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Researching the Affects That Online Pornography Has on U.K. Adolescents Aged 11 to 16

Elena Martellozzo[1], Andrew Monaghan[1], Julia Davidson[2], and Joanna Adler[3]

Abstract

This article considers data from a large empirical study of nearly 1,100 U.K. adolescents aged 11 to 16 (in a mixed methods three-stage sample) and provides an overview of their experiences of online adult pornography. The article investigates how seeing online pornography influenced those who watched it, and to what degree, if any, the attitudes of those adolescents altered with repeat viewings. It concludes with an overview of the social policy challenges, both domestic and international, posed by the findings.

Keywords

children, problematic internet use, computer-mediated communication, survey, interviews, pornography

Information and Communications Technology (ICT) and Online Pornography

Adolescent access to online adult pornography has increased in the last decade due to a confluence of enabling factors including increased use and access to internet-connected devices; the increased power of those same devices; the increased mobility of Wi-Fi-connected devices; the growth of increasingly portable Wi-Fi-connected devices and finally the widespread availability of and ease of access to online adult pornography. This article aims to explore how the proliferation of internet access has led to an increased viewing of online pornography; it also aims to ascertain the consequences of this exposure for adolescents. The article begins by laying-out laws in England and Wales relating to the viewing and possession of online pornography that would be legal if viewed by people 18 years and above. It also presents legislation concerning the self-creation, distribution, and possession of naked/seminaked and/or sexualized images of adolescents below 18 years. Wi-Fi-enabled technology, such as smartphones and tablets, with powerful media capabilities and mobility are increasingly used by adolescents away from their homes; this is considered alongside the rise of Social Networking Sites (SNSs) and image sharing applications like Snapchat and Instagram, where online pornography is ever more prevalent.

Quantitative and qualitative data were blended into a synthesized analysis to create an overview of the extent of use, and a range of differential demographic variables of engagement with online pornography. An analysis of the nature of adolescents' engagement with online pornography is presented, that is, what they see, and how they feel about it, and how this may have changed with repeated exposure. This article presents an initial overview of the findings, endeavoring to explore behavior and attitudes among the large sample of adolescents and contains no inferential projections onto wider populations. As a piece of exploratory fieldwork, the results are largely left to speak for themselves, rather than being used to confirm or reject extant theoretical stances on the influence of online pornography on adolescents.

Finally, the sharing of self-generated images, or "sexting" is evaluated, including an investigation into what adolescents aged 11 to 16 understand by the concept of "sexting" and the motivations, potential pressures, and extent to which young people have shared naked or seminaked images of themselves to known or unknown others. We conclude with a discussion of two pressing social policy implications.

[1]Middlesex University London, UK
[2]University of East London, UK
[3]University of Hertfordshire, UK

Corresponding Author:
Andrew Monaghan, School of Law, Middlesex University London, The Burroughs, Hendon, London NW4 4BT, UK.
Email: Andrew87@mdx.ac.uk

Current Debates and Evidence

For the purposes of this article, adolescents are taken to be aged 11 to 17, although other secondary researchers have included 18- to 19-year-olds in their own categorizations. Adolescents who have viewed, and who possess adult pornography in the United Kingdom, have not broken any laws unless they view or possess extreme adult pornography (Art 5, sections 63 to 67 of the Criminal Justice and Immigration Act 2008). Such images include those in which a person's life is threatened; those where a person's anus, breasts, or genitalia are likely to suffer serious injury; and instances of necrophilia or bestiality (Crown Prosecution Service [CPS], 2017). However, the U.K. providers of online pornography may have been in breach of legislation requiring commercial organizations like PornHub to prevent under 18-year-olds from accessing such material. Conversely, it is illegal for adolescents under the age of 18 to appear in sexually explicit images (Protection of Adolescents Act, 1978; Criminal Justice Act, 1988 s160 and Sexual Offences Act 2003, s45) whereby the materials are categorized as "indecent images of children."

Consequently, to make, send, upload, possess, disseminate, or view images of an adolescent who may be considered sexually explicit is a criminal offense. Adolescents can thus break the law if they produce such images of themselves or of a partner under 18 and/or if they were to send such an image of a child to someone else. However, guidance produced by the CPS makes it clear that when images are shared *consensually* between teenage intimates, a prosecution would be very unlikely. Instead, a warning about future behavior is issued, alongside health and online safety guidelines, although it remains unclear how consensual sharing is judged in court (CPS, 2018).

Before smartphones and tablets, adolescents used parents' desktop computers, domestic laptops, or devices at school to access the internet (Davidson & Martellozzo, 2013). Less than a decade later, things have changed dramatically. Almost ubiquitous Wi-Fi now provides unchained internet access away from the home and from parental supervision. In the United Kingdom, 79% of 12- to 15-year-olds had a smartphone in 2016 (Ofcom, 2016) and although the range of devices varied by socioeconomic group, there were no differences demonstrated in rates of smartphone ownership (Hartley, 2008).

The internet is replete with explicit, easily accessible, sexual content, as evidenced by checking, the world's most popular pornography websites in 2018, where an array of platforms such as PornHub etc., run by the Canadian company MindGeek, was the 29th most popular, and this excludes the sexually explicit content accessed by popular sites like Facebook, Twitter, Instagram, WhatsApp, and Snapchat (Alexa, 2018). It has been estimated that proportions of male adolescents' viewing pornography can be as high as 83% to 100%, and 45% to 80% for females, although frequency of viewing such material could vary from once ever, to daily (Horvath et al., 2013). Recent European studies that have focused on viewers in the last 3 to 6 months of activity have produced rates of 15% to 57% for all adolescents (Horvath et al., 2013).

Dutch researchers Valkenburg and Peter's (2006) study found that 71% of the male adolescents and 40% of the females (13- to 18-year-olds) had seen some form of pornography. More recently, Stanley et al. (2018) considered findings from 4,564 young people aged 14 to 17 in five European Union (EU) countries and found that regular online pornography viewing was between 19% and 30%.

In terms of online risky behavior, research by Bowlin (2013) found that up to 60% of sexually explicit short messages (sometimes known as "sexts") may be disseminated beyond the original recipient. Potential consequences for the child subject of the image can be devastating, whether the image was self-generated consensually or coerced, and can range from intense public shame and humiliation to mental health issues and even suicide, like the Canadian 15-year-old Amanda Todd (Wolf, 2012). There is an increasing body of evidence to suggest that risk taking behaviors may be more likely in adolescents, particularly when social and emotional arousal are high (Blakemore & Robbins, 2012). Horvath et al.'s (2013) evidence review pointed to a range of increased risky behaviors linked to amplified online pornography viewing among adolescents. Valkenburg and Peter (2007, 2009, 2011) conducted several studies between 2007 and 2011 on the question of whether online pornography viewing has affected adolescents. Their findings are summarized in Horvath et al. (2013) thus: Exposure to sexually explicitly online movies led to greater perceptions of women as sex objects; if young people viewed sex in online pornography as realistic they were more likely to believe that casual/hedonistic sex was more normal than that in loving and stable relationships; finally, increased viewing of online pornography led to greater sexual uncertainty in the child, that is, a lack of clarity about their sexual beliefs and values.

Cultural and media studies theorists have controversially proposed that children are becoming increasingly desensitized to the presence of pornography, due to an increasing sexualization of the cultural milieu—especially through a saturation of mainstream mass medias by pseudo-pornographic elements. Writers such as Brian McNair (2013) have argued that television shows, music, fashion, and films have become imbued with "Porno Chic." By this, the writer proposed that increasingly sexualized tropes have now permeated the mass media via "the pornosphere," which is being consumed and viewed by children. Consequently, this has led to erotic and risqué imagery being perceived as a normative state of being for children to view while growing up. The argument is further developed by Paasonen et al. (2007), who argued that children's perceptions of what is normal have become warped through the "Pornogrification" of mainstream mass media. The parallel arguments of McNair

and Paasonen et al. (2007) are amplified for children more than adults, where online social media networks and photo-sharing apps have been in the vanguard of the spread of a toxic Pornosphere, or Pornogrification process.

Defining Online Pornography

The literature demonstrates inconsistencies in definitions of "sexting" or of pornography itself and it is to the definition of pornography that this article now turns. For the current research, an age-appropriate, suitably accessible definition of pornography was developed, and pilot tested in Stage 1. It was subsequently adopted for all fieldwork conducted:

> By pornography, we mean images and films of people having sex or behaving sexually online. This includes semi-naked and naked images and films of people that you may have viewed or downloaded from the internet, or that someone else shared with you directly, or showed to you on their phone or computer.

Research Questions

This article intends to respond to the following four research questions:

> **Research Question 1:** Are there differences in attitudes, behavior, and device use to access adult pornography, between different age groups and gender of children and young people in viewing online adult pornography?
> **Research Question 2:** How do the attitudes toward online adult pornography of children and young people change following multiple exposures to online adult pornography?
> **Research Question 3:** To what degree does seeing online adult pornography influence children and young people's own sexual behavior?
> **Research Question 4:** To what degree is risky online sexual behavior by children and young people influenced by their previous exposure to online adult pornography?

Method

Originally commissioned by the NSPCC and the OCC, and carried out by a team from Middlesex University, during late 2015 and early 2016, it comprised the largest study of the way in which adolescents respond to sexual images they have seen online and via social media. Participants were recruited with the aid of the specialist survey company Research Bods, drawing on preexisting school and family panels. Additional steps were taken as part of the recruitment process to ensure that safeguarding and child welfare were at the forefront of recruitment (see "Ethics").

A three-stage mixed methods design was used with a total of 1,072 adolescents aged 11 to 16 recruited from across the United Kingdom. Three age bandings were used in the analysis of fieldwork data for the participants: 11 to 12, 13 to 14, and 15 to 16. A large scale, quantitative, online survey (Stage 2), was book-ended by qualitative online forums and focus groups in Stages 1 and 3 (Creswell, 2009). The design thus encompassed individually completed, wide ranging attitudinal data, supplemented by depth and richness of adolescents' experiences, considered within online group discussions (Onwuegbuzie & Leech, 2005). The three research stages comprised the following:

> Stage 1: An online discussion forum and four online focus groups, conducted with 34 young people. These groups were split by age, but not by gender (18 females, 16 males).
> Stage 2: An anonymous online survey, with quantitative and qualitative components, implemented across the four U.K. nations. One thousand seventeen young people started the survey, with 1,001 being included in the final analyses of whom 472 (47%) were male, 522, (52%) were female, and seven (1%) did not identify in a binary manner. The final sample was representative of the United Kingdom's 11- to 16-year-olds in terms of socioeconomic status, ethnicity, and gender.
> Stage 3: Six online focus groups were conducted; these groups were stratified by age and gender and had 40 participants (21 females, 19 males).

Materials and Analysis

There were age-specific variations whereby some of the more intrusive questions were not used with the youngest participants (11-12 years) and language was kept age-appropriate.

The investigation employed a Delphi style approach between the three stages, in which the findings of one stage were checked and verified—both in terms of data reliability and by comparison with the literature—by the research team, then by application to the next stage in the cycle (Hsu & Sandford, 2007). Therefore, Stages 2 and 3 furnished an element of methodological triangulation to the study (Denzin, 2012).

The data reported in this article have been extracted and analyzed from all three stages of the research. The Stages 1 and 3 focus groups/forums were run online, generating verbatim transcripts that are drawn on below. Focus group findings were scrutinized using a mixed application of analytic induction, constant comparison, and thematic data analysis (Braun & Clarke, 2006; Smith & Firth, 2011).

Ethics

The three research stages were approved by the Middlesex University Department of Law ethics committee and conformed to ethical guidance of the British Sociological Association. A careful threshold for safeguarding was

adopted, taking a precautionary stance whereby child protection encompassed both safeguarding and prevention of harm while also avoiding unnecessarily criminalizing adolescents.

No personal identifying details were collected on the survey and participants in the online forums/focus groups used only first names (either their own or a self-generated pseudonym). They were actively discouraged from giving out any personal details. A Participant Information Sheet (PIS) was provided to all adolescents taking part in the investigation, to their primary caregiver, school, and other gatekeepers. If young people also agreed to take part in the research, then information about the study, how to consent, withdraw, and the processes of safeguarding were reiterated before they participated.

Respondents participating in the online forum/focus groups were reminded at the beginning of each session that they could leave the online platform at any time. In the online survey, each subsection included an option to "exit," that could be clicked at any time, and led to a withdrawal page featuring contact information for relevant support organizations.

Findings and Analysis

This section explores the findings of the fieldwork in the following key areas: Survey data are drawn on to report the extent of adolescent viewing of online (adult) pornography in the United Kingdom, within the age bands 11 to 12, 13 to 14, and 15 to 16, and gender differences between these categories; an outline of the devices the responding adolescents used to view/access the material; consideration of the reactions of respondents when they first viewed online pornography; and their changing reactions upon seeing it later in their lives and respondents' attitudes toward online pornography. The qualitative stages were drawn on to provide some indication of the degree to which seeing online adult pornography had either influenced young people's own sexual behavior or changed their attitudes toward potential sexual partners' behaviors, usually from a heterosexual perspective.

Finally, the research explored the extent of risky online sexual behavior by respondents, and whether this was influenced by the online pornography that had been previously viewed.

The Extent of Adolescents Viewing of Online Pornography in the United Kingdom

The survey found that 48% ($n = 476$) had seen online pornography, and 52% had not ($n = 525$). The older the respondent group, the more likely they were to have seen pornography (65% of 15-16; 46% of 13-14, and 28% of 11-12). There is a clear rising trend evident, with 46% ($n = 248$) of 11- to 16-year-olds who had ever seen online pornography ($n = 476$) being exposed to it by 14 years.

Of the 476 respondents who had seen online pornography, 34% ($n = 161$) reported seeing it once a week or more. Only 19 (4%) young people were encountering pornography daily. The 476 participants also reported that they had first seen the material on the following devices: 38% from a portable computer (Laptop, iPad, Notebook, etc.); 33% from a hand-held device (e.g., iPhone, Android, Windows smartphone, Blackberry, etc.); 24% from a desktop computer (Mac, PC, etc.); 2% from a gaming device (e.g., Xbox, PlayStation, Nintendo, etc.); while 3% preferred not to say. Just under half of the sample (476/48%) had seen online pornography, and of them, 47% ($n = 209$) reported having actively searched for it, leaving about half again who had seen such material without actively seeking it: finding it involuntarily through, for example, an unwanted pop-up, or by being shown it/sent it by someone else.

More boys (56%) report having seen pornography than girls (40%). There was a gender disparity between the genders intentionally seeking out online pornography, with 59% ($n = 155/264$) of males reporting doing so, but only 25% ($n = 53/210$) of females; and 6% ($n = 28/n = 1{,}001$) preferred not to say.

Potential gender differences in the rates of seeking out pornography were also explored during the focus groups. The qualitative findings from Stages 1 and 3 are consistent with the quantitative data (from the online Stage 1 questionnaire) considered above. For example, a common answer given by male respondents was that they actively searched for online pornography:

> With friends as a joke. (Male, 14)

> Yeah, we all do. (Male, 13)

However, none of the girls made similar statements.

Adolescents' Responses

The contrast between reactions to first viewing and responses to current viewing of online pornography among the 476 who had initially seen it and 227 who reported currently viewing it are laid out in Tables 1 and 2.

Before interpreting these findings further, it is worth noting the low number of adolescents who continue to see pornography. Of those who reported still seeing pornography, curiosity declined as a response from 41% to 30%. This is predictable as adolescents became more familiar with the sexual material. Other effects are extremely mixed and change radically between first viewing and current reactions. Of the negative effects, "shocked" declined from 27% to 8%; "confused," 24% to 4%; "disgusted," 23% to 13%; "nervous," 21% to 15%; "sick," 11% to 7%; "scared," 11% to 3%; and "upset," 6% to 3%.

The negative survey reactions were reinforced by the following statements made in Stages 1 and 3:

> Sometimes [I feel] disgusted—other times alright. (Male, 13)

Table 1. Current Feelings.

Feelings	*n*	%
Turned on	111	48.9
Curious	69	30.4
Excited	52	22.9
Happy	42	18.5
Sexy	37	16.3
Nervous	33	14.5
Disgusted	29	12.8
Ashamed	26	11.5
Shocked	19	8.4
Sick	16	7.0
Unhappy	12	5.3
Confused	10	4.4
Scared	7	3.1
Upset	6	2.6

Note. The subsample included 227 participants who had responded to this question. Each category is not mutually exclusive.

Table 2. Initial Feelings.

Feelings	*n*	%
Curious	196	41.1
Shocked	126	26.5
Confused	116	24.4
Disgusted	107	22.5
Nervous	100	21.0
Turned on	83	17.4
Ashamed	54	11.3
Excited	54	11.3
Sick	51	10.7
Scared	50	10.5
Upset	29	6.1
Happy	24	5.0
Sexy	21	4.4
Unhappy	21	4.4

Note. The subsample included 476 participants who had responded to this question. Each category is not mutually exclusive.

> A bit uncomfortable because of the way they act in the videos. (Male, 14)

> Bad for watching it. Like I shouldn't really be seeing it. (Female, 14)

Such findings can be interpreted in several ways. First, some adolescents who had negative reactions on first viewing pornography take additional steps to not see it again (and may thus not appear in the current viewing data). Second, some may have become desensitized to the sexually explicit material they are seeing, or they may have built greater resilience to the more unpleasant aspects of the pornographic content. These ideas may not be mutually exclusive. Some of the adolescents' statements in the forum/focus groups would appear to support these suppositions:

> Definitely different. At first, it might've shocked me but due to the increasing use of sex and sexual themes in the media and music videos, I've grown a sort of resistance against it, I don't feel disgusted or turned on. (Female, 13-14)

> 1st time was strange—I didn't really know what to think. But now it's kinda normal; sex isn't as taboo. (Male, 13-14)

> At first, I wasn't sure it was normal to watch it, my mates have talked about watching it so I don't feel bad watching it now. (Male, 15-16)

Tables 1 and 2 also demonstrate potentially more positive reactions to online explicit content, or at least reactions that may be more consistent with sexual maturation, for example, "turned on" advanced from 17% to 49%; "excited," 11% to 23%; "happy," 5% to 19%; and finally "sexy," 4% to 16%. On first examination, these are statistically significant changes, for example, comparing "turned on" on first viewing with "turned on" still shows that 55 adolescents who did not report being turned on originally do report it on continued viewing, $\chi^2(1, N = 227) = 44.16$, $p < .01$, Phi = .44. However, on testing for differences between the respondents for current viewing, it also became clear that 207 of those young people who were not turned on originally did not report still seeing pornography, another significant difference, $\chi^2(1, N = 476) = 43.12$, $p < .01$, Phi = .30. In other words, more adolescents who did not report being turned on avoided pornography than went on to enjoy it.

Cognitive Responses by Adolescents

The respondents were asked to evaluate most of the online pornography they had seen, in terms of 14 different feelings/categories, using a 5-point Likert-type scale. The overall results were extremely varied. For example, the largest proportional response is "unrealistic," with 49% stating that they agreed with this assessment; but other statements with which sizable proportions of the young people agreed, include that pornography is "arousing" (47%), "shocking," (46%) and "exciting" (40%). It is important to keep in mind that none of these categories are mutually exclusive and that it is entirely possible for a young person to both be aroused and troubled by the adult-content they view.

The critical awareness necessary for some adolescents to resist potential negative effects of online pornography may be inferred by data that 36% of viewers found the content "silly" and 34% "amusing." Both these figures outstripping reactions like "repulsive/revolting" 30%, "scary" 23%, or "upsetting" 21% and 20% labeling it "boring." However, girls' anxieties about whether boys delineate between the fantasy of online pornography and the reality of adult sexual

Table 3. Online Pornography Has Given Me Ideas About Types of Sex to Try Out.

	Yes (%)	No (%)
11-12 years (n = 79)	21	79
13-14 years (n = 149)	39	61
15-16 years (n = 215)	42	58

Note. $\chi^2(2, N = 437) = 10.84$, $p < .01$, Phi = .16.

Table 4. Online Pornography Has Given Me Ideas About Types of Sex to Try Out by Gender.

	Yes (%)	No (%)
Male (n = 241)	44	56
Female (n = 195)	29	71

Note. $\chi^2(1, N = 436) = 10.75$, $p < .01$, Phi = .16.

relations is also clear from the following statements taken from focus groups:

> It teaches people about sex and what it is like to have it—but I think it teaches people a fake understanding of sex—what we see on these videos isn't what actually happens in real life. (Female, 14)

> Yes and can learn bad things like watching anal sex and then some boys might expect anal sex with their partner. (Female, 13)

It should be noted that focus groups provided little evidence of actually seeing, or hearing, of troubling behavior occurring. Only one respondent indicated that

> One of my friends has started treating women like he sees on the videos—not major—just a slap here or there. (Male, 13)

Emulating Behaviors

Although there was little direct evidence about experience of emulating fantasies, the idea that things seen in pornography could be tried out, did emerge frequently during the online focus groups with the older groups (13-14; 15-16). When asked about what the risks may be from watching online pornography:

> People may try things that can lead to harm. (Male, 13)

> People will try to copy what they see. (Female, 11)

> It's give a unrealistic view of sex and our bodies makes us self-conscious and question why are bodies are not developed like what we see online. (Female, 13)

These findings also emerged from the online questionnaire as presented on Tables 3 and 4.

Statistically significant age differences were found in response to the question, "Has the online pornography that you have seen given you ideas about the types of sex you want to try out?" Of the 437 respondents, 90 of the 15- to 16-year-old group (42%) reported that online pornography has given them ideas of wanting to act out sexual practices; 58 of the 13- to 14-year-old group (39%) and 15 of the 11- to 12-year-old group (21%). This may be related to the greater likelihood of sexual activity as they reach the age of consent, although in all age groups, more young people did not endorse this idea than those who agreed with it.

Statistically significant gender differences were also found in response to the same question. Some 44% (106/241) of males, compared with 29% (56/195) of females, reported that the online pornography they had seen gave them ideas about the types of sex they wanted to try out. Again, it is wise to exercise caution when interpreting this finding, particularly as gender roles in initiating or engaging in sexual activity may be at play here, both in terms of young people's beliefs and how these were disclosed in the research.

The focus group findings from Stage 3 were broadly consistent with these data. When male respondents were asked whether they knew anyone who had tried something they saw in online pornography, they stated,

> Yes. She tried kinky things—like tying to the bed and Punishing. (Male, 13)

> Yes, they tried to have sexual intercourse. (Male, 14)

When the question became more personal ("Has pornography ever made you think about trying out something you have seen?"), most respondents said no, with very few exceptions:

> Occasionally—yes. (Male, 13)

> Made me think but not actually do it. (Female, 13)

> If me and my partner like it then we did more but if one of us didn't like it we didn't carry on. (Male, 15-16)

When asked in the stage two online survey, if seeing online pornography had ". . . led me to believe that women should act in certain ways during sex," of 393 responses: 16% of 15- to 16-year-olds either agreed/strongly agreed, while 24% of 13- to 14-year-olds did. Conversely, 54% of 15- to 16-year-olds disagreed/strongly disagreed with the statement, and 40% of 13- to 14-year-olds. When the question was flipped to whether seeing online pornography had ". . . led me to believe that men should act in certain ways during sex": 18% of 15- to 16-year-olds either agreed/strongly agreed, while 23% of 13- to 14-year-olds did. Conversely, 54% of 15- to 16-year-olds disagreed/strongly disagreed with the statement, and 40% of 13- to 14-year-olds (again, 393 answered).

These findings provide evidence of some adolescents' assimilation of ideas from online pornography about male and female expected behaviors during physical sex. What the data cannot tell us is whether the concepts that they are assimilating relate to safe, considerate, mutually enjoyable sexual activities with a consenting partner; or coercive, abusive, violent, exploitative, degrading, and potentially harmful or illegal sex. Here too, we cannot know whether their ideas would change with experience. However, consistent with points made earlier about repeated viewing, the oldest cohort (15-16) believed that the influence of online pornography on shaping their views on how men and women ought to behave during sex is reduced, by −8% for women's behavior and −5% for men's.

Participants in the online forum and focus groups generally expressed negative views and anxieties about how watching online pornography might affect adolescents' perceptions of normal/acceptable male and female roles in a sexual encounter:

> Well you see what is happening in porn and you almost get worried about other peoples relationships and it puts me off having any future relationships as it is very male dominated and not romantic or trusting—or promoting good relationships. (Female, 13)

> It would put pressure to do things you don't feel comfortable with. (Female, 14)

> They (boys) become a different person—and begin to think that it is alright to act and behave in such ways. The way they talk to others changes as well. When they look at a girl they probably only thinking of that one thing—which isn't how women should be looked at. (Male, 14)

Adolescents Sharing Sexually Explicit Material Online

Online pornography's ubiquity is facilitated by the ease and speed with which it can be self-generated and shared. Most young people in this sample had neither received nor sent explicit material; however, 26% (258/1,001) of respondents had received online pornography/links, whether or not they had requested them. Far lower proportions reported that they had ever sent pornographic material to someone else, at 4% (40/918), although the researchers were aware that some "senders" may be more reluctant to acknowledge this than "recipients."

Readers are reminded that sexual and eroticized or fully or partially naked photographs of adolescents below 18 are illegal to possess, send, or receive in the United Kingdom, although it is not normally the policy of the CPS to prosecute these cases for teenage intimates (CPS, 2018). However, "sexting" has become something of a media trope in part fuelled by statements from the police such as,

> Working with young people, we are finding that sexting increasingly feels like a norm in terms of behaviour in their peer group. (Weale, 2015)

During the online focus groups, the adolescents who commented seemed to interpret "sexting" more as writing and sharing explicit messages with people they knew, rather than sending nude images of others, or of their own body, in full or part (Jaishankar, 2009). Indeed, it has been argued that adolescents use an entirely different nomenclature for visual, rather than textual messages, including, "dodgy-pix," "nudes," or "nude-selfies" (Weale, 2015).

The Stage 2 online survey revealed that most adolescents did not create or send naked self-generated images and this finding is supported by recent survey research undertaken in three EU countries with young people (Webster et al., 2014). Within the current survey, 135 boys and girls reported producing topless pictures of themselves (13% of the 948 who answered) and 27 (3% of those answering) had taken fully naked pictures of themselves. Potentially more concerning is that just over half of those who produced naked or seminaked images (74/135 or 55%) had then shared them, by either physically showing the images to someone else, or transmitting those images online to one or more contacts.

Those reporting having taken a fully naked image of themselves constituted under 3% of the entire sample (27/1,001) and this does not mean that they then proceeded to share the images. However, the survey also asked respondents *why* they created naked and seminaked pictures of themselves? Sixty-nine percent (93/135) reported that they wanted to do so, although 20% (27/135) did not. The latter figure is potentially a safeguarding concern, with one-in-five self-taken naked/seminaked pictures of adolescents, seeming to derive some form of external pressure or coercion.

Some 36% of adolescents, who took naked or seminaked self-generated photographs (49/135), reported that they had been asked to show these images to someone online. When asked whether they knew the person to whom they showed the images, 61% of those who shared images (30/49) replied that they did, indicating that most of these images probably remained localized within the child-producer's social circle, or a boyfriend/girlfriend, at least initially. However, 25 adolescents (2.5% of the sample) stated that they had sent a picture of themselves performing a sexual act to an online contact, something that is both more serious in terms of the image content and more likely to be passed-on more widely.

When asked whether respondents had ever seen images of a naked body or intimate body part of someone they knew, 73 (8% of those who answered) had seen such an image of a close friend, 15% (144/961) had seen that of an acquaintance, 3% (31/961) saw images of their partners, and 8% (77/961) of someone they knew as an online only contact. In the online forums/focus groups, most adolescents seemed to evidence a highly developed critical awareness of some of

the possible negative ramifications of sending a naked "selfie" to an online contact:

> Your rep will be ruined. (Male, 14)
>
> They could save it. And its illegal as its classed as distribution of child pornography if your under 18—even if its yourself. (Male, 13)
>
> You have no control over it once sent. (Female, 13)
>
> If you send it to one person—the entire school will have seen it by the next day. (Female, 16)

These findings from our three stages of fieldwork into U.K. adolescents aged 11 to 16 can be compared with those from a recently published major research study by the Child Exploitation and Online Protection command (CEOP), who found that 34% of 2,315 respondents aged 14 to 24 had sent a nude or sexual image of themselves to someone they were sexually interested in, and that 52% had received a similar image from someone who had sent it of themselves, with males scoring at 55% and females at 45%. When these data were filtered to include only 14- to 17-year-olds, then the corresponding figures were 26% who had sent an image, while 48% had received one of the senders (McGeeney & Hanson, 2017).

The motivations of young people in taking and sending sexualized naked/seminaked images of their bodies/body parts are complex and could encompass a mixture of many different influences, including sexual gratification via an online sexual encounter; deception, whereby an adult may be using an avatar to inveigle images out of adolescents potentially leading to "sextortion," as in the Amanda Todd case (Wolf, 2012). Swapping images is also a recognized tactic of online child-groomers, in their campaign to meet-up with their targets to perpetrate contact Child Sexual Abuse (CSA) (Martellozzo & Jane, 2017). Some adolescents may be indulging in sexual exhibitionism with online contacts, and a very common motivation is the "private" exchange of nude/seminude selfies with established relationship partners (Martellozzo & Jane, 2017).

Behind all these potential drivers of risky sexual online behavior, may lie factors such as the modern market-saturation of smartphones, the influence of the mass media and culture, and the possibility of adolescents being inculcated into a world of new social online medias, which may be imbued with cultural "Pornification," or "Pornogrification" (Allen & Carmody, 2012; McNair, 2013; Paasonen et al., 2007). There is also the widely held assumption in the mass media that younger adults and adolescents live in a "selfie-nation" obsessed with snapping everything and posting the results online. Ofcom published survey data indicating that 31% of adults had taken at least one selfie in 2014, while 10% admitted to taking at least 10 a week (Press Association, 2015). The role of pressure/coercion from boyfriends/girlfriends to send self-generated sexualized images also needs to be acknowledged in this process, alongside voluntary sending of images or conversely, deception and lies from the intended recipient.

Summary and Concluding Discussion

Social Policy Implications in Britain

As this research has shown, the exposure to explicit content can harm children and young people's perception of sex, healthy relationships, and how they view their own bodies. During the course of this study, some children and young people asked explicitly for help and support, whether through education and/or some form of blocking the access to undesired materials. It is therefore undoubtful that some robust regulations are needed to protect children and young people from accessing online pornography.

In the United Kingdom, the Government announced plans to restrict young people's access to online pornography through the introduction of compulsory Age Verification (AV). The legal basis for this was contained in the United Kingdom's recent Part Three of the Digital Economy Act, 2017 (DCMS, 2016). The British Board of Film Classification (BBFC), which provides age certificates for films, was the selected organization to act as the regulator for the new regime. It was anticipated that the new policy would work principally through payments providers and advertisers threatening to break off all dealings with noncompliant sites; for example, porn publishers that refused to introduce age verification, but the BBFC had a residual power to oblige access providers to block access in the same way they do sites known to contain child sex abuse material (Tempterton, 2016).

This would have been the first universal "porn-block" on the internet in the world but, at the very last moment, the Government announced that the commencement of age verification for porn sites would be delayed, possibly indefintely (Waterson, 2019). Up until this point, the UK government had already spent £2 million on failing to implement the much delayed measure (Hern, 2019). However, in delivering this message, Nicky Morgan MP (now a Baroness), the Secretary of State for Digital, Culture, Media and Sport, stated that in the Government's new and expanded vision for policy in this area, she anticipates the:

> UK becoming a world-leader in the development of online safety technology and to ensure companies of all sizes have access to, and adopt, innovative solutions to improve the safety of their users. This includes age verification tools and we expect them to continue to play a key role in protecting children online. (Johnston, 2019)

Although the delay is disappointing, it is critical that the *modus operandi* utilized to protect children and young

people from unnecessary exposure works effectively. The issue will now be addressed under the U.K. governments' broader Online Harms White Paper, which has now closed for consultations (Gov.co.uk, 2019):

> Instead, the government would instead focus on measures to protect children in the much broader Online Harms White Paper. This is expected to introduce a new internet regulator, which will impose a duty of care on all websites and social media outlets—not just pornography sites.

Furthermore, the forthcoming introduction of compulsory Relationship and Sexual Education (RSE) in all schools in England and Wales for both sex and digital safety/literacy (from September 2020), under the Children and Social Work Act, 2017, could potentially enhance the preparation of adolescents for when they do see sexually explicit material online. However, this law does not explicitly refer to internet issues, but it is hoped that schools will cover the subject. Furthermore, the U.K. Council for Child Internet Safety (UKCCIS) Education Group has produced detailed guidelines to assist and enable schools to develop online safety policy and practice, by using an approach that includes parents and the wider community (UKCCIS, 2017). There is also an industry standard Publicly Available Specification (PAS no1296) that has been developed by the Digital Policy Alliance (Vigras, 2016), regarding what should be a "reasonable" means by which businesses can provide such verification. However, the standard has yet to be formally implemented.

The government's Internet Safety Strategy (2018) Green Paper launched a consultation which reported in May 2018. This produced a three pronged response: First, new online safety laws are to be created to make sure the United Kingdom is the safest place in the world to be online; second, their response to the Internet Safety Strategy consultation; and third, the government was to collaborate with industry, charities, and the public on a White Paper. This Online Harms White Paper has now closed for consultation, and the policy intentions of the U.K. government, based on its findings, are awaited. The last update on this forthcoming publication was published in June 2019 (Gov.co.uk, 2019).

International Implications

The issue of pornography being hosted in jurisdictions which do not require age verification is further compounded by TOR[1] (The Onion Browser) and similar means (e.g., Virtual Private Networks [VPNs]) to anonymously access "the dark web.."[2] Adolescents who want to access digital services, including pornography, without paying or verifying their age, could possibly use routes that allow untraceable, potentially encrypted access to websites that may also be offering illegal drugs, images of CSA, bestiality, or guns, and so forth. (Chen, 2011). Raising the issues surrounding online pornography at school, as part of relationships or citizenship education, under the remit of improving sexual health and online safety, could counter many negative impacts on adolescents by providing information and education on the topic that is appropriately age-tailored, and that does not leave adolescents to construct maladaptive coping strategies.

Finally, we raise the issue of "Adolescents" Rights to comprehensive, informative, educational awareness of the many issues and dangers surrounding their engagement with online adult pornography, as part of a focus on their wider online safety, security, digital privacy, and health. Young people's needs for good quality relationships education and improved digital literacy, wherever they live, could be negatively impacted by potential obstructions such as the content of the RSE curriculum; a refusal by some schools to teach about sexual behavior or other relationships at all; the professional skills of those teachers/trainers designated to deliver new content; or whether parents can withdraw their adolescents on religious or moral grounds from current provision, where it exists. There is thus a need to balance parental rights with duties to prepare adolescents for their future lives, ideally allowing them to benefit from lessons on digital health, safety, security, and sexual health.

Limitations of the Data Set

A few limitations in the data set were evident. First, a decision was taken to invite only adolescents aged 11 to 16. Seventeen- and 18-year-olds were excluded as the age of consent in the United Kingdom is 16 and this was considered a threshold which made them different, both legally and experientially than those up to age 16. Under 11-year-olds were excluded as this is the threshold for entry to secondary school and the additional ethical and methodological strictures posed by such research with young adolescents were beyond the scope and resources of this project. Finally, a caveat to be aware of was that proportionate numbers of adolescents from Northern Ireland were not attained in the sample, due to school gatekeepers' reluctance to engage.

Many in the world were eager to see how the online "Porn Block" with Age Verification was going to work, to both emulate it and improve upon it. Its total collapse in the United Kingdom, with a concomitant loss of time, money, and prestige, leaves the thorny question of how adolescents can be protected from the threats of online harm, from some aspects of internet pornography, open to question. Research into an effective way of achieving this goal, while balancing the requirements to provide age-appropriate sex and relationship education, with digital health, safety, and security information, has become a paramount concern for all those who seek to protect children from the rising tide of online harms.

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Ethical Approval

The research was conducted in accordance with the British Sociological Association ethical codes of conduct and approved by the Psychology Department ethics committee.

ORCID iDs

Andrew Monaghan https://orcid.org/0000-0001-8811-6910
Joanna Adler https://orcid.org/0000-0003-2973-8503

Notes

1. TOR—an encrypted web browser that is now freely available, designed by the U.S. military which makes users untraceable.
2. The Dark Web contains encrypted hidden websites only available on TOR, often illicit in nature, while the Deep Web contains mostly legitimate websites that are hidden from browser searchers, such as company HR Records, financial records, and government data.

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Author Biographies

Elena Martellozzo is a criminologist at Middlesex University and specializes in sex offenders' behavior, their use of the internet, and child safety. She has worked extensively with children and young people, serious offenders, and practitioners for over 15 years. Her work includes exploring children and young people online behavior and risks, the analysis of sexual grooming, online sexual exploitation, and police practice in the area of online child sexual abuse.

Andrew Monaghan is a criminologist at Middlesex University and his area of expertise is self-generated images, online pornography, and online risks. He is currently working as a postdoctoral researcher on the Horizon 2020 Project, an EU-wide research study that is investigating the causes of international terrorism and organized crime.

Julia Davidson is a professor of criminology at the University of East London. She is one of the United Kingdom's foremost experts on online child abuse and serious offending. She has directed a considerable amount of national and international research spanning 25 years.

Joanna Adler is a professor of psychology at the University of Hertfordshire. She works closely with practitioners and those who are involved in implementing criminal and civil justice. She has conducted research and evaluation in the public, private, and voluntary sectors, alongside colleagues in the school of Health and Education and the School of Law. Together, they have delivered work that is useful, impactful, and underpinned by academic rigor.