However, research shows that in actuality the content of pornography is far more about violence than sex (Bridges, et.al. 2010). Equally disturbing is the fact that excessive use of pornography is harmful, not helpful, to sexual functioning and development for males and females of all ages. Recent research has shown that a child or teen's exposure to violent pornography or excessive exposure to pornography can contribute to changing a child's brain, social interactions, and emotional skills, well into their mid-20s (Anderson, 2011).

Why a Public Health Approach?

Pornography has been identified as a public health concern for over 25 years (Perrin, et. al., 2008; Koop, 1987). However, rising concern about its increasing violent content and ever-expanding reach through advancing technologies has increased this concern in recent years. Finally, the mounting research showing the negative impact of viewing violent pornography on health and on the brain, especially to developing children and adolescents, has created urgency for public action. An important aspect of a public health perspective is adding resources to problems that affect individuals or groups beyond their capacity to correct them. In a public health approach, the responsibility shifts from that of individuals alone to the public as a whole, to address external social causes or influences and hold them accountable for their impact on individuals and society (Wallack, 1989).

Public health is a societal strategy to assure the conditions are in place so that people can be healthy (Institute of Medicine, 2001). Therefore, strategies to counter the harm of pornography need to target the whole population. Public health approaches have worked with many other social issues that, at the time, seemed too entrenched to change including tobacco control versus an individual's right to smoke; use of seat belts and car seats versus individual freedoms; concern for shaken baby syndrome versus a parents' rights to discipline; mandated vaccines versus individual parental rights to choose health treatment for their child. But over time, when it was society's decision to step into the debate, the public health of our society has been improved. As George Albee, a public health leader in 1983 said, "No mass disorder afflicting mankind is ever brought under control or eliminated by attempts at treating the affected individual" (Cohen, Chavez, & Chehimi, 2007).

What is missing from the current conversation is our society's responsibility to invest in primary prevention. Primary prevention is taking action to prevent health and social problems *before* their onset. Primary prevention requires fostering health-supportive community environments through a range of strategies that make the healthy choice the easy choice (Cohen, Chavez, & Chehimi, 2007).

Public Health Model

The Center for Disease Control identifies four elements of a public health model as: 1) define and monitor the problem, 2) identify risk and protective factors, 3) develop and test prevention strategies, and 4) assure widespread adoption (Center for Disease Control & Prevention). Following this format, some factors to consider when applying this approach to pornography include:

1. Define the problem: Part of the challenge of taking a public health approach is that we have not consistently defined what we mean by the term “pornography.” And we have learned that how this issue has been framed will have an impact on how we define and attempt to resolve the problem. Some argue that a standard definition of pornography such as ‘sexually explicit materials designed for sexual arousal’, or ‘visual sexual stimuli’, or ‘sexually explicit Internet materials’ needs to be neutral. Yet for those who are persuaded by the research that pornography is harmful, especially to children, are concerned that the definition of pornography should not be neutral, especially when it enters the mainstream media.

This definition (or frame) as a neutral approach has far-reaching impacts. For example, the laws in the United States on this topic refer to “pornography” that involves children as “child pornography.” In contrast to this “neutral approach,” around the world these same illegal materials are recognized as harmful to the child and referred to as “child sexual abuse images” or “child abuse images.” Through these abuse-oriented terms, these images are recognized as the documentation of sexual abuse, not of sex. These images of children and young teens are recognized in the United States as evidence of crimes and are not something protected as free speech. However, once the person being exploited reaches the age of eighteen, the arguments go back to harmlessness, choice, and just sex; any victimization or exploitation is ignored for the benefit of those who use and profit. Imagine the difference if pornographic images were defined as ‘sexually *exploitive* images’ or ‘sexual violence images’ irrespective of the ages of those portrayed.

Various studies document the harms of viewing pornography including sexually aggressive behavior in adults and youth, sexually reactive behaviors in youth, desensitization to others in sexual situations, rape supportive attitudes, arousal to increasingly violent content, increased levels of sexual insecurities, and difficulties with intimacy or sexual functioning such as erectile dysfunction in males (Deem, 2014).

2. Identify risk and protective factors: Further research and analysis is needed to identify the various risk and protective factors within the pornography industry for victims (e.g., adult “actors,” child victims, as well as those harmed by exposure), the adult, adolescent and even children who are users, the partners and family of users, and society in general. Additionally, there is research that provides some indication of a “second hand effect” from pornography (World Vision, 2006). This means that if a parent manages to protect their children from any exposure in or outside of the home, their children are likely to be effected by the attitudes, behaviors and expectations of others who were exposed. Like with tobacco, it is not only the individual user’s “choice” but the effect of the second hand smoke all around the user.

3. Develop and test programs and strategies: There are a number of emerging programs and strategies that could have an impact on limiting the negative consequences of unlimited access to pornography across all age groups. These would include programs to educate children, parents, and professionals about the impact of pornography, especially on the developing brain, along with broader initiatives to engage communities, build broader coalitions, change organizational practices and identify necessary policy changes. One example is an “opt in” rather than an “opt out” strategy that requires default filters that automatically block access to pornography unless an individual opts in. Beyond individual homes, this can help minimize unwanted exposure to pornography in hotels or other public access places. In these cases, adults would need to make a conscious decision to view pornography rather than shifting the burden to parents to understand all of the points of access to these materials available to their children.

4. Assure widespread adoption: Once programs are tested and the most effective strategies are identified, financial support is needed to disseminate information and programs while continuing to evaluate for adaptability. Policies can also set the expectation that no family or child is left alone to deal with these issues, but rather that protecting our children and adolescents from harm is a community and societal responsibility

An Example that Change is Possible: Smoking & Tobacco Industry

Remember when doctors were depicted in ads heralding the benefits of smoking? Remember when smoking was a regular activity of cartoon characters that children watched while playing with their candy cigarettes? Remember when the Marlboro man was depicted as the embodiment of manliness and sexiness? Smoking was such a norm, even in confined spaces like airplanes that no one could have imagined a smoke-free area in a restaurant much less a complete ban of smoking in an entire public building.

When people began to recognize the health consequences of smoking, our initial approach was to educate the individual and encourage him or her to stop smoking. Over time, despite the industry’s denial, it became evident that smoking was addictive and that the harm was done to the individual and to the public all for the industry’s profit. The pornography industry now, in many ways equates with the dominance of the tobacco industry and social norms of smoking of just a few decades ago (Eberstadt, 2009). Now that research has documented pornography’s harm to individuals and the public— especially children—it is time for a societal response on this issue as well.

The Environment Matters

In our current environment, hypersexualized media including pornography is easily accessible and educational messages about sexuality are regulated and censored. This is arguably a sexually toxic environment.

The term, “normalization of sexual harm” refers to the process by which a harmful idea or behavior goes from clearly problematic to *an accepted part of societal culture*. Once accepted it becomes “just the way it is” or “just what people do.” With further indoctrination and barriers removed, it can even become viewed as beneficial or preferential. Additionally, it becomes beyond questionable; if questions are raised, then the questioner gets identified as the problem, rather than the image or social norm they are questioning (Anderson, 2011). Consider the “soft core pornography” of the 1960s that is non-existent as a stand-alone industry today because it is currently found in advertisements, films, videos, and other media formats, as well as a wide-range of merchandise.

There are many examples of products that depict this normalization of sexual harm but a particularly egregious category is the infant onesies that promote messages such as: “pimp squad junior,” “playground pimp,” and “mother sucker.” Keep in mind that no child will think of, create, produce, market or buy these products—it is the adults surrounding that child who do so. Toxic decisions make sense in a toxic environment. Given today’s sexually toxic environment it becomes far less easy for people to make the healthy choices expected of them and that they are responsible.

Earlier and earlier exposure to pornography is just one impact of this growing normalization of sexual harm. One study indicated that when the age of first exposure to pornography was under eleven years old, the adolescent developed sexual sensation-seeking behaviors and demonstrated more sexual risk-taking as a young adult, both female and male (Sinkovic, 2014). Another study shows a significant link for both boys and girls between sexting and pornography use (Liebert, 2014). A study of fourteen to twenty-one-year-olds found that nearly one in ten of them, 9 % report some type of sexually abusive behaviors and that 9 % had significantly higher exposure to and use of violent sexual materials (Ybarra & Mitchell, 2013). Another powerful indicator of the pervasiveness of pornography in the environment and its toxicity is in the demand for the relatively new Fortify Program. Fortify offers on-line treatment for young people who reach out for help because of the negative impact pornography is having on their life. According to the June 2015, data from the program, the average age of first pornography exposure for youth reaching out to the Fortify program for help is 11.9. Of the applicants to the program, 9 % have viewed pornography by age eight, 24 percent by age ten, and 77 percent by age 13. Of the 16,185 applicants

to the program between February 2014 and July 2015, 85% are males and 15% are females. The Fortify program has great promise and is showing a significant reduction of pornography use and symptoms of depression among its participants.

The Cat is Out of the Bag, but it is Not Too Late

There is a lot that can be done through individual and collective action at local, state and federal levels. The Centers for Disease Control and Prevention have documented significant achievements within public health including:

- immunizations
- motor vehicle safety
- workplace safety
- control of infectious diseases (typhoid: hygiene and sanitary conditions)
- decline in death from heart disease and stroke (identification of risk factors)
- healthier mothers and babies
- family planning
- fluoride in drinking water
- tobacco as a health hazard

To counter the pervasive reach of pornography, an equally extensive set of initiatives are needed to counter and ultimately prevent the harm.

Invest in Research

Efforts are needed to draw attention to the existing research that shows the harmful impact of pornography/sexually exploitive images while simultaneously investing in the promotion of accurate and evidence-based information on sexual development and sexual and relational health. Further funding is needed for more research on expected child and adolescent socio-sexual development. In addition, more research is needed on the specific impact of pornography on various groups—the risks and protective factors.

Name the Harm & Ignite Champions for Change

Massive changes happened around child sex trafficking when government and business leaders stepped up in concert with survivors and non-profits agencies to name the harm and identify critical changes needed. It is time to name the links between pornified or hyper-sexualized mainstream media, the

pornography industry, and a wide range of harms including demand for children and youth as sexual objects and commodities. It's time to build a much broader coalition of diverse groups working together in a movement to ignite more champions for change and to take back sexual and relational health and well-being. Leadership is needed among government and business leaders and men who are willing to speak to the harm of the pornography industries who profit at the expense of their health and well-being. Adults need to address the gendered socialization of girls, also as well as boys who are groomed to behave as users, takers, and pornography makers until they cross a line and become identified as sex offenders who then need to be registered as such. Initiatives are also needed to engage youth to help them see how the industry is manipulating and grooming them and then how to take action to counter the harm. The collective strengths of new and long-term leaders on this issue, non-profits, and others with direct-lived experiences as a result of the harms of pornography are all needed to focus on prevention and broad-based, social change. Education and broader support efforts are needed for all these groups, including parents, so they can effectively educate their children; but it is important not to put all of the burden on individual parents to filter out pornography. In fact, wouldn't it be a whole lot better if they didn't have so much to filter against and weren't the only ones concerned about protecting their children from toxic images?

Policy

For major social change to be effective it has to go beyond education and awareness to a broad range of actions across the spectrum of prevention. In England, with the leadership of Prime Minister Cameron, there was an initiative to create an 'opt in' versus an 'opt out' approach to limiting access to pornography via the Internet. The idea is that for those who want to view pornography, they simply sign up for it. It means that adults need to make a conscious decision to view this material. The various filters that are automatically put into all technology in the UK can then be removed to provide access to pornography for those who choose to consume it. This alternative highlights the shift towards empowering consumers to make an active decision to view pornography rather than the provision of unlimited access until you decide to learn about and install the appropriate filters on every technology at home. Furthermore, parents currently have to consistently view cell phones, iPads, iPods, and so much more because they can't be assured that there are safety nets installed in every place a parent or child may go. Iceland is another interesting example of a country that decided against unlimited access to pornography based on the fact that gender equity is part of their constitution. Advertisers in the US could make a difference by picking up on the work of the Dangerous Promises campaign – a volunteer effort amongst the wine companies to not use women's bodies as objects to sell their product. Perhaps a start is agreement amongst advertisers to not use

sexually exploitive images of children to sell products. Other policy actions that could help prevent harm from pornography include requiring accurate, age appropriate, healthy relationship and sexuality education that includes a broader understanding of consent and media literacy skills to challenge the tsunami of unhealthy images young people are exposed to.

Truth Campaign

When the tobacco industry was held accountable, part of the settlement went in part to a Truth Campaign that allowed for multiple media exposures available at that time to creatively demonstrate the lies in typical advertisements and to name the harm. A Truth Campaign is needed to address the lies of pornography and to promote health.

Priority of Health Groups

Given the impact of pornography on the health of many, places like the Institute of Medicine, the office of the Surgeon General, and the Center for Disease Control, should also have this as a priority area along with state departments of health and local public health departments. For instance, in 2014, the Minnesota Department of Health sponsored a daylong data symposium that brought in a range of professionals to address the issue and a panel of those directly affected while also outlining potential areas for action.

Closing

Perhaps, sooner rather than later, unlimited access to increasingly violent pornography will be recognized as a barrier to sexual and relational health. Perhaps, sooner rather than later, it will be seen as a barrier to prevention of all types of sexual abuse, exploitation, and violence. Perhaps, sooner rather than later, pornography will be also recognized as a barrier to gender equity and contributor to harmful gender socialization. The pervasiveness and ease of access to pornography is a social justice and public health concern. By building on the growing body of research, it is possible to transform what is often a sexually toxic culture to one where sexual dignity, sexual respect and equity become modeled as the expected norms. **Indeed, by not doing all we can to limit our constant exposure to sexually exploitive images/pornography—at least**

to children—while also not allowing for accurate health based information, to promote sexual health and to prevent the harm—we are contributing to a type of sexual neglect. Other public health campaigns have shown that major social change is possible and health can be reclaimed. It is time to take similar actions against pornography as a barrier to public health.

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- For an extensive resource list see: cordeliaanderson.com/Resources/Documents/Porn%20Resource%20List%204%202015.pdf

Pornography and the Brain

Public Health Considerations

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For too long, pornography has been protected as a First Amendment right, with little consideration for the rights of those who might be harmed in its production and consumption. The time has come to consider pornography from the perspective of public health. As a medical doctor, I would like to address two considerations regarding pornography that have been largely ignored in the past, and which now warrant our attention. First, pornography is a biologically addictive medium that alters brain reward and motivation systems in a negative way. In the past, addiction was defined only from the perspective of the behavioral sciences, whereas the definition of addiction is now increasingly informed by the biological sciences. For instance, drug addiction has long been associated with shrinkage in key brain areas important in valuing and processing reward and judgment. It has also been associated with negative metabolic, or functional, changes in how the reward system works. Based on an evolving understanding of how the chemistry of the brain changes with both drug addiction and with behavioral addictions such as to food, sex, and gambling, Dr. Clark Watts and I predicted in a paper published in the journal *Surgical Neurology International* in 2011 that pornography would be associated with shrinkage in the brain's reward areas, and that it would also demonstrate similar metabolic changes in these same reward areas, both of which are seen in drug addiction.¹ This hypothesis was based on our understanding that similar DNA mechanisms are involved with craving states associated both with drug addiction and with natural rewards as well. I was involved in a study published in the *Proceedings of the National Academy of Sciences (PNAS)* which demonstrated that one of the most basic natural drives, the craving for salt, is driven by the same DNA transcripts which drive drug craving. Our paper summarized that addiction 'usurps' these natural craving pathways.² In an article about this paper, *National Geographic* used the work 'hijack' to describe how addiction changes the perspective of the brain's reward mechanism.³

1 Hilton, D. L., & Watts, C. (2011). "Pornography Addiction: A Neuroscience Perspective." *Surgical Neurology International*, 2, 19.

2 Liedtke, W. B., McKinley, M. J., Walker, L. L., Zhang, H., Pfenning, A. R., Drago, J., et al. (2011). Relation of addiction genes to hypothalamic gene changes subserving genesis and gratification of a classic instinct, sodium appetite. *Proceedings of the National Academy of Sciences*, 108(30), 12509_12514.

3 Brian Handwerk, Cocaine Addiction Uses Same Brain Paths as Salt Craving. *National Geographic Daily News*. July 19, 2011.

In the last year, our prediction that these changes would be associated with pornography addiction has been verified. A study published in the *Journal of the American Medical Society Psychiatry (JAMA Psychiatry)* out of the Max Planck Institute in Germany demonstrated that pornography is associated both with shrinkage in the brain's reward center as well as with impairment in connectivity with the frontal judgment and control areas.⁴ This shrinkage was more pronounced in the heaviest users. While this was a correlational study rather than a longitudinal one, causation must be inferred based on other prospective data. However, the fact that the shrinkage was more pronounced in heavier pornography users verses those with less hours per week is certainly supportive of causation when considering what we know about how our brains change with learning.

For instance, until the mid '90s we all thought that learning did not change the physical structure of the brain. However, in 1995 a study published in the journal *Science* in 1995 demonstrated that the part of the brain that controls hand function is enlarged in violin players, and that this effect is increased the earlier they begin playing.⁵ Other learning modalities have been found to cause physical enlargement in the brain, with a diversity encompassing taxi cab drivers and even jugglers. One study published in the *Journal of Neuroscience* in 2006 showed that medical students' brains show enlargement in key learning areas when scanned before and after a three-month period of studying for exams.⁶ These are prospective, rather than correlational, and thus support a causative role for learning in changing the structure of the brain. For instance, in a study in the journal *Nature* on learning and juggling, the authors summarize: "This discovery of a stimulus-dependent alteration in the brain's macroscopic structure contradicts the traditionally held view that cortical plasticity is associated with functional rather than anatomical changes."⁷ Another study in *Behavioral Brain Research* voices the same conclusion: "Contrary to assumptions that changes in brain networks are possible only during critical periods of development, modern neuroscience adopts the idea of a permanently plastic brain."⁸ Zatorre et al., in the journal *Nature Neuroscience* said in 2012: "The brain is the source of behavior, but in turn it is modified by the behaviors it produces ... learning sculpts brain structure."⁹

4 Kuhn S., Gallinat J. (2014). *JAMA Psychiatry*, May 28

5 Elbert, T., Pantev, C., Wienbruch, C., Rockstroh, B., & Taub, E. (1995). Increased use of the left hand in string players associated with increased cortical representation of the fingers. *Science*, 270, 305-307.

6 Draganski, B., Gaser, C., Kempermann, G., Kuhn, H. G., Winkler, J., Buchel, C., et al. (2006). Temporal and spatial dynamics of brain structure changes during extensive learning. *Journal of Neuroscience*, 26(23), 6314-6317.

7 Draganski, B., Gaser, C., Busch, V., Schuierer, G., Bogdahn, U., & May, A. (2004). Neuroplasticity: Changes in grey matter induced by training. *Nature*, 427, 311-312.

8 Draganski B, May A (2008) Training-induced structural changes in the adult human brain. *Behav Brain Res* 192:137-142.

9 Zatorre, R. J., Field, R. D., & Johansen-Berg, H. (2012). Plasticity in gray and white: Neuroimaging changes in brain structure during learning. *Nature Neuroscience*, 15, 528-536.

Kaeur and Malenka, in a paper in *Nature Neuroscience Reviews* looking at how brain cell connections are affected by addiction said, "Addiction represents a pathological, yet powerful, form of learning and memory."¹⁰ Given what we now know about how learning changes the brain, would we expect to see physical changes in the brain in addiction? We would, and we do. Virtually every study looking at addiction has shown shrinkage and abnormality in the reward areas and in judgment centers. These include addictions to drugs such as cocaine,¹¹ methamphetamine,¹² and opiates,¹³ and to behavioral addictions such as to food,¹⁴ sex,¹⁵ the Internet,¹⁶ and as we have discussed, pornography.¹⁷ When we look at the Kuhn study showing shrinkage with pornography, and interpret the results in the context of the other studies, we would have to come to the ludicrous conclusion that if pornography does not cause at least some of the shrinkage seen, it is the only learning to which the brain is immune!

Incentive sensitization is where the brain's reward center is hypersensitive to cues associated with addiction. For instance, when a person with a cocaine addiction is shown a picture of a line of cocaine, the brain's reward center lights up more than a person who is not addicted and shown the same picture. Voon et al., in a study done at Cambridge University and published in two papers in the journal *PlosOne* last year found that the brains of those addicted to pornography light up just like the cocaine addicts when shown pornography cues as compared to normal controls. They also found that pornography addicts demonstrate a wanting/liking split, where the addict craves the drug or behavior of choice, but does not even like it anymore. This is a hallmark of addiction. They summarize: "These studies together provide support for an incentive motivation theory of addiction underlying the aberrant response towards sexual cues in CSB [compulsive sexual behaviors]."¹⁸

10 Kaeur JA, Malenka JC: "Synaptic plasticity and addiction." *Nature Reviews Neuroscience* 8, 844-858 (November 2007)

11 Franklin, T. E., Acton, P. D., Maldjian, J. A., Gray, J. D., Croft, J. R., Dackis, C. A., et al. (2002). Decreased gray matter concentration in the insular, orbitofrontal, cingulate, and temporal cortices of cocaine patients. *Biological Psychiatry*, 51(2), 134-142.

12 Thompson, P. M., Hayashi, K. M., Simon, S. L., Geaga, J. A., Hong, M. S., Sui, Y., et al. (2004). Structural abnormalities in the brains of human subjects who use methamphetamine. *Journal of Neuroscience*, 24(26), 6028-6036.

13 Lyoo, K., Pollack, M. H., Silveri, M. M., Ahn, K. H., Diaz, C. I., Hwang, J., et al. (2005). Prefrontal and temporal gray matter density decreases in opiate dependence. *Psychopharmacology*, 184(2), 139-144.

14 Lyoo, K., Pollack, M. H., Silveri, M. M., Ahn, K. H., Diaz, C. I., Hwang, J., et al. (2005). Prefrontal and temporal gray matter density decreases in opiate dependence. *Psychopharmacology*, 184(2), 139-144.

15 Schiffer, B., Peschel, T., Paul, T., Gizewski, E., Forshing, M., Leygraf, N., et al. (2007). Structural brain abnormalities in the frontostriatal system and cerebellum in pedophilia. *Journal of Psychiatric Research*, 41(9), 754-762.

16 Yuan K, Qin W, Wang G, Zeng F, Zhao L, et al. (2011) Microstructure Abnormalities in Adolescents with Internet Addiction Disorder. *PLoS ONE* 6(6): e20708. doi:10.1371/journal.pone.0020708

17 Voon, V., Mole T.B., Banca P., Porter L., Morris L., Mitchell S., Lapa T.R., Potenza M.N., Irvine M. (2014). Neural Correlates of Sexual cue Reactivity In Individuals with and without Compulsive Sexual Behaviors. *Plos One*, July 11, 2014 DOI: 10.1371/journal.pone.012419

18 Mechelmans, D.G., Irvine, M., Banca, P., Porter, L., Mitchell, S., Mole, T.B., Lapa, T. R., Harrison, N. A., Potenza, M. N., Voon, V. (2014). Enhanced Attentional Bias towards Sexually Explicit Cues in Individuals with and without Compulsive Sexual Behaviours. *PlosOne*. DOI: 10.1371/journal.pone.0105476

Pornography, particularly as presented via the Internet, is a supranormal stimulus. Nicholas Tinbergen, a Nobel Prize winning biologist, coined the term. He did an experiment where he painted plaster bird eggs bigger and brighter than normal eggs and found that the birds would try to roost their plaster eggs and ignore the real eggs. Even more relevant to the present discussion, he did another experiment with a butterfly species where the males were attracted to the females based on the color of their wings. He painted paper butterfly wings bigger and brighter than normal. When given the choice between the real and the artificial, the males chose and tried to mate with the artificial females and ignored the real females.

We are seeing a generation of adolescent males conditioned to prefer the endless novelty of porn to actual females. As feminist Naomi Wolfe said, "For the first time in human history, the images' power and allure have supplanted that of real ... women. Today, real ... women are just bad porn."¹⁹ I described this phenomenon in a paper on pornography as a supranormal stimulus and on its potential to invoke a neuroplastic response²⁰

The second issue is exploitation. Pornography conditions men to view women as objects to exploit and use. It conditions women to become those objects. The brain's mirror systems are involved in this conditioning process. One functional MRI study looking at the brain's mirror systems found that "the mirror-neuron system prompts the observers to resonate with the motivational state of other individuals appearing in visual depictions of sexual interactions."²¹ What is that motivational state? Male pornography performer Bill Margold described it as follows: "I'd like to really show what I believe the men want to see: violence against women. I firmly believe that we serve a purpose by showing that."²² We should not be surprised, then, that sexual assault on college campuses and in the military is becoming rampant. Pornography apologists such as Milton Diamond and Anthony DeAmato published correlative data with no prospective perspective in the past claiming that because sexual assault was decreasing and pornography was increasing, men would watch violent pornography and then be content not to go and do likewise. If this is true, car advertisers must beware; consumers will be more inclined to admire the advertised cars instead of buy! However, no one today is trying to claim that rape is decreasing, and recent papers such as that by Cory Yung published in the

19 Naomi Wolfe, *The Porn Myth*, *New York Magazine*

20 Hilton, D.L., "Pornography Addiction: A Supranormal Stimulus Considered in the Context of Neuroplasticity." *Socioaffective Neuroscience and Psychology*, Vol 3 (2013).

21 Mouras, H., Stoleru, L., Moulter, V., Pelegrini-Issac, M., Rouxel, R., Grandjean, B., et al. (2008). Activation of mirror-neuron system by erotic video clips predicts degree of induced erection: An fMRI study. *NeuroImage*, 42(3), 1142_1150.

22 Bill Margold, pornography performer, as quoted by Gail Dynes, *Pornland: How Porn Has Hijacked our Sexuality*. Beacon Press, Boston 2010, pg xxvi

Iowa Law Review expose their discredited studies. He summarized: "Instead of experiencing the widely reported 'great decline' in rape, America is in the midst of a hidden rape crisis."²³

Adolescents are more vulnerable to the molding and addicting power of pornography. They elaborate DeltaFosB, a brain protein important in addiction, more potently than adults. Their frontal reward and control areas are not fully pruned and myelinated until the mid to late 20s, yet we allow pornographers to ruin the lives of countless young girls who are consumed and discarded by the pornography industry, which is primarily fueled by men using vulnerable women to make money from other men. We got rid of Joe Camel and the marketing of tobacco to kids. We decided that the tobacco industry's right to free speech infringed on the emerging generations right to live. Can we not do the same with pornography and our youth? The allure of the toxic sex of pornography to our emerging adults has much more in common with Joe Camel than we thought. It is time to protect the vulnerable. We need to be as serious about keeping pornography out of their eyes as we are about keeping tobacco out of their lungs, and pass Internet 'op-in' protection for youth. It is time to stop this harmful cultural conditioning.

Our brains are marvelous, and are designed for a much richer human experience than the cheap food of toxic porn sex. We are designed to experience pleasure, but also to think, to feel, and to love. We can do better. Let us reclaim our humanity for ourselves and for future generations.

23 Young, *Iowa Law Review*, 2014, Volume 99:1197-1255.

Pornography: Sex Education for the Developing Brain

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The easy accessibility of adult pornography on the Internet, and its availability through mobile phone technology, is a significant threat to the safety and healthy development of children in America. The multibillion dollar industry intended for the sexual satisfaction of adults has so profoundly invaded the space of children that the impact is mind-boggling. There is no doubt that adult pornography brings great harm to children.

There are numerous ways that children are harmed by the availability of online explicit material. The argument that parents must have the responsibility of making sure that children cannot access this content is unrealistic when one considers the ubiquitous nature of information and communication technology. The past reality of domain name usage to startle and shock children with pornographic images underscores the desire of producers to make this content as easy to find as possible, even for children. The Truth in Domain Names Act as part of the PROTECT Act (2003) was passed in an attempt to protect children from such prurient practices, but today far more is needed to protect children from extraordinarily perverse media content.

Adult Internet pornography has only made child sex offenders' efforts to seduce children easier. Whereas in the past, adults would show children magazine images, or illicit DVDs when non-offending parents or guardians were not in the vicinity, today access to the Internet on any device makes this visual exploitation so much more facile.

It has been a well-known practice that adults who seek to sexually harm children have used adult pornography to groom children and youth into believing that sex with adults is normal. The offender's motives of such exposure are:

- to *educate* children of the mechanics of sexual behaviors,
- to *encourage* children to be comfortable in re-enacting these behaviors,
- to sexually *excite* children, and,
- to have children *enter* into sexual contact with adults and/or other children.

When children are exposed to adult pornography by sex offenders who are voyeurs, the entrance into a sexual liaison with other children is facilitated as a "rite of passage," often in a youth serving organizational setting. When such exposure to a child is facilitated by a smartphone, it is nearly impossible for protection to take place, short of the presence of multiple adults at all times. The very smartphone which is used to "show" exploitative images can then easily be used to "tell" others as the offender may surreptitiously or overtly photograph or videotape children who are being encouraged to sexually experiment with each other. These child abusive images (erroneously referred to as child pornography), when jettisoned into cyberspace cannot at this time be destroyed. The goal of this production is not only to make an illicit "keepsake" for the offender to revisit repeatedly for sexual gratification, but also as a potential instrument for blackmail of children into continued sexually exploitative behaviors. This latter phenomenon is often referred to as "sextortion."

Sextortion cases of children are increasing in frequency as has been noted from cybertipline reports to the National Center for Missing and Exploited Children. These sobering cases lead children into an endless maze of acquiescing to producing sexually explicit content of themselves to never-ending demands of invisible offenders who threaten distribution onto adult pornography sites, should the youth refuse. Such production causes such guilt, shame, and self-blame that severe depression, rational paranoia, and suicidality remain a constant threat to the well-being of such victim children.

The well-known case of Amanda Todd, is just such an example. This 14-year-old girl shared one provocative image to a person that she thought was a peer within a romantic relationship. The adult offender threatened to place the image online if she did not produce more. When she was brave enough and strong enough to refuse, the offender put her image on an adult pornography site and sent the link to her family and friends on her social networking site. The subsequent horrendous cyberbullying, despite more than a year of parental protection efforts, lead eventually to her taking her own life. Her self-reported story remains on YouTube.com with more than 30 million visits.

Another way that Internet adult pornography harms children occurs when adults network and dialogue with like-minded individuals to access children for the purpose of re-enacting what is shown in adult images.

Unlike the above mentioned plan for action, this networking component further normalizes the cognitive distortions of offenders that children, as "little adults," would like to be treated as do adult actors in the pornography industry and that though this type of thinking is not accepted by society overall, others are merely narrow minded and provincial. In investigations where children have been sexually abused and often videotaped or photographed, not only are adult videos

found in the offender's collection, but also chat and even online child sexual abuse grooming guides for the newly initiated who wish to access children. Organizations such as the North American Man Boy Love Association (NAMBLA) provide networking opportunities for such individuals.

Adult Internet pornography is the most common form of teen sex education in the US and because of the violent nature and lack of relationship depicted in this media, it has resulted in a remarkable increase in adolescent relationship abuse. The Centers for Disease Control and Injury Prevention (CDC) reports that teens receive messages about how to behave in dating relationships from friends, family and the media. Unfortunately the latter includes adult pornography which all too often links sexual contact with violence. The CDC tracks this form of injury and reports that 1 out of 10 youth surveyed had experienced both physical and sexual violence from a dating partner in the 12 months before they were surveyed (2013).

Another huge risk of harm for children is when teens view adult images, become sexually excited and disinhibited, and then act out abusive sexual acts on younger children. The easy access of adult pornography in the digital world has dramatically increased this dynamic in youth with problematic sexual behaviors. The brain and mind of youth are works in progress and research has revealed that the prefrontal cortex of the brain is not completely mature until 24-25 years of age. This part of the brain is the home of impulse control, good judgment, cognitive behaviors, and emotional stability. If we add to this brain immaturity, the reality of mirror neuron research, we are plunging children into a quicksand of potential sexual dysfunction. Mirror neurons first became known in 2007 when Italian scientists helped us to know that many parts of the brain process visual input – far beyond just the eyes and optic tracts. Mirror neurons cause us to believe that we are experiencing what we see. What does the future hold for boys who are watching adult Internet pornography with regularity, when it is already clear that research notes that adult exposure to these images has become the most common cause of erectile dysfunction in men less than 40.

It is so easy to understand that if adults become sexually excited by online videos (often of violent sexual assault), then a youth is even more vulnerable. It has become commonplace now, that therapists who treat children and adolescents with problematic sexual behaviors carefully explore exposure to adult Internet pornography as a major contributor to these behaviors.

Finally, children are harmed by adult Internet pornography when they begin the slippery slope of viewing this obscene content, and then begin to look for “someone who looks like me” content in the “barely legal” sites, finally ending in the more difficult to find peer-to-peer exchanges of online child abuse images. Once a youth has begun to download, trade and possess these illegal

images, their life can be forever changed into one of incarceration and sex offender registration.

Having evaluated and testified regarding children who have been so egregiously harmed in this manner, I cannot state more emphatically, that this multi-billion dollar industry must be harnessed. To protect our children from the harm of adult Internet pornography is one of the most important steps that we can and must take.

Pornography, Prostitution, & Trafficking: Making the Connections

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Pornography is an act of prostitution. A survivor of prostitution explained, "Pornography is prostitution that is legalized as long as someone gets to take pictures."

Pornography documents and facilitates trafficking.

Please don't mystify the sex industry. Don't assume it's vastly different from other types of exploitation and human cruelty.

The real lives of those who are trafficked or prostituted or made into pornography are often indistinguishable from the real lives of victims of rape, incest, and intimate partner violence. The main difference is money. Profits turn sexual assault of children, rape, domestic violence, humiliation and sexual harassment, and pictures taken of those things into a business enterprise.

Like other global businesses, there are domestic and international sectors, marketing sectors, a range of physical locations out of which sex businesses operate. There are many different owners and managers, and the sex trafficking industry is constantly expanding as technology, law, and public opinion permit.

In the real world, from the perspective of the person in the sex trade—pornography, prostitution, and sex trafficking are the same.

More than 80% of the time, women in the sex industry are under pimp control—that is trafficking. Pornography meets the legal definition of trafficking if the pornographer recruits, entices, or obtains women for the purpose of photographing live commercial sex acts.

Women are coerced into pornography by deception, threats, or violence.

A survivor of pornography and prostitution explained that she had been pressured to do more extreme sex acts on film, was physically hurt, and was raped on film—just the way women in prostitution are pressured by pimps and sex buyers to perform more harmful and dangerous sex acts.

Pornographers are specialty pimps who use pornography to advertise prostitution and to traffic women.

Backpage, which advertises and sells pornography, is owned by a Dutch company.

Last week the Massachusetts Attorney General said, "Most of the human trafficking cases that our office has prosecuted involve advertisements on Backpage."

Here is an example of the links between pornography, prostitution and trafficking: Glenn Marcus ran a torture pornography website.

A woman was psychologically coerced by Marcus to permit pornography of her to be sold on Slavespace.com. She brought charges against Marcus who was her pimp/pornographer/trafficker—and torturer. At one point he stuffed a gag in her mouth, sewed her mouth shut and hung her on a wall.

Her attorneys used the following definition: ***Sex trafficking is coercing or selling a person into a situation of sexual exploitation, such as prostitution or pornography.***

On March 5, 2007, pornographer Marcus was convicted of sex trafficking. This legal decision reflects a deepening understanding of the ways in which pornography, prostitution, and trafficking are the same for the person who is being sexually coerced and exploited for profit.

Another example: The convergence of different arms of the sex industry can be seen in a law enforcement action in Las Vegas. A sex business that looked like an office complex from the street, blended pornography production and trafficking with escort and webcam prostitution. On a webcam site, the sex buyer pays to chat with women who prostitute on streaming video, performing in real time what masturbating sex buyers pay them to do.

In this case, the pimp/pornographer rented six offices that functioned as Internet pornography businesses, and as cyber-prostitution via webcam, and a place where women were pimped out to hotels and to a brothel. As you know, Nevada has legal pimping in *rurally zoned brothels*, but prostitution in Las Vegas is illegal, so when the women were pimped to Las Vegas hotels, that is trafficking.

The same oppressive experiences channel women into pornography, prostitution, and trafficking.

Childhood abuse and neglect, a lack of quality education and job training opportunities, culturally mainstreamed misogyny, racism and poverty coerce women into the sex trade.

The same kinds of violence against women are perpetrated in pornography, prostitution, and trafficking.

*Women in prostitution face a likelihood of **weekly rape**. A Canadian woman in prostitution said, "What is rape for others, is normal for us." A woman at a Nevada legal brothel explained that legal prostitution was "like you sign a contract to be raped."*

The emotional consequences of prostitution and trafficking are the same in widely varying cultures whether it's pornography or trafficking, high class or low class, legal or illegal, in a brothel, strip club, massage parlor, or the street.

Symptoms of emotional distress among those in sex businesses are off the charts: depression, suicidality, posttraumatic stress disorder, dissociation, substance abuse. Two-thirds of women, men and transgendered people in prostitution in nine countries met diagnostic criteria for posttraumatic stress disorder. This level of emotional distress is the same as the most emotionally traumatized people studied by psychologists—battered women, raped women, combat vets, and torture survivors.

Why do sex industry advocates de-link pornography, prostitution and trafficking?

The answer is because it increases profits. Disconnecting trafficking from prostitution and pornography normalizes most of the sex industry. Here's how the de-linking works:

Every time an adjective is put in front of the word prostitution, pornography, or trafficking, it falsely carves out a group of human beings who we allow to be sold for sex. For example:

- Forced vs. voluntary trafficking: It's assumed that some people volunteer to traffic themselves.
- Child vs. adult pornography: It's assumed to be normal and mainstreamed to make pornography of adults.

- Illegal vs. legal prostitution: It's assumed that legal prostitution reduces harm and thus it's acceptable.

Did we de-link child from adult slavery? Did abolitionists focus on saving child slaves, leaving their parents behind? No we did not. Do we de-link various injuries in situations of domestic violence? Do advocates focus on only the most extreme cases and leave behind the woman who "only" has bruises but no broken bones? No we do not. Yes, pornography is a public health crisis. It's time to start linking all arms of the hydra-headed sex industry, and understand that yes, individuals who are pornographized and trafficked and prostituted are harmed. And the sex industry also harms the rest of us. Sex business entrepreneurs count on our tolerance for social injustice. Your presence here tells me they made a mistake.

Sexual Obesity: Research on the Public Health Crisis of Pornography

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Introduction

Most people say that the hardest thing you will ever do is raise children. It is parent's job to teach children how to be happy, healthy adults. Children need to learn the social rules about how and when to interact with others and with whom they should interact. They need to learn how to play and work and eat and take care of their health among a million other things. Parents are the first and the main source of teaching attitudes and behaviors and children are always watching and learning. It has been noted that children will not do what you say: they will do what you do. Children first watch their parents and then they watch their friends and then they watch the whole world. Media can bring that world to them. So children learn to do what they see and they learn to do what they see others get rewarded for. Whatever they practice they get good at.

But how do they learn about sexuality? Parents have an uncomfortable time discussing the topic with their children. In addition, for good reasons, children rarely observe the actual behavior. There are few sources of information about healthy attitudes, healthy behaviors, and the psychological and moral aspects of sexuality. Children and young adults naturally have an interest in learning about sexuality and someone will be teaching them. Who? What?

With the birth of the Internet and the almost universal exposure of children and young adults to Internet pornography this has become an overwhelmingly potent source of information about sex. It is potent because it comes in images: a picture is worth a thousand words. It is potent because it is arousing and we learn more deeply information that we are given when we are aroused. It is potent because there are role models showing the actual behavior that we almost never see in real life and it is potent because we see these people enjoying these behaviors and getting rewarded for them. Often the viewer is also rewarded by his or her own orgasm. Internet pornography is an almost perfectly designed teaching and learning model. There is just one flaw in this almost perfect

teaching and learning model and that is that close to 100% of what it teaches is a lie. Internet pornography shows behaviors that are toxic, hurtful, narcissistic, traumatizing, boundary crossing and untrue and shows them in a way that makes them totality believable, enticing and with no negative consequences.

The Internet tells the story about sexuality that makes you think that you can never have too much sex. It shows sex that is not about intimacy, caring, love or respect; not about marriage or having children. Internet pornography portrays sex as recreational, adversarial, non-intimate and anonymous. In Internet pornography you don't need to know your partner and sex with strangers is portrayed as the best and most intense kind of sex. None of this is true about healthy sexuality, of course, but it seems true to the viewer because they have seen it with their own eyes in highly stimulating and physically rewarding pictures.

In addition, seeing others act sexually in these ways gives permission for the viewer to act these ways as well. Permission-giving beliefs are beliefs that make a person say what I am doing is normal, that everyone is doing it and since it doesn't hurt anyone, I don't need to stop or change my behavior. These permission-giving beliefs become releasers of the behaviors that we have seen.

So Internet pornography fills the vacuum of missing information about sexuality and exposes almost the entire population of children and young adults to massively potent misinformation about sexuality and then spreads permission-giving beliefs, which release the viewer to behave in a toxic and narcissistic way. No wonder psychologist's call Internet pornography the new crack cocaine.

We have seen other societal problems arise in similar ways. The universal availability of cigarettes with smokers portrayed in media as popular, sexy, and having fun combined with the addictive nature of nicotine produced a public health crisis involving the deaths of 450,000 a year and a tobacco industry that made money by selling a product that killed people.

The universal availability of junk food mixed with media that showed happy, healthy, slim people enjoying fast food, or processed food with unhealthy ingredients, contributed to the public health crises of massive obesity.

Unhealthy products combined with stimulating and dishonest media targeting children and young adults by industries that care only about making money produce problems too large for any one individual to fix and impossible for any one family to protect their loved ones from these problems. Sometimes families or the society will focus on repairing the symptoms and outcomes rather

than focusing on the primary causes. You cannot fix these problems by pulling victims out of the river one at a time; sometimes, you have to go upstream and see who is pushing them in.

Internet pornography is sexual junk food and has made us sexually obese and the consequences are as varied and damaging and as impossible to contain as physical obesity.

Research on the Impact of Pornography

MALES: ATTITUDES

Research shows the impact of pornography on attitudes. Research finds that males who have been exposed to pornography are more likely to think that women enjoy rape, that she “got what she wanted” when she was raped, and that women make false accusations of rape. These males show more acceptance of the rape myth, which is a set of untrue beliefs about rape. Horrifyingly, these males are more accepting of violence against women and they begin to believe that rapists deserve less time in prison. Could it be that they no longer think that rape is a heinous crime?

Not surprisingly then, these males use more sexual terms to describe women, see women as sex objects and have reduced support for the women’s liberation movement. In addition, it affects their attitudes toward marriage, family, and raising children. Men who view pornography rate their partners as less attractive and they are less satisfied with their partner’s sexual performance. They have a greater desire for sex without emotional involvement. They have more sexually callous beliefs, have a greater acceptance of sex before marriage, and have a greater acceptance of sex outside of marriage for married individuals. What happens to marriages when partners begin to accept and expect that they will cheat?

It also dramatically shifts responses and reactions to and about children. Males who view pornography are less child centered during marriage, less desiring of having female children, more willing to have sex with thirteen to fourteen year olds, more sexually attracted to children, and less likely to think pornography needs to be restricted from children.

Even though I was aware of the many research findings showing diverse negative outcomes on male attitudes from the viewing of pornography, I was still surprised when my own research with young adult males showed that males who

had increasing use of pornography had higher psychopath scores. What happens to a society when all of our young adult males are exposed to material that has the potential to teach them to think and act like psychopaths?

MALES: BEHAVIORS

Research indicates that pornography not only produces these significant attitudes; it affects behavior as well. The permission-giving beliefs that pornography produces become releasers of attitudes to become behaviors. The underlying message of pornography that others are having fun, exciting, mind blowing, and consequence-free sex and that you are entitled to that as well is challenged by the research of sexual dysfunction. Those who use pornography are more likely to have erectile dysfunction, premature ejaculation and retarded ejaculation. Rather than making the male's sex lives spectacular, these males are on the super highway to sexual crashing. In one study, 58% of male pornography users (average age twenty-five) had erectile dysfunction with women but not with pornography. Internet pornography is making a generation of men who can only have sex with pixels but not with people. They may have a greater desire for sex but they have a reduced ability to engage in sex in a healthy way.

Along with sexual dysfunction effects, research has also shown brain differences in males who use pornography. Less gray matter, less brain sensitivity to sexual stimuli, and less connectivity are all seen in male pornography users. In some functions, the brains of these adult pornography users resemble the brain reactions of teen brains with impulsive brain centers being more active than the more rational and "executive" brain centers.

Research on attitudes shows that male pornography users had attitudes that were more accepting of sex outside of marriage for married individuals. The behavioral research shows the comparable effect. Males who use pornography are more likely to have affairs if they are married. In addition, they are more likely to go to prostitutes adding an illegal aspect to their behavioral responses. In my own research, I found that almost 25% of nineteen to twenty-one-year-old males said that they had either gone to a prostitute already or planned to in the future. The more pornography these males used the more likely they were to have gone to a prostitute or say they would in the future. I also found that men who use pornography are more likely to go to strip clubs and men who go to strip clubs are more likely to engage in non-consenting sex than men who do not go to strip clubs.

Sexual violence is significantly connected to the use of pornography. In one research study, males who were exposed to a single media presentation of a mixture of sex with violence later used violent sexual fantasies to get them aroused. Pornography users are more likely to sexually harass women, sexually abuse partners whom they have battered, and engage in date rape, stranger rape

and marital rape. They are more likely to verbally coerce sex, physically coerce sex, and use drugs and alcohol to coerce sex. In my own research, I found that the earlier male children are exposed to pornography, the more likely they are to engage in non-consensual sex as young adults.

Malamuth has identified three factors that are connected to sexual violence: hostility toward women; beliefs that sex is a casual, non-intimate, recreational, adversarial behavior; and the use of pornography. It is my contention that all three of these factors are connected to pornography use. Pornography increases hostility toward women and spreads the beliefs that sex is casual, non-intimate, recreational and adversarial. The use of pornography produces the other two factors.

Statistics on sexual violence show it affects millions of people. One in five women are raped in their lifetime, which translates to almost 22 million women. On college campuses, 25% of women experience either a rape or an attempted rape during their four years in college. By the time a female is eighteen years old, 38 % have been sexually molested. The vast majority of these crimes go unreported to authorities.

In addition, most males who engage in non-consenting sex do so repeatedly. Looking at both a college sample and a military sample found that 63–71% of males who perpetrated non-consenting sex had perpetrated multiple times.

FEMALES: ATTITUDES AND BEHAVIOR

It is not just males who are affected by pornography. There is less research on females but many of the outcomes seen in females are either similar to the outcomes seen in males or are the flip side.

Females who were exposed to pornography as children are more likely to accept the rape myth and are more likely to have sexual fantasies that involve rape. Adult females who have been exposed to pornography were more negative about their bodies and think their partners are more critical of their bodies. Females, similar to the males, have reduced support for the women's liberation movement. Also similar to the males, females think rapists deserve less time in prison. In my own research, I found that the more pornography young adult females use the more likely they are to become victims of non-consensual sex.

CHILDREN: ATTITUDES AND BEHAVIOR

Minors who have been exposed to sexualized media (both pornographic and mildly sexualized media) show numerous negative outcomes and many of them are similar to the adult effects. It affects their attitudes and they have higher sexual permissiveness scores. It affects their sexual behaviors including earlier initiation of their first sexual experience, having sexual activity more

frequently, having more sex partners, and having multiple lifetime sexual partners. They are more likely to have engaged in sexual intercourse, oral sex, and anal sex. This increased sexual activity is combined with a more negative attitude about contraception and a reduced use as well. Research indicates that minors exposed to sexualized media have a more negative attitude toward using condoms, have not used contraception during the last intercourse, and have not used contraception in the past six months. Instead they are more likely to have used alcohol or other substances at last sexual encounter. In addition, they are more likely to test positive for chlamydia. It changes their point of view on pregnancy and they have a stronger desire to conceive and unfortunately, they are more likely to become pregnant.

It changes their point of view on women and they have less progressive gender role attitudes and are more likely to see women as sex objects. Finally and tragically, it affects sexual violence behaviors in these minors. They are more accepting of sexual harassment and are more likely to engage in it. They are more likely to engage in forced sex and more likely to be a juvenile sex offender. Are there any effects of pornography that we were hoping for our children?

Public Health Crisis

The glut of Internet pornography sends the message that you can never have too much sex; there is no toxic sex, no damaging sex, no traumatic sex. It tells us that the sexual activity that we consume with our eyes on the Internet is normal, hurts no one, and is done by everyone. This produces permission-giving beliefs that move our attitudes into behavior. The research tells a different story. Research indicates that exposure to Internet pornography has a massive impact on attitudes and then on behaviors in the areas of marriage, family, children, sexual violence, and other crimes like prostitution.

In addition, the number of people who are exposed is massive. In some age groups there is nearly universal exposure to this potent toxin. According to the last census there were 33 million males between the ages of ten to twenty-four. It is my belief that we are approaching nearly 100% exposure of that group. However, these 33 million are just a portion of those who are exposed because it does not include young adult females or the majority of older adult males who are also massively exposed.

Parents on their own cannot protect their children. Even if they could decide to avoid their own personal exposure and effectively implement that, even if they could make a decision to protect their children and effectively implement that, they still would not be protected. The others who choose to expose themselves to this toxin become carriers of these attitudes and behaviors. They carry

this contamination back into their homes, onto their jobs, onto the street, into the schoolyard.

The sexual exploitation industry is making money from pornographic websites on the Internet that hurt men, women and children. They make money by teaching our boys to think and act like psychopaths. They make money by turning our girls into victims. They are serving men, women and children the sexual junk food. They will not easily be convinced to stop.

This means that this Internet contamination cannot be neutralized on the individual level. This is a problem that must be confronted on the societal level. Sexual obesity is a true public health crisis.

Finally

The philosopher Roger Scruton has described the problems caused by pornography in a more poetic way. He said that the real problem with pornography is that "it threatens the loss of love in a world where only love brings happiness." We have eaten the sexual junk food, have become sexually obese and we have missed the feast that sex was supposed to be. Love is the feast. Don't miss the feast.

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Sexual Exploitation: Connecting the Dots in Real Life

Ed Smart

Activist and father of kidnap victim, Elizabeth Smart
President of The Surviving Parents Coalition
Director of Prevention and Rehabilitation,
Operation Underground Railroad

I am here today testifying as a father, President of the Surviving Parents Coalition and as the Director of Prevention and Rehabilitation for Operation Underground Railroad.

Brian David Mitchell my daughter's captor grew up in a middle class family. At a young age he was exposed to pornography by his father. He told Elizabeth that his father loved pornography and had enjoyed it his entire life. Mitchell said that he loved it too. His father didn't seem to think there was anything wrong with a little healthy exposure for his son. At such a young age it appeared to have piqued his interest beginning the slippery slope that pushed him to take the next step to experiment. It resulted in a complaint filed against him for molestation of the girl next door. The juvenile court found him another troubled youth.

He shared with Elizabeth that during his senior year in high school he stuck his hand down a girl's shirt. He was always excited to see what he could get away with; it was a challenge. The girl didn't report it and he was never reprimanded.

Pornography appeared to have encouraged further experimentation. The use of pornography followed him into his married life, accusations of abuse and pornography by his stepchildren and children were made. Law enforcement attributed the accusations to a bad divorce. Further investigation confirmed such abuse had occurred substantiated by a clinical exam. What reconfirmed the issue of pornography was his stepdaughter's testimony during the trial of our daughter's kidnapping. His stepdaughter testified of him exposing her to pornography in bed. Was it just exposure? Or was it an effort to normalize his behavior, to desensitize his victims, and to make them feel that this is a normal activity of life, no harm done.

His insatiable appetite for sex called for multiple partners and, of course, his excuse became belabored with, "God wants me to experience all" and "you must experience the worst to enjoy the best". The night he abducted Elizabeth he told her, "I have a knife at your throat. Don't say a word or I will kill you and your family." Is this the end result of an innocent exposure to pornography? Did this desire lead him to break into our home in the middle of the night when everyone was at home? Who would take such a risk and why? It seemed inconceivable to me.

Elizabeth was a fourteen-year-old girl when she was kidnapped. During the time she was gone she was repeatedly raped, molested, abused, tortured, terrified, threatened, tormented, lied to, cabled between two trees withholding the basic necessities of life, and forced to look at pornography as both an example of what he wanted and also a way to normalize his actions. She had to do many things against her will and beliefs. Elizabeth said that she "felt like the dirt on the ground, broken and of little worth." It made her question her self-worth and how people would look at her and treat her. "Who could love me after that?" she had thought. After thinking about it she determined her family would love her, regardless of anyone else. She decided that she would do whatever was necessary to survive.

Mitchell used many of the typical tactics of predators: vulnerability, manipulation, coercion, and grooming.

During our family's nine-month ordeal, my wife Lois and I learned many things. Some of them we didn't particularly want to know, especially when it came to thinking about what our daughter might be going through. We learned that one of the main reasons children are abducted is for sexual exploitation whether abducted for one person's sexual exploitation or trafficked for multiple persons' exploitation.

During her captivity Elizabeth was repeatedly exposed to his pornography on a regular basis. She said Mitchell loved it and couldn't get enough.

She recounted another experience while they were in California just outside of Lakeside. As they were hiking up a mountain side trying to find a new camp they came across a cave like crevice that might act as a shelter. He had Elizabeth crawl into it. As she got into it, she found a pornographic magazine and crawled right back out. Because of her concerned excitement he wanted to know what the problem was. She told him that she had found a pornographic magazine and she wanted out. She said he hurried back in there and brought it out. For days

he devoured it. The use of pornography appeared to have had profound affect upon Brian David Mitchell.

The build up of the excitement from viewing this pornographic material put him on the prowl once again for his next victim. This greed and lust resulted in an unsuccessful attempt when he was almost caught, sending him on an alcoholic binge to console his failure.

Elizabeth has commented many times that what would have been even worse than being raped is the thought that it might be recorded in the virtual world for everyone to view.

This feeling has been confirmed by many other survivors of abduction who have experienced the nightmare of not knowing where or when their picture or video would pop up and further victimize them.

Alicia Kozakiewicz is another outstanding survivor/advocate stated: "Before the trial the FBI needed me to identify myself in the videos. I had to watch myself being tortured. Being abused is indescribable, but to see it through the eyes of your abuser is another thing entirely. That's why I now fight so hard against child exploitation. I know how it feels to have people watch your suffering and enjoy it."

Families are torn apart by pornography which has become unfortunately far too common, especially with the use of their own children as the new pornography. Two crimes are then being committed: First, the child being raped and second, posting the rape on the Internet.

One of my other good friends came home to find the FBI besieging her home. Unaware of the abuse her daughter had been put through by her father, he would then post it on the Internet, leaving an almost eternal trail of sexual exploitation. The devastation and destruction of the family is unbelievable.

Being in charge of prevention and rehabilitation at Operation Underground Railroad has given me a unique opportunity of hearing about the use of pornography in trafficking on a global basis. It is such an integral part of trafficking being used from both the supply and demand sides. Many of our operation missions occur under the disguise of being a sex party focusing on the youngest of children or virgins if possible.

We had a number of missions down in Columbia this past year and had invited five of our partners to Salt Lake. Two of them were women that deal with the children. Part of their job is to conduct prosecutorial interviews and

assessments to collect information. I asked them, "What role does pornography play in pimping of sexual trafficking victims?" One woman said, "It comes up as having been viewed by all the children in every case. Once again it is used to instruct the kids on what to do for the clients and also to desensitize the children so that the children aren't as traumatized by what they're forced to do. Pornography drives the demand side [i.e., individual sexual exploiters and commercial sex buyers] to experiment further. No longer are they satisfied just looking, but must experience what they have seen."

OUR is currently furthering the development of software used for tracking those who are trading child pornography. The commonality of these experiences is that pornography provides the slippery slope to take the next step to abuse and exploitation.

Why Finding A Solution Is So Difficult

Ernie Allen

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Former President & CEO, National Center
for Missing & Exploited Children

Former President & CEO, International Centre
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The brains of young children are being bombarded with graphic, extreme Internet pornography, causing significant harm. The average age of first exposure to Internet pornography is twelve years old and is declining. By age ten, 32% of children have been exposed to pornography. Also, 53% of boys and 28% of girls ages 12–15 use sexually explicit pornography via the Internet.

This situation is exacerbated by the fact that on today's Internet, and so-called "soft porn" has largely disappeared. Today, the content is increasingly extreme, graphic, often violent, and degrades and humiliates females in particular. A recent study found that 88% of top-rated porn scenes contain physical aggression and 49% verbal aggression, with 94% of the targets of that aggression being female.

This phenomenon is also fueled by the explosion of free porn sites, which serve as pathways to the commercial pornography industry. New York Magazine reported that ten years ago total daily adult site traffic averaged less than 1 million unique visitors on the entire Internet; today, the free pornography tube sites alone get 42 million unique visitors every day.

This is a particular problem today when the Internet is no longer tethered to a PC on a desk at home. Today, children carry the Internet around in their hands via mobile devices. A recent Cisco report estimated that mobile data traffic will increase 11-fold between today and 2018.

Thirty years ago, we could zone pornography off, regulate it, deny access to children, require that plain brown wrappers cover material, and cover the windows to prevent inadvertent display. In the Internet era, we can't do that anymore.

Today, you will hear from some of the leading scholars, researchers and experts in this field regarding what we know, what the challenges are and how significant the damage is that is being done to our children.

But my question for Congress is, "Why is finding a solution so difficult?" My answer is threefold:

1. **Our laws have failed.** Congress tried to address this problem at least three times: Through the 1996 Communications Decency Act; the 1998 Child Online Protection Act; and the 1999 Children's Internet Pornography Act. Yet, most of that legislation was struck down by the courts as an unconstitutional infringement on free speech.
2. **Our efforts to educate parents on ways to protect their children from this kind of content have failed.** Internet companies and NGOs have tried to educate parents and persuade them to use the tools that are readily available today. Yet, just 28% of parents have installed filtering software, just 17% on mobile devices, and only 15% on gaming consoles. Over the past twenty years we have made great progress in educating children and families in how to use the Internet safely and responsibly. However, in the area of protecting children from exposure to graphic, extreme content, we have failed miserably.
3. **Obscenity prosecutions have declined dramatically.** With the advent of the Internet, we have seen a marked decline in obscenity prosecutions. Obscenity is not protected speech, but in order to be deemed "obscene," content must be adjudicated. The Supreme Court established a three-part obscenity test in the 1973 case, *Miller v. California*:
 - Whether "the average person, applying contemporary community standards" would find that the work, taken as a whole, appeals to the prurient interest;
 - Whether the work depicts or describes, in a patently offensive way, sexual conduct or excretory functions specifically defined by applicable state law; and
 - Whether the work, taken as a whole, lacks serious literary, artistic, political or scientific value.

Today, in this era of the Internet, some question whether community standards mean the same for Internet distribution as for distribution by other

means and whether in light of the extreme, dehumanizing content that appears regularly on Internet sites, anything can be held to be “obscene.” Given the public health crisis we are discussing today and the emergence of content far beyond what used to be prosecuted under obscenity law, my hope is that public officials at all levels will reexamine the use of obscenity prosecutions as at least one element of a comprehensive strategy.

However, even in light of the challenges we face, I am convinced that there are other options we should explore. Let me suggest one:

Default Filtering

On July 22, 2013, UK Prime Minister David Cameron spoke about an issue that is “hard for our society to confront, that is frankly difficult for politicians to talk about, but that I believe we need to address as a matter of urgency.” Prime Minister Cameron explained that the issue is “the Internet, the impact it is having on the innocence of our children and **how online pornography is corroding childhood.**”

He called upon British Internet companies to take voluntary action to provide default filtering for all users. He approached this not as a limitation on free speech—those who want to access pornography can still get it. But instead of depending on parents to adopt and implement available filtering tools, he urged the Internet companies to provide these tools for them automatically, unless users opt out of receiving them.

Today, the four major British ISPs—British Telecom, BSkyB, Talk Talk, and Virgin—are implementing default-filtering. British households are being contacted by their Internet service provider to specify whether they want to activate the “family friendly filters.” For those who do not state a preference, the filters are automatically switched on by their service provider.

In January 2015, Sky Broadband switched on its “Shield” filter for every one of its 5.3 million users, with those wishing to access pornography needing to explicitly “opt-out” of the filter. Thus, the UK does not deny access to adults who seek to access the content; it only seeks to deny it to children.

The UK initiative is not without critics. Recently, the Council of the European Union proposed measures to stop mobile phone and Internet providers from being able to automatically block pornography. Thus, in all likelihood this battle has only just begun.

Nonetheless, recognizing the experience of the past twenty years, it is inescapable that educating parents is not enough and will not work, and that congressional action may not meet the test of constitutionality. Thus, a voluntary, industry-driven initiative like the British model would seem to have potential for the United States and other countries.

As Internet pornography has become more extreme, we are seeing growing demand for action from all parts of the political and philosophical spectrum. We hear it from feminist leaders who see extreme porn as an assault on women and their rights, and have concerns that the content affects the way boys (soon-to-be men) view women, relationships and sexuality. And we hear similar concerns from the anti-obscenity, family values community.

We all embrace the ideal of free speech and a free, unfettered Internet. Yet, there are limits. Unless we better protect our children, we will see future generations of damaged adults and societal disruption. One prominent researcher called the inundation of young children with extreme Internet pornography as “the single, largest unregulated social experiment in history.” We have to confront this emerging reality and develop real solutions that maximize individual freedom but better protect our children.

My message to Congress today is that we need leadership and we need action. The British model offers one creative option that does not require a statutory mandate and that engages industry in finding a solution that will work. But if that is not the best solution, we must find another one.

The use of the Internet is changing, the challenges are increasing, and the children of America and the world are at greater risk than ever before. We need to take action.

Take Action

Members of Congress

1. Recognize that there is a public health crisis.
2. Request and organize Congressional Hearings on this topic.
3. Encourage vigorous enforcement of all laws prohibiting sexual exploitation, including adult obscenity laws which prohibit distribution of hardcore pornography on the Internet, on cable/satellite TV, in hotels/motels, in retail shops and by common carrier.
4. Issue a public statement about pornography as a public health crisis, or as a factor driving other forms of sexual exploitation.
 - Ideas include: Give NCSE a quote to share, write an op-ed, include in a speech, make a short video statement
5. Keep these facts in mind as new legislation is created. Try to work in the issue of pornography in efforts to curb demand for sex trafficking and other forms of sexual exploitation.
6. Explore the “opt-in” option in the framework of U.S. law and encourage U.S. Internet providers to adopt such policies.

Press

Investigate how pornography effects and influences sexual violence, child sexual abuse, sex trafficking, and other forms of sexual exploitation when covering these issues.

Public

1. Contact your elected representatives in Congress to request a hearing on this issue.
2. Write and submit letters to the editor of your local newspapers about this issue, mentioning the need for a Congressional hearing.
3. Urge that laws prohibiting sexual exploitation be enforced.



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