



Inadvertent exposure to pornography on the Internet: Implications of peer-to-peer file-sharing networks for child development and families

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Abstract

This essay comprises testimony to the Congressional Committee on Government Reform. The Committee's concern was the possibility of exposure to pornography when children and teens participate in peer-to-peer file-sharing networks, which are extremely popular in these age groups. A review of the relevant literature led to three major conclusions: (1) Pornography and related sexual media can influence sexual violence, sexual attitudes, moral values, and sexual activity of children and youth. (2) Peer-to-peer file-sharing networks are part of an all-pervasive sexualized media environment. This total environment, including file-sharing networks, leads to a tremendous amount of inadvertent and unintentional exposure of children and young people to pornography and other adult sexual media. Peer-to-peer networks and the Internet differ from other sexualized media in that young people construct important components of this sexualized environment themselves. (3) A warm and communicative parent-child relationship is the most important nontechnical means that parents can use to deal with the challenges of the sexualized media environment, including peer-to-peer file-sharing networks. In addition, open parent-child channels for communicating about sexual and media experiences, sex education at home or school, and parental participation with children on the Internet are constructive influences. For boys already at risk for antisocial behavior, parents should carefully monitor and severely limit access to pornography on file-sharing networks and elsewhere.

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1. Preliminary comments

What follows is my testimony to the Congressional Committee on Government Reform on March 13, 2003. Their concern was the possibility of exposure to pornography when children and teens participate in peer-to-peer file-sharing networks, which are extremely popular in these age groups.

Except for the introductory paragraph, where I introduce myself to the Committee, which I have deleted, and this explanatory section, which I have added, I have kept all of the format and wording of the testimony intact (except for a few small edits). I thought that this mode of presentation might be useful to and encourage others in the field to use a congressional venue to influence policy through applied developmental psychology. Note that the findings have to be presented in a clear and direct way to be understandable by a lay audience of Members of Congress and other policy makers.

Let me now present a few background notes before I begin the testimony proper.

First, what is a peer-to-peer file-sharing network? It is a leaderless network of computer users that does not go through the World Wide Web; it is therefore not hosted by any website. These networks developed after it became illegal to make music available for downloading on the Internet via the website Napster; to some extent they are a way of getting around copyright law outlawing the distribution of music without paying for it.

Second, my title includes the word “inadvertent” because, for purposes of policy and practice, I assume that young people who seek out pornography will find it all over the Internet, on news stands, and elsewhere. However, peer-to-peer networks are unique because most children and adolescents go to them with the exclusive purpose of downloading music; therefore, their exposure to pornography on these networks is most often inadvertent.

Third, let me also add that inadvertent exposure to pornography occurs way beyond peer-to-peer file-sharing networks. For example, many Internet searches with nonsexual intent will also yield inadvertent exposure to pornography (Thornburgh, Lin et al., 2002). Therefore, the testimony that follows has implications for a number of different media that are popular with children and adolescents.

Fourth, for purposes of identifying the research that would be relevant to my testimony, I considered the effects of inadvertent exposure to pornography to be a compound of the effects of pornographic content, independent of intention or motive, plus the effects of inadvertency per se, an important aspect that has been studied only by Cantor, Mares, and Hyde (2003). These criteria for assembling the relevant research base renders this testimony relevant to exposure to the developmental effects of pornography in general, not merely to the effects of inadvertent exposure.

Last, but not least, the immediate impact of my policy statement was an advance request from the Congressional Committee on Government Reform to extract a list of tips for parents from my testimony. This I did, and it was immediately posted on the Committee’s website. Because my review of the relevant research led to the conclusion that parents had the power to mitigate negative effects, this was an ideal outcome.

2. Overview

My testimony focused on three questions. I begin with these questions and with a summary of my answers. I then go into each question in detail.

2.1. What does pornography on peer-to-peer file-sharing programs (and elsewhere) mean to children and their development?

In sum, the evidence indicates that pornography and related sexual media can influence sexual violence, sexual attitudes, moral values, and sexual activity of children and youth.

2.2. What are the challenges that parents face in reducing their children’s access to pornography on peer-to-peer networks and elsewhere?

In sum, peer-to-peer file-sharing networks are extremely popular with young people. They are part of an all-pervasive sexualized media environment. This total environment, including file-sharing networks, leads to a tremendous amount of inadvertent and unintentional exposure of children and young people to pornography and other adult sexual media. Peer-to-peer networks and the Internet differ from other sexualized media in that young people construct important components of this sexualized environment themselves.

2.3. What are the nontechnical means parents can use to deal with these challenges?

A warm and communicative parent–child relationship is the most important factor. In addition, open parent–child channels for communicating about sexual and media experiences, sex education at home or school, and parental participation with children on the Internet are constructive influences. Finally, for boys already at risk for antisocial behavior, parents should carefully monitor and severely limit access to pornography on file-sharing networks and elsewhere.

3. File sharing, pornography, child development, and family issues in detail

3.1. Question 1. What does pornography on peer-to-peer file-sharing networks (and elsewhere) mean for children and their development?

3.1.1. *Consumption of sexual media is related to the sexual activity and attitudes of adolescents. (This applies not just to pornography, but also to other types of sexualized files, such as music videos and R-rated movies, that are circulated on peer-to-peer file-sharing networks.)*

- (a) A number of surveys, from junior high to college, indicate that exposure to MTV (MTV-style music video files are very common on peer-to-peer networks) and R-rated films are correlated with premarital sexual permissiveness (Malamuth & Impett, 2001). Experimental studies confirm that exposure to music videos such as those seen on MTV can actually liberalize attitudes toward premarital sex, and this is particularly true for girls (Malamuth & Impett, 2001).
- (b) In a field experiment, college students viewed R-rated films suggesting positive effects of sexual aggression (e.g., the sexual arousal of the victim). Viewing this type of film made male students significantly more accepting of the use of aggression against women in sexual and nonsexual interactions (Malamuth & Check, 1981). This finding concerning R-rated films is relevant to file-

sharing networks because violent pornography, found on these networks, also shares these characteristics.

- (c) Video portrayals of sexual relations between unmarried partners—an all-pervasive characteristic of pornography—affected 13- and 14-year-olds' moral judgments concerning premarital and extramarital sex: Their judgments became more accepting after viewing video portrayals of sexual relations between unmarried partners. In contrast, video portrayals of sex between married individuals had no effect on moral judgments (Bryant & Rockwell, 1994). There was, however, no “spillover” effect of viewing sexual relations between unmarried partners into nonsexual areas of moral judgment, such as judgments concerning criminal or antisocial behavior.

3.1.2. *Pornography has an adverse effect on older adolescent boys and young men already at high risk for aggressive behavior*

High-risk factors include impulsivity, hostility to women, and promiscuity. In this group, very frequent use of pornography is associated with a much higher rate of sexual aggression than found in youth of the same risk level who use pornography somewhat, seldom, or never (Malamuth, Addison, & Koss, 2000).

3.1.3. *Memories of impactful sexual media from childhood and adolescence are overwhelmingly negative*

College students were asked to recall one impactful sexual media experience from their earlier lives and their responses to it; the most common emotional responses to the sexual film or video they recalled were disgust (24.5%), shock or surprise (23.6%), and embarrassment (21.4%; Cantor et al., 2003). Other negative emotional responses were anger (18.4%), fear (11.2%), and sadness (9.2%). Only three positive emotions were mentioned (interest, amusement, and happiness or pleasure); in contrast, eight different negative emotions received mention. (A given person could have more than one reaction.)

In terms of physical (as opposed to emotional) reactions, sexual arousal was mentioned by fewer than 17% of the participants. There seems to be no reason not to extrapolate a low rate of sexual response to pornography on peer-to-peer networks, especially when the exposure is inadvertent (which happens very frequently, as we shall see in the next section).

Responses differed according to the age at which the recalled sexual medium had been experienced. When experienced at age 12 or younger, embarrassment, fear of being caught, guilt, and confusion were significantly more common than when experienced at age 13 or older. Learning about biology and sex acts was also significantly more common in the earlier rather than later memories. On the other hand, the reactions of nausea, crying, disgust, anger, and sadness were more common for recalled media experiences that had taken place at age 13 or older. Where there were significant gender differences, positive memories and responses were more common for males than for females (arousal, interest), whereas negative memories and responses were significantly more common for females (rape, crying, and sadness). We must conclude that sexual media, including pornography, have different meanings and impacts for girls and boys.

Although in the minority, effects were sometimes enduring. Enduring effects were most frequently neutral, followed by negative effects such as confusion (9.7%) and unwanted recurring thoughts (7.7%). Reduced eagerness to have sex was mentioned by 6.1% of respondents. This could be considered to be either positive or negative, depending on one's moral perspective and the age or situation (e.g., married or unmarried) of the respondent. A small minority mentioned learning about biology (4.1%), sexual risks

(4.1%), or sex behaviors (4.1%) from the impactful sexual medium that they remembered. For a slightly larger percentage, the recalled impactful media experience reinforced moral beliefs (5.1%) or made them aware of sex without love (5.1%). (A given media experience could have more than one subjective impact.)

In sum, exposure to impactful sexual media up through the college years was overwhelmingly negative, with a fairly low rate of recalled sexual response. Effects differed by gender, with girls experiencing more negative effects and boys experiencing more positive effects. Effects were sometimes long lasting. Extrapolating from these findings, we can infer that the memories of impactful sexual media of current college students would, on the one hand, include the Internet, with peer-to-peer file sharing, and, on the other hand, be overwhelmingly negative, especially for girls, with some enduring effects and a relatively low rate of sexual response.

3.2. *What are the challenges that parents face in reducing their children's access to pornography on peer-to-peer networks and elsewhere?*

3.2.1. *File-sharing programs were originally developed for music. As of the end of 1999 and the beginning of 2000, downloading music was one of the most popular use of the Internet for preteens (7th graders) and teens (10th graders)*

In a somewhat ethnically diverse sample of middle- to upper-middle SES population, 91% of participants reported at least some Internet use at home. In the total sample, participants reported downloading music an average of 32 min a day (Gross, 2004). With the demise of Nabster and other websites for downloading music, peer-to-peer networks that contain pornography and other material became the dominant means of downloading music.

3.2.2. *The presence of pornography on file-sharing programs is continuous with what is available and consumed on other media*

3.2.2.1. *Availability.* As early as 1992, the most popular primetime shows with children and adolescents stressed physical appearance for women and “scoring” for men (Ward, 1995). The former value at very least has now permeated our culture (L. Greenfield, 2002). Similarly, in pornography, most of the emphasis is on physical attributes, with no depiction of emotional or relational elements (Malamuth & Impett, 2001). “The most common portrayals are of nude females and of men having sex with numerous, easily accessible young women” (Malamuth, 2001).

3.2.2.2. *Consumption.* This type of visual material is consumed primarily by males. In contrast, romance novels, a purely verbal form of sexual media, are consumed primarily by females.

Perhaps most pertinent to the issue of pornographic file sharing in peer-to-peer networks on the Internet is the rate of consumption of other pornographic media by the children and youth. In a study of R- and X-rated media in the early 1980s, Bryant (1985) found that, by age 15, 92% of males and 84% of females had looked at or read *Playboy* or *Playgirl*. By 18, the proportion had risen to 100% for males and 97% for females. The average age of first exposure was reported to be 11 for males and 13 for females. Similarly, 92% of 13- to 15-year-olds had said that they had already seen an X-rated film; the average reported age of first exposure was 14 years 8 months.

It is possible, however, that the Internet (apart from peer-to-peer file sharing) is lowering the age of first exposure to such material. A 1998 dissertation found that, 48% of third through eighth graders

reported having visited Internet sites with various types of “adult” content. Sexual sites were the most popular of the adult Internet sites (Kahn-Egan, 1998).

3.2.3. *Inadvertent or unintentional exposure of children and teens is an issue in file-sharing networks and other sexual media*

We know from the Government Reform report presented in March 2003 that inadvertent exposure to pornography on peer-to-peer file-sharing networks is a problem. However, it is a problem that is not restricted to peer-to-peer networks or even to the Internet. Indeed, inadvertent or unintentional exposure to sexual material is a general challenge for parents in today’s media environment.

When over 200 college students were asked to recall an instance of sexual media content that had a strong effect on them, almost 85% reported on a movie whose rating (R, X, or NC-17) suggested that they were, at the time, too young to see it. Considering the total sample of recalled media content, only a small minority (29.1%) had actively sought to view it themselves. “The most common scenario was that the respondent watched the program or movie because someone else wanted to watch it (40.8%), but almost a third (30.1%) said they just happened to stumble on the material” (Cantor et al., 2003, p. 13). When the impactful sexual medium experience occurred at age 12 or less, it was usually because someone else was watching it. When it occurred at age 13 or older, the respondent usually either sought it out or inadvertently stumbled into it.

As in peer-to-peer file-sharing networks, peers were crucial intermediaries, albeit known rather than unknown peers. That is, most respondents reported viewing with someone else, most commonly a friend (Cantor et al., 2003).

3.2.4. *On peer-to-peer file-sharing programs, banner advertisement provide a source of inadvertent exposure to sexuality*

For example, banner advertisements promote the sale of female condoms, male condoms, and introductions to potential sexual partners through personal advertisements. These are viewed as soon as you enter the program. They cannot be controlled by the user.

3.2.5. *In peer-to-peer networks, pornographic files are not just passively consumed, advertently or inadvertently, by young people. Young people actively seek them out and make them available to others*

An important characteristic of these networks is that they are created by the users. Therefore, if a high proportion of users are teenagers, it is also the case that a high proportion of the distributors are also teenagers. That is, music videos and X-rated files have been downloaded and made available to others by the same young people who are consuming them. This is similar to teen chat rooms, where a high proportion of the talk is about sex, and this sexualized talk is created by the chatters themselves (Greenfield, 2004; Ianotta, 2001; Subrahmanyam, Greenfield, & Tynes 2004).

3.3. *Question 3. What are the nontechnical means parents can use to deal with these challenges?*

3.3.1. *Maintain an open family communication style*

With 13- and 14-year-olds, the effects on moral judgments of sexual portrayals of nonmarital sex on video (characteristic of pornography on peer-to-peer file-sharing networks) were mitigated by an open family communication style (Bryant & Rockwell, 1994). Therefore, in today’s media environment, an open communication style within the family is critical.

3.3.2. *Be open to discussing sex with your children*

People raised in families where sex is treated as taboo may be more susceptible to the influences of sexually explicit media than those reared in homes where sex is a permissible subject of conversation (Gunter, 2002; Malamuth & Billings, 1986).

3.3.3. *Communicating about specific sexual topics is less important than developing and maintaining a warm and communicative parent-child relationship*

A warm and communicative parent-child relationship reduces sexual risk taking (Miller, Benson, & Galbraith, 2001).

3.3.4. *Make sure that your child gets sex education*

People raised with little education about sexuality seem to be more vulnerable to influences of sexually explicit media than are people raised with more education about sexuality (Gunter, 2002; Malamuth & Billings, 1986).

3.3.5. *Discuss media experiences with your child*

In a study of thousands of high school students, girls who less frequently discussed media experiences with their parents had nearly twice the sexual experience rate of those whose discussions were more frequent (Peterson, Moore, & Furstenberg, 1991).

3.3.6. *Use the Internet (and other media) with your child*

Girls who watched television apart from their parents had more than three times the rate of sexual experiences as those who watched with their parents. Boys who watched television apart from their parents showed a significant correlation between viewing time and sexual experience; boys who watched with their parents did not. That is, coviewing removed any impact of viewing time on sexual experience (Peterson, Moore, & Furstenberg, 1991). Because this study is correlational in nature, it cannot by itself prove a causal relationship between coviewing and child effects. However, experimental research on nonsexual television (which can prove causal relations) indicates that coviewing with parents, who discuss the media content with the child, can indeed remove or mitigate negative impacts of antisocial television (Singer & Singer, 1986). The implication is that parental coviewing can potentially reduce or eliminate the effect of sexualized media, including the Internet, on their children’s sexual experience.

Using the Internet with one’s child is facilitated by rules that limit Internet use when parents are not around, such as requiring the child to ask permission to use the Internet and limiting the number of hours the child can use the Internet. Such measures are already taken by more than 60% of parents with Internet access at home, more so with younger than older adolescents (Gross & Gable, 2002; UCLA Center for Communication Policy). These facts suggest something else that parents can do (discussed next).

3.3.7. *Put the computer in a public place in your home; if at all possible, do not let your children have a computer with Internet access in their room*

This will help accomplish what about 90% of parents with Internet access report doing, keeping an eye on what children do with the Internet (UCLA Center for Communication Policy).

3.3.8. If you have a child with antisocial tendencies, restrict use of the Internet, including file sharing, to supervised sessions

Restrict other access to pornography to the maximum possible. Frequent use of pornography by high-risk males is associated with and seems to produce a large increase in sexual aggression (Malamuth, 1993). In general, strict rules are more effective than flexible ones are (Gross & Gable, 2002). Internet nanny or filtering software, already used by about 32% of families with Internet access (UCLA Center for Communication Policy), can help in the effort to reduce access to pornography, but filters are not perfect, as the Government Reform Committee report of March 2003 indicates. For example, Internet filters do not work with peer-to-peer networks, as these networks are not part of the World Wide Web. However, Kazaa, a major file-sharing program, comes with a choice of filters for that program; we tested these filters, and the filters that eliminated all video and all images were successful in eliminating all pornography.

4. Important issues in need of future research

Pornography on peer-to-peer file-sharing networks is not unique, but is part of a highly sexualized media environment. By analogy to television and violence research, one likely developmental outcome of overexposure to sexual media is desensitization. Another outcome is the culture of the body, especially for females (L. Greenfield, 2002). But how does desensitization affect the emerging sexuality of young people? What are the psychological costs and benefits of this body culture? What is the role of other media in these processes?

Many other questions remain. What type of experiences are children and young people having with sexual material on peer-to-peer file-sharing networks? What are the long-term effects of these experiences? How do parents view the challenges of the sexually saturated media environment for child rearing and child development? What are the effects on children and families of various parental strategies vis-à-vis sexual and pornographic material on peer-to-peer networks and the Internet more generally? These are important questions greatly in need of more research and more research funding.

5. Summary

5.1. What does pornography on file-sharing programs (and elsewhere) mean to children and their development?

In sum, the evidence indicates that pornography and related sexual media can influence sexual violence, the sexual attitudes, moral values, and sexual activity of children and youth.

5.2. What are the challenges that parents face in reducing their children's access to pornography on peer-to-peer networks and elsewhere?

In sum, peer-to-peer file-sharing networks are extremely popular with young people. They are part of an all-pervasive sexualized media environment. This total environment, including file-sharing networks, leads to a tremendous amount of inadvertent and unintentional exposure of children and young people to pornography and other adult sexual media. Peer-to-peer networks and the Internet

differ from other sexualized media in that young people construct important components of this sexualized environment themselves.

5.3. What are the nontechnical means parents can use to deal with these challenges?

A warm and communicative parent–child relationship is the most important factor. In addition, open parent–child channels for communicating about sexual and media experiences, sex education at home or school, and parental participation with children on the Internet are constructive influences. Finally, for boys already at risk for antisocial behavior, parents should carefully monitor and severely limit access to pornography on file-sharing networks and elsewhere.

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