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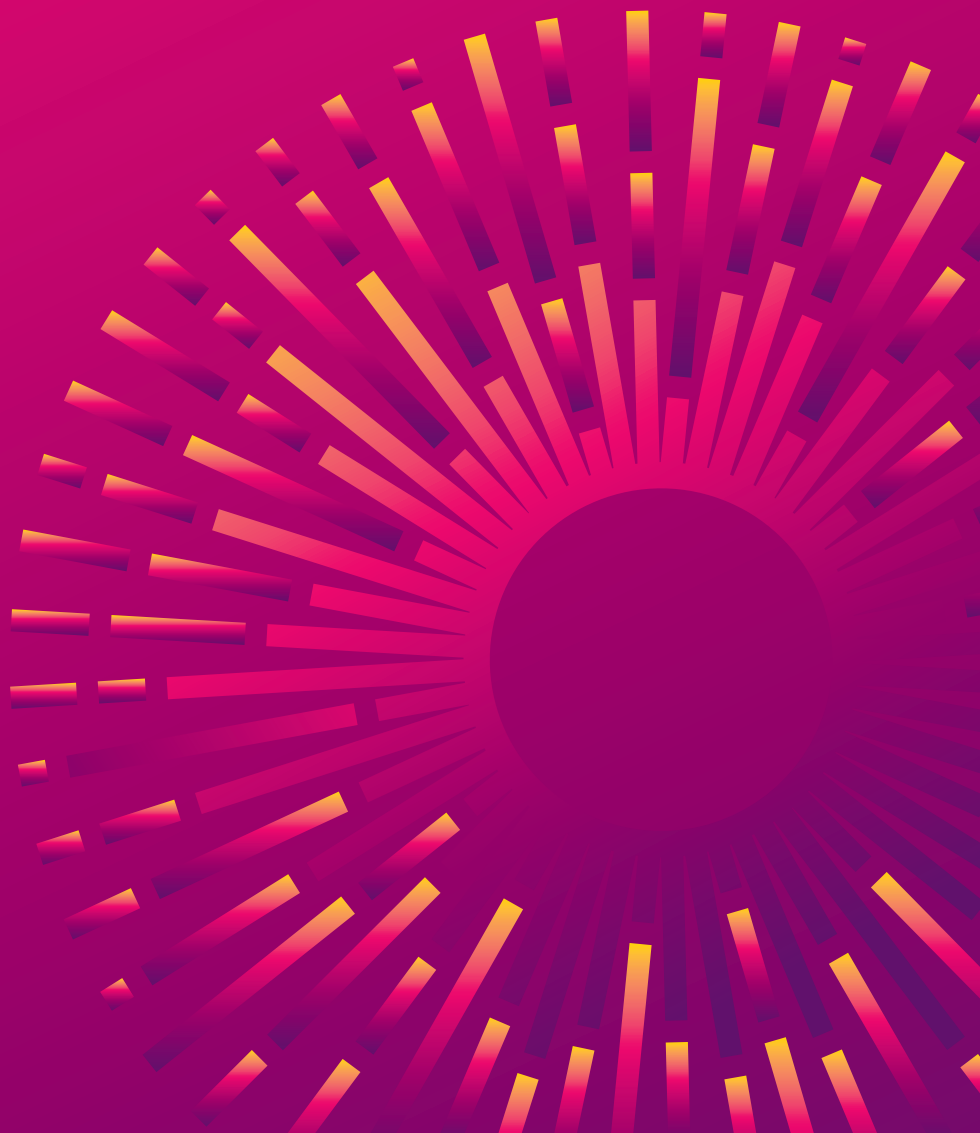
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The effects of pornography on children and young people

An evidence scan

RESEARCH REPORT 2017

Antonia Quadara, Alissar El-Murr and Joe Latham



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Overview

In 2016, the Australian Institute of Family Studies (AIFS) was engaged to review what the available research evidence tells us about the impact exposure to and consumption of online pornography has on children and young people.

The increasing availability of pornography online has raised concerns about the impacts it may have on children and young people's:

- knowledge of, and attitudes to, sex;
- sexual behaviours and practices;
- attitudes and behaviours regarding gender equality;
- behaviours and practices within their own intimate, sexual or romantic relationships; and
- risk of experiencing or perpetrating sexual violence.

The purpose of this project was not to duplicate the considerable work undertaken by other researchers working on these issues (e.g., Flood, 2009; Flood & Hamilton, 2003a, 2003b; Sabina, Wolak, & Finkelhor, 2008; Wolak, Mitchell, & Finkelhor, 2007; Ybarra & Mitchell, 2005). Rather, the purpose was to synthesise recent research and current approaches/interventions across this range of domains to inform future initiatives to reduce the negative impacts of pornography on children and young people.

Approach

Between August and October 2016, the research team reviewed the available research regarding:

- the effects of pornography on children and young people in relation to the issues listed above; and
- current approaches and interventions that have been developed to address the negative effects of pornography and support respectful relationships.

Research undertaken in Australia, New Zealand, the UK, the USA, Ireland, Scandinavia and Canada was prioritised. To varying degrees, the international contexts listed here share some similarities with Australia, such as political and legislative systems. However, the implications of the research are not fully transferable.

The literature was then synthesised to:

- **draw conclusions about the key effects** of pornography on children and young people and how this relationship between pornography and associated impacts is best understood;
- **identify factors that might help explain or mediate the relationship** between exposure to pornography and other "sexualising" materials and the impact on children and young people (i.e., risk and protective factors); and
- **identify promising approaches** to addressing this issue with children and young people, including key learnings.

Terminology used in this report

The term “pornography” is typically used across the academic and public policy literature as well as in popular and news media to describe sexually explicit material that is generally intended to sexually arouse the audience (Flood, 2016). This can be a useful shorthand; however, it is important to note that there is not a singular type of pornography. There is diversity in the form pornography takes (e.g., text, images, anime, video), its content (e.g., the sexualities and practices represented) and its production context. This variation is important to keep in mind when discussing the harms associated with online pornography, and it may make more sense to speak of “pornographies” to acknowledge this diversity. Some researchers have used the term sexually explicit material (SEM) and sexually explicit Internet material (SEIM) to refer to “online [pictures and] videos that depict sexual activities and genitals in unconcealed ways and are typically intended to arouse the viewer” (Hare, Gahagan, Jackson, & Steenbeek, 2014, p. 148).

At the same time, there *is* a dominant style and form of pornography that is easily accessible via the Internet, largely targets a male heterosexual audience and which makes up the majority of the global pornography industry (Crabbe, 2016). Arguably, it is this form of pornography that is animating contemporary discussions about the harms associated with exposure to and consumption of online pornography.

In this report, the terms “pornography” and “online pornography” are predominantly used to encompass:

- textual, visual and audio-visual sexually explicit material that is generally intended to sexually arouse the audience;
- mainstream, dominant forms of pornography; and
- pornographic material that is uploaded, accessed, shared and downloaded via online platforms.

Caveats

There are several caveats for the reader to keep in mind:

- The literature reviewed was limited to empirical and other research published as academic, peer-reviewed publications or research reports published in non-commercial form available online (i.e., grey literature).
- The search strategies limited searches to:
 - research published between 2005 and 2016; and
 - literature published in English in Australia and relevant international contexts: Canada, NZ, the USA, the UK, Ireland, and Scandinavia.

This means that research studies published after 2016 have necessarily been excluded and that traditional research studies have been privileged. These research studies often lag behind the issues practitioners, educators and others are seeing in their work.

Report structure

The report is structured in two parts. The first part provides a synthesis of the literature and its implications for developing initiatives to address the harms associated with online pornography. The second part presents a review of the literature informing the synthesis report.

The evidence library collated and used in this project is provided as a separate appendix to the report.

Part A: Synthesis report

In this part, we synthesise what the research literature tells us in terms of:

- how children and young people are exposed to or consume online pornography;
- the nature of harms associated with this exposure and/or consumption; and
- the diverse factors that may mediate these harms.

The implications are then considered for designing and implementing initiatives that aim to address the harms associated with online sexually explicit material. The methodological approach used to undertake the review is described in Part B, the review of the literature (page 29).

Key themes in the research literature

Understanding exposure to and consumption of online sexually explicit material

Before describing the research findings themselves, the following key points are important.

First, “pornography” as a social issue or problem is *both* profoundly private *and* profoundly political. Desire, sexuality, sexual arousal, masturbation—these are deeply personal experiences. At the same time, pornography has also been a source of intense political, legal and philosophical debate about censorship, civil rights, moral standards and values, sexual freedom, protecting children, gender politics, sexual objectification and violence against women. Diverse political and ethical viewpoints influence understandings about the effects of pornography on children and young people and how this is best addressed.

Second, the advent of Web 2.0 has significantly changed how people communicate, connect and share information. Web 2.0 shifted the World Wide Web from a static repository for information into a dynamic site of interaction, enabling social networking and other peer-to-peer and participatory online platforms (Thomas & Sheth, 2011). The World Wide Web is now characterised as:

- personalised;
- interactive;
- convergent and interconnected;
- user-driven; and
- highly mobile.

This is the contemporary landscape into which young people have been born. It is a landscape that, as many commentators have noted, affords both opportunity and risk (Livingstone & Brake, 2010). These technological developments have also occurred within, and are shaped by, intersecting spheres of influence, namely:

- the intrapersonal (i.e., the individual);
- the interpersonal (family and peers);
- organisational and institutional settings (such as schools);
- community contexts; and
- the broader socio-cultural context.

Figure 1 (page 8) provides a visual mapping of the research literature in relation to these spheres of influence.

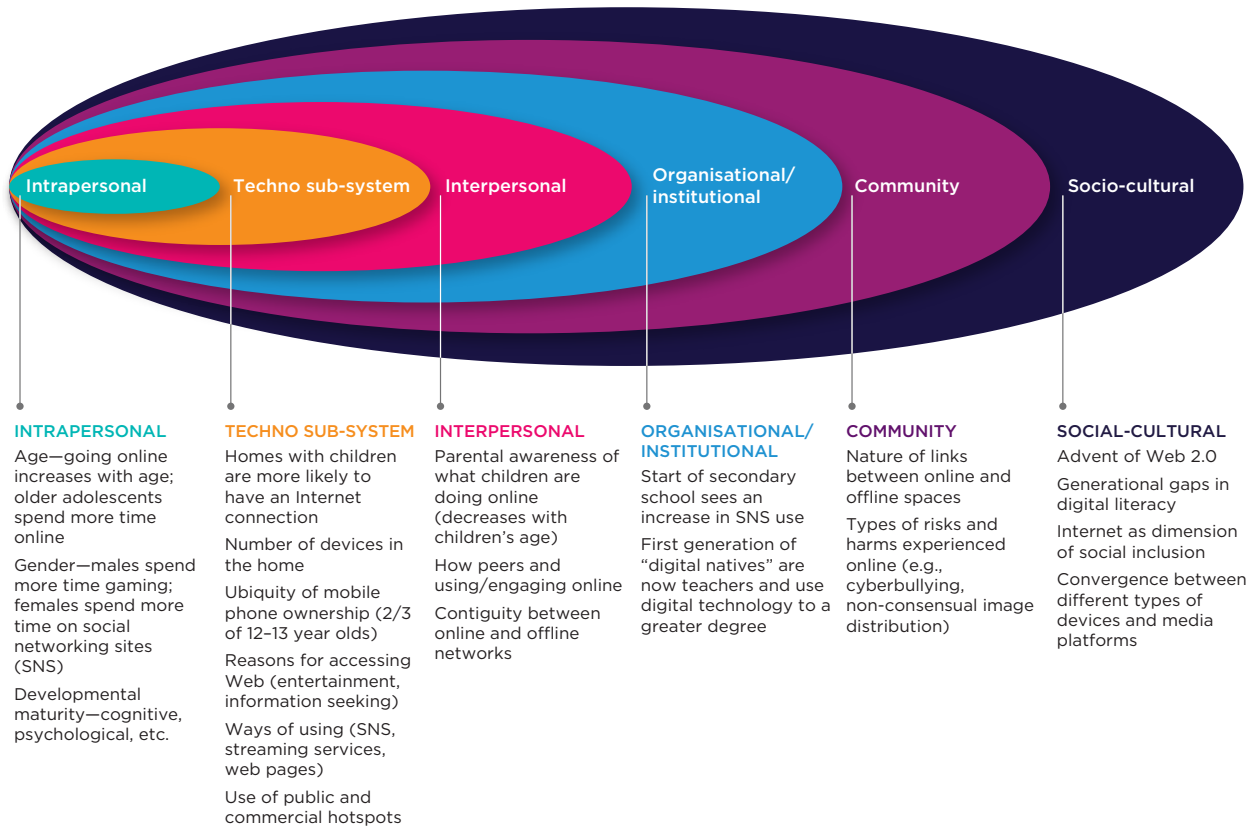


Figure 1: Socio-ecological context shaping access/exposure to online pornography

Finally, sexual violence—perpetrated particularly against women and children—is highly prevalent both in Australia and internationally, as demonstrated in Box 1. There has been a long-standing examination, from the 1980s to the present time, of whether and in what ways consumption of pornography facilitates sexual violence perpetration. Overall, pornography's "causal attribution" has not been demonstrated. This does not mean, however, that there is no connection. Indeed, the growing evidence base on preventing violence against women and children by addressing its *underlying determinants* or conditions invites us to look at:

- the messages mainstream online pornography generates about gender, equality and (hetero)sexuality; and
- how these messages might shape the attitudes, beliefs and behaviours of children and young people in forming respectful, equitable romantic/sexual/intimate relationships.

Box 1: Sexual violence

Victimisation

- People aged 19 years and under make up 60% of all sexual assault victims.
- Girls and young women aged between 10 and 14 years experience the highest rates of sexual violence in Australia.
- Twenty-nine per cent of all male sexual assault victims are aged between 0 and 9 years.

Perpetration

- Sexual assault offences perpetrated by children and young people aged between 10 and 19 years old increased by 36% from 2012 to 2014.
- Girls and young women aged 10–17 years made up 58% of all recorded offences committed by females from 2012 to 2013.
- Boys and young men aged 10–17 years old committed 16% of all recorded sex offences from 2012 to 2013.

In short, understanding the impacts of pornography on children and young people must start with situating pornography, its consumption and its impacts within its broader sociocultural context. As represented in Figure 2, key dimensions of this include:

- **Digital communication technologies, platforms and practices in general.** For example, what is the role and significance of technology in the lives of children and young people? How is it used for education, social connection, exploration, entertainment? How does this change over different developmental stages? What are the practices and values within children and young people's environments about technology use?
- **The range of online risks children and young people experience.** For example, what are the dynamics and prevalence of cyberbullying, exploitative relationships and connections online? How aware are parents, guardians and educators about the types of harms that can be experienced online?
- **Social scripts and discourses about men, women and sex,** such as "once aroused, men cannot control themselves", "women say no when they mean yes", "women often play hard to get", "it's men's role to pursue women", "women need love to have sex, men need sex to feel love", "men physically need sex", "women don't know what they want sexually until a man shows them".
- **The broader determinants of sexual violence and violence against women,** such as rigid stereotypes of masculinity and femininity, gendered inequality regarding decision-making and resources in private and public life, male peer relationships that condone aggression, and minimizing, excusing and rationalising violence against women.

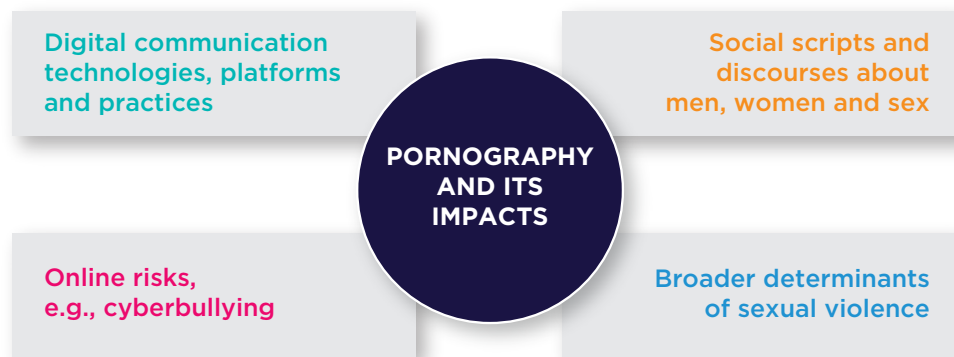


Figure 2: Situating pornography and its impacts as an issue

Findings from the literature

Contexts of exposure to and consumption of pornography

As Figure 1 (page 8) makes clear, the accessibility of and exposure to pornography is located within a number of contexts and can therefore occur through a variety of mechanisms. The key themes from the national and international research literature on exposure to and consumption of pornography are that:

- Exposure is highly likely to occur. In Australia, just under half (44%) of children aged 9–16 had encountered sexual images in the last month. Of these, 16% had seen images of someone having sex and 17% of someone's genitals. Images of this nature were more likely to have been seen by adolescents rather than younger children. More recent results from the UK report that 53% of 11–16 year olds have seen online pornography at least once, with the vast majority having viewed pornography before the age of 14.
- Exposure can be inadvertent or intentional. Inadvertent pathways to exposure include searching for sexual health, relationships or medical information online and pop-up ads. Intentional could include being sent links to follow and intentional searching.
- The extent and frequency of viewing pornography differs by gender, with males more likely to deliberately seek out pornography and to do so frequently.
- Attitudes and responses to exposure also varied by gender, with females having more negative views and responses such as shock or distress compared to males, who are more likely to experience pornography as amusing, arousing or exciting, particularly in older cohorts. Negative feeling tends to decrease with repeated viewing (though it is unclear why this is the case).
- Parents overestimate exposure for younger children and underestimate the extent of exposure for older children (again, it is not clear why this is the case).

Two key types of research have been undertaken to examine whether and in what ways consuming pornography is harmful:

- **Experimental studies** aim to test—physiologically, psychologically, cognitively—participants' responses to viewing pornography. These have been criticised for being artificial in that it's not known how pornography use occurs and is incorporated within everyday life.
- **Correlational, naturalistic studies** aim to understand how pornography use occurs and is incorporated within everyday life. These are limited because they are unable to test causal directions between pornography and impact. There are a few longitudinal studies that are able to provide information about changes over time.

Despite the limitations of the research methodologies, there is an emerging consistency in what pornography can influence and in what ways. These are:

- knowledge, awareness and education about sex including sexual practices, sexual health and sexual behaviours;
- attitudes, beliefs and expectations about sex;
- attitudes, beliefs and expectations about gender;
- sexual behaviours and practices;
- sexual aggression; and
- mental health and wellbeing.

Table 1 (page 11) summarises the key findings from the research.

In sum, exposure to and consumption of pornography can have a range of associated effects. While some of these, such as more permissive attitudes and beliefs about sex (e.g., accepting attitudes about casual sex), knowledge about sexual practice and sexual practices themselves (such as anal sex, sex with multiple partners) may not be *inherently* problematic, the most dominant, popular and accessible pornography contains messages and behaviours about sex, gender, power and pleasure that are *deeply* problematic. Physical aggression (slapping, choking, gagging, hair pulling) and verbal aggression such as name calling, predominantly done by men to their female partners, permeate pornographic content (Sun, Bridges, Johnson, & Ezzell, 2016). In addition, this aggression often accompanies sexual interaction that is non-reciprocal (e.g., oral sex) and where consent is assumed rather than negotiated.

The following section synthesises what the research suggests about factors that mediate these harms.

Table 1: Key findings from the research

<p>Knowledge, awareness and education</p> <ul style="list-style-type: none"> • Pornography can act as a source of information about sexual acts, sexual practices and diverse sexualities. In the absence of other explicit information available, research suggests that pornography can be the main source of sex education. The impacts of this element alone are unclear.
<p>Attitudes, beliefs and expectations about sex</p> <ul style="list-style-type: none"> • Consistent evidence that adolescents' use of pornography is associated with stronger permissive sexual attitudes (e.g., premarital sex, casual sex). However, it is not clear that permissive sexual attitudes are inherently problematic or harmful. • Research suggests that the behaviours and practices in pornography can influence expectations about sex, e.g. what men find pleasurable, expect their partners to do and vice versa. This can be a source of anxiety and fear. • Research also suggests that the gaps between expectations and reality can produce "sexual uncertainty" about sexual beliefs and values and may also be related to sexual dissatisfaction.
<p>Sexual behaviours and practices</p> <ul style="list-style-type: none"> • Some evidence that exposure to pornography can increase the likelihood of earlier first-time sexual experience, particularly for those adolescents who consumed pornography more frequently. • Evidence suggests that pornography can shape sexual practices, with studies finding that young people may try performing common sexual acts seen in dominant hetero pornography such as: <ul style="list-style-type: none"> – anal intercourse; – facial ejaculation; – sex with multiple partners; and – deep fellatio. • Pornography is also associated with unsafe sexual health practices such as not using condoms and unsafe anal and vaginal sex. • Some research finds that young men themselves say that pornography is shaping their sexual practices.
<p>Attitudes, beliefs and expectations about gender</p> <ul style="list-style-type: none"> • Research suggests that adolescents' pornography use is associated with stronger beliefs in gender stereotypes, particularly in relation to sex. This association is stronger for males. • Male adolescents who view pornography frequently more likely to: <ul style="list-style-type: none"> – hold sexist attitudes and views of women such as them "leading men on"; and – view women as sex objects. • Some research finds that not only does the content of pornography reinforce double standards of an active male sexuality and passive female receptacle, but the expectations about porn consumption do this also.
<p>Sexual aggression</p> <ul style="list-style-type: none"> • Studies show a strengthening of attitudes supportive of sexual violence and violence against women. • Evidence of an association between consuming pornography and perpetrating sexual harassment for boys and sexual coercion for college men. • Adolescents who consumed violent pornography, at follow-up were six times more likely to have been sexually aggressive compared to those who had viewed non-violent pornography/no pornography. • There is a range of intersecting risk factors that increase the likelihood that male consumers of pornography will perpetrate sexual aggression or have a predisposition towards sexual aggression.
<p>Mental health and wellbeing</p> <ul style="list-style-type: none"> • Distress or upset particularly among younger children (those aged 9-12) • Girls more likely to find pornography distressing, demeaning or disgusting • Increased self-objectification and body surveillance among both male and female adolescents • Sexual preoccupation, compulsive consumption and "addiction" can be associated with the frequency of viewing pornography and also the purposes of using pornography (e.g., as a way of relieving negative states).

Factors mediating these harms

In line with the points above, pornography consumption is one risk factor among others. For example, using violent pornography has been linked to actual aggressive behaviours, including sexual assault. This shows that the content (what types) of pornography being accessed matters. There is also evidence that one's pre-existing understanding of sexual norms (what kinds of sexual activities are appropriate) affects how distressing exposure to pornographic material depicting other kinds of activities is. This is especially applicable for younger children. Both age and cultural context make a difference in the effects of sexually explicit materials. How minors read pornographies also produces different effects, for example if they think that pornographic representations depict realistic or unrealistic sexual behaviour. All of these factors interact with each other differently, and in particular tend to have different effects for boys and girls of different age groups, making gender and age important points of interest.

Table 2 highlights some of the important factors that affect the reception of, engagement with and potential effects of pornography. These are grouped under the following headings:

- **Character/Individual factors:** personal characteristics that affect the reception of, engagement with and effects of pornography;
- **Context:** situations in which pornography is viewed that make a difference to how it is understood; and
- **Content:** the substantive content of the pornographic representation.

Table 2: Mediating factors

Character	Context	Content
• Gender	• Accidental	• Condom use/non-use
• Age	• Intentional	• Women as sex objects
• Pubertal development	• First exposure	• Depictions of violence
• Cultural background	• Frequency of use	• Women as aroused by violence
• Religiosity	• Duration of viewing	• Racist stereotypes
• Socio-economic status (SES)	• Purpose	• Point of view (POV)
• Sexual orientation	• Experiential state (e.g., arousal)	• Power relations
• Sexual interest	• With sexual partner/peers/alone	• Affection
• Sexual experience	• Perceived realism	
• Sexual/abuse history	• Sexual education	
• Relationship status	• Critical literacy	
• Sensation seeking	• Familial situation	
• Aggression	• Parental communication	
• Attitude towards violence against women	• Communication with friends	
• Attitude towards pornography	• Age of friends	
	• Perceived peer norms	

Overall, the key points from the evidence are:

- Mainstream, online pornography can have a range of negative effects on knowledge, attitudes, and beliefs about sex and gender; sexual practices; mental wellbeing and the risk of sexual aggression.
- These negative effects are mediated by the interaction between individual characteristics; the contexts in which exposure and/or consumption occur; and the content of the pornography itself.
- The mediating factors of individual characteristics, context and content are themselves situated within a generally interconnected, interactive and mobile digital world as well as a socio-cultural context that is not gender equal, and in which stereotypical beliefs about women, men and sex are common.

Summary of issues

Taken together, the research findings suggest that the key issues underpinning the harms associated with pornography relate to the following and how they interconnect:

- **the cumulative effect** of attitudes, knowledge, practices *plus* the scripts and narratives of contemporary pornography in which aggression, objectification, roughness, non-reciprocity and assumed consent to all practices and partners is the default expression of hetero sex;
- **the location of this pornography within our broader cultural context**, in which stereotypes about gender, sexism, sexual objectification and violence supportive attitudes are also at play across the social ecology in addition to normalising young men's pornography consumption itself; *and*
- **the absence of alternative narratives**, scripts and representations of heterosexuality, women's sexual agency and desire that meet the developmental and information needs of children and young people.

An important implication arises from this: the harms associated with pornography consumption needs to be considered at both the individual and collective levels.

At the individual level, there are a range of risk factors associated with consuming pornography that make some males more "predisposed" to sexually aggressive behaviours, such as hostility towards women, lower intelligence, antisocial tendencies and a higher interest in impersonal sex and domination (Malamuth & Huppin, 2005; Ybarra & Mitchell, 2005):

When examined in the context of multiple, interacting factors, the findings are highly consistent across experimental and nonexperimental studies and across differing populations in showing that pornography use can be a risk factor for sexually aggressive outcomes, principally for men who are high on other risk factors and who use pornography frequently. (Kingston, Malamuth, Fedoroff, & Marshall, 2009, p. 216)

At the collective level, the three issues listed above essentially create an "echo chamber" for the sexual socialisation of children and young people, particularly males. As Sun and colleagues noted in their study:

[Our] findings build on the work [of others' research] illustrating the relationships between pornography use and male consumers' attitudes and beliefs about real-world sexual relationships. We, too, find that pornography is not mere fantasy or an individualised experience for men. Instead, our findings are consistent with a theory suggesting that pornography can become a preferred sexual script for men, thus influencing their real-world expectations. (2016, p. 8)

This means that initiatives to address the negative effects of pornography need to also address these intersecting issues. This is examined in the following section.

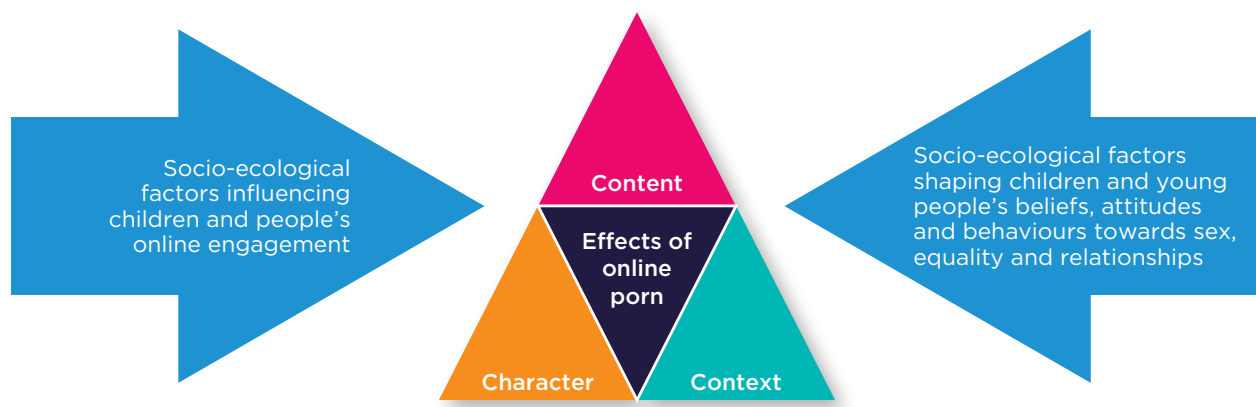


Figure 3: Summary of key influences on pornography's impacts

Interventions and initiatives to address harms of online pornography: overview

The implications arising from our analysis is that pornography and its impacts need to be situated within a broader framework of primary prevention and supporting the sexual safety and wellbeing of children and young people. This involves continuing to develop an integrated prevention framework based on a public health approach to prevention of sexual harm, violence and abuse that draws on the insights of child development, situational crime prevention and prevention education (Quadara, Nagy, Higgins, & Siegel, 2014), as well as on the more tertiary responses such as legal and regulatory strategies.

The following sections outline interventions and initiatives that have been implemented nationally and internationally.

Interventions and initiatives to address harms of online pornography: Australia

The most recent Australian Government intervention has been the Senate inquiry into the harm being done to Australian children through access to pornography on the Internet, which released four recommendations in November 2016. The Senate committee recommended:

- dedicated research into the exposure of children and young people to pornographic material, mainly with regard to online pornography;
- the creation of an expert panel comprised of professionals from a range of fields to provide policy recommendations to the Australian Government;
- a review of state and territory government policies on responding to allegations of peer-to-peer sexual abuse in schools and training materials for teachers and others who work with children and young people; and
- an Australian Government evaluation of information available to parents/caregivers and teachers regarding online safety and risks, including a review of the website of the Office of the e-Safety Commissioner.

Other Australian Government and non-government services have taken steps to reduce children and young people's exposure to online risks—including pornography—and enact harm minimisation strategies.

Three key types of intervention were identified:

- legal and regulatory avenues to existing legislation regarding online pornography;
- education for children and young people; and
- education and resources for teachers and parents.

This section provides an overview of government and non-government interventions, paying particular attention to those aimed at parents/caregivers and teachers. The first section describes the three interventions listed above and looks at examples of each, including interventions pertaining to technology-facilitated sexual violence. The second section focuses mainly on resources available to parents/caregivers and an overview of the advice put to them about mediation and communication—two of the key techniques used in negotiating children and young people's experiences of online pornography. The third and final section provides an overview of the resources available to teachers, and discusses the whole-of-school approach that sees schools as a key setting in ensuring the healthy sexual development of children and young people.

Legal interventions

The *Enhancing Online Safety for Children Act 2015* (Cth) was implemented in Australia to oversee the management of issues regarding children and young people's digital activities. Part of its function was to establish the Office of the e-Safety Commissioner, an independent statutory office designed to provide "online safety education for Australian children and young people, a complaints service for young Australians who experience serious cyberbullying, and address illegal content through the Online Content Scheme" (Office of the e-Safety Commissioner, 2016). The Online Content Scheme restricts access to illegal and offensive material using the measures provided by the National Classification Scheme (RC, X18+, R18+, MA15+), and the Office of the e-Safety Commissioner has the power to remove illegal or offensive content under the *Broadcasting Services Act 1992* (Cth).

Technology-facilitated sexual violence

Some argue that "more needs to be done both within and beyond the law" to address the effects of technology-facilitated sexual violence (Funnell, 2015; Henry & Powell, 2016, p. 398). The critique of legal interventions draws attention to the lag between technological developments and legislation to manage

technology-facilitated sexual violence (Powell & Henry, 2016b). Indeed, in 2016, only Victoria and South Australia have specific legislation pertaining to the management of the non-consensual distribution of intimate images. New South Wales (Australian Associated Press [AAP], 2016), the Northern Territory (Poulson, 2016) and Western Australia (Government of Western Australia, 2016) have announced plans to implement such legislation, while Tasmania, the Australian Capital Territory, and Queensland have not indicated their intention to enact such legislation (see Table 4).

Table 4: Legal approaches

State/Territory	Specific legislation for technology-facilitated sexual violence
Victoria	The <i>Crimes Amendment (Sexual Offences and Other Matters) Act 2014</i> (Vic.) introduced new sections pertaining to the distribution or threat of distribution of an intimate image, extending the <i>Summary Offences Act 1966</i> (Vic.).
South Australia	Current: <i>Summary Offences (Filming Offences) Amendment Act 2013</i> (SA) introduced a new section pertaining to the distribution of an invasive image into the <i>Summary Offences Act 1953</i> (SA). Recently introduced: Summary Offences (Filming and Sexting Offences) Amendment Bill 2016
Tasmania	None
New South Wales	Pending
Australian Capital Territory	None
Northern Territory	Pending
Queensland	None
Western Australia	Pending

In terms of Commonwealth legislation, s 474.17 of the *Criminal Code Act 1995* (Cth) pertains to telecommunications offences, which could potentially be used to charge offenders for crimes including the non-consensual sharing of intimate images. Further, Commonwealth legislation can also be used to charge perpetrators with offences related to child pornography, if the intimate image depicts an individual under the age of 18 (Attorney-General's Department, *Submission 28: the phenomenon colloquially referred to as "revenge porn"*, 2015). The *Enhancing Online Safety for Children Act 2015* "has authority to communicate to websites or social media services that are hosting harmful material and require the removal of that material" (Senate Legal and Constitutional Affairs Reference Committee, 2016, p. 39). Researchers, legal experts and social service workers generally support more specific Commonwealth legislation to provide legal definition and federal management of this important issue (Senate Legal and Constitutional Affairs Reference Committee, 2016). Other legal strategies include the Australian Cybercrime Online Reporting Network, which has processed approximately 489 online complaints about the non-consensual sharing of intimate images since its establishment in 2014 (Senate Legal and Constitutional Affairs Reference Committee, 2016).

In addition to legal interventions, the Commonwealth Government recently pledged an extra 10 million dollars to manage domestic violence in Australia, including the provision of support for victims of technology-facilitated sexual violence (Cash & Porter, 2016). The funding comes from the overall budget for the *National Plan to Reduce Violence against Women and their Children 2010–2022*. The government funds are expected to "improve research and education to counter the risk of technology-facilitated abuse by ensuring women's privacy and safety are protected and young people understand the impact of their actions" (Cash & Porter, 2016). Specifically, the funds are intended to combat virtual violence by:

- establishing a complaint and support line whereby victims can report revenge porn and access immediate and tangible support; and
- providing young people with information and education about pornography and its social effects (Cash & Porter, 2016).

Specific training for those working in the criminal justice sectors is required to develop best practice management of technology-facilitated sexual violence and ensure legal remedies are effective. Ongoing professional development is important and has already been implemented in organisations specifically providing legal and/or support services to women (Powell & Henry, 2016; Senate Legal and Constitutional Affairs Reference Committee, 2016). Specialist training to police officers is particularly important for their work in supporting victims to report and follow through with cases (Powell & Henry, 2016; Senate Legal and Constitutional Affairs Reference Committee, 2016).

Education for children and young people

There are several key education resources in Australia aimed at primary and secondary school aged children and young people (listed in Table 5). The list includes some resources that may not directly refer to online pornography but could be adapted in different ways to provide such information to children and young people.

Table 5: Educational approaches

Resource	Author(s)/Organisation	Age group(s)
Resilience, Rights and Respectful Relationships	Department of Education and Training (DET) (Vic.)	Foundation to level 12
Catching on Early: Sexuality education for Victorian primary schools	Department of Education and Training (Vic.)	Primary school
Catching on Later: Sexuality education for Victorian secondary schools	Department of Education and Training (Vic.)	Secondary school
The Practical Guide to Love, Sex and Relationships *Includes a video and lesson plan about pornography—Porn: What you should know—for students in year 8 and above	The Australian Research Centre in Sex, Health and Society, La Trobe University (Vic.)	Secondary school
Building Respectful Relationships: Stepping out against gender-based violence	Department of Education and Training (Vic.)	Secondary school
In the Picture: Supporting young people in an era of explicit sexual imagery * Includes resources to support a whole school approach to addressing pornography's influence	Crabbe, M./ Reality & Risk Project	Secondary schools; community organisations
It's Time We Talked , website	Crabbe, M. & Corlett, D./ Reality & Risk Project	Young people; parents; schools; community organisations
Love and Sex in an Age of Pornography , broadcast documentary film	Corlett, D. & Crabbe, M./ Reality & Risk Project	General broadcast audience; rated MA15+
The Porn Factor , broadcast documentary film	Crabbe, M. & Corlett, D./ Reality & Risk Project	Parents, teachers, youth workers and others; rated MA15+
Fightback: Addressing everyday sexism in Australian schools	O'Keeffe, B. & the Fitzroy High School Feminist Collective	Secondary schools
Tackling Sexual Harassment	Australian Human Rights Commission	Levels 9 and 10

The national school curriculum begins teaching children about bodies, boundaries and relationships at a foundational level, prior to years 1 and 2 (i.e., 6 and 7 year olds). The national curriculum provides schools with teaching resources that cover a variety of topics relating to sexual health, developing bodies, respect, safety and identity (Australian Curriculum Assessment & Reporting Authority, 2016). The scope of that education expands at secondary school level to include sexual relationships, and encourages students to reflect on their experiences of the media and its influence on personal attitudes, beliefs, decisions and behaviours (Australian Curriculum Assessment & Reporting Authority, 2016).

The most recent resources are the *Resilience, Rights, and Respectful Relationships* materials for schools in Victoria. This resource provides social, emotional and sex education for children and young people from foundation to year 12, covering the following eight topics in an age-appropriate manner:

- Emotional literacy;
- Personal strengths;
- Positive coping;
- Problem solving;
- Stress management;
- Help-seeking;
- Gender and identity; and
- Positive gender relations.

Foundation level up to level 6: Gender, social and emotional skills education is provided but, as with other Victorian school curriculums, education regarding sexual relationships (including discussions about pornography) doesn't start until levels 7 and 8.

Levels 7–8: The resource offers information and activities regarding gender, gender identity, gender-based violence and the use of technology and media platforms for gender ideologies, with a view to assist in the development of critical literacies and promote positive relationships. Topics covered include:

- Health impacts of gender norms;
- Gender-based violence;
- Pornography, with a focus on critical readings of gender and power; and
- Sexting, with an emphasis on legal issues.

Levels 9–10: Activities are included to develop social and emotional skills, which are noted as providing an entry platform for positive gender relationships education, particularly with existing programs such as the *Building Respectful Relationships: Stepping out against gender-based violence* program (levels 8, 9 & 10).

Levels 11–12: Activities and detailed information for the topics of gender and identity and positive gender relations are included.

Subsections of the gender and identity topic include:

- Exploring gender stereotypes;
- Gender literacy and gender norms;
- Masculine and feminine gender norms;
- Privilege and gender; and
- Gender equity.

Subsections of the positive gender relations topic include:

- What is gender-based violence?;
- Attitudes associated with gender-based violence;
- Asserting standards and boundaries in relationships; and
- Pornography, gender, and intimate relationships.

The final subsection defines pornography as “a vehicle for communicating and shaping norms within gender relationships, particularly when that pornography also incorporates acts of violence against women” (Department of Education and Training, 2016, p. 105). The materials suggest to teachers that the following issues may be covered in group discussions:

- “increased aggression on the part of the man and extreme acts causing discomfort to women partners;
- women partners having to look pleased by these acts;
- women partners having to please men partners;
- forced viewing of pornography via texting or social media;
- influence of pornography on what men think should happen between them and their partner;
- the belief that pornography reflects real life sexual situations;
- emotional manipulation to ensure compliance;
- lack of discussion and education options for young people;
- normalisation of pornographic acts;
- misrepresentation of what is enjoyable;
- access to pornography before access to trustworthy, quality sex education;
- potential effects on younger children; and
- predominant use of pornography by men and boys.” (2016, p. 105)

Digital and sexual literacies

Digital literacies and exposure to explicit online content may cause children to develop *sexual literacies* in different ways to previous generations, particularly in response to pornography as contemporary sex education for children and young people (Crabbe, 2016; Fileborn, 2016; Flood, 2016). Two key reports are drawn on here to contextualise the role of parents/caregivers and teachers in children and young people's digital and sexual literacies: The *High-Wire Act* report (2011) and the *Talk Soon Talk Often* guide (2012). The *Talk Soon Talk Often* guide, in particular, offers advice to parents/caregivers who may be unsure of how to communicate to their children about sex. It draws attention to the fact that although parents/caregivers may not broach such topics, children have already started "learning some important messages that will lay the foundation of their sexual development" from contexts other than the family environment (Walsh, 2012, p. 6). It suggests that there are four main contexts in which children and young people develop early ideas about bodies, relationships, sexualities and gender:

- home;
- school life;
- screen time; and
- online relationships.

Talk Soon Talk Often encourages open communication between children and parents in a similar way to the *It's Time We Talked* online resource, which states that, "young people say their parents, particularly their mothers, are their most trusted and used source of information regarding sexual matters" (Reality & Risk Project, 2016). Similarly, schools have been named a key setting with an important role to play in ensuring children and young people make sense of their exposure to online pornography in healthy ways. The *High-Wire Act* states: "Schools are optimally placed to support students to be cyber-safe. Raising the awareness of young people before, or as, computers are introduced into the curriculum can be a preventative step—ensuring young people are better equipped against the risks they are likely to encounter online" (Cyber-Safety, J. S. C. o., 2011, pp. 40-1).

Critical thinking

It's Time We Talked specifically asks young people to question pornography, stating: "Seeing porn might seem normal. But what does porn say? Who makes it and why? And what does it all mean for you?" (Reality & Risk Project, 2016). Asking such questions encourages viewers to reflect on the messages contained in online pornography and works to foster discussion while respecting the agency of the young people involved. That is an important alternative to the construction of young people as passive actors in their consumption of online pornography.

Arming children and young people with tools to engage critically with media is important to their understanding of the differences between online pornography and their offline sexual relationships. *It's Time We Talked* provides advice to that effect:

We need to teach young people to "read" imagery and to develop the sorts of frameworks that allow them to understand and critique what they're seeing. They need to understand that media is often created to promote something as desirable and necessary and, at the same time, communicates a whole range of other messages—about, for example, power, gender, class and culture. (Reality & Risk Project, 2016)

Resourcing parents/caregivers

Parents/caregivers are encouraged to educate themselves about the Internet and social media in order to be aware of the current online dangers and opportunities facing their children (Office of the e-Safety Commissioner, 2016; Think U Know, 2016). Parents/caregivers are less likely to be intimidated by online risks if they are informed and take an active role in their children's digital lives (Office of the e-Safety Commissioner, 2016).

The Think U Know (2016) resource stated that "understanding how young people use the Internet and what they enjoy doing will help you to recognise any suspicious or inappropriate behaviour. It will also help you to talk with your child about their online activities if they think you understand the online environment".

The Office of the e-Safety Commissioner offers practical, technical advice for parents/caregivers to give their children, for example:

- instructing children "to leave or close the page immediately or minimise the screen if they are worried about the material they have seen (hit Control-Alt-Delete if the site does not allow you to exit)";
- teaching children "not to open spam email or click on pop-ups, prize offers or unfamiliar hyperlinks in websites";

- advising children to “report offensive content to the site administrator (for example use ‘flag’ or ‘report’ links near content)” (Office of the e-Safety Commissioner, 2016).

Other advice for parents/caregivers generally falls into two categories of harm minimisation, *mediation* and *communication*. A combination of the two offers an effective strategy for ensuring minimal rates of exposure to online pornography, as well as assisting children and young people to make sense of their experiences (Office of the e-Safety Commissioner, 2016; Reality & Risk Project, 2016; Think U Know, 2016). Mediation includes strategies such as installing filter software to reduce the likelihood of risk exposure (Office of the e-Safety Commissioner, 2016; Think U Know, 2016). Tools to support communication consist of “how to” guides for parents/caregivers to discuss online pornography with their children, in addition to frameworks for encouraging critical reflective skills in children (Office of the e-Safety Commissioner, 2016; Reality & Risk Project, 2016; Think U Know, 2016). Such communication also strengthens the trust relationship between parents/caregivers and children, which has been described as a protective factor in children’s health and wellbeing (Katz, Lee & Byrne, 2015). Additionally, a trusting parent/caregiver–child relationship is key to supporting disclosures of negative online experiences should they occur (Office of the e-Safety Commissioner, 2016).

Mediation

The Office of the e-Safety Commissioner cautioned parents/caregivers, stating: “you can teach your child strategies about how to deal with offensive material but be vigilant, especially if your child is prone to taking risks or is emotionally or psychologically vulnerable” (Office of the e-Safety Commissioner, 2016). Parental controls are essential in harm minimisation strategies including risk exposure with regard to online pornography (Childnet Int., 2016). Listed below are the major mediation tactics that parents/caregivers employ to prevent risk exposure and ensure age-appropriate online activities.

Filtering

Parents/caregivers are encouraged to use filtering software as a way of managing children’s Internet access (Office of the e-Safety Commissioner, 2016; Think U Know, 2016). Filtering is available through Internet service providers as well as through individual websites, and can be adjusted according to the user’s age. For example, websites such as Google and YouTube provide options for adults to enable filters in order to regulate searchable content.

Filtering works well on household computers as well as on sole-use computers belonging to children and young people. However, the changing nature of children and young people’s Internet access from laptop or desktop computers to smartphones makes filtering online content much more challenging (Ofcom, 2015). The Think U Know (2016) resource offers links to information about parental controls, stating that they can “allow you to restrict what content can be accessed” on smartphones and tablet computers. Further, Think U Know states that limiting online access will “ensure that your children are only able to access age-appropriate material” as children require parental permission to access unknown websites.

Rule setting

Most resources encourage rule setting, and both schools and parents/caregivers are advised to sign contracts with children and young people that set out terms of their appropriate Internet use (Think U Know, 2016). Think U Know (2016) offers parents a downloadable “Family Online Safety Contract” and states:

It’s important to remember that many of the behaviours and issues we experience online are no different to those we experience in the “real” world. This means our expectations around behaviours should also apply online. It’s a good idea to speak with your child about your family values and how this extends to behaviour online. One way to encourage this discussion is by creating a Family Internet Safety Contract together so that everyone knows what is expected of them when they’re online.

Other rules include public and timed use of the Internet, as stated on the It’s Time We Talked website: “Young people’s access to pornography is mostly via technology, so limiting exposure will require limiting and managing their access to technology. For example, by keeping devices out of bedrooms and other private spaces and putting time limits on use”(Reality & Risk Project, 2016).

Involvement in social media

The Office of the e-Safety Commissioner and Think U Know both discuss the benefits of social media, and parents/caregivers are advised of a number of ways to lend support to their children in their engagement in social media. For example:

- staying involved and supporting children to connect with friends and family online and in real life (IRL);
- checking terms of use and age guidelines of social networking sites;
- setting rules, such as that children inform parents that they are joining a new social network, and/or prior to sharing personal photographs or information;
- assisting children to create an online alias that does not indicate their gender, age or location; and
- establishing maximum security for children's social networking profiles (Office of the e-Safety Commissioner, 2016).

Further, parents/caregivers are advised to create accounts of their own on social networking sites as a way of staying involved in their children's social media activity and as a means of learning about social networking security. Think U Know also offers fact sheets for parents about popular social media such as Snapchat, Instagram, Twitter, YouTube, Tinder and Facebook.

Communication

Parents/caregivers' understanding and awareness of online pornography is central to how they communicate with their children about the associated risk of harm. The It's Time We Talked website contains information, advice and practical tools ranging from research about the pervasiveness of online pornography to advice about how to initiate discussions. Importantly, that resource emphasises the key role of parents/caregivers in communicating about the new reality of online pornography and promoting healthy development in children and young people (Reality & Risk Project, 2016).

The It's Time We Talked website, developed through the Reality & Risk Project, includes information specifically designed to educate young people about pornography. Another information hub, Think U Know, has developed a *Cybersafety and Security* guide to assist parents/caregivers in talking to their children about a range of online risks. The Office of the e-Safety Commissioner has compiled advice for parents/caregivers wishing to discuss online risks with their children. Similarly, *It's Time We Talked* offers tip sheets about how to have a conversation about online pornography and encourage critical thinking, as well as information for parents/caregivers about providing support and assisting their children in ongoing skill development. These are discussed in more detail below.

Advice and support

Parental support for children and young people who have been exposed to online pornography is extremely important to their ability to process their experience in healthy ways. Support is generally described as the ability of parents/caregivers to initiate open conversations about their experiences (Office of the e-Safety Commissioner, 2016). The e-Safety Commissioner offers advice about supporting children including:

- "encouraging them to talk to a trusted adult if they have seen something online that makes them upset, disturbed or distressed;
- reassuring them that access to the Internet will not be denied if they report seeing inappropriate content;
- telling them not to respond if they are sent something inappropriate."
- (Office of the Children's e-Safety Commissioner, 2016, "What can I do if my child sees content that's offensive?", para. 2)

Further, the Office of the e-Safety Commissioner advises parents/caregivers of the potentially devastating consequences of sexting for children and young people, and encourages them to discuss sexting as a family. Much of the advice provided on the website, however, discusses sexting in terms of the child's audience awareness and digital footprint. For example, it states that parents should:

- "encourage them to think twice before they post sexualised photos and consider the fact that others might view what they post;
- remind them to consider the feelings of others when taking photos and distributing any content by mobile phone or online." (Office of the e-Safety Commissioner, 2016, "Encouraging thinking first", para 1)

Digital footprint and context collapse

Rules about social media are largely conceptualised in terms of the digital footprint, and often referred to in terms of reputation management. For example, online resources offer the following information about social media and digital footprints:

- “Young people should be encouraged to stop and think before posting or sharing something online ... Many employers, universities and sporting groups will search for applicants or potential members online before giving them a job or contract” (Think U Know, 2016, p. 22).
- “Encourage your kids to think before they put anything online, even among trusted friends, and remind them that once shared, information and photos can become difficult or impossible to remove and may have a long-term impact on their digital reputation” (Office of the e-Safety Commissioner, 2016, “Encouraging thinking first”, para. 1).

In this way, these resources draw on the importance of audience awareness in the collapsed context of Internet spaces, particularly social media, which allow users a sense of symbolic control. Advising parents/caregivers to warn their children of context collapse and the digital footprint they create as a result of their online behaviour is a way of drawing attention to the wider problem of Internet security/privacy and the impact that the sharing culture may have on future activities and identities.

Ongoing skill development

The It’s Time We Talked website offers practical advice for parents/caregivers to use in encouraging ongoing skill development in children and young people. In a section called *Equip Them with Skills*, it suggests “talking through the types of situations they might face and exploring the options for how they could respond” (Reality & Risk Project, 2016, “Equip them with skills, para 3). Additionally, it offers the following advice:

- Parents should talk through any challenges children face online, with regard to peer pressure, or web content that makes them feel uncomfortable, in a creative and collaborative way.
- Parents and children can develop strategies to address difficult situations, “for example, if they text you their name, you know to call them and ask them to come home, so they have an easy excuse to leave.” (Reality & Risk Project, 2016, “Equip them with skills”, para 3)

Further, the Office of the e-Safety Commissioner (2016) has developed *Chatterbox for Parents*, a “conversational how-to guide” informing parents/caregivers about “when to worry and when to celebrate the benefits the online world brings. Each conversation addresses the specific issues, behaviours and safety essentials to help you make sense of what’s happening behind the screens (Office of the e-Safety Commissioner, 2016).

Teachers and schools

State and territory education departments have developed specific policies regarding cybersafety management in schools. The Office of the e-Safety Commissioner recommended individual schools set up an Online Safety Team to create and implement policies that promote cybersafety (Office of the e-Safety Commissioner, 2016). Schools are encouraged to consult widely with the school community, including teachers and support workers, students and parents/caregivers about online risks and harm minimisation (Office of the e-Safety Commissioner, 2016). Schools are also encouraged to draw on the national *e-Smart Schools* resource to assist in the creation of cybersafety policies and strategies.

Schools as a key setting

Quality sex education for children and young people has been identified as a protective factor in minimising the harms caused by exposure to online pornography (Pratt, 2015). The It’s Time We Talked website observed that: “Schools increasingly are required to respond to incidents relating to explicit sexual imagery, including ‘sexting’ incidents, involving the circulation of sexual imagery of students” (Reality & Risk Project, 2016, “Why is porn an issue for schools?”, para 1). Indeed, key resources for teachers and schools view schools as ideal settings to deal with the issue of young people’s exposure to online pornography:

- “Many schools are already familiar with health promotion frameworks and are already engaged in related and complementary work, such as programs on respectful relationships, cybersafety, violence prevention, and sexuality education” (Reality & Risk Project, 2016, “Why schools?”, para 4).
- “Schools can engage students about the influence of explicit sexual imagery as part of a comprehensive curriculum, with the input of highly skilled professionals and access to quality resources” (Reality & Risk Project, 2016, “Why schools?”, para. 6).
- “Teachers and other staff in a school have a responsibility to take reasonable steps to protect students from risks of injury, including those that may be encountered within the online learning environment” (DET (Vic.), 2017, “Supervision”, para. 1).

Schools are advised to:

- “arrange for policies and codes of conduct to be sent home for parental signature or sighting;
- establish a Cybersafety contact person or several people as a first point of contact for students, staff and parents if a cybersafety issue arises;
- review policies and procedures annually as technologies, and their use, evolves rapidly.” (Office of the e-Safety Commissioner, 2016, “Policy development and implementation”, paras 4-6)

Additionally, the *High-Wire Act* recommended that schools implement policy frameworks and set up Internet filters to meet the requirements of their state or territory governments (Cyber-Safety, J. S. C. o., 2011). It suggested that attentive supervision of students using computers at school worked well to provide additional support and protection (2011).

Sex education

There have been recent calls for more up-to-date and better quality sex education in schools. A recent national survey of 600 young Australian women found that “more than one third” of respondents wanted access to “more comprehensive education on sexuality and respectful relationships” (Plan International Australia & Our Watch, 2016, p. 3). Further, young women wanted such education to “extend to the critique and discussion of pornography ... and how violent and degrading pornography was negatively impacting on young Australians’ relationships and boys’ and young men’s attitudes towards sex in general” (Plan International Australia & Our Watch, 2016, p. 3).

Whole-of-school approach

The whole-of-school approach to deal with the effects of online pornography is a collaborative framework that promotes healthy sexualities in multiple contexts and not solely through sex education classes (Reality & Risk Project, 2016). All members of the school community, including parents/caregivers, teachers and students, are involved in such an approach, as stated in *It’s Time We Talked*, the whole-of-school approach ensures that consistent messages are communicated at all levels of the school community (Reality & Risk Project, 2016). Schools have been named as key points of information about parental control of online risks and the associated harms of the Internet (Office of the e-Safety Commissioner, 2016; DET (Vic.), 2016).

The *Catching On Everywhere* (Department of Education and Early Childhood Development [DEECD] 2008) resource for the Victorian school curriculum advocates a whole-of-school, health-promotion approach to sex education that incorporates multiple contexts. It notes that a whole-of-school approach consists of “overlapping and interconnected domains: curriculum; teaching and learning; school organisation; ethos and environment; and community services and parent-partnerships” (DEECD, 2008, p. 12). Similarly, leading Australian sex educator Maree Crabbe calls for a whole-of-school and community-based approach to deal with the effects of online pornography on children and young people and has co-developed the *In the Picture* resource for that purpose (Reality & Risk Project, 2016).

Summary of approaches in Australia

At the primary prevention level, a key implication arising from the growing research and lessons learned is that treating the effects of pornography as a stand-alone issue disconnected from the broader contexts in which it is accessed, consumed and interpreted is unlikely to be effective in reducing its negative impacts/influence on children and young people. It is likely to be more effective to firstly hook the issue of online pornography into existing and tested curricula and approaches to:

- respectful relationships and quality sex education that is designed and delivered according to best practice principles; and
- media and digital literacy education.

These curricula can provide children and young people with a holistic framework and set of tools regarding:

- what makes for respectful relationships; how power, gender and equality are interlinked, and strategies for challenging and reimagining dominant narratives about (hetero) sex, gender difference, sexual pleasure and sexual relationships;
- mediated, mediatised representations, managing the context collapse between online and offline worlds, and the ability to critically engage with mass media representations.

Together these provide an important scaffolding to which strategies about online and cyber-safety can be added. It is also crucial is to build the capacity of parents and teachers to address gender, sex and porn with the children and young people in their care. Currently, this is an area of anxiety for many teachers and parents. There a number of resources available for parents in particular; however, as with children and young people themselves, having a broader scaffolding regarding gender, equality and sex is important.

Interventions and initiatives to address harms of online pornography: international

Children and young people's exposure to online pornography has increasingly become an issue for governments and legislators around the world (Werrett, 2010; Valcke, De Wever, Van Keer, & Schellens 2011; Petley, 2014). Australia and comparable nations have established similar interventions across multiple contexts in order to meet the potential harms associated with children and young people's engagement with online pornography. The general aims of such interventions are to protect minors, promote the development of healthy sexual and digital literacies, and support greater congruence in the regulation of online and offline spaces—and the behaviours demonstrated therein (Chang, 2010; Laouris, Aristodemou, & Fountana, 2011; Jones, Thom, Davoren, & Barrie, 2013). This section will provide an overview of international interventions, focusing particularly on nations with comparable governments and social structures to Australia such as New Zealand, the United Kingdom (UK), Canada, the United States (USA) and Europe. The sections below discuss key examples of interventions related to law and governance, research, sex education and resources for parents/caregivers with regard to their children's risk of exposure to online pornography.

Law and governance

Legislation and guidelines work to delimit aspects of the Internet that can lead to children and young people's exposure to online pornography (Levin, 2010). While guidelines are not backed by legislative force, they provide Internet service providers, social networking sites and, in some cases, mobile network operators with self-regulatory frameworks and reporting protocols that enable standardised evaluation exercises (De Haan, Van der Hof, Bekkers, & Pijpers, 2013; Newman & Bach, 2004; Sarabdeen & De-Miguel-Molina, 2010). The inclusion of industry in government-led e-safety initiatives works to keep government abreast of developments and trends in digital technologies and involve stakeholders in important decision-making, and can increase industry commitment to safety strategies (De Haan et al., 2013; Newman & Bach, 2004). The implementation of government initiatives such as the family-friendly filter scheme in the UK, for example, would have been impossible without the working relationship between government and major Internet service providers (Leitch & Warren, 2015). This will be discussed in more detail below.

Table 6 shows important pieces of legislation and relevant guidelines that have been implemented to reduce children and young people's exposure to online pornography. In many cases, Internet filters are key to those regulations and have been implemented with varying effects. Recent legislation is yet to be evaluated, and indeed legislation from the UK has yet to be *enacted*. Human rights guidelines are included here due to their intended self-regulatory effect on social networking sites, mobile network operators and Internet service providers.

Table 6: Legislation and guidelines

Nation/Region	Intervention	Filtering	Evaluation
New Zealand	<i>Harmful Digital Communications Act 2015</i> Approved Agency under s 7 of the Act: Netsafe	No	Unavailable. Successful use in prosecutions related to cyberbullying and “revenge porn” (<i>NZ Herald</i> , 2016).
United Kingdom	Digital Economy Bill 2016 Approved Agency under Part 6 of Bill: Ofcom	Does not specifically legislate for filters but supports government partnerships that allow for their implementation.	Unavailable as Bill is yet to be enacted. Widespread criticism of the government filtering scheme rolled out in 2013 regarding human rights infringements that limit freedoms and searchable content related to diverse genders and sexualities, mental and sexual health and wellbeing (Leitch & Warren, 2015).
United States	<i>Children’s Internet Protection Act 2000</i> Purview: federally-funded schools and libraries	Yes	Successful implementation. Criticism that filters limit First Amendment rights to freedom of expression and searchable content related to diverse genders and sexualities, mental and sexual health and wellbeing (American Library Association [ALA], 2006; Rodden, 2003).
Canada	Provisions in nationwide criminal and civil law related to child pornography. Individual provinces have enacted their own laws with regard to “revenge porn” and cyberbullying (NoBullying, 2015) No specific laws regarding children and young people’s exposure to explicit online content.	No	Some evaluation available in province-specific legislation, namely the Nova Scotia Cyberbullying Act. That Act was operational from 2013 to 2015 until it was declared defunct due to its infringement on charter rights of freedom of expression (Ruskin, 2015).
Europe	Human Rights Guidelines for Online Games Providers Human Rights Guidelines for Internet Service Providers Safer Social Networking Principles for the EU The European Framework for Safer Mobile Use by Younger Teenagers and Children	No	All guidelines are self-regulatory and not backed by legislative force. Some evaluation available. For example, it has been found that work is still needed for the Safer Social Networking Principles to be implemented effectively, particularly regarding “age-appropriate privacy settings and content classification” (De Haan et al., 2013, p. 120).

New Zealand

While New Zealand does not have specific legislation regarding children and young people’s exposure to explicit online material, the government of New Zealand introduced the *Harmful Digital Communications Act* in 2015 to address cyberbullying. Since its enactment it has been effectively used in prosecutions related to digital harassment and “revenge porn” (ref article). Part 1 of the Act states that it was developed “to establish and maintain relationships with domestic and foreign service providers, online content hosts and agencies” and “to provide education and advice on policies for online safety and conduct on the Internet” (Part 1, subpart 2, s 8). The Act also appointed an approved agency, Netsafe, to provide information and resources about e-safety in New Zealand (more will be said about that in later sections that address resources and social marketing (Netsafe, 2016)). Further, the Act has worked to formalise government-industry partnerships in order to ensure more effective regulation and industry compliance. The *Harmful Digital Communications Act* established partnerships between government and companies such as Google, Facebook and Twitter, allowing for the removal of harmful content from those websites by the government.

United Kingdom

The *Digital Economy Bill 2016* was introduced into the House of Commons in July 2016 and is intended to regulate for, and enhance, digital activities, as well as “provide important protections for citizens from spam email and nuisance calls and protect children from online pornography” (Parliament of the UK, 2016). Part 3 of the *Digital Economy Bill* specifically deals with the matter of online pornography and issues of child protection. While other parts of the Bill treat issues such as intellectual property and access to digital services, Part 3 established a new law for commercial pornography websites that stipulates strict enforcement of age verification requirements. Additionally, government plans to engage with commercial pornography industries, age verification providers and payment providers such as Visa and PayPal are pitched to promote greater industry compliance in restricting online pornography consumption among minors.

The government concern for children and young people’s access to online pornography also drove the government-led Internet filtering scheme, which was implemented across the UK through major Internet service providers in 2013 (Leitch & Warren, 2015). That scheme was part of a government–industry partnership whereby four major providers delivered automatic pornography filters through their Internet connection with the intention of restricting access to explicit online content among minors (Leitch & Warren, 2015). While the scheme contained an “opt out” caveat for adults, the filter was condemned as an infringement on rights to freedom of expression, namely as it blocked broadly defined sexual content, including information about sexualities, sexual health and wellbeing, and LGBTQI communities (Leitch & Warren, 2015).

United States

The USA implemented the *Children’s Internet Protection Act 2000* in order to mediate children and young people’s engagement with explicit online material. The Act introduced strict filtering policies that required federally-funded schools and libraries to block online material inappropriate to children and young people under 17 years of age (Haynes, Chaltain, Ferguson, Hudson, & Thomas, 2003). The Act is widely criticised for infringing on rights of freedom of expression, particularly with regard to blocking information about sexualities, sexual health and wellbeing, and LGBTQI communities (ALA, 2006; Haynes et al., 2003).

Canada

As mentioned above, no specific laws regarding children and young people’s exposure to explicit online content exist in Canada and there is no nationwide legislation for children and young people’s general e-safety. However, non-government agencies in addition to province-specific governments have developed their own laws and guidelines to promote healthy digital habits. For example, Project Cleanfeed was established by the Canadian Centre for Child Protection in 2007 to block websites hosting child pornography (Cybertip, 2016). Further, the *Nova Scotia Cyberbullying Act* works as an example of an unsuccessful legal intervention, whereby cyberbullying laws were found to infringe on rights of freedom of expression (Ruskin, 2015).

Europe

Individual European nations have developed their own legislation with regard to e-safety issues and digital activities. However, guidelines for Europe as a global region have been adopted by many nations therein, and mostly contain self-regulatory principles to guide industry practice (Council of Europe, 2008; European Commission, 2009). De Haan et al. (2013, p. 111) observe that governments may prefer self-regulatory tactics for digital industries, noting that:

Public officials often assume that industry practitioners have more expertise and technical knowledge. Utilisation of this knowledge and expertise leads, one assumes, to greater compliance and effectiveness since practical rules can be more easily developed, and also greater efficiency because of lower costs of gathering information for the state.

Most major social networking sites in Europe implemented the Safer Social Networking Principles in 2009 as a mechanism for self-regulation. A 2013 evaluation of that initiative stressed that the principles “must be seen in light of an ongoing dialogue on online child safety and the respective roles of other stakeholders, like parents, government, police, civil society and SNS users themselves” (De Haan et al., 2013, p. 118). As mentioned above, implementation was evaluated as ineffective with regard to age-appropriate content and safety for children and young people.

An evaluation of the Framework for Safer Mobile Use also stressed the importance of multi-stakeholder involvement to successfully address e-safety issues. The European Commission found that implementation of the framework was effective; however, further recommendations for the framework included the classification of

commercial materials to ensure age-appropriate content for minors and parental controls to block online content on their children's devices (De Haan et al., 2013).

Sex education

The United Nations Population Fund (UNFPA; 2016, "Comprehensive Sexuality Education - Overview", para 2) states that:

Comprehensive sexuality education enables young people to protect their health, wellbeing and dignity. And because these programs are based on human rights principles, they advance gender equality and the rights and empowerment of young people.

Further, comprehensive sexuality education, as expressed in the United Nations definition, should provide age-appropriate information that incorporates understandings of children's and adolescents' stages of development, and engage parents/caregivers and the wider community to reinforce healthy sexual development in multiple contexts (UNFPA, 2016). While many European countries deliver sex education in a manner consistent with the United Nations description, many states in the USA continue to resist delivering such programs. Table 7 demonstrates differences between sex education governance, underlying frameworks and outcomes in the USA, the Netherlands and Sweden—with the latter two often used as best-practice models for sex education. Table 7 describes aspects of that education including the ways in which government mandates for sex education, the dominant framework underpinning the programs and available evaluations of that education.

Table 7: Sex education programs in schools

Nation	Government requirements	Dominant framework	Evaluation
United States	US Congress provides funding for sexual health programs and, in 2015, also increased its funding for abstinence-only education for young people (De Melker, 2015). Less than 50% of US states regulate for compulsory sex education to be delivered in schools (Jones & Cox, 2015). 24 states and the District of Columbia require schools to deliver sex education, of which 22 states and the District of Columbia require combined HIV education and sex education programs (Guttmacher Institute, 2016).	Moral/religious frameworks underpin dominant models of sex education with an emphasis on abstinence and risk avoidance (pregnancy, disease) in heterosexual intercourse (Bell, 2009; De Melker, 2015).	37% of young people say their sex education classes were unhelpful, and 75% favour more comprehensive sex education programs (Jones & Cox, 2015). Young people experience first sex at a younger age than their Dutch counterparts, and often regret that experience (Albert, 2004; De Melker, 2015). The teen pregnancy rate is five times higher for young people in the US than that in the Netherlands, which has been noted as a symbol of unsuccessful interventions (De Melker, 2015).
The Netherlands	Mandatory sex education required for all students beginning in preschool and teachers required to learn about sex education programs as part of their qualification (European Union, 2013; The SAFE Project, 2006).	Gender equity and sexual ethics frameworks underpin dominant models of sex education. Critical skills and personal empowerment are included in the program. Frameworks support open discussions about love, sexuality, gender, health, boundaries and pleasure (The SAFE Project, 2006).	Found to reflect public health models of rights, responsibility and respect as foundations of sexual health (De Melker, 2015). Dutch young people have excellent sexual health outcomes compared to the USA and other developed nations (Currie et al., 2012).
Sweden	Mandatory sex education required for all students beginning in preschool and teachers required to learn about sex education programs as part of their qualification (European Union, 2013; The SAFE Project, 2006).	Gender equity and sexual ethics frameworks underpin dominant models of sex education. Respectful relationship education is a key component of the program. Critical skills and personal empowerment are included in the program. Frameworks support open discussions about sexuality, gender, health, boundaries, and pleasure (De Melker, 2015; The SAFE Project, 2006) 2015)	Found to support a liberal approach that encourages responsibility and respect (De Melker, 2015). Sex education in schools is supported by social marketing and youth friendly sexual health services (Bell, 2009).

Resources

Free online sources have been developed around the world in a similar fashion to Australia, providing information about e-safety and online pornography that is specifically tailored to parents/caregivers, teachers, children and young people. Table 8 highlights key resources from New Zealand, the UK and Europe, and discusses key aspects of the material they provide and evaluations of them.

Table 8: International resources

Nation	Resource	Key aspects	Evaluation
New Zealand	Netsafe	Information for parents/caregivers about how to manage their children's exposure to online pornography. Effective mediation: <ul style="list-style-type: none"> • Open and honest discussion • Technical skills and skill development • Parental involvement in children's digital lives • Normalise children's response Ineffective mediation: <ul style="list-style-type: none"> • Internet filters • Over-reaction • Blame. Online reporting mechanism available.	Unavailable. Underpinned by child-centred principles whereby children are encouraged to make sense of their experiences in healthy ways. Recommended by government agencies, Netsafe is the approved agency under the <i>Harmful Digital Communications Act</i> .
UK	National Society for the Prevention of Cruelty to Children (NSPCC)	Harm minimisation tactics recommended for parents/caregivers: <ul style="list-style-type: none"> • Parental controls (rule setting; filters) • Open and honest discussions between parents/caregivers and children • Parental involvement in children's digital lives. Online reporting mechanism. ChildLine also acts as a reporting mechanism that records children and young people's complaints and concerns about online issues. A recent ChildLine survey found that children and young people in the UK are concerned about online pornography and pornography addiction (Howse, 2015).	Unavailable. Underpinned by child protection principles whereby safeguarding children from online pornography is a government responsibility as well as the duty of parent/caregivers.
Canada	Media Smarts	Describes itself as a Centre for Digital and Media Literacy. Information for parents/caregivers about how to manage their children's exposure to online pornography. Effective mediation: <ul style="list-style-type: none"> • Open and honest discussion to develop critical literacies in children • Internet filters. Ineffective mediation: <ul style="list-style-type: none"> • Over-reaction. 	Unavailable. Uses principles associated with child protection as well as child-centred models. For example, children are taught critical thinking skills to apply in their independent experiences but parents/caregivers are still advised to exercise parental controls to safeguard their children's digital activities.

Part B: Review of the literature

We reviewed what the available research evidence suggests about the impact that exposure to and consumption of online pornography has on children and young people in terms of children and young people's:

- knowledge of and attitudes to sex;
- sexual behaviours and practices;
- attitudes and behaviours regarding gender equality;
- behaviours and practices within their own intimate, sexual or romantic relationships; and
- risk of experiencing or perpetrating sexual violence.

The table below sets out the scope and strategy for undertaking the evidence scan.

Table 9: Search strategy

Element	Areas of focus	Search strategy
Pornography and other social/cultural practices that lead to sexualisation of children, and its effects on children and young people	<ul style="list-style-type: none"> • prevalence and nature of exposure to online pornography among children and young people • extent of consumption of pornography among children and young people • what is known about the effects of pornography on sexual practice, sexual behaviours, relationships, attitudes about gender and sexuality, self-esteem • what risk and protective factors in the social ecology are associated with these effects • what conceptual and explanatory models are available to explain these associations 	<ul style="list-style-type: none"> • academic and peer reviewed research through key databases such as PsychInfo, SocIndex, Proquest • grey literature • publication date range 2005-15 • relevant international contexts: Canada; NZ; USA; UK; Ireland.
Current approaches and interventions to address the negative effects of pornography	<ul style="list-style-type: none"> • education campaigns • community education campaigns • websites, toolkits, resources • curricula 	

Children and young people's digital lives

We live in a technology-rich world (Boyd, 2014; James, 2009; Park, 2014; Prensky, 2001; van Dijk, 2013). The advent of Web 2.0 saw the World Wide Web evolve from a static repository for information into a dynamic site of interaction, enabling social networking and other peer-to-peer and participatory online platforms (Thomas & Sheth, 2011). The digital revolution of the last decade created "widespread access to personalised, interactive, convergent, ubiquitous technologies for networking information and communication processes" (Livingstone & Haddon, 2012, p. 1). Technological developments such as the smartphone, wireless networks and social networking platforms have affected major changes in business, marketing, entertainment and education—creating marked differences between generations (Australian Communications and Media Authority [ACMA], 2016; Bolton et al., 2013; Holmes, 2011; Park, 2014).

Generation can be defined as "an age cohort that comes to have social significance by virtue of constituting itself as a cultural identity" (Edmunds & Turner, 2002, p. 7). Studies into the effects of new technologies describe digitally-literate children as the "Net generation" (Tapscott, 1996) and "digital natives" (Prensky, 2001). The

Australian Bureau of Statistics (ABS) defined children of the 21st century as the “digital generation”, that is, “IT savvy children who have never known life without a computer or the Internet” (ABS, 2011, p. 1). In that sense, today’s world is seeing the second generation of digital natives coming of age (Orlando & Attard, 2016). While some scholars question the usefulness of the term “digital natives” (Boyd, 2014; Buckingham & Willett, 2006; Helsper & Eynon, 2010) there is an undeniable “association between youth and technology competence”, often beginning at an early developmental stage in children (Orlando & Attard, 2016, p. 109). By comparison, those who grew up without the Internet are often referred to as “digital immigrants” (Prensky, 2001). The Internet is significant to many children and young people, and their use of it has been examined in the fields of psychology, human development and education (Burnett & Daniels, 2015; Cooper, Quayle, Jonsson, & Svedin, 2016; Lynch & Redpath, 2014; Orlando & Attard, 2016; Stephen & Plowman, 2008), in addition to presenting new challenges in law and policy (Arcabascio, 2010; *Enhancing Online Safety for Children Act 2015*; Lee & Crofts, 2015; Stone, 2011; Tallon et al., 2012).

This chapter is divided into three sections that describe the context and key characteristics of children and young people’s digital lives, working to provide a background to the review of studies into the effects of online pornography. The first section describes the main features of Internet usage by children and young people aged 5 to 18 years of age situated in Australia and comparable nations. The second section outlines the risks associated with children and young people’s Internet use, particularly their sexting behaviour and exposure to online pornography. The meaning-making aspect of Internet use will be discussed in the final section, highlighting the cultural significance of the Internet to the identity construction project of childhood and adolescence.

Early digital literacy

The ABS found that between 2011 and 2012 the likelihood of children going online increased with age with:

- seventy-nine per cent of 5–8 year olds;
- ninety-six per cent of 9–11 year olds; and
- ninety-eight per cent of 12–14 year olds (ABS, 2012).

In the UK, 39% of 3–4 year old children used the Internet, with older children’s increased likelihood of going online mirroring Australia and 98% of 12–15 year olds accessing the Internet (Ofcom, 2015). Many factors contribute to the age and conditions of children’s first access and use of the Internet, including the influence of older siblings, family settings, educational opportunities and cultural capital, which refers to “forms of personal knowledge, skills, education and advantages” that parents/caregivers transmit to their children (Bourdieu, 1986; Dunt, Hage, & Kelaher, 2010, p. 291; McLean & Edwards, 2015; O’Hara, 2011).

Importantly, cultural capital influences children’s health and education outcomes (Andersen & Jaeger, 2015; Dunt et al., 2010; Huang & Liang, 2016). Indeed, cultural capital exercises great influence on digital literacy, defined as “a multidimensional construct that encompasses the abilities to access, analyse, evaluate and create online content” (Livingstone & Helsper, 2010, p. 3), and a “hybrid of functional skills and social practices” (Dodge, Husain & Duke, 2011, p. 87). The digital divide, or the differences in both intra- and intergenerational digital literacy, is partially caused by cultural capital, that is, the opportunity, capacity and confidence to engage with digital technologies (Buckingham & Willett, 2006). As with other literacies, digital literacy is an acquired skill significantly affected by the child’s home environment and wider social and cultural context (Livingstone & Helsper, 2010). Digital literacy now develops from early childhood, and kid-friendly technologies such as the tablet computer “operate as platforms for young children’s consumption of digital media and associated popular culture” (Garvis, 2015, p. 28).

On commencing early education “many young children bring with them extensive understanding and experience of making meanings using digital tools and in digital environments” (Burnett & Daniels, 2015, p. 19). Indeed, research shows that “the early and limited uses of the Internet by primary school aged children means that from a social inclusion perspective, the Internet operates to provide opportunities for learning, play and social development” (Nansen, Chakraborty, Gibbs, MacDougall, & Vetere, 2012, p. 239).

Children, young people and Internet access

The *AU Kids Online* study investigated the places that children and young people aged 9–16 years were most likely to access the Internet from and found:

- ninety-six per cent go online from school and home; and
- thirty-one per cent go online when they are “out and about” (Green, Brady, Olafsson, Hartley, & Lumby, 2011).

Over half of all online teenagers in Australia accessed the Internet on more than one device and at various times throughout the day, in step with recent trends in the online behaviour of adult Australians (ACMA, 2016). Both children and young people in Australia have gone online via multiple devices distinct from desktop and laptop computers, including convergent technologies such as tablet computers and smartphones—the use of them depending on where or when they connect (ABS, 2011, 2012; ACMA, 2016). Convergent technologies describe the combination of individual forms of media and communication in one device (ACMA, 2009). For example, the smartphone acts as a point of convergence for “social, replicative and mobile media” and is a popular form of convergent technology (Hjorth, Burgess, & Richardson, 2012, p. 1).

Home Internet access

Over the past ten years there have been significant advances in home Internet access in Australia, and quality and ease of access to the Internet more broadly. Such changes are due to technological developments, mainly the shift from dial-up connections to home broadband networks (ABS, 2011; ACMA, 2016).

- The ABS (2016) found that overall home Internet access increased from 83% in 2013 to 86% in 2016.
- According to the Australian Communications and Media Authority (ACMA; 2013), home Internet access for 8–17 year olds ranges from 93 to 97%.

Australians with home Internet access are more likely to have children under the age of 15 years. Indeed, the ABS (2016) reports that:

- ninety-seven per cent of people with children had home Internet access; and
- eighty-two per cent of people without children had home Internet access.

This demonstrates that the Internet, in the habits of Australian parents, is essential to learning and entertainment and most Australian young people had home Internet access in 2015 (ACMA, 2016). Similarly, in the USA, rates of Internet access were higher in homes inhabited by children and young people (File & Ryan, 2014).

Mobile phones

Mobile phones have altered the online behaviour of children and young people in Australia, with their likelihood of owning a mobile phone increasing with age. In 2012, ACMA (2013) found rates of mobile phone ownership among Australian children and young people were:

- eleven per cent of 8–9 year olds;
- thirty-five per cent of 10–11 year olds;
- sixty-seven per cent of 12–13 year olds;
- eighty-seven per cent of 14–15 year olds; and
- ninety-four per cent of 16–17 year olds.

Similarly, the likelihood of accessing the Internet from a mobile phone increases with age:

- of 14–15 year olds, 49% accessed the Internet from their mobile phone; and
- of 16–17 year olds, 54% accessed the Internet from their mobile phone (ACMA, 2013).

The growth in mobile phone ownership has changed online behaviour in significant ways. For instance, recent developments in Internet access have made it possible to go online from a wide range of locations. The number of young people using public and commercial wireless hotspots grew from 17% in 2011 to 36% in 2015 (ACMA, 2016), demonstrating the increased use of handheld devices among Australian young people in a similar way to their counterparts in the UK and the USA (ACMA, 2016; Ofcom, 2016; Rideout, Foehr, & Roberts, 2010). Furthermore, single Internet sessions last for a shorter time on mobile phones but the rate at which they occur means that Australians now spend the “greater proportion of their online time on their mobile phone (42%) than any other device” (ACMA, 2016). The popularity of instant communication and being “always on” can be attributed to increased ownership of mobile phones and other convergent, handheld devices (Boyd, 2012). Studies have shown that “the tremendous increase in cell phone and MP3 ownership among tweens and teens is probably the most important factor underlying the increase in media use among 8–18 year olds” (Rideout, Foehr & Roberts, 2010, p. 18).

Tablet computers

Research into the early digital engagement of children in Australia and the United Kingdom reports that:

- Fifty-three per cent of Australian 6–13 year olds have owned or used a tablet computer (Roy Morgan Research, 2014).
- Tablet computers are the “most often-used device for going online” for boys and girls in the UK aged 5–11 years old (Ofcom, 2015, p. 6).

Tablet computers, particularly as used by young children, have been called a “viable learning context” (McLean & Edwards, 2015, p. 157) and other handheld devices such as iPads and laptops are now commonplace in schools (Lynch & Redpath, 2014). Tablet computers are kid-friendly as they are easy to use, portable and convergent technologies popular for watching movies and playing games (Ofcom, 2015; Roy Morgan Research, 2014). Younger children in Australia and the UK are more likely to use a tablet computer than older children, reflecting “significant age differences in the way children and young people use the Internet” (Nansen et al., 2012, p. 237; Ofcom, 2015; Roy Morgan Research, 2014).

Online time

The ABS found that between 2014 and 2015:

- Young people aged 15–17 years spent the most time of all age groups on the Internet.
- Ninety-nine per cent of young people aged 15–17 years used the Internet (ABS, 2016).

Australian young people aged 15–17 years old (across all socio-economic strata and genders) represent the highest proportion of Internet users in Australia and spend approximately 18 hours per week online (ABS, 2016). The majority of Australian young people who use the Internet go online more than once a day (ACMA, 2016). That trend is mirrored in the USA, with 92% of young people accessing the Internet on a daily basis—24% of whom claim that they are online “almost constantly” (Lenhart, Smith, Anderson, Duggan, & Perrin, 2015, p. 2).

Studies from Australia, the UK and the USA report that time spent online increases with age (Livingstone et al., 2010; Green et al., 2011; Ofcom, 2015). For example, in the UK, weekly time spent online has increased steadily for children and young people since 2005. In 2015:

- 8–11 year olds spent 11.1 hours per week online; and
- 12–15 year olds spent an average of 18.9 hours per week online (Ofcom, 2015).

Differentiating between online and offline spaces—and therefore measuring time spent online—is a challenging distinction for researchers to make. Studies into children’s online behaviour have shown that “time spent online is difficult to measure because children multitask, going online while doing other activities while not turning off the Internet” (Livingstone et al., 2010, p. 15). Using various media technologies simultaneously is now commonplace for digitally literate children and young people, with mobile phones and other convergent digital technologies, being particularly suited to multitasking with other types of media (ACMA, 2007, p. 9).

Online activities

Children and young people demonstrate high diversity in their online activities. The *AU Kids Online* study (Green et al., 2011) examined how children and young people aged 9–16 spent their online time and found:

- eighty-six per cent used the Internet for schoolwork;
- eighty-five per cent used the Internet for accessing audiovisual material;
- seventy-eight per cent used the Internet for playing games;
- sixty-seven per cent used the Internet for emailing; and
- sixty-three per cent used the Internet for social networking.

More recently, a report by ACMA (2016) into the online activities of Australian young people aged 14–17 years old reported:

- seventy-eight per cent use the Internet for research and browsing;
- seventy-eight per cent for emailing;
- sixty-four per cent for streaming audiovisual content;
- fifty-four per cent for social networking; and
- forty-seven per cent for playing online games (ACMA, 2016).

As with studies into the ways that children and young people access the Internet (e.g., tablet versus smartphone), there are significant age differences in their online activities. The ABS (2011, p. 3) found that the ways in which children used the Internet shifted as they got older: “At a young age, children treated the Internet more as a source of entertainment. As children became older, they began to see the Internet more as an arena for information and socialising”. That finding is in step with behaviour in Europe and the USA. For example, a study of American children and young people found: “Older teens are more likely to use the Internet for information-seeking tasks than younger youth” (Katz, Lee, & Bryrne, 2015, p. 584). In the UK, the majority of online time for children aged 9–16 years was spent doing schoolwork, followed by gaming, consuming audiovisual content and social networking (Livingstone et al., 2010, p. 7). Furthermore, the *EU Kids Online* study reported the following:

Some activities span the age range (using the Internet for schoolwork, playing games against the computer and, at a much lower incidence, spending time in a virtual world). Other activities increase substantially in the teenage years (watching and posting video clips or messages, social networking, email, instant messaging and downloading music or films). (Livingstone et al., 2010, p. 20)

Digital learning

The ABS (2012) found that from 2011 to 2012:

- 2.3 million children had home internet access;
- two million (90%) of those had gone online for educational activities

In 2013, ACMA (2013) reported the following rates of children and young people who used the Internet to help with their homework:

- seventy-five per cent of 8–9 year olds;
- eighty-seven per cent of 10–11 year olds;
- ninety-five per cent of 12–13 year olds;
- ninety-four per cent of 14–15 year olds; and
- ninety per cent of 16 to 17 year olds

Using the Internet for educational purposes has been described as “a positive predictor of academic achievement” and today over half of children around the world “use the Internet to do schoolwork” (Katz, Lee, & Byrne, 2015, p. 577). Australian findings highlight the way that digital learning activities increased with age, peaking in the cohort of 12–13 year old children. Parents/caregivers and teachers support today’s media-rich learning environments. Orlando and Attard (2016, p. 108) have noted that the first wave of digital natives are now adults, “some of whom comprise the new generation of early career teachers” and may incorporate digital technologies in their teaching practice to a greater degree than previous generations. The attitudes of parents/caregivers also influence Internet use for study purposes and many hold favourable views of Internet use for educational activities (Katz, Lee, & Byrne, 2015; Tripp, 2011).

Audiovisual content

Australians under the age of 18 are more likely than adults to use the Internet for entertainment and engage with such material via their mobile phones (ACMA, 2014). ACMA (2016) reported:

- “Six in 10 online teens streamed video content on sites such as YouTube at June 2015, up from a third at June 2011 ... while the proportion of teens streaming audio content, including recorded music and radio, more than doubled to reach 40%” from June 2011 to June 2015” (“It’s not all fun and games, but it often is...”, para 2).
- Fifty-six per cent of all online browsing time of 14–17 year olds was spent accessing audiovisual content, including videos, movies, games and music.

Such findings are mirrored in reports from the UK and Canada, where 51% of Canadian children aged 9–17 years engage with online audiovisual material (Steeves, 2014a). In the UK, young people aged 12–15 years old reported that “they prefer to watch YouTube videos than TV programs” (Ofcom, 2015, p. 72). The same UK study found gendered differences in the consumption of audiovisual content. It reported that girls aged 8–15 years old were “more likely than boys to say they prefer to watch TV programs”, and watched on-demand audiovisual content on a device other than a television set (Ofcom, 2015, p. 72).

Consuming audiovisual content online is an extension of wider changes in entertainment that have affected the viewing behaviour of adults and children alike. A great deal of recent online media consumption is not of strictly new material but material that is engaged with via new technologies, particularly mainstream viewing

platforms such as YouTube, Netflix and iTunes (Rideout, Foehr, & Roberts, 2010). The increase in “new ways to consume TV content has actually led to an *increase* ... of daily TV consumption”—the viewing of which can be through convergent technologies such as smartphones and iPods (Rideout, Foehr, & Roberts 2010, p. 3). In that sense, “the content children are consuming is increasingly curated by digital intermediaries, including providers like YouTube and Google” (Ofcom, 2015, p. 4). Indeed, at June 2015, Australian young people preferred to stream audiovisual content from sites such as YouTube rather than download that material (ACMA, 2016).

Gaming

At 2011, the ABS (2011) reported the following rates of children and young people aged under 15 years who played online games:

- seventy-seven per cent of 5–8 year olds; and
- fifty-nine per cent of 12–14 year olds

It was found that young children more commonly played “one-player, problem-solving games”, while older children played more “interactive, role-playing games” on the Internet (ABS, 2011, p. 4). In researching children’s modern “technologically constructed childhoods”, Fler (2011) examined the ways that digital play can affect how children interact and play games in physical environments. Fler noted that “it matters what children experience in their everyday lives” and the extension of games from the digital to physical world is important in understandings of modern childhood, which could inform “early childhood curriculum development” (Fler, 2011, p. 19).

Gendered differences

Studies from Australia, the UK, the USA and Canada have found gendered differences in online gaming behaviour. Those differences rise sharply in teenage years with boys spending more time online than girls—a fact that is often attributed to online gaming (Rideout, Foehr, & Roberts, 2010).

- In Australia, the *AU Kids Online* study found that among 13–16 year olds, boys were more likely to play online games than girls (Green et al., 2011).
- In the UK, it is more common for boys to game online than girls, reflecting a global trend beginning in children of 9 years old and continuing through to 16 year old (Livingstone et al., 2010).
- In the USA, a study of American teenagers aged 13–17 years found that girls were more likely to engage with visually-oriented social media platforms while boys were more commonly engaged with online gaming (Lenhart et al., 2015).
- In Canada, 60% of boys spend most of their online time engaging in gaming activities and reported mainly connecting to the Internet through their gaming consoles (Steeves, 2014a).

Social networking sites

In 2013, ACMA reported the following rates of children and young people aged 12–17 years accessing social networking sites:

- sixty-nine per cent of 12–13 year olds;
- eighty-six per cent of 14–15 year olds; and
- ninety-two per cent of 16–17 year olds (ACMA, 2014).

Furthermore, the *AU Kids Online* (Green et al., 2011) study found that large numbers of children under the age of 13 had a social networking profile:

- twenty-nine per cent of 9–10 year olds; and
- fifty-nine per cent of 11–12 year olds.

That study reported high rates of social networking for 11 and 12 year olds despite most social networking sites stipulating that the minimum age for account holders is 13 years (Green et al., 2011). The *AU Kids Online* study suggested that “it is the start of secondary school, rather than the minimum age ... that triggers social networking activity” (Green et al., 2011, p. 8). Similarly, Canadian children as young as 9 years have social networking profiles, despite the minimum age requirement of sites such as Twitter and Facebook (Steeves, 2014a).

Moreover, a recent trend in the UK and the USA reveals high levels of engagement of younger children with visual social networking platforms such as Instagram and Snapchat. In the USA, it was more common for teenagers aged 15–17 years to engage with Facebook and those aged 13–14 years to use Instagram (Lenhart, 2015, p. 5). A 2015 study from the UK showed that among children and young people aged 12–15 years of age:

- fifty-eight per cent considered Facebook to be their main social networking profile; and
- eleven per cent considered Snapchat to be their main social networking profile (Ofcom, 2015).

Gendered differences

Recent studies from the USA and the UK have found significant differences in how boys and girls use social networking sites:

- Girls in the UK and Europe aged 9–12 years old used email and social networking sites at a higher rate than boys, and were more likely to use a webcam (Livingstone et al., 2010).
- Girls from the UK aged 12–15 years old had a profile on Snapchat and Tumblr more commonly than boys; and the majority of girls considered Facebook to be their main social media profile, followed by Instagram and Snapchat (Ofcom, 2015).
- American boys aged 13–17 years old were more likely than girls to use Facebook but less likely to engage with platforms such as Instagram and Tumblr (Lenhart et al., 2015).

There is a higher chance of girls posting photos and videos online and attempting to share with others through social networking (Livingstone et al., 2010). The appeal of social networking sites may be due to their combination of “chat, messaging, contacts, photo albums and blogging functions” (Livingstone et al., 2011, p. 36). Further, reports show that “girls use more social networking sites, chats and blogs, and more sites where you can upload pictures for public display (e.g., Instagram), while boys play more games and watch more video clips” (Fridh et al., 2015, p. 2).

Online risks

Children and young people’s use of the Internet is often spoken about as a balance of risk and opportunity, with the focus on risk predominately featuring in literature about young people’s digital lives (Boyd, 2014; Kirwil & Laouris, 2012; Livingstone & Helsper, 2010; Nansen et al., 2012). In reports about younger children there is an emphasis on digital participation and the positive uses of new technologies in relation to children’s learning experiences (Burnett & Merchant, 2011; Garvis, 2015). However, the digital lives of teenagers are often conceptualised in terms of risk mediation that “consider more health or welfare-oriented issues associated with the various risks that can accompany Internet use” (Nansen et al., 2012, p. 238; Dunkels, Franberg, & Hallgren, 2011; Karaian, 2012; Mitchell, Finkelhor, & Wolak, 2007). Major risks associated with Internet use such as exposure to online pornography, sexting, cyberbullying, and contact with online strangers will be discussed below.

While this report focuses mainly on children and young people, adults also face online risks particularly with regard to technology-facilitated sexual violence. To provide context to discussions about children and young people, the risks facing adults are discussed in this section, working to provide a comprehensive definition of technology-facilitated sexual violence, gendered differences in experiences of such violence, and what we currently know about its effects on young people.

Risk as possible harm

Online risks facing children and young people have been classified as risks related to *content*, *contact* and *conduct* (Livingstone & Haddon, 2012; Nansen et al., 2012). Those three categories have been described in the following way:

- *content* risks include “viewing inappropriate or illegal material”;
- *contact* risks relate to “forms of unwanted, harassing or harmful communications”; and
- *conduct* risks “revolve around children’s personal behaviour online” (Nansen et al., 2012, p. 238).

Many online activities include such risks, whether in the form of exposure to sexual or violent audiovisual content (*content*), sexting (*conduct*), cyberbullying (*conduct* and/or *contact*), or unsolicited attention from a stranger (*contact*). Online risks, as defined in the Australian context, include “accessing inappropriate material, having strangers ask for or gain access to personal information or experiencing online bullying or threatening behaviour” (ABS, 2011, p. 5). In 2016, the Office of the eSafety Commissioner website listed a number of eSafety issues including:

- cyberbullying;
- digital reputation;
- offensive or illegal content;

- online gaming;
- protecting personal information;
- sexting;
- trolling; and
- unwanted contact.

While not all risk results in harm, studies into Australian children and young people's negative online experiences found:

- 72,000 (3%) of children under the age of 15 "experienced one or more personal safety or security problems online" between 2008 and 2009 (ABS, 2011, p. 5);
- thirty per cent of children aged 9–16 years were "bothered or upset" by something in their online experience in 2011 (Green et al., 2011, p. 9); and
- twenty per cent of children aged 8–13 years were bothered by something they had viewed on the Internet in 2012 (ACMA, 2013, p. 7).

Additionally, recent studies from Canada and the UK reported:

- seventy-eight per cent of Canadian 12–16 year olds had "come across racist or sexist" online content (Steeves, 2014b, p. 2); and
- eleven per cent of 8–11 year olds and 16% of 12–15 year olds in the UK "had seen something online that was worrying, nasty or offensive" (Ofcom, 2015, p. 9).

Increase in age is one factor determining whether or not children and young people are exposed to online risks (Abiala & Hernwall, 2013). Younger children are more commonly supervised during their online activities and their parents/caregivers tend to be more aware of their online behaviour and the locations from which they access the Internet, for example home or school-based computers with active filtering software (ACMA, 2007; Green et al., 2011; Livingstone et al., 2010; Ofcom, 2015; Rideout, Foehr, & Roberts, 2010). Teenagers, however, are more likely to have their own personal devices for going online and to use the Internet in an unsupervised way (Greenfield, 2004; Horvath et al., 2013). Additionally, teenagers spend more time online than younger children, increasing the likelihood of their exposure to online risk (ABS, 2016; Rovolis & Tsaliki, 2012).

Parents/caregivers of younger children are more aware of their negative online experiences than the parents/caregivers of teenagers (ACMA, 2013; Ofcom, 2015). It has been found that: "While the parents of children aged 15 and under fairly accurately report the occurrence of their child experiencing something that bothered them, parents of 16–17 year olds tend to under-report this." (Newspoll, 2013, p. 7). A study from the UK found that children aged 8–11 would be more likely to withhold from disclosing negative online experiences in 2015 than they were in 2014 (Ofcom, 2015). Moreover, children aged 12–15 were reluctant to disclose negative online experiences, with 6% not telling anyone about such experiences (Ofcom, 2015, p. 111).

Exposure to online pornography

Educators, researchers and policy-makers are increasingly aware of the high rates of exposure of children and young people to online pornography in Australia and comparable nations. While definitions of pornography vary, the term generally refers to a spectrum of sexual content ranging from nudity (including pictures of genitals) and/or engagement of individual(s) in sexual activity to hardcore pornography, including violent sexual acts (Bleakly, Hennessy, & Fishbein, 2011; Bridges et al., 2010; Crabbe, 2016; Flood, 2009; Horvath et al., 2013; Livingstone et al., 2010; Martellozzo et al., 2016; Peter & Valkenburg, 2016). The range and accessibility of pornography in online environments has made it difficult to avoid (Crabbe, 2016), increasing both ease of access for those who deliberately seek it as well as the risk of inadvertent exposure. Indeed, a recent study from the UK called *I Wasn't Sure it was Normal to Watch it* found: "Children were as likely to stumble across pornography as to search for it online" (Martellozzo et al., 2016, p. 8).

Research into European children and young people aged 9–16 years found:

- The engagement of children in risky offline activities increases the likelihood of exposure to online risks, particularly sexual images.
- Older children and boys are more likely to be exposed to online sexual images than younger children and girls.
- Children's use of the Internet in private, unsupervised places and "less restrictive parental mediation" leads to a greater likelihood of exposure to online pornography (Rovolis & Tsaliki, 2012, pp. 170–1).

The *AU Kids Online* study of children and young people aged 9–16 years reported:

- forty-four per cent "have encountered sexual images in the past 12 months, whether online or offline"; while

- twenty-eight per cent of 11–16 year olds “have seen sexual images online” (Green et al., 2011, p. 9).
- The study showed that among 11–16 year olds who had seen online sexual content:
 - twenty-four per cent had “seen online sexual images including nudity”;
 - seventeen per cent had “seen someone’s genitals online”;
 - sixteen per cent had “seen images of someone having sex”; and
 - six per cent had “seen violent sexual images” (Green et al., 2011, p. 9).

The *AU Kids Online* study sampled a large range of age groups and there are significant differences between younger children’s and young people’s experiences of viewing online sexual content (Green et al., 2011). For example, the 16% of 11–16 year olds that had “seen images of someone having sex” consisted mainly of teenagers and less of younger children (Green et al., 2011). Additionally, it is important to note that the *AU Kids Online* study, while offering comprehensive statistics regarding online behaviour and exposure to pornography, was conducted in 2011 and the distribution of online pornography—and the nature of that pornography (i.e., hardcore and with violent content)—has altered greatly since that time (Crabbe, 2016).

The *I Wasn’t Sure it was Normal to Watch it* (Martellozzo et al., 2016) report studied the experiences of 11–16 year olds in the UK viewing online pornography and found:

- Fifty-three per cent of those surveyed had seen online pornography at least once—of which 94% reported viewing online pornography before the age of 14.
- Twenty-eight per cent of the above cohort reported viewing online pornography for the first time accidentally (e.g., via a pop-up advertisement).
- Sixty per cent reported viewing online pornography for the first time at home.

Regarding the circumstances of their viewing online pornography, and the role of children and young people therein, the study found:

- twenty-six per cent had received online pornography or links to it;
- nineteen per cent had online pornography shown to them by someone else without asking for it or expecting it;
- nineteen per cent had searched for it on their own; and
- four per cent reported sending others porn online, or links to it.

Similarly, a study commissioned by the Office of the Children’s Commissioner for England found that inadvertent exposure to online pornography can also be “through websites that are not themselves ‘pornographic’ or ‘adult’” (Horvath et al., 2013, p. 25). For example, online gaming sites, file sharing sites, video-hosting sites and social networking sites can all contain online pornographic content (Horvath et al., 2013). Indeed, young people who use the Internet to access information of a medical and sexual nature are at greater risk of exposure to online pornography (Horvath et al., 2013). It is not uncommon for young people to use the Internet to learn about their health and health-related issues, and “sometimes youth looking for health information on sexually transmitted diseases inadvertently reach pornography sites” (Katz, Lee, & Byrne, 2015, pp. 580–1).

Attitudes toward online pornography

Research from the UK (Martellozzo et al., 2016) reported on the range of affective responses of children and young people to online pornography, and showed that attitudes towards pornography were gendered and varied with age:

- Girls are more negative about pornography than boys.
- Boys held more positive views about pornography than girls, particularly in older age cohorts.
- “The negative feelings subsided through repeated viewing of online pornography” (2016, p. 9).

The *AU Kids Online* study (Green et al., 2011) included interviews with parents/caregivers about the exposure of younger children, aged 9 and 10, to online sexual content and found:

- Forty-nine per cent of parents/caregivers reported that their children had never seen online sexual content.
- Thirty-eight per cent of parents/caregivers reported that their children had seen online sexual content.
- Fourteen per cent of parents/caregivers reported that they did not know whether their child had seen online sexual content.

Additionally, a study from the UK (Horvath et al., 2013) found that parents/caregivers are “likely to overestimate exposure of porn for younger children and underestimate for older children” (p. 30).

Gendered differences

The literature shows differences in how girls and boys consume and are affected by online pornography (Beyens, Vandenbosch, & Eggermont, 2014; Flood, 2009; Martellozzo et al., 2016; Sabina, Wolak, & Finkelhor, 2008). Girls from the UK are less likely to view online pornography than boys, and boys consumed online pornography “more often and more deliberately than girls” (Martellozzo et al., 2016, p. 9). To that end, boys tended to have more favourable attitudes towards their exposure to online pornography than girls.

The *I Wasn't Sure it was Normal to Watch it* report found:

- Boys were more likely to find online pornography amusing, arousing and exciting, while girls were more likely to find it shocking and scary.
- Boys aged 11–16 years old “are approximately twice as likely to report actively searching for it as girls” (Martellozzo et al., 2016, p. 29).

Sexting

“Sexting” is a combination of the words “sex” and “texting” and is used to describe “the digital recording of naked, semi-naked, sexually suggestive or explicit images and their distribution by email, mobile phone messaging or through the Internet on social networking sites” (Lee et al., 2013, p. 36). Sexting became popularised in the mid 2000s, brought about “by the advent of convenient, affordable, accessible and mobile access to the Internet” and the “privacy and anonymity” afforded by such communication (Livingstone & Gorzig, 2012, p. 151). The literature puts forward various conceptualisations of young people’s use of sexting, often deconstructing the meanings attached to the practice in terms of young people’s sexual development and socialisation (Abelee et al., 2014; Albury & Crawford, 2012; Cooper et al., 2016; Lee & Crofts, 2015; Nielsen, Paasonen, & Spisak, 2015). There is widespread agreement that it is hard to differentiate between coerced and non-coerced sexts and researchers acknowledge the potentially harmful effects of sexting on children and young people (Horvath et al., 2013; Livingstone & Gorzig, 2012).

Studies into Australian legal frameworks used to define and manage sexting emphasise processes of trial and error involved in the regulation of this complex issue, both revealing the divide between digital natives and digital immigrants and demonstrating significant challenges posed by digital technologies to child protection (Arcabascio, 2010; Lee et al., 2013; Simpson, 2015; Stone, 2011). The definition of young people’s self-taken images as child pornography has been particularly fraught and difficult to characterise in terms of legal blame. Clarification of the definition of child pornography has been explored in research into sexting (Crofts & Lee, 2013). Some have suggested that the term “sexting” itself inadequately describes the “spectrum of behaviours that range from what is intended as the private exchange of images between sexually intimate youthful partners” and have expanded the definition to include specific social networking sites such as Facebook and YouTube (Stone, 2011, p. 267; Crofts & Lee, 2013). In that way, it is noted that some digital technologies are “fuelling the exploitation of children” (Crofts & Lee, 2013, p. 87).

Although, in many cases, young people talk about sexting as normal (if at times unwanted) activities among peers, it is widely categorised as illegal behaviour. A recent report by the UK-based National Society for the Prevention of Cruelty to Children (NSPCC) argued that children and young people “may be viewing images of similar-aged peers, which could be classed as age-appropriate, albeit illegal, sexual behaviour” (NSPCC, 2016, pp. 13–14). That illegality has been questioned based on the fact that consensual sexting is common behaviour among children and young people who are sexually active and/or have private access to mobile phones (Australian Institute of Family Studies [AIFS], 2015; McGovern et al., 2016). McGovern et al. (2016) consulted with Australian young people to investigate their experiences of sexting and found a moral and gendered element to risk management advice, and discrepancies between adult (and media) perceptions of sexting and those held by young people themselves.

Studies into the online behaviour of Australian 11–16 year olds found:

- nine per cent have been sent a sext;
- six per cent “have been asked to talk about sexual acts with someone online”;
- five per cent “have seen others perform sexual acts in a message”; and
- three per cent “have been asked for a photo or video of their ‘private parts’” (Green et al., 2011, p. 9).

Similarly, studies from comparable nations show that:

- twenty-four per cent of Canadian 12–16 year olds have received a sext and 8% have sent a sext of themselves to someone else (Steeves, 2014c, p. 5);

- twelve per cent of 11–16 year olds in the UK have taken a picture of themselves topless, 4% have taken a picture of themselves naked from the waist down, and 3% have taken a picture of themselves completely naked (Martellozzo et al., 2016, p. 10).

Seven per cent of the children from the UK listed above had shared those images with others (Martellozzo et al., 2016). The Australian Institute of Criminology (AIC; 2011) expressed concern about the normalisation of young people's attitudes to sharing images of themselves online. Citing Australian statistics from 2007 the AIC noted that:

- fifty-eight per cent of children were comfortable with sharing their information or pictures online; and
- forty-seven per cent of children were comfortable with others sharing their information or picture online without their expressed permission (AIC, 2011).

Cooper et al. (2016, p. 707) described social networking sites, and social media more generally, as “providing a platform for many adolescent social interactions and increasingly their sexual exploration and behaviours.” The authors suggested that “normalcy discourse” supports young people's perceptions of consensual sexting “as a normal, contemporary form of sexual expression and intimate communication within romantic and sexual relationships” (2016, p. 709). That theory can be applied to a study of 11–18 year old girls in Finland who reported that “sexual messaging, role-play, cybersex experiments and discussions related to sex among peers were defined as fun and pleasurable” (Nielsen, Paasonen, & Spisak, 2015, p. 472). That same study reported the respondents found “messages from unknown people identified as adult were often discussed as unpleasant or ‘creepy’” (Nielsen, Paasonen, & Spisak, 2015, p. 472).

While the normalisation of sexual learning and play through sexting is widespread in some communities, the non-consensual circulation and sharing of sexts can cause lasting “emotional and reputational damage” (Lee & Crofts, 2015, p. 454) to young people and have “legal, social and psychological consequences” (Abelee et al., 2014, p. 8). For example, personal sexts that were sent between two young people in an intimate relationship may be distributed “following the end of the relationship” (Cooper et al., 2016, p. 711). A related discussion regarding technology-facilitated sexual violence, including the non-consensual distribution of intimate images such as sexts, is provided below.

Gendered differences

Sexting as a form of digital communication that is “voluntary or involuntary, serious or humorous, public or private, trivial or significant, pleasurable or hurtful” carries with it risks and challenges for online children and young people (Livingstone & Gorzig, 2012, p. 152). Research from the UK shows that girls and young people of diverse sexualities and genders are most at risk:

- Girls are more commonly asked for a naked picture of themselves, while boys are less likely to be asked (Horvath et al., 2013; Martellozzo et al., 2016).
- LGBTQI+ young people are more likely to send a naked selfie than heterosexual young people (Horvath et al., 2013; Rice et al., 2012).

Lee and Crofts (2015) argued that peer group pressure exerts significant influence on sexting behaviour—particularly on girls. Indeed, a recent study from the UK reported that girls felt pressure to disclose personal information and be attractive in online spaces. It was found that of children aged 12–15 years:

- four per cent of girls “have felt under pressure to send photos or other information to someone” compared with 0% of boys (Ofcom, 2015, p. 116);
- ten per cent of girls felt “pressure to appear popular or attractive” online compared with 4% of boys (Ofcom, 2015, p. 109).

Cyberbullying

Cyberbullying has been defined as “bullying carried out using technology, including behaviours such as harassing another person via a mobile phone or Internet-based social networking site, setting up a defamatory website or deliberately excluding someone from interacting within social networking spaces” (Australian Research Alliance for Children and Youth [ARACY], 2014, p. 9). Cyberbullying can include “direct, deliberate and aggressive kinds of bullying behaviour, as well as milder or indirect events such as flaming, impersonation or social exclusion” (Nansen et al., 2012, p. 244). It is necessary to have a separate definition for cyberbullying and important to conceptualise it in different terms to offline bullying (Fridh et al., 2015, p. 2). As Fridh et al. (2015) argued, “traditional aspects of face-to-face bullying such as repetition and power imbalance are more difficult to define in a cyber context” (Fridh et al., 2015, p. 2).

The *AU Kids Online* study found:

- twenty-nine per cent of 9–16 year old children and young people had been bullied, “and 13% say this occurred on the Internet”;
- seven per cent reported that cyberbullying had occurred via “nasty or hurtful messages sent to the child”;
- four per cent said messages were “posted or passed on”; and
- three per cent said they had been threatened online (Green et al., 2011, p. 9).

A more recent report by ACMA noted:

- four per cent of 9 year olds had experienced cyberbullying;
- twenty-one per cent of 14–15 year olds had experienced cyberbullying;
- sixteen per cent of 16–17 year olds had experienced cyberbullying (ACMA, 2013).

ACMA (2008) has discussed the idea of online etiquette, or “netiquette” (Nansen et al., 2012) as key to the digital participation of children and young people. It defined netiquette as “appropriate and responsible online behaviour” (ACMA, 2008, p. 51). Encouraging children and young people to take “responsibility for participation in online bullying” has been noted as important in discussions about conduct and risks online (Nansen et al., 2012, p. 239). Indeed, supporting children and young people to take responsibility for their online behaviour can minimise risks to their digital wellbeing, as it “is a protective factor for health, associated with a lower prevalence of both cyber victimisation” and traditional bullying victimisation (Fridh et al., 2015, p. 2; Nansen et al., 2012).

The majority of young people who had experienced cyberbullying reported that behaviour to their parents/ caregivers or friends (ACMA, 2013). Younger children aged 8–9 years old “also tended to tell their teacher” (ACMA, 2013). The *EU Kids Online* project found that of all the online risks faced by children and young people aged 9–16 years old “online bullying resulted in the highest proportion of children being upset and ‘sexting’ and pornography were perceived as less upsetting” (Livingstone et al., 2014, p. 272).

There are challenges surrounding children and young people’s disclosure of cyberbullying characterised by a view that parents/caregivers do not understand their online reality (Dunkels, et al., 2011). The authors noted that cyberbullying is particularly troubling to young people’s health and wellbeing because of what they described as “constant presence”, which emphasises “that cyberbullying has the potential to go on the whole day and follow the child in school as well as in their homes” (Dunkels, et al., 2011, p. 9). In that sense, victims “have no place to hide and can be targeted anytime and anywhere” (Dunkels, et al., 2011, p. 9).

Gendered differences

In the United Kingdom, girls aged 12–15 years old were more bothered by cyberbullying than boys of the same age cohort:

- thirty per cent of girls disliked “people spreading gossip or rumours” compared with 19% of boys; and
- twenty-three per cent of girls disliked “people being nasty, mean or unkind to others” compared with 13% of boys (Ofcom, 2015, p. 109).

That trend is repeated in Canadian nine to 16 year olds, of which “Girls are more likely to be concerned about racist or sexist comments, while boys are more likely to see them as innocuous” (Steeves, 2014b, p. 5). Additionally, girls were also found to feel more upset than boys “when a racist or sexist joke is made at their expense” (Steeves, 2014b, p. 6). Moreover, boys were found to be “three times more likely than girls to be mean or cruel to someone online by making fun of their race, religion or ethnicity or sexual orientation, or harassing them sexually” (Steeves, 2014b, p. 6).

Online strangers

Online contact with strangers is one of the major risks associated with children and young people’s digital activity (Dunkels, et al., 2011; Green et al., 2011; Livingstone et al., 2014; Priebe, Mitchell, & Finkelhor, 2013). Such risk can occur through the unsolicited contact initiated by an adult and/or risky conduct on the part of the child or young person. The former is generally conceptualised in the form of online predators attempting to groom children in chatrooms and on social networking sites (Boyd, 2014). The latter refers to children and young people’s active engagement on social media whereby they seek out “new friends online” or add “unknown ones to their friend’s list or address book” (ACMA, 2013). ACMA revealed that such behaviour “increased with age”:

- Approximately four in ten 14–17 year olds engaged in such behaviour in 2012.
- Those “most likely to send photos or videos to someone they have never met face-to-face” were 14–15 year olds (ACMA, 2013).

Furthermore, the *AU Kids Online* study found of Australian 9–16 year olds:

- thirty-four per cent “had contact online with someone they have not met face to face”; and
- of that cohort, 13–16 year olds were at greater risk of such contact (Green et al., 2011, p. 9).

Gendered differences

Studies from Canada and the UK have reported significant differences in how girls and boys perceive and experience online contact risks, particularly unsolicited attention and cyberbullying by strangers. For example, when asked about meeting strangers online, it was found that of Canadian children and young people aged 9–16:

- eighty-two per cent of girls believed “they could be hurt by online strangers” compared with 63% of boys; and
- girls were “less likely to see the Internet as a safe place” than boys (Steeves, 2014a, p. 5).

Additionally, of children aged 12–15 years old in the UK more girls were aware of their risk of victimisation:

- fifteen per cent of girls were concerned by online strangers accessing their personal information compared with 7% of boys (Ofcom, 2015);
- fourteen per cent of girls were concerned by “people pretending to be me/hacking into my account” compared with 6% of boys (Ofcom, 2015, p. 109); and
- eleven per cent of girls were “personally contacted online by someone they don’t know” compared with 5% of boys (Ofcom, 2015, p. 116).

Technology-facilitated sexual violence

Despite the media-generated usage of the term “revenge porn”, which has led to its widespread uptake in the public domain, this research consciously uses the term “technology-facilitated sexual violence” to reflect the range of activities it encompasses and the experiences of those affected. Many consider revenge porn to be a misnomer as it does not capture the full spectrum of sexual abuse enabled by fast-paced developments in digital technologies (Clough, 2016; Funnell, 2015; Senate Legal and Constitutional Affairs Reference Committee, 2016).

Definition

Initially, revenge porn was thought to involve “a disgruntled partner distributing on the Internet, without the consent of the former partner (the victim), a photograph or video depicting the victim naked or engaged in a sexual act” (Gotsis, 2015, p. 2). However, current research shows a range of motivations and perpetrators that are inaccurately reflected by the term. Technology-facilitated sexual violence on the other hand, reflects the spectrum of abusive behaviours that can be carried out by “acquaintances or strangers who distribute images in order to coerce, blackmail, humiliate or embarrass another person, or those who distribute images for sexual gratification, fun, social notoriety or financial gain” (Henry, Flynn, & Powell, 2015, p. 3). Such matters disproportionately affect women and girls, thus locating it within a broader framework of violence against women (Bates, 2016; Clough, 2016; Funnell, 2015; Powell & Henry, 2016). Researchers, therefore, suggest that the phenomenon known as revenge porn is more accurately referred to as technology-facilitated sexual violence involving the *non-consensual dissemination of intimate and/or explicit images in order to inflict harm* (Clough, 2016; Powell & Henry, 2016).

Acts commonly categorised as technology-facilitated sexual violence include situations in which a perpetrator:

- knowingly or recklessly records an intimate image without consent;
- knowingly or recklessly shares intimate images without consent; and
- threatens to take and/or share intimate images without consent, irrespective of whether or not those images exist (Senate Legal and Constitutional Affairs Reference Committee, 2016).

Consent is key in the above list, and the definitions of both “consent” and “intimate” are crucial to legislation managing technology-facilitated sexual violence. As noted by the Commonwealth Director of Public Prosecutions, even material that is of a personal, or intimate, nature can cause similar levels of distress if distributed without consent (Henry et al., 2015).

The Senate Inquiry into the phenomenon colloquially referred to as revenge porn provided clarification of what could be described as an intimate image, stating that it “can vary according to community standards”, and used the example of a Muslim woman without her hijab as a less-than-typical intimate image (Senate Legal and Constitutional Affairs Reference Committee, 2016, p. 2). Research into technology-facilitated sexual violence may also employ the term “image-based sexual exploitation” in lieu of “revenge porn” as it reframes the problem to focus on the perpetrator and encompasses a wider range of behaviours (Henry & Powell, 2016).

Gendered differences

Technology-facilitated sexual violence mainly affects women and girls and is largely perpetrated by men and boys (Clough, 2016). In that way, it is seen as encompassing new forms of sexual violence and/or domestic violence, particularly sexual assault involving more than one perpetrator and intimate partner violence (Bates, 2016; Citron & Franks, 2014; Funnell, 2015; Powell & Henry, 2016). As with more traditional forms of violence against women, the non-consensual distribution of intimate images have lasting effects in multiple contexts, ranging from feelings of shame at being publicly characterised as “sexually available, sexually expressive, or sexually submissive” (Urbas, Urbas, & Boer, 2015 p. 2) to “a loss of employment or future employment prospects” (Henry, et al., 2015, p. 3). In the context of domestic violence, technology-facilitated sexual violence can be used “as a means of threatening, coercing or controlling women” (Powell & Henry, 2016, p. 6), forcing them “to engage in non-consensual acts, stay in a relationship or refrain from pursuing criminal charges” (Henry et al., 2015, p. 3). The mental health effects of such victimisation are also similar to those experienced by victim/survivors of contact sexual assault, and include illnesses such as post-traumatic stress disorder and clinical depression (Bates, 2016).

While it is important to note that boys and men also suffer from technology-facilitated sexual violence, studies show that “women and girls may be targeted for particular forms of digital abuse (e.g., sexual assault or revenge porn) precisely because of their gender and the perpetrator’s intention to ‘slut shame’” (Henry & Powell, 2016, p. 399). Additionally, serious harms to victims such as “stalking, loss of professional and educational opportunities, and psychological damage” are compounded by further risk of harm to those who speak out about their experiences (Citron & Franks, 2014, p. 347). The effects of technology-facilitated sexual violence are themselves gendered “because women and girls may experience adverse impacts due to the persistence of outdated myths and expectations surrounding sexual norms and expectations for women specifically” (Henry & Powell, 2016, p. 399). That point is emphasised in research into technology-facilitated sexual violence in the USA. A rigorous review of court cases and quantitative studies from the USA revealed that it “affects women and girls far more frequently than men and boys, and creates far more serious consequences for them” (Citron & Franks, 2014, p. 348).

Effects on young people

A national survey of 600 young girls and women aged 15–19 years old found gendered patterns to technology-facilitated sexual violence, making that cohort particularly vulnerable to the non-consensual sharing of their intimate images (Plan International Australia & Our Watch, 2016). More than half of survey respondents “agreed that girls are often pressured to take ‘sexy’ photos of themselves and share them”, and such requests “were almost always unwanted and uninvited” (Plan International Australia & Our Watch, 2016, p. 3). Other studies show that “young adults aged 18–24 were more likely than other age groups to experience digital harassment and abuse” (Powell & Henry, 2016, p. 1), and that young people themselves acknowledge the gendered double standard regarding sexting and non-consensual distribution of images (McGovern et al., 2016).

There is an additional concern that the normalisation of sexting can lead to exploitative acts carried out by adults against children and young people. Powell and Henry express concern about the: “‘sexploitation’ or ‘sextortion’ of young people, often by adult perpetrators, where sexual imagery [is] used to coerce youth into contact sexual abuse”, or in situations where adults create “a false online identity in order to solicit sexual imagery from a young person, the content of which is then used as a threat to secure further images (2016, pp. 3–4).

Additionally, cases of abusive sexting behaviours whereby children and young people took part in coercive sexting and non-consensual sharing of intimate images have recently emerged as legal dilemmas (Powell & Henry, 2016). Concerns about the application of criminal laws to children and young people in sexting incidents have been noted in discussions about the legal management of technology-facilitated sexual violence, and it is generally accepted that cases involving young people under the age of 18 should be treated differently to cases involving adults (Attorney-General’s Department, 2015; Senate Legal and Constitutional Affairs Reference Committee, 2016).

Youth culture and digital culture

Developments in digital technologies—particularly as they have become “more convergent, mobile and individualised”—have affected changes in youth culture (Boyd, 2014; Livingstone & Haddon, 2012, p. 4). Contemporary children and young people “use the Internet regularly and effectively” and are often constructed as leading digital lives that complement their offline existence (Mossberger, Tolbert, & McNeal, 2008, p. 1). Digital lives take place in online “networked publics”, wherein children and young people express themselves and interact with others (Boyd, 2014). Just as “public culture links engagement in popular culture to the practices of participation in the public sphere”, networked publics “facilitate the development of public identities and

friendship-driven practices on the Internet” (Kupiainen, Suoninen, & Nikunen, 2012, p. 99). The separation of the young person from their parents/caregivers in networked publics plays a crucial part in identity construction, and digital technologies have created “a virtual world that groups of primary-aged children (and older) share together *without* their families” (Fleer, 2011, p. 18).

Networked publics demonstrate the centrality of the Internet to modes of being, particularly social interaction (Boyd, 2014). That is of particular importance in the identity-construction project of adolescence and early modes of self-presentation in peer groups. As stated in Boyd (2014, p. 201), individuals “develop a sense for what is normative by collectively adjusting their behaviour based on what they see in the publics they inhabit and understand.” Networked publics present major challenges in that regard, as young people “struggle with what it means to *be* public and to *be in* public” (Boyd, 2014, p. 204). Indeed, the “unknown infinite audience” of the Internet is easy to forget, particularly for children and young people who use social media. Constructing the online self and negotiating the divide between public and private contexts are major issues for the contemporary digital generation, and will be discussed in the sections below.

Constructing the online self

The major undertaking of children and young people has long been described as the task of identity construction (Boyd, 2014; James, 2009). As stated in Kapidzic and Herring (2011 p. 959), “adolescence is a crucial period in the formation and diffusion of identity.” Experimentation is a large part of that task, as both the developmental imperative “and the instability of their ‘selves’ motivate [young people] to experiment with their identities and self-presentation” (Kirwil & Laouris, 2012, p. 113). Kirwil and Laouris (2012, p. 113) wrote about three facets of experimentation:

- social compensation: “to overcome shyness, communication difficulty or other weakness”;
- self-exploration: whereby young people adopt “various personality features or identities to investigate how others react”; and
- social facilitation: “to facilitate dating, making friends and relationship formation” (2012, p. 113).

The Internet is ideally suited to support the above three aspects of experimentation, as “new media are providing adolescents with new spaces for identity exploration” (James, 2009, p. 24). It is well documented that children and young people “use online environments to explore and experiment with elements of their identity, trying on new personalities, characteristics and physical forms” (Bond, 2010; Boyd, 2014; Fleer, 2011; Katz, et al., 2015, p. 579; Lincoln & Robards, 2016; Mahiri, 2011; Sauter, 2013). In their research into how the Internet helps young people develop self-awareness, Katz, et al. (2015) talked about identity construction work and how the Internet supports self-expression. They wrote: “Identity self-expression takes place in many different formats, as youth upload texts, images and video artefacts and engage with others in discussion boards, social networks and other communities” (Katz, et al., 2015, p. 579).

Furthermore, the Internet supports the practice of online anonymity, which can lead to greater exposure to risk and negative online experiences (Dunkels et al., 2011; James, 2009). Young people who have the opportunity to present fake or altered identities online often choose to present “aspects of their offline selves” instead (James, 2009, p. 24). Dunkels, and colleagues found that “the concept of anonymity is not as straightforward as it might seem. Often when we talk of online anonymity we actually refer to pseudonymity which means that the person has taken on a screen name” (2011, p. 8). While anonymity is allowed and even supported in online spaces, children and young people recreated aspects of their actual identities in their online identities, particularly with regard to ethnicity, class, and gender (Andersson et al., 2015). Indeed, Boyd has argued that “what teens do online cannot be separated from their broader desires and interests, attitudes and values” (2014, p. 202).

However, young people particularly engage in “identity experiments”, whereby they modify or alter aspects of their identities on the Internet (Katz, et al., 2015; Kirwil & Laouris, 2012). Katz, and colleagues used the example of a teenage girl presenting herself as “older in order to be taken seriously in a political discussion”, which the authors described as an identity experiment supporting self-reflection through audience response (2015, p. 579).

Identity experiments can also carry high-level risks, however. For example, Kirwil and Laouris (2012) found that children and young people may have negative online experiences as a result of identity experimentation. The authors reported that:

- Twenty-eight per cent of “children who experimented with their ‘selves’ pretending to be a different kind of person online ... suffered harm after meeting their contacts offline”, compared with 14% of “children who did not experiment this way.”
- Ninety per cent of children who used social networking sites and “pretended to be another age” had a negative experience “as a result of exposure to sexual images” (Kirwil & Laouris, 2012, p. 121).

Identity experiments are the result of the “online disinhibition effect” (Suler, 2004), which researchers have explained as “the fact that we act in a less inhibited fashion online” (Dunkels, et al., 2011, p. 8). Katz, et al. (2015, p. 579) stated that young people are resourceful in their online behaviour and “maintain their online identities, engaging simultaneously in self-reflexivity and impression management.” However, “identity vulnerability underlies much of the psychological experimentation of youth” (Abbott-Chapman & Robertson, 2009, p. 420) and can result in the online harm of children and young people.

Peer groups and audience awareness

Collaborative identity construction is an important aspect of learning and socialisation, and can occur through children and young people’s self-presentation and audience awareness in their digital lives (Abbott-Chapman & Robertson, 2009). Many researching into the meaning of young people’s engagement with new technologies and online behaviour have applied Goffman’s (1959) theories of self-presentation and performativity (Abbott-Chapman & Robertson, 2009; Boyd, 2012; Hogan, 2010; Lincoln & Robards, 2014; Marwick & Boyd, 2010; Vitak, 2012). A large part of Goffman’s work revolved around the audience-dependent qualities of the self, that is, how the “audience is often imagined and constructed by an individual in order to present themselves appropriately” (Marwick & Boyd, 2010). In that way, “self-presentation is *collaborative*” (Marwick & Boyd, 2010, p. 123). Scholars such as Marwick and Boyd (2010, p. 123) have noted the importance of peer reactions to the identity construction project, whereby “individuals habitually monitor how people respond to them when presenting themselves.”

Children and young people tend to replicate the same peer networks in their digital lives and their physical world (Boyd, 2014; Robards & Bennett, 2011). Even though children and young people interact with the same peer networks both online and offline, they are more likely to experiment and express themselves online due to the disinhibition effect of the Internet. Young people’s online behaviour is a product of constructions—both of themselves and their audience—often displaying a variation of their offline behaviour. The reaction of peers is crucial to identity construction in childhood and teenage years. In early childhood Garvis (2015, p. 30) found that social interaction supported “knowledge construction in developmentally appropriate ways.” In a similar way, positive support from peers and family is important to identity construction associated with the teenage years. As noted by Bahr and Pendergast, “peers are the measuring stick of how successful an experimental identity has been” (2007, p. 159).

The public and private in online contexts

The digital lives of children and young people cannot be separated from their development as individuals and social beings (Boyd, 2014; Buckingham, 2013). The blurred line separating online and offline contexts means that audience awareness is important to children and young people at a time when they are taking early steps in identity and relationship experimentation. Young people’s experimentation and learning complicate the online context, particularly through the creation of a digital footprint, or the lasting effect of online behaviour. The idea of shameful behaviour and/or embarrassment affecting future reputation is not recent to theories of identity construction and self-presentation in adolescence. In the past, children and young people experimented with self-presentation in private offline spaces “within a restricted circle of close associates” (Abbott-Chapman & Robertson, 2009, p. 420). While not always safe, self-presentation experiments in more traditional venues were unlikely to become matters of public record.

The blurred lines between the physical and virtual world for young people “who use private space to explore and articulate” their selves (Lincoln & Robards, 2014, pp. 931–2) can lead to high-risk activities. A study into how young people negotiate the public and private in their online lives found that they “sometimes ‘forget’” the audience, which can “evoke embarrassing situations” (Lincoln & Robards, 2014, p. 935). Lincoln and Robards (2014, p. 936) wrote that “young people are managing their identities across multiple contexts within which they have to think and rethink their strategies of control, sometimes in the context of embarrassment.” Such multiple contexts refer to various online and offline sites as well as the overlap of public and private domains (Lincoln & Robards, 2014; Pearson, 2009; Vitak, 2012). The most common blurring of the public and private contexts occurs when young people go online from their bedroom, thus linking home spaces to cyberspace, which makes “distinctions between ‘inside’ and ‘outside’” and “private and public space appear redundant, or at least fluid” (Abbott-Chapman & Robertson, 2009, p. 421).

The interplay of online and offline contexts influences how young people use the Internet—and social networking sites—as a safe place to experiment with their identities and behaviour. Social networking activities are underpinned by processes of self-presentation, which “are never constructed in a void” (Boyd, 2014, p. 4). It has been noted that offline contexts are “constrained in a number of ways” that online contexts are not, thus

increasing their appeal (James, 2009, p. 23). For example, James (2009) pointed out that factors such as time, location and opportunity limit children and young people's opportunities to socialise and express their identities in the offline context. Bond (2010) is one who referred to individualised and personal devices such as the mobile phone as connected to notions of privacy, and wrote that it "blurs the boundaries between adulthood and childhood, public and private" as well as being "fundamental to children's construction of self-identity" (pp. 594–7). The benefits and risks of such technologies stress the need for effective education around audience awareness and public/private contexts, as "the nature of publicness is actually being remade every day in people's lives" in online spaces (Boyd, 2010, p. 205).

Social media and context collapse

Children and young people's online activities, particularly with social media, can reach unintended audiences. Social media is ideally suited to the identity-construction project because it enables young people's "access to their friends" as well as providing "an opportunity to be a part of a broader public world while still physically situated in their bedrooms" (Boyd, 2014, p. 201).

However, while Bolton et al. (2013, p. 247) argued that young people's use of social media was crucial to their social worlds and individual "emotion regulation", they pointed out that such activity also influences "attitudes toward privacy." Van Dijck (2013, p. 51) observed that social networking sites "offer individual users a stage for crafting a self-image and for popularising that image beyond intimate circles" and stressed that "popularity and disclosure are two sides of the same coin." Indeed, disclosure and sharing are a large part of young people's engagement with social media. Young social media users, in particular, may feel they have some choice over which of their posts their audience can view—described as a feeling of "symbolic control" (Lincoln & Robards, 2014, p. 932). However, even young people who are audience aware can face embarrassing or harmful (and sometimes lasting) effects when they misjudge their online audience and their control thereof.

Managing multiple online audiences is difficult on social media, as they are often "flattened into one homogenous group" through a process of context collapse (Vitak, 2012, p. 454). Context collapse refers to "the conflation of various complex social worlds (made up of family, friends, old school mates, romantic interests, work colleagues and so on) into a singular performative medium: the profile that is at the core of the social network site" (Lincoln & Robards, 2014, p. 928). Context collapse is important to understanding how young people negotiate their online identities, as social networking platforms (Facebook, Twitter, specifically) place "employers and romantic partners on the same communication plane", challenging "users to segment audiences and present varied versions of the self" (Vitak, 2012, p. 452). Additionally, "social media technologies collapse multiple audiences into single contexts, making it difficult for people to use the same techniques online that they do to handle multiplicity in face-to-face conversation" (Marwick & Boyd, 2010, p. 114). For example, in the physical world, young people interact with their peers "differently than when they're talking to their family or their teachers" (Boyd, 2014, p. 36).

Context collapse is conceptualised as a matter requiring constant management on the part of children and young people who use social media, and research shows that young people have often "expressed specific, pragmatic understandings of audience" (Marwick & Boyd, 2010, p. 120). Indeed, young people are able to "negotiate multiple, overlapping audiences by strategically concealing information ... and attempting to portray both an authentic self and an interesting personality" (Marwick & Boyd, 2010, p. 122).

However, context collapse is often difficult for young people to negotiate. This is because "the context collapses that teens face online rarely occur in the moment with conflicting onlookers responding simultaneously. They are much more likely to be experienced over time, as new audiences read the messages in a new light" (Boyd, 2014, p. 33).

While young people may alter their behaviour appropriately to suit their imagined audience and exercise symbolic control to manage their privacy settings on social media, the nature of the Internet does not guarantee long-term security. In that sense, "technology complicates our metaphors of space and place, including the belief that audiences are separate from each other" (Marwick & Boyd, 2010, p. 115)

Mobile porn use and sexting

The ubiquity of the smartphone among young people has led to "a historical conjuncture in which notions about identity, individualism, lifestyle and sociality—and their relationship to technology and media practices—require rearticulation" (Hjorth, Burgess, & Richardson, 2012, p. 1). Mobile phones are one technology that implicate offline dynamics, "creating new pathways for navigating physical space" (Boyd, 2012, p. 211). Indeed, mobile phones have been described as an "important prop" for children and young people "to present the right image in public" and "provide a space for young people's everyday performances" (Bond, 2010, p. 599). Sharing and communicating

via social media is important to contemporary peer networks of children and young people, and Bond (2010, p. 591) wrote that “non-ownership of a mobile telephone ... may lead to social exclusion.” Buckingham (2013, p. 11) pointed out an interesting paradox, that while “technology offers parents an increased potential for surveillance”, by buying their children mobile phones, “it also enables children to evade control” due to an increase in unsupervised online time. In that way, “the individualised provision of technology undermines the potential for parental control and mediation” (2013, p. 11).

Mobile phones may lend children and young people “privacy, freedom, [and] security” (Bond, 2010, p. 591) in new ways but they have also been found to play a large part in young people’s exposure to online pornography (Horvath et al., 2013, p. 24). While mobile telephones are “imperative in the formation, maintenance and manipulation of close, intimate relationships”, they are also instrumental in “the sharing of sexual material, both downloaded from the internet and user generated” (Bond, 2010, p. 599). It has been found that older children’s “mobile porn consumption appears to revolve around the process of sharing and exchanging sexual contents with peers” (Abelee et al., 2014, p. 9).

A study from the UK that asked children and young people aged 11–17 years about their online pornography consumption found that girls were able to “outline strategies and behaviours to keep themselves safe in the context of producing and sending sexual material” (Bond, 2010, p. 596). Young people in Bond’s (2010) study, particularly those aged 14–15 years, discussed the downloading, sharing and viewing of “visual material of a sexual nature” as part of “their everyday lives in relieving boredom, generating humour and gaining popularity” (p. 598). Indeed, all participants in that study (boys and girls) “talked of viewing sexual material via mobile phones (although not necessarily theirs)” (p. 598). One finding of particular concern in that study was the “ready availability of sexual material” online (p. 598).

Other researchers have reported similar findings, such as that older children are now at greater risk of exposure to online pornography because they are more likely to have their own personal device through which they access the Internet (Horvath et al., 2013). Some researchers, such as Abelee et al. (2014), have pointed out the changes to the pornography industry brought about by digital technologies: “Mobile porn is big business. The sex industry makes substantial revenues from producing and selling porn content for the mobile market” (p. 9).

Young people’s identity construction projects are often subject to “peer approval and acceptance” (Cooper et al., 2016, p. 710). It has been argued that “there is pressure to conform to sexting and mobile porn use in order to achieve peer acceptance, providing evidence that both behaviours are used to display or gain status in the peer group” (Abelee et al., 2014, p. 9). However, while sexting can be constructed as “problematic only if the messages reach unintended recipients or are manipulated to produce hurtful effects”; it is difficult to distinguish between sexts that are “fun” and “coercive” (Livingstone & Gorzig, 2012, p. 152). Young people’s sexual development is important to their identity-construction project, and while such tasks as socialisation are lifelong activities, their role in an individual’s early years is particularly significant. Therefore, “the relationships between media uses and effects and adolescent’s sexual development” (Abelee et al., 2014, p. 7) are key to our understanding of children and young people’s lives.

Research on the effects of pornography on children and young people

Key issues in interpreting literature

There were several issues identified in the research and interpreting the literature. The key issues were: understanding the content of pornographies, variations in definitions, samples and methods, negativity and sexual morality bias, young people’s critical literacy and agency, and understanding harms in context.

Content of pornographies

There are many different kinds of pornographies, “both professional and amateur, and include a wide-range of genres such as erotica, hardcore, group sex, gay, lesbian, BDSM, misogynistic, feminist and queer-friendly” (Hare et al., 2014, p. 148). The overwhelming majority of pornographic content on the Internet is heterosexual, made by men for men, does not involve the use of condoms, depicts sex as instrumental and can be categorised as degrading or exploitative of women.

In a content analysis of 45 randomly selected free pornographic videos from 15 popular (heterosexual) websites, Gorman, Monk-Turner, & Fish (2010) found that condoms were used rarely, only in 2% of scenes. Their analysis also found that the majority of performers were white (76%), the majority of films were of professional quality

(61%) and most likely featured two actors (56%). The sexual acts most commonly depicted were genital stimulation (90%), fellatio (79%) and vaginal intercourse (68%), followed by kissing (50%), female masturbation (38%), cunnilingus (37%), anal intercourse (32%) and male masturbation (13%). In the majority of videos, women were more likely to be naked than men (55%), and the most common themes were men in positions of dominance or exploitation over women (55%) and women in positions of submission (47%). The researchers describe this in the following terms:

Typically, the male actor was directing the sexual acts that occurred. This would be accomplished by the male participant manoeuvring the female into any position he desired or verbally instructing the female to perform certain acts or moving her body in different ways. (Gorman et al., 2010, p. 138)

Almost half the videos analysed included women's eagerness or willingness to be dominated (49%) and ejaculation onto the face of the female participant (45%). Similar rates of depicted sexual acts were found in another content analysis of 100 free (heterosexual) pornographic videos from 10 popular websites (Vannier, Currie, & O'Sullivan, 2014). Vannier and colleagues' (2014) study also noted that the majority of male performers had groomed (46%) or no (35%) pubic hair and that female performers typically had no pubic hair (61%) or groomed pubic hair (30%). Condom use was similarly found to be "virtually non-existent", occurring in only 2% of videos (Vannier, et al., 2014, p. 262). The researchers also observed that in all videos where persuasion occurred:

The actors who expressed reluctance or hesitation were eventually convinced to engage in sexual activity and appeared to enjoy the sexual activity they had originally resisted. These portrayals may normalise what is known in the research literature as "token resistance". Token resistance is defined as occurring when an individual, usually a woman, says "no when they mean yes and that their protests are not to be taken seriously". (Vannier et al., 2014, p. 262)

In a study of gender (in)equality in Internet pornographies, Klaassen and Peter (2015) analysed 400 pornographic videos from the four most visited pornographic websites, finding that men were more likely to be depicted as dominant (39%) and women as submissive (43%). Close-ups of women's body parts (61%) occurred much more frequently than close-ups of men's body parts (19%), indicating women are instrumentalised (objectified) more often than men in pornographic representations (Klaassen & Peter, 2015). In that study, violent acts towards women were present in 37.2% of scenes (compared to 3% that depicted violent acts against men). Violence towards women in the videos analysed typically involved spanking (27%) or gagging (19%). The responses by female performers to these acts were mostly neutral "as if not affected in any manner" (Klaassen & Peter, 2015, p. 728). Violent acts¹ were found to occur infrequently in the samples studied by both Gorman et al. (2010) and Vannier et al. (2014), though they each note that "violent pornography" is a significant minority subgenre of heterosexual pornography, searchable as such.

In a comparison of content in 50 homosexual and 50 heterosexual pornographic DVDs, researchers found that ejaculate contact with mucous membranes (including oral, vaginal or anal mucosa) was significantly more likely to occur in heterosexual videos (48%) than homosexual videos (10%) (Grudzen et al., 2009). In that study, condoms were also used significantly less in heterosexual (7%) than homosexual (64%) penile sexual acts, suggesting that homosexual pornographic representations are far more likely to include the use of condoms (Grudzen et al., 2009). Although, it should be noted that homosexual condomless ("bareback") pornography is a significant minority subgenre of gay pornographies (see Jonas et al., 2014).

When looking to understand the potential harms of pornography, the *content* being consumed is important. Some pertinent questions include: Are the acts depicted as consensual (both before and during sexual activity)? Is the content violent? Are women depicted as objects for men's sexual gratification? Are condoms used? Are any other kinds of safer sexual practices featured? Does the content appear affectionate? Is there a relationship depicted between parties? What kind of relationship (i.e., between a man in a position of power and a woman in a subservient position; are they depicted as strangers)? What kinds of sexual pleasures are featured and in what ways? Are the activities depicted considered culturally normative? Do the depictions reinforce racist or sexist stereotypes?

Definitions

Different research defines pornography, frequent use and risky sexual behaviours in different ways, making it difficult to compare results. There is often not a distinction made between unwanted exposure and intentional use. There is little known about the *content* of pornographies viewed by adolescents (what they are actually watching) (Owens et al., 2012; Peter & Valkenburg, 2016) or for whom the associations between pornography and

¹ The researchers defined violence as "use of clear force (e.g., whips, pinching, slapping, hair pulling, bondage and kicking)" (Gorman et al., 2010, p. 135).

harmful effects are the strongest. That is, “who is resilient to messages in pornography and who is susceptible?” (Peter & Valkenburg, 2016, p. 526). Often within research describing the effects of pornography, there is no attention to “perceived realism”; that is, how consumers *understand* this material and how that affects its reception. For example, in one study exploring pornography use in focus groups with adolescents, young men described the material as entirely separate from their sexual lives with others (Löfgren-Mårtenson & Månsson, 2010), contesting associations between pornography use and adolescents’ sexual preferences, attitudes and behaviours.

We define “sexually explicit Internet material” (SEIM) in the following terms: “online [pictures and] videos that depict sexual activities and genitals in unconcealed ways and are typically intended to arouse the viewer” (Hare et al., 2014, p. 148). SEIM “contain a vast range of explicit, graphic depictions of acts that are specifically designed to evoke and heighten sexual responses in the consumer” (Hare et al., 2014, p. 148). Adolescents may define what counts as pornography in different ways; for example, whether naked or semi-naked still images of people count as pornography, or whether pornography specifically refers to depictions of sexual acts (Tomson, Byrne, & Trust, 2014). While it may be more salient for us to use the phrase “sexually explicit Internet material”, it has been noted that young people understand the terms “x-rated” and “pornography” better (Braun-Courville & Rojas, 2009). It may also be more appropriate to use the term “pornographies” (plural) to emphasise that there are many different forms and content that this material takes (Barker, 2014).

“Exposure” is used variously within the literature to describe accidental (unwanted) experience, as well as intentional use (consumption). For example, Peter and Valkenburg explain that they use exposure to mean “active, conscious and purposeful contact” (Peter & Valkenburg, 2006b, p. 640), which we would call use or consumption. We reserve exposure to describe those experiences with SEIM that are accidental rather than intentional.

Samples

Within the literature, research samples vary in age group, as well as convenience, with many samples made up of college psychology students in the USA. The socio-political and cultural contexts of where samples are located is also important. Two oppositional contexts have conducted the most research in this area: firstly, the USA, where sexual conservatism dominates public policy and abstinence-only sexual education receives federal funding; and secondly, Scandinavia (most notably Sweden and the Netherlands), where sexually liberal approaches to pornography and adolescent sexuality, as well as more sexual education, predominate. These are both substantially different from Australian contexts, which probably most often sit somewhere between these two attitudes towards pornography and sexual education.

Methods

Much research notes the ethical (and potentially legal) issues in doing the kind of sensitive research with vulnerable populations that research about pornography with minors is. For example, they note experimental studies cannot ethically be undertaken on adolescents, and great care is usually taken to not expose children to material they have not yet encountered (e.g., see Livingstone et al., 2011). Two research reports that did describe pornographic material or scenarios to children did not have approval from human ethics review panels (Romito & Beltramini, 2011; Tomson et al., 2014). In some quantitative studies, correlations are often presented as though pornography use is the driving force, or cause, of problematic attitudes and behaviours, especially sexual behaviours such as casual sex. Yet *both* these sexual practices and pornography consumption could relate to individual preferences, such as sexual interest. Correlative studies cannot assign causality, only note concurrent associations, for example engaging in uncommitted sex and using SEIM (see Barker, 2014). This difficulty in doing psychological research on pornographies is summarised by Barker (2014, p. 121):

If higher levels of aggression are found in people who consume more pornography it remains unclear whether the pornography makes people aggressive, whether aggressive people are more drawn to pornography, or whether some other aspect (such as being more conventionally masculine, for example) independently results in higher levels of both aggression and porn[ography] consumption.

Negativity and sexual morality bias

The overwhelming majority of research starts from the position of assuming pornography has negative effects. In contrast, the studies investigating or concluding on positive effects of pornography often overlook the potentially harmful effects of pornography and tend to present positively biased findings (see Corneau & van der Meulen, 2014). In a review of published research concerning the effects of pornography on minors, the authors note that the research is overwhelmingly negative, as well as overwhelmingly heterosexual and assumes heterosexuality (Peter & Valkenburg, 2016). Indeed, same-sex sexual contact is often disregarded from

datasets (e.g., Hennessey et al., 2009). Cultural ideas about what constitutes appropriate *moral* behaviours are often mixed up with negative health outcomes, or overshadow them completely. For example, the notion of “permissive sexual attitudes” is almost always based on the acceptance of “casual sex” and having multiple sexual partners. Research into these practices reveal sexual morality bias; that is, it is taken as self-evident that such attitudes and practices are negative without consideration of the actual health and wellbeing outcomes of these practices. That is, they may be culturally undesirable but they are not inherently riskier than other sexual practices. This issue is discussed in detail below.

Young people’s critical literacy and agency

Research often fails to pay attention to how pornography consumption is *mediated* and instead assumes young people are passive and vulnerable, rather than agentic and critical, in their engagements with SEIM. That is, “children are predominantly assumed to be asexual, or simply ignorant about sexual matters; and the only way in which their encounters with sexual representations can be understood is in terms of harm or corruption” (Chronaki, 2013, p. 62; see also, Bragg & Buckingham, 2009). Qualitative research that has explored how young people understand and engage with this material has often shown them to be astutely aware of the hyper-stereotypical and unrealistic depictions of sex shown in SEIM. This is particularly important when considering potential interventions to mediate the risks of harmful effects.

Understanding harms in context

In order to understand (and thus mitigate) potential negative effects of online pornography exposure or use, we need a sense of the harms associated with SEIM exposure or use (as we will describe below) and *how such harms are produced*. What is harmful, how is it harmful and who is susceptible to such harms?

Effects, and therefore harms, can be understood as individualised (relating to people with particular predispositions, e.g. level of sexual interest), contextualised (relating to particular situations or environments, e.g. presence or absence of parental communication) and activity-related (relating to content and type of interaction, e.g. frequent viewing of violent pornography). Much scholarship criticises the straightforward mapping of negative outcomes onto (i.e., as caused by) pornography use and seeks a more nuanced approach that understands the complexities and competing benefits that may be involved (see Attwood, 2011; McNair, 2014; Peter & Valkenburg, 2016; Ruddock, 2015; Sullivan & McKee, 2015; Weitzer, 2015). These critiques suggest that the “caused by” logic is overly determining and individualistic, and *risks proffering interventions (aimed at individuals) with limited effectiveness*.

There are also important differences and degrees of harmful effects. Death and abuse represent the worst possible effects and such situations could not be said to result directly from pornography (for consumers). Yet it is important to understand how pornography may contribute to *environments* in which these incidents occur, in addition to other kinds of violence, including sexual coercion, harassment and self-harm. Similarly, it is of value to seriously consider those other effects, which may not seem harmful, such as limited sexual scripts or increased sexist attitudes, because these latter “less harmful” effects contribute to environments that make possible those former outcomes. In this vein, taking stock of *how particular situations produce harms* is necessary in order to intervene to both minimise harms and reduce the possibilities of harms occurring.

In a related (and much larger) field similarly concerned with potentially harmful practices of adolescents (drug use), researchers suggest “interventions which target the social conditions producing drug harms may be more effective than interventions targeting specific behaviour changes among drug users” (Rhodes, 2002, p. 199). This is because harmful effects result from a combination of potentially harmful practices in high-risk environments. As Rhodes (2002) argues:

Understanding the risk environment helps us identify the *limits* as well as *opportunities* afforded by proven-to-be-effective ... prevention interventions ... in *different environmental conditions*. It also helps us understand the conditions which make an environment *susceptible* to ... harm as well as *vulnerable* to its effects. A risk environment approach, therefore, not only assists in explaining the conditions giving rise to harm ... but also assists in *predicting*, and thus also, *preventing* them. (Rhodes, 2002, p. 91; original emphasis)

It is necessary to understand pornography consumption as a set of *practices* that take shape in particular environments, and so its effects are produced in and through these practices (rather than being isolatable as anterior to such interactions). This matters, we argue, precisely because these practices that produce particularly harmful effects give us insight into how to mitigate such effects *and*, crucially, how to create and encourage enabling environments of harm reduction and resilience (less harmful situations and effects).

Key themes in the literature

Sexual knowledge and self-development

There is concern that for young people pornography acts as sexual education and may adversely affect their self-development, particularly their expectations of sex. The role and influence of pornography for the purpose of sex education is varied. For example, pornography can teach young people about biological facts, that it is okay to be interested in sex, that sex is pleasurable, and about sexual techniques and positions (Allen, 2006; McKee, 2010); gaining knowledge about sexuality can also increase self-confidence (Sabina, Wolak, & Finkelhor, 2008). One study in the UK found that positive responses to pornography increased with age, and negative responses decreased (Martellozzo et al., 2016). Yet there is concern that young people will replicate pornographic depictions of sex, or have unrealistic expectations about sex as a result of using online pornography. These hypotheses, however, presuppose that young people are passive and vulnerable, rather than agentic and critical, in their engagements with SEIM. Importantly, little research has investigated *who* is susceptible or more susceptible to the messages of pornography (Peter & Valkenburg, 2016), making it difficult to generalise about the influence of SEIM on young people.

There is some suggestion that minority adolescents (whether minority by ethnicity or sexual orientation) are more likely to use pornography as sexual education and more likely to benefit from its positive effects (see Arrington-Sanders et al., 2015; Brown & L'Engle, 2009; Harper et al., 2015; Kubicek et al., 2010; Kvale, Traeen, & Iantaffi, 2016; McCormack & Wignall, 2016; McNair, 2013; Peter & Valkenburg, 2011c; Tomson et al., 2014). This may be due to the under-representation of their minority group in mainstream media. That is, the sexual and relationship scripts represented in mainstream media are overwhelmingly white and heterosexual, leaving those adolescents from different cultural groups and/or queer sexual orientations with less role models, who may therefore have different experiences of engaging with pornographies. Indeed, research shows that same-sex attracted male adolescents find representations of homosexuality in pornography useful in accepting their own sexuality (McCormack & Wignall, 2016; Tomson et al., 2014), as well as educational in regards to sexual roles and positions (see McCormack & Wignall, 2016). One study of young men attracted to other men, describes this effect in the following terms:

Many participants found that pornography was helpful in intellectually processing their sexual desires. When asked about how pornography related to his understanding of his sexual desires, Miguel, mostly gay, responded, "I hope that it did help ... I was looking at the guys in porn to figure out if I liked girls." Similarly, Marcus, bisexual leaning gay, said, "I remember watching straight porn and I think that's when it started being 'I'm jealous of that girl' and progressing into 'I'm attracted to that guy' (McCormack & Wignall, 2016, p. 10).

For other LGBT identifying people, SEIM was experienced as heterosexual and male-oriented and of little relevance to them (Smith, 2013; Tomson et al., 2014). Research with ethnic minorities in the USA, such as African-American and Hispanic youth, found that some showed a preference for pornographic content featuring African American and Hispanic actors respectively, and the authors expressed concern about the hyperbolic racial stereotypes depicted in such material (Rothman et al., 2015).

Much research describes adolescents' use of pornography in order to learn about sexual acts, roles, techniques and bodily functions (Arrington-Sanders et al., 2015; Häggström-Nordin et al., 2006; Hare et al., 2014; Löfgren-Mårtenson & Månsson, 2010; Martellozzo et al., 2016; Romito & Beltramini, 2011; Rothman et al., 2015; Smith, 2013; Tomson et al., 2014). This research suggests pornographies may provide a "sexual script" as a frame of reference for their own sexual encounters (Brown & L'Engle, 2009; Löfgren-Mårtenson & Månsson, 2010; Morgan, 2011; Sun et al., 2016), especially given the often de-sexualised nature of sexuality education (see Allen, 2006; Löfgren-Mårtenson & Månsson, 2010; Smith, 2013). How this sexual script *acts* in adolescents' own (real-world) sexual encounters, however, varies.

Some girls in an Italian study described using pornography to "reduce anxiety related to first-time intercourse" (Scarcelli, 2015, p. 243). Male youth in a Swedish study who used SEIM frequently were more likely to try out sexual activities they had seen in pornography than their peers who used SEIM less often (Mattebo et al., 2014; see also Häggström-Nordin, et al., 2005). Yet in a qualitative study in Sweden, boys described their experience engaging with SEIM as "completely different from sexuality experienced in more conventional situations and relationships" (Löfgren-Mårtenson & Månsson, 2010, p. 572). Both male and female participants in that study perceived SEIM to be "exaggerated, distorted or downright false" (Löfgren-Mårtenson & Månsson, 2010, p. 573). Importantly, the national context of sexual education in Sweden and the Netherlands differs markedly from that in Australia and it may well be responsible for those adolescents' critical literacy of pornography.

In research conducted in the UK, slightly less than half of the adolescents agreed that they used pornographic representations in order to learn what to do in their own sexual encounters (Martellozzo et al., 2016). However, without details of the content of what they were viewing or emulating, it is impossible to know if this “acting out” involved safe, considerate, consensual sex (which 60% of boys said they had learned was important *from* viewing pornography) or problematic sexual behaviours including coercion, aggression or violence (Martellozzo et al., 2016). The concept of “replication” (acting out scenes witnessed in pornography) is problematic in that it occludes many important factors, such as how those sexual encounters come to pass (consensually, coercively and so on); it assumes pornography to be determining, without consideration to *how* adolescents engage with SEIM.

For example, how adolescents *perceive* pornography is an important factor that has seldom been researched. Within two Dutch studies that investigated the association between the “perceived realism” of pornography (i.e., its similarity to “real-world” sex) and its effects, on average, adolescents did *not* think of pornography as realistic depictions of sexual possibilities in their own lives or that it was a useful source for sexual information (Peter & Valkenburg, 2006b, 2010b, 2016). More frequent use, however, increased their belief pornographic depictions were “less unrealistic” (Peter & Valkenburg, 2010b). Yet in an extensive study of UK adolescents (aged 11–16), 53% of boys and 39% of girls agreed that pornography was realistic (Martellozzo et al., 2016, p. 37).² In another study from the UK, 77% of high school students surveyed did not think that pornography was realistic, citing reasons such as “it glamorises sex” and “sex in real life has more feelings” (Baker, 2016, p. 223). These responses indicate adolescents’ potential to read pornographies critically.

Attitudes about sex

Increasing sexual permissiveness

There is consistent evidence that adolescents’ use of pornography is associated with stronger permissive sexual attitudes (Braun-Courville & Rojas, 2009; Häggström-Nordin, et al., 2005; Häggström-Nordin et al., 2006; Peter & Valkenburg, 2006b, 2008b, 2010b, 2016; for boys only, Brown & L’Engle, 2009; Doornwaard, Bickham et al., 2015), including being more accepting of pre-/non-/extra-marital sex. More frequent use also tended to be associated with more permissive attitudes (Braun-Courville & Rojas, 2009; Peter & Valkenburg, 2006b). Yet there is some ambiguity about what “permissive sexual attitudes” means. Generally, this refers to a stronger belief in casual sex (between parties not in a committed relationship) or sex as “instrumental” (for the purpose of satisfying arousal rather than as an expression of affection). Pornography overwhelmingly presents sex in this way; that is, as a “merely physical, self-indulgent activity between casual, uncommitted partners that ignores social and relational aspects of sex” (Peter & Valkenburg, 2006b, p. 640).

It is also important to note that within the aforementioned studies, adolescents, on average, *rejected* permissive sexual attitudes; that is, they did not think of uncommitted sex as okay, generally. Indeed, Peter and Valkenburg (2016) suggested that this effect of using pornography may be more usefully understood as *lessening restrictive sexual attitudes*. Yet Peter and Valkenburg also point out that adolescence is a time associated with sexual experimentation, and adolescents differ on whether they think sexual exploration should take place within a relationship or with casual partners, friends or one-night stands (Peter & Valkenburg, 2008b, p. 582). At least one study found that permissive sexual attitudes related more strongly to whether or not someone thought using pornography was acceptable, rather than whether or not they actually used it (Carroll et al., 2008). These findings question the causal relationship between pornography *use* and permissive sexual attitudes.

Older, male adolescents tend to have more permissive attitudes than females and younger adolescents, and also are more likely to be users of SEIM (Cameron et al., 2005; Peter & Valkenburg, 2006b). This is likely because, as Flood points out, pornography “works in a symbiotic relationship with common constructions of masculine heterosexual sexuality” (Flood, 2007, p. 57). Peter and Valkenburg also found that the relationship between using SEIM and permissive sexual attitudes was not direct but was brought about by how much adolescents perceived the pornographic depictions to be realistic (Peter & Valkenburg, 2006b). The more often, mostly, males used SEIM, the more they perceived pornography to be realistic and the more they held recreational attitudes towards sex (Peter & Valkenburg, 2006b).

Holding permissive sexual attitudes does not inherently predict negative health outcomes. Indeed, this very research reveals sexual morality bias; that is, it is *assumed* that this potential effect is undesirable. When defined more broadly, there are positive benefits to less restrictive sexual attitudes, such as less shame about

² It is unclear whether participants in this study perceived this question to be asking about whether the pornographic sex depicted was real (rather than simulated) or realistic in a sense of how they expected sex to be.

masturbation (Johansson & Hammarén, 2007), feeling more relaxed about sex (McKee, 2010), or thinking of “sex without love” and pornography as okay (Johansson & Hammarén, 2007). The potential problems with permissive sexual attitudes relate to seeing women as sex objects and the possibility of this leading to sexual aggression, coercion or violence, and more sexist attitudes generally. Yet how these sexual attitudes affect *expectations* of young people’s own sexual relationships with peers remains unclear.

Expectations of sex

As we have described, adolescence is a time of sexual development and exploration and, as such, it is worth investigating if or how using pornography may impact adolescents’ expectations of sex. For example, female youth in one qualitative study expressed concern about the expectations of their boyfriends in what they would do together sexually if they watched pornography together (Löfgren-Mårtenson & Månsson, 2010). Girls in other studies described anxiety about what boys expected them to do sexually (Häggström-Nordin et al., 2009; Martellozzo et al., 2016). When Martellozzo and colleagues’ (2016) UK study asked if viewing pornography had led adolescents to believe that men and women “should act in certain ways during sex”, older (aged 15–16) respondents were more willing to disagree than younger (aged 13–14) participants (Martellozzo et al., 2016). Martellozzo and colleagues describe these results as

evidence of some adolescents’ assimilation of ideas about male and female expected behaviours during physical sex. What the data cannot tell us is whether the ideas they are assimilating relate to safe, considerate, mutually enjoyable, sexual activities with a consenting partner, or coercive, abusive, violent, exploitative, degrading and potentially illegal sex. Here too, we cannot know if their ideas would change with experience. (Martellozzo et al., 2016, p. 44)

Those authors did note that the proportion of 13–14 year olds (39%) who reported assimilating ideas from pornography was nearly double that reported by 11–12 year olds (21%). In a study of heterosexual young men in college in the USA, research reported that those who used SEIM more frequently, more commonly integrated pornography into the sex they had with their partner, and that this association was stronger for those who were younger (Sun et al., 2016). In another study of young adults, “more frequent viewing and exposure to multiple types of SEM was associated with holding sexual preferences reminiscent of those frequently presented in SEM” (Morgan, 2011, p. 529). In this way, there are important considerations relating to how pornography use influences young people’s sexual behaviours. However, who is most susceptible to these influences and to what effect in practice remains unclear.

Peter and Valkenburg have proposed that adolescents may experience a disjuncture between what they have been taught (by schools and families) in sexual education and what they see in pornography that can produce “sexual uncertainty” (Peter & Valkenburg, 2008b). They define sexual uncertainty in relation to changing, and being unsure about, sexual values and beliefs (and not in relation to sexual self-esteem or sexual orientation), and found that using SEIM was associated with more positive attitudes towards “uncommitted sexual exploration” and greater sexual uncertainty (Peter & Valkenburg, 2008b).

One study of college students in the USA did suggest that sexual preferences correlated with sexual depictions in pornographies as well as with sexual dissatisfaction,³ suggesting that perhaps youth using SEIM *did* hold unrealistic expectations of their sexual relationships (Morgan, 2011). That is, by comparing their own experiences to that depicted in SEIM (even unintentionally), they may feel increasingly inferior. In a survey of 1,052 Dutch adolescents (aged 13–20), using SEIM consistently reduced sexual satisfaction for both males and females (Peter & Valkenburg, 2009b). The impact was higher for those with little or no sexual experience and those who perceived their friends as sexually inexperienced. Those authors concluded: “When sexually inexperienced adolescents are confronted with the omnipresence of sex in SEIM, they may be more likely to perceive lacking sexual experience as a constraint and thus become dissatisfied with their sexual lives” (Peter & Valkenburg, 2009b, p. 188). In Sun and colleagues (2016) study of males in American colleges, higher consumption of SEIM diminished enjoyment of sexually intimate behaviours with a real-life partner. This suggests there is some evidence that increased use of SEIM decreases sexual satisfaction, and this may be a useful hook for future education on the subject.

³ “Sexual satisfaction” refers to the extent of contentment, regardless of experience.

Attitudes about gender

There is concern that using pornography affects young people's attitudes towards gender and, particularly, may produce an increased belief in gender stereotypes, especially sexual roles and ideas about women as sex objects, sexual double standards and rape myths.

Gender stereotypical beliefs

“Gender stereotypes” refer to traditional understandings of the appropriate roles of men and women and their relations; principally, that women are subordinate and men dominant. The majority of heterosexual pornography depicts men and women in this way, with women willing participants desperate to serve men's desires (see Gorman, et al., 2010). As Flood describes, “in most mass-marketed heterosexual pornography, sex is divorced from intimacy, loving affection and human connection; all women are constantly available for sex and have insatiable sexual appetites; and all women are sexually satisfied by whatever men in the film do” (Flood, 2007, p. 56). There is evidence that adolescents' pornography use is associated with stronger beliefs in gender stereotypes, especially about sex, for both boys and girls (Brown & L'Engle, 2009; Häggström-Nordin et al, 2006; Peter & Valkenburg, 2009a), though the relation is stronger for male adolescents (ter Bogt et al., 2010; Peter & Valkenburg, 2016). While these stereotypical beliefs often relate to sexual roles, they also have wider implications. Adolescents in one Swedish study described how SEIM:

presented an unattainable body ideal through porn star stereotypes, where the body was the main issue: the woman, symbolised as “Barbie” and the man, symbolised as “Hercules”. The man was the leader, strong and well built. The woman was represented as a thin body with large breasts and subordinate to the man. (Mattebo et al., 2012, p. 42)

These messages, that men are (and must be) tough and women are (and must be) sexual objects, permeate media and society and are exemplified in these types of heterosexual pornographies. In longitudinal research with adolescents that ascertained their ideas about gender stereotypes at baseline and then at follow-up, frequent use of SEIM was correlated with increased acceptance of gender stereotypes (Brown & L'Engle, 2009). Importantly, these studies found that generally adolescents did *not* hold gender stereotypical beliefs but that increased use of SEIM could increase beliefs in gender stereotypes as accurate and desirable. In a quantitative study across five European countries, boys (aged 14-17) were significantly more likely to hold sexist gender attitudes if they used pornography regularly (Stanley et al., 2016). Those authors commented that: “It was particularly notable that boys who watched pornography regularly were very much more likely than those who did not do so to agree with the attitudes statement on sexual violence which was worded: ‘Women lead men on sexually and then complain about the attention they get’” (Stanley et al., 2016, p. 18). As this study makes clear, an increased belief in gender stereotypes increases the possibility of perpetrating sexual aggression or violence (when combined with other factors, such as hostility towards women and acceptance of relationship violence, see Clarke & Stermac, 2011; Murnen, Wright, & Kaluzny, 2002). In one quantitative and qualitative study from high schools in London, the highest concern girls felt about pornography was that “it might encourage sexist behaviours or beliefs” (Baker, 2016, p. 221).

Relatedly, a few studies did reveal how both male and female adolescents have critical views of the depictions of the gender relations (men as dominant, women as submissive) in pornography (in Sweden, Löfgren-Mårtenson & Månsson, 2010; Mattebo et al., 2012; in the USA, Smith, 2013). Again, this helps to emphasise that the ways young people engage with pornography are primarily *not* as passive absorbers of media messages. Youth in one Swedish study “argued that the majority managed to avoid becoming psychologically harmed”; that is, “they navigated [the pornographic landscape] successfully and the older they became, the easier this was to do” (Löfgren-Mårtenson & Månsson, 2010, p. 575). In another focus-group study from Scotland, adolescents critical of pornography insightfully noted that “the harms associated with pornography and sexualised media were rarely identified as one of exposure to sex or bodies in themselves but were rather about a particular version of these that presents women and men in narrow, unrealistic and heteronormative ways” (Tomson et al., 2014, p. 28). Over one third of high school boys in another Swedish survey found pornography to be degrading in some respects (Johansson & Hammarén, 2007).

Ideas about sexual roles and women as sex objects

Relatedly, more frequent use of pornography was found to increase the likelihood of perceiving women (and girls) as sex objects; that is, that their primary purpose is to serve men sexually (ter Bogt et al., 2010; Peter & Valkenburg, 2007). More specifically, the objectification of women “refers to the reduction of women to their sexual appeal in terms of their outer appearance and a focus on their body parts, most notably the genitals.

It also entails that women are depicted as sexual playthings waiting to satisfy male sexual desires” (Peter & Valkenburg, 2010a, p. 359). The almost ubiquitous climax of the pornographic narrative—“the cumshot”, in which a man ejaculates onto the body, or face, of a woman—is the literalising of this relationship: she is a means to his end. Such uneven sexual dynamics are in direct conflict with contemporary sexual education that emphasises mutual respect and reciprocity (Peter & Valkenburg, 2010a, p. 359).

In a follow-up study, Peter and Valkenburg specified that “adolescents’ exposure to SEIM was both a cause and a consequence of their beliefs that women are sex objects” (Peter & Valkenburg, 2009a), meaning that those more inclined towards believing women are sex objects are more likely to find pornography (in which women are primarily depicted in this way) appealing. In another study that investigated multiple media platforms, boys’ use of SEIM was the strongest correlate to the notion of women as sex objects (ter Bogt et al., 2010). This concern was shared by a high school girl in one qualitative study, who commented:

I think sexually explicit media has a particularly large part to play in the way boys of my age treat girls. And furthermore, the way in which girls of my age react to seek attention or approval from their peers or often don’t react when they receive unwanted attention. (Baker, 2016, p. 221)

Sexual double standards

These pornographic representations of sexual gender relations also reinforce double standards between men and women, where men are desiring subjects and women are objects of gratification for men (Häggström-Nordin et al., 2006; Tomson et al., 2014). In addition to the sexual roles of men and women depicted in pornography, adolescents also expressed concern about how males interested or experienced with sex gain status as “studs”, while females are denigrated as sluts (Mattebo et al., 2012; Tomson et al., 2014). These cultural double standards also relate to the *consumption* of pornography, whereby using pornography is considered normative, or status-enhancing for boys, but abnormal and corrupting of one’s reputation for girls (Löfgren-Mårtenson & Månsson, 2010; Mattebo et al., 2014; Scarcelli, 2015; Tomson et al., 2014). While these double standards are explicit in pornography, they are perpetuated and reinforced across a wide range of media.

Relatedly, some boys in one qualitative study expressed concern that they were not interested in or aroused by SEIM, yet felt they were supposed to be (that it was expected of them as men) (Löfgren-Mårtenson & Månsson, 2010). This characterisation was shared by boys in a Scottish study, as one described [to the prospect of viewing pornography with other boys], “They would enjoy it and have a laugh. I would pretend to but would be perturbed at the content” (Tomson et al., 2014, p. 18). This pressure to use and enjoy SEIM (or appear to do so) for boys was described as important to show they were “men” and ensure that they did not appear to be gay (Tomson et al., 2014). The authors of that report concluded, “While it was considered normal for young women to show little interest in pornography, there was a suggestion that young men who showed no interest would face ridicule” (Tomson et al., 2014, p. 18). The social pressure for boys to use and enjoy SEIM is useful for formulating education strategies around these issues.

Mental wellbeing

Distress

Those children at an age or developmental level that are unaware of and uninterested in sexual activities may be more likely to find unwanted exposure to pornography upsetting. For example, in a survey of 10–17 year olds in the USA, 10% described the experience as very or extremely upsetting (Mitchell, et al. 2007). In a European survey of children’s (aged 9–16) concerns about risks on the Internet, pornography was mentioned by 22% (Livingstone et al., 2014). In that survey, younger children (aged 9–12) were more likely to be very upset by it and the duration of feeling upset was longer. In the same survey conducted in Australia, the figure was 27% (Green et al., 2013, p. 5). It may also be the case that much younger children may *not* be distressed by SEIM if they do not recognise what they are seeing; instead, the experience might be understood as “meaningless or funny” (McKee, 2010, p. 28) or silly (Martellozzo et al., 2016). Livingstone and colleagues concluded, “Sexual risks—seeing sexual or pornographic content and receiving sexual messages—are more commonly encountered but experienced as much less harmful by children, with little or no harm reported in the majority of cases” (Livingstone et al., 2011, p. 135). These authors suggest children are actually far abler to cope with SEIM than “popularly feared” (Livingstone et al., 2011, p. 135).

In addition to age, gender is another factor in children’s experiences of online pornography: girls are more likely to find such imagery distressing, embarrassing, demeaning or disgusting, while boys are more likely to be sexually aroused by pornographic images (Cameron et al., 2005; Chronaki, 2013; Johansson & Hammarén,

2007; Livingstone et al., 2011; Löfgren-Mårtenson & Månsson, 2010; Martellozzo et al., 2016; Romito & Beltramini, 2011; Sabina, et al., 2008). The content of SEIM also affects children's responses to it, with the subordinate representations of women more likely to offend girls. Sexual practices depicted in SEIM that may be outside of cultural norms may be more shocking and upsetting to minors.

Importantly, exposure to online pornography may be experienced as both arousing and distressing. As one study summarised, "Adolescent online pornography viewers may be trying to cope with a degree of dissonance in their responses to pornography. They realise it is not realistic and that it can be very negative, but they are also sexually aroused by it and may find the transgressive aspects exciting" (Martellozzo et al., 2016, p. 35).

Self-esteem and body image

The vast majority of pornography features very particular kinds of bodies (overwhelmingly white, thin women and muscular men) and sexual behaviours (overwhelmingly instrumental and often violent or "rough"). One study found that increased self-objectification and body surveillance was related to male adolescents' use of pornography (Vandenbosch & Eggermont, 2013a), while other studies described this effect on female youth (Häggström-Nordin et al., 2006; Martellozzo et al., 2016; Tomson et al., 2014). In a qualitative study with Swedish high school students, boys described insecurities about their ability to perform sexually, especially in regards to duration (Löfgren-Mårtenson & Månsson, 2010). Girls in the same study reported concerns about their own sexual performance, as well as the ideal female body type depicted in SEIM. Both girls and boys (aged 14–20) in that study described growing tired of the stereotypical representations of bodies in pornography (Löfgren-Mårtenson & Månsson, 2010). Young people in other studies, however, reported engaging with what they described as "realistic" depictions of sex in the genre of amateur pornography, in which they found "a more diverse range of people in terms of ethnicity, appearance and sexuality" that helped them to build self-confidence (Smith, 2013, pp. 70–71).

Anxiety and depression

Clinical symptoms of depression have been associated with minors consuming SEIM (Peter & Valkenburg, 2006a; Ybarra & Mitchell, 2005), as well as with those who have experienced unwanted exposure (Wolak, Mitchell & Finkelhor, 2007). In a Swedish study investigating how effects varied based on the frequency of SEIM use, no associations were found between depressive symptoms and frequency of SEIM use, though frequent users experienced more problems in relationships with peers and used more alcohol (Mattebo et al., 2013). In a Dutch study on compulsive SEIM use, those adolescent boys with higher levels of depressive symptoms and lower self-esteem, that is, lower psychological wellbeing, were more likely to develop symptoms of compulsive SEIM use (Doornwaard et al., 2016). Other research shows similar associations, with adolescents who are less satisfied with their lives (Peter & Valkenburg, 2006a) or who show depressive symptoms (Wolak, et al., 2007) being more likely to use SEIM.

Addiction and preoccupation

"Addiction" can be defined as compulsive engagement in rewarding stimuli, despite adverse consequences. Addiction is considered "a primary, chronic disease of brain reward, motivation, memory and related circuitry" (American Society of Addiction Medicine [ASAM], 2011). Using pornography is a behaviour that can be categorised as a "process addiction", rather than a substance addiction (e.g., like dependency on heroin or nicotine). Process addictions consist of a "series of actions that expose one to 'mood-altering events' on which one achieves pleasure and becomes dependent (e.g., gambling)" (Sussman, 2007, p. 257). Whether one can become "dependent" on pornography remains contentious (Wery & Billieux, 2017), so problematic pornography use is best understood through a lens focused on compulsivity and preoccupation. "Preoccupation" can be defined as a strong cognitive engagement with ideas about sex, sometimes to the exclusion of other thoughts. More frequent pornography use by adolescents has been associated with preoccupation (Mattebo, Tydén et al., 2013; Peter & Valkenburg, 2008a). Other literature suggests that sexual arousal is associated with the gratification of short-term needs, rather than long-term goals such as studying (Beyens, Vandenbosch, & Eggermont, 2015; Owens et al., 2012).

Youth in a UK study expressed concern about peers "watching too much" and becoming socially isolated (Martellozzo et al., 2016, p. 37). It should be noted that the majority of youth users of SEIM "do not develop compulsive tendencies", yet for those who do, their "patterns of use may have significant and enduring consequences in many areas of their lives" (Doornwaard et al., 2016, p. 74; see also Sussman, 2007). One Dutch study that explored psychosocial factors in boys' development of problematic SEIM use found that those at risk were adolescents who used "sexually explicit Internet material as a potential coping mechanism; as a temporary escape, distraction or way of relieving stress or negative affective states" (Doornwaard et al., 2016, p. 74; see also Wery & Billieux, 2015). In this way, the *purpose* of using SEIM becomes important in understanding potentially

negative effects. Importantly, those authors note that for adolescents, “sexual ‘compulsiveness’ may be of a qualitatively different phenomenon” than for adults (Doornwaard et al., 2016, p. 75; see also Sussman, 2007). This study defined problematically compulsive use through the following: “lack of control over one’s use (item 1); preoccupation with use (items 2 and 4); adverse consequences as a result of one’s use (item 3); experience of unpleasant emotions when use is impossible (item 5); and use to cope with or escape from negative feelings (item 6)” (Doornwaard et al., 2016, p. 75).

Cognition and social functioning

One review of research regarding the effects of pornography on adolescents noted, “A constellation of significant changes occurs during adolescence [...] Developmentally, risk-taking and reward-seeking decision-making behaviours promote growth and learning for the majority of adolescents” (Owens et al., 2012, p. 113). Accordingly, adolescents are more vulnerable to excessive higher risk activities than adults or younger children, and reward-seeking behaviours may have a higher impact. That is, adolescents may be more likely to develop problematic or compulsive SEIM use. It is important to note that “most adolescents are capable of reasoning and understand the risks associated with their behaviours” (Owens et al., 2012, p. 113). Although, in regard to the consumption of SEIM, it is possible adolescents are not aware of the potentially harmful effects, unlike, for example, drinking alcohol or other drug use for which there are significant and common educational campaigns in a variety of sources intended to communicate the possible risks.

Pornography use has also been associated with decreased academic performance. In a Belgian study of adolescent boys (aged 12–15), the more they used SEIM, the poorer their school grades were six months later (Beyens, et al., 2015). Relatedly, in a study of Greek high school students, both infrequent and frequent SEIM use was significantly associated with “conduct issues”, with infrequent users twice as likely to have such problems, and frequent users significantly more likely (Tsitsika et al., 2009). Behavioural problems have also been associated specifically with *Internet pornography* consumption (Ybarra & Mitchell, 2005). In studies of youth with histories of sexual offending, early exposure to pornography was associated with antisocial behaviour (Hunter, Figured, & Malamuth, 2010), and those who were consumers of pornography were more likely to exhibit aggressive behaviours (Alexy, Burgess, & Prentky, 2009).

Sexual self-confidence and resilience

Adolescents in one Swedish study described how they decreased use of SEIM as their self-confidence and self-esteem increased (with age), and that they had a better ability to “handle” the depictions in SEIM if they had positive relationships with friends and family they could talk with (Löfgren-Mårtenson & Månsson, 2010). With growing self-esteem, asserting sexual preferences and desires becomes easier (Löfgren-Mårtenson & Månsson, 2010). In another qualitative study, young women expressed how the diverse range of people in terms of ethnicity, appearance and sexuality in “amateur” SEIM had helped them to develop their own sexual self-confidence (Smith, 2013). One participant in that study, Sophie, described:

Amateur porn[ography] does a surprisingly good job of varying everything and so I never felt intimidated or bad about myself while watching it. I found that, in some ways looking at *Seventeen* magazine and stuff like that hurt me more because it was showing me the same girls over and over again. It was showing me the same way to look ... And all that was more: you are supposed to look this way and this is how, these are the only ways that men are going to desire you. (Smith, 2013, p. 70)

In this way, the *genre* or types of SEIM adolescents are viewing may have different and potentially positive effects.

Sexual behaviours

Age of sexual debut

There is some evidence that earlier exposure to SEIM increases the likelihood of earlier sexual experience; for example, studies have found that those adolescents who used SEIM more frequently had their first sexual experience earlier (Häggström-Nordin et al., 2005; Morgan, 2011). Another study found those minors with Internet access reported significantly younger ages of sexual debut than those without (Kraus & Russell, 2008).

In a longitudinal study with younger teenagers in the USA, researchers found that those using SEIM in the first wave of data collection (aged 12–14) who had not engaged in sexual activities at that point, were more likely to have engaged in oral sex or sexual intercourse at follow up (aged 14–16; Brown & L’Engle, 2009). In that study, male adolescents who had used pornographic magazines, videos and Internet content at age 12–14 were almost three times more likely to report oral sex and sexual intercourse at age 14–16 than males who had used no

sexually explicit media (Brown & L'Engle, 2009). Female adolescents using pornographies were also more likely to have had oral sex or sexual intercourse at follow up but the correlation was weaker (twice as likely for oral sex, one and a half times more likely for sexual intercourse). A Swiss study, however, did not find a correlation between pornography use and earlier sexual debut (Luder et al., 2011).

In a two-wave survey study of 12–16 year old adolescents in Belgium, the researchers investigated pubertal development stage in relation to sexual debut and consumption of pornographies (Vandenbosch & Eggermont, 2013b). The authors hypothesised that an *earlier* pubertal stage may be associated with increased susceptibility to the messages of SEIM due to early adolescents experiencing sexual feelings in a new way. That study found that adolescents at an earlier pubertal stage who viewed pornography frequently were more likely to initiate sex (Vandenbosch & Eggermont, 2013b). Yet the study also found that adolescents at a more advanced pubertal stage who used SEIM frequently were *less likely* to initiate sex (Vandenbosch & Eggermont, 2013b).

It should be noted that the majority of adolescents featuring in research reported that they had *not* had sexual intercourse. Furthermore, other studies have found that exposure to non-explicit sexual content in mainstream media (e.g., music, television, magazines) predicted earlier sexual activities, including intercourse (see ter Bogt et al., 2010; Brown & L'Engle, 2009). Other research also suggests that “sexually oriented” television, in particular, is associated with expectations about sex, perceptions of peer sexual behaviour and sexually permissive attitudes as well (see Hennessy et al., 2009).

The concerns regarding the age of sexual debut reflect sexual morality bias and also tend to be arbitrary. For example, one study defined “early sexual debut” as having had intercourse before the age of 15 (Luder et al., 2011), while other studies defined early sexual initiation as sex before the age of 18 (see Heywood, Patrick, Smith, & Pitts, 2015). While some scholars argue that early sexual initiation presents a risk factor for “high-risk sexual activities, such as having multiple sex partners or having sex while being intoxicated” (Vandenbosch & Eggermont, 2013b, p. 622), as well as sexually transmitted diseases, teenage pregnancy and lower relationship satisfaction, it is important to note that these studies *produce* these associations.

In sum, conclusions are mixed as to whether exposure or use of online pornographies influences sexual debut, and whether the age of sexual debut constitutes problematic sexual behaviour in terms of negative health outcomes. It seems those at the beginning of puberty may be more susceptible and thus more influenced by the content of SEIM, suggesting that interventions, also, might be most influential to this age group.

Riskier sexual practices

It has been argued that the varied activities depicted in pornographies “may incite, eroticise and give legitimacy” to them (Flood, 2009, p. 390), increasing the likelihood of adolescents engaging in *riskier* sexual activities. Yet there are some important clarifications required in order to report on what *constitutes* sexually risky behaviours and how these have been studied. For our purposes here, sexual riskiness refers to *negative or unhealthy outcomes*, that is, activities that lead to unwanted pregnancy or sexually transmitted infections (STIs including HIV). Victimisation or perpetration of sexual aggression is discussed below and sexual dis/satisfaction has been discussed above. We therefore define riskier sexual practices as: no condom use, swallowing ejaculate and being intoxicated (as substance use may increase the likelihood of engaging in the former two practices, e.g. see Chaney, Vail-Smith, Martin, & Cremeens-Matthews, 2016).⁴ It should be noted that this definition is substantially narrower than that generally reported in the literature. This is because much research defines risky or problematic sexual behaviours in ways that reveal sexual morality bias. For example, many studies assess risky sexual practices through casual sex or multiple partners (Braun-Courville & Rojas, 2009; Carroll et al., 2008; Morgan, 2011). These sexual behaviours may be considered *culturally* undesirable but they are not inherently associated with negative *health* outcomes. Relatedly, some studies have shown no association (Luder et al., 2011) or no significance (Kraus & Russell, 2008) relating to pornography use and the number of sexual partners. Rather, the use or non-use of barriers (condoms) is *the* important factor in regards to physical sexual health, which we discuss here. Consent is *the* important factor in regards to emotional sexual health.

Research into associations between use or non-use of condoms and consumption of pornography among adolescents varies. Some studies found that the use of pornography was associated with non-condom use for both gay (Arrington-Sanders et al., 2015) and heterosexual (Braun-Courville & Rojas, 2009; Luder et al., 2011) male adolescents, yet was not the case for female adolescents (Luder et al., 2011). One study from the Netherlands, which asked adolescents about their sexual practices and pornography use repeatedly over time, did not find an association between pornography use and condomless sex (Peter & Valkenburg, 2011c). These

⁴ Sexual activities involving blood are the riskiest in terms of blood borne virus transmission (Hepatitis C and HIV), though these activities have not been considered in the literature on pornography and adolescent sexual behaviours.

associations may differ depending on the *content* of pornographies they consume, particularly between gay and heterosexual male adolescents, as gay pornography has a much higher rate of condom use (condomless sex represents a substantial minority of gay pornographies) than heterosexual pornography (condomless sex is the overwhelming majority of content). In addition, the relative cultural context of sexuality education and condom use is also important here (i.e., in the Netherlands sexuality education is more comprehensive and attentive to issues of gender and consent in general than in Australia, see Bell, 2009).

Only one study appears to have investigated the practice of swallowing ejaculate, which was research with male same-sex attracted African American youth in the USA (Arrington-Sanders et al., 2015). The authors found that pornography use was associated with an increase in this sexual behaviour. However, as this was within a very small sample, the association remains contentious and in need of further research.

Anal sex in particular presents complexities in regard to whether it constitutes a risky or problematic sexual behaviour. This is because heterosexual anal intercourse tends to be viewed by adults doing research as a “marginal” sexual activity (McBride & Fortenberry, 2010), which may not be the case for younger people. Anal intercourse, and particularly its association with male homosexuality, is often viewed as inherently degrading, and this bias appears in male–female anal sex research.⁵ For example, one study concluded, “It seems obvious that most women do not appreciate being anally penetrated, contrary to the idea that is spread in pornographic films” (Häggström-Nordin, et al., 2005, p. 106). This example represents an acute form of moralising in pornography research, though this sentiment is common within the literature.

In qualitative research in Sweden, male youth “fervently denied” that they wanted to imitate pornographic practices in their own sexual relationships (Löfgren-Mårtenson & Månsson, 2010, p. 575). Female youth in the same study, however, felt that their boyfriends *did* want to do activities that they had seen in pornography, and they cited anal sex as an example (Löfgren-Mårtenson & Månsson, 2010). A similar response occurred in an American study of African-American and Hispanic youth, where female participants attributed male interest in anal sex to pornography (Rothman et al., 2015). Sexual behaviours in which one participant is pressured or coerced constitutes sexual aggression, which is discussed below.

There is evidence that using pornography increases the likelihood that adolescents will accept and engage in sexually permissive practices (Braun-Courville & Rojas, 2009; Brown & L’Engle, 2009; Morgan, 2011; Peter & Valkenburg, 2006a, 2007, 2008b), though the *effects* of this in terms of sexual and psychological health remain under-researched. There is some suggestion that the use of pornography is associated with “more diverse sexual practices”, although more varied practices need to be assessed regarding health risks, rather than being judged as an indicator of a more generic sexual risk. For example, studies of youth in Sweden found that girls who have seen pornography are more likely to have had anal sex, and boys who use pornography regularly are more likely to have had anal sex with a girl, as well as have tried to perform other acts they have seen in pornography (Häggström-Nordin, et al., 2005; Johansson & Hammarén, 2007). Frequent use of SEIM was associated with having sex with a friend, group sex, oral sex and anal sex in a study of Swedish high school students (Häggström-Nordin, et al., 2005). Using SEIM was associated with a higher likelihood of engaging in group sex for adolescent females in one study (Rothman et al., 2012). Other studies, however, did *not* find consistent evidence that pornography was related to more varied sexual practices (Doornwaard, et al., 2015; Mattebo et al., 2014).

To summarise, considering that use, especially frequent use, of SEIM is associated with more permissive sexual attitudes, it seems to follow that such use may also result in more permissive sexual practices. More permissive sexual practices may involve a variety of activities and is defined in different ways across the literature, often revealing sexual morality bias in the research. However, associations between not using a condom and the consumption of pornography suggest that pornographic representations may influence young people’s practices, acceptance and negotiations around safer sex; that is, they may become more accepting of unprotected sex. Yet it is important to note that not using a condom has a wide range of reasons associated with it.

Sexual aggression

We define sexual aggression to encompass sexual harassment and coercion, as well as sexual assault and abuse. Sexually aggressive behaviours tend to differ between age groups, where younger boys may be more likely to engage in behaviours adults would define as sexual harassment “such as touching, grabbing or pinching in a sexual way; pulling clothing off or down; forcing a kiss; or other unwelcome sexual behaviour” (Brown & L’Engle, 2009, p. 134). There is evidence of an association between using pornography and perpetrating sexual

⁵ There is no research investigating female–male anal intercourse in relation to pornography use by adolescents, and the research into anal sex does not distinguish between males who are active or receptive, rather it *assumes* males are active and females receptive without actually exploring this issue.

harassment for boys (Bonino et al., 2006; Brown & L'Engle, 2009) and sexual coercion in college men (Simons et al., 2012). In Brown and L'Engle's (2009) research, adolescent boys who had used SEIM in their early teen years (aged 12–14) were more likely to have engaged in sexually aggressive behaviours two years later at follow up. Relatedly, frequent use of pornography has been linked to victimisation for females (for girls, Bonino et al., 2006; for college women, Simons et al., 2012). In a longitudinal study of 10–15 year olds in the USA conducted over three years, adolescents consuming violent pornographies were six times more likely to be sexually aggressive than both those who viewed nonviolent pornographies and those who did not use pornography (Ybarra et al., 2011), suggesting that the *content* of SEIM is important in understanding sexually aggressive behaviours. That study controlled for factors such as anger and other aggressive behaviours. One retrospective study of men convicted of sex crimes found that pornography in adolescence significantly increased victim harm and humiliation (Mancini, Reckdenwald, & Beauregard, 2012). In a study of adolescent sexual offenders (sexually reactive children), the researchers found that those who used SEIM were more likely to perpetrate sexual coercion or force sexual acts (Alexy, Burgess, & Prentky, 2009). In a school based survey study in Sweden, researchers found that pro-rape attitudes and sexual preoccupation were strongly associated with sexually aggressive behaviours (Kellerman et al., 2010). In that study, those boys who had perpetrated sexual aggression, as well as those who had non-sexual conduct problems, were both more likely to use pornography frequently and to have ever watched violent pornography (Kjellgren et al., 2010). In a school-based survey in Italy, girls who had experienced family psychological violence or sexual violence were more likely to watch pornography, especially violent pornographies and pornographies in which women seemed to enjoy violent acts (Romito & Beltrami, 2011). No such associations were found for boys.

Importantly, it has been argued that for the majority of males, frequent consumption of pornography *cannot* be linked to increased sexual aggression (Ybarra & Mitchell, 2005). Rather, there are other risk factors that make some males more predisposed to sexually aggressive behaviours, such as hostility towards women, lower intelligence, antisocial tendencies and a higher interest in impersonal sex and domination (Malamuth & Huppin, 2005; Ybarra & Mitchell, 2005). This can be summarised as “the extent to which a person possesses certain combinations of risk factors determines how likely he is to be sexually aggressive following pornography exposure” (Malamuth & Huppin, 2005, p. 316). Adolescents with these risk factors in turn are more likely to use pornography, more likely to use violent pornography, and more likely to be affected by the gender and sexual messages of the pornographies they consume (Malamuth & Huppin, 2005; Ybarra & Mitchell, 2005). The potential problems of high-frequency pornography consumption relate to pre-existing character traits. That is, as Kingston and colleagues articulate:

When examined in the context of multiple, interacting factors, the findings are highly consistent across experimental and nonexperimental studies and across differing populations in showing that pornography use can be a risk factor for sexually aggressive outcomes, principally for men who are high on other risk factors and who use pornography frequently. (Kingston et al., 2009, p. 216)

The use of pornography can be understood to increase the likelihood of perpetrating sexually aggressive acts for *some* boys and to increase the likelihood of being victim to sexually aggressive behaviour for *some* girls.

Describing some of their own experimental studies with young men in college, Malamuth and Huppin convey how exposing young men to sexually violent imagery increased their acceptance of cultural stereotypes that “women deserve or secretly desire rape” (rape myths) (Malamuth & Huppin, 2005). When sexually violent depictions included a woman represented as aroused by the conditions of sexual violence, research participants reported believing that a higher percentage of women derived pleasure from sexual violence. This effect was particularly evident in men who had shown a predisposition towards sexual aggression, and *not* evident in men who had not shown such a predisposition. This, the authors concluded, evidences how violent pornography acts in the attitudes of men with sexually aggressive tendencies, which is to reinforce that sexual violence is acceptable and desirable, but does *not* have such an effect on all men (Malamuth & Huppin, 2005, p. 321; Vega & Malamuth, 2007). Importantly, pro-rape mythology has been found to be perpetuated in mainstream men's magazines (Horvath et al., 2012).

However, in other qualitative research, the situation of watching pornography could lead directly to sexual harassment and abuse, for example one 17-year-old female described the following experience in school:

Some guys just open up the porn [site], and then they just start watchin' it. And then like the boys start like slapping girls' butts, grabbing their boobs and stuff. And actually one time this dude—this one time in tenth grade, this dude, he kept going like that to me, he kept reachin' for my boob, and then, um, I smacked him. Like really hard. And then he hit me back, and I started punchin' him, and then I got expelled. (Rothman et al., 2015, p. 740)

Some female youth reported being pressured into sexual activities their boyfriends had seen in pornography (Rothman et al., 2015). Sexual aggression may also take the form of non-consensual filming of sex acts and/or sharing the images or videos with friends (see Rothman et al., 2015). This act constitutes producing pornography and may be illegal, both for those adolescents under 18 years of age or concerned adults attempting to intervene in these practices. In a study across five European countries, young people (aged 13–19) identified similarities between the sending/receiving/sharing of sexual images (known as “sexting” to adults but rarely do adolescents use this term) and pornography, such as control and humiliation (Stanley et al., 2016). That research found that perpetrating sexual coercion was associated with both regularly using pornography and sending or receiving sexual images or messages (Stanley et al., 2016). Boys with more sexist gender attitudes were also more likely to have perpetrated sexual coercion (Stanley et al., 2016).

Complex interacting factors

Adolescence is a time of “critical and significant changes across a multitude of domains: physical, emotional, cognitive, social, spiritual and sexual. Consequently, adolescents are considered one of the most susceptible audiences to sexually explicit content” (Owens et al., 2012, p. 101). Younger adolescents in particular are beginning to form their own ideas around sex and relationships (Brown & L’Engle, 2009; Malamuth & Huppin, 2005). Yet “there is no universal use of sexually explicit online material, nor is there a universal or direct effect of the exposure to [meaning, use of] such material” (Peter & Valkenburg, 2006b, p. 655).

Use or consumption of pornography involves a variety of ways of engaging with material, a diversity of content, as well as many different *perspectives* and *experiences* that affect how minors understand SEIM and what kinds of impacts they may therefore be vulnerable to. For example, using violent pornography has been linked to actual aggressive behaviours, including sexual assault. This shows how the *content* (what types) of pornographies being accessed matters. There is also evidence that one’s pre-existing understanding of sexual norms (what kinds of sexual activities are appropriate) affects how distressing exposure to pornographic material depicting other kinds of activities is for younger children. This shows how both *age* and *cultural context* make a difference in the effects of SEIM. How minors *read* pornographies also produces different effects, for example, if they think that pornographic representations depict realistic or unrealistic sexual behaviour. All of these factors interact with each other differently, and, in particular, tend to have different effects for boys and girls of different age groups, making gender and age important factors to take into account. The following table illustrates some of the important factors that affect the reception, engagement and potential effects of pornography:

Table 10: Factors in reception, engagement and potential effects of online pornography.

Character	Context	Content
Personal characteristics that impact the reception, engagement and effects of pornography	Situations in which pornography is viewed that make a difference to how it is understood	The content of pornography varies, some factors important in its reception
Gender	Accidental	Condom use/nonuse
Age	Intentional	Women as sex objects
Pubertal development	First exposure	Depictions of violence
Cultural background	Frequency of use	Women as aroused by violence
Religiosity	Duration of viewing	Racist stereotypes
Socio-economic status (SES)	Purpose	Point of view (POV)
Sexual orientation	Experiential state (e.g., arousal)	Power relations
Sexual interest	With sexual partner/peers/alone	Affection
Sexual experience	Perceived realism	
Sexual/abuse history	Sexual education	
Relationship status	Critical literacy	
Sensation seeking	Familial situation	
Aggression	Parental communication	
Attitude towards violence against women	Communication with friends	
Attitude towards pornography	Age of friends	
	Perceived peer norms	

Gaps in the literature and future research

Other factors

Research is often organised around hypotheses and results without attention to the social contexts and a range of other factors. There is also a lack of attention to mediating factors and transactional relations; that is, how other variables may affect pornography use. Research that includes transactional relations “describe[s] the implications of media use more realistically and validly” than that which assumes a linear notion of media effects (Peter & Valkenburg, 2016, p. 512). For example, much research is preoccupied with causal claims about pornography use (i.e., that using pornography causes harm), yet fails to explore how the harms may be related in other ways (i.e., that there may be an underlying cause of *both* pornography use and, for example, sexually aggressive behaviour, rather than mapping straightforwardly sexually aggressive behaviour as an *effect* of pornography use). “It is necessary to understand that exposure to SEM [sexually explicit media] may shape sexual preferences and that young adults often selectively seek sexual media whose messages correspond with pre-existing preferences” (Morgan, 2011, p. 528).

Constructions of masculinity

“Historically, consuming pornography is a male act and seldom done by women [...] Heterosexual masculinity is then a central part of the ethnography of pornography and also illustrates the connection to the social world of roles, values and social structure of society” (Löfgren-Mårtenson & Månsson, 2010, p. 576). Adolescent male sexual violence is entangled with social pressure to prove their masculinity (see Messerschmidt, 2000). More research is needed on how pornography acts in the construction of masculinity, heterosexual masculinity in particular, and adolescents’ *developing* concepts of what it means to “be a man”. This point was echoed in one qualitative study, “If sexual education programs are to address online SEM, then it will be important to consider adolescent understanding of gender roles in sexual interactions, and especially masculinity norms, when providing adolescent boys with resources for critically viewing SEM” (Smith, 2013, pp. 72-73).

Relationships within families

Surprisingly little research has addressed intra-familial relationships in regard to pornography use, for example the relationships between fathers and sons, siblings (especially older brothers), mothers and children and other relationships within families. Research suggests that the context within which SEM is used affects how children and young people respond to the material, and that positive communication with parents or other adults may mitigate harmful effects by increasing self-confidence and self-esteem (Löfgren-Mårtenson & Månsson, 2010). One study into college men’s first encounter with sexually explicit imagery (not necessarily pornography) found that most often this took place in the home before the age of 10 (Allen & Lavender-Stott, 2015). The researchers contrast this “widespread availability” of sexual imagery with the “lack of explicit instruction and explanation” from parents or other adults (Allen & Lavender-Stott, 2015, p. 401). They also note that “sexual socialisation is a gradual developmental process that occurs throughout life, a notion that is contrary to the idea that parents provide their children with the one-time, verbal ‘sex talk’” (Allen & Lavender-Stott, 2015, p. 393). There is need for more research in this area, and especially in regards to co-viewing practices, as well as restrictive (rule setting and time limits) and active (giving instruction, guidance) mediation within families.

One Dutch, two-wave study of adolescents (aged 12-17) found that parental mediation of SEM did *not* result in less sexual experience at follow up (Nikken & de Graaf, 2012). Girls in that study whose parents *had* restricted their media use were *more* likely to be sexually experienced (Nikken & de Graaf, 2012). A USA study of emerging adults (aged 18-26), conversely, found that restrictive mediation of SEM by parents during adolescence carried over into their view on pornography as emerging adults (Rasmussen et al., 2016). Those researchers concluded that “parents’ provision of rules about viewing pornography during adolescence may reduce future pornography use by instilling the salient belief that the parent disapproves of viewing pornography” (Rasmussen et al., 2016; see also, Rasmussen, Ortiz & White, 2015). These competing claims emphasise the need for more research into parent-child communication about sexual media and its effects, as well as the wider cultural contexts and expectations in which this communication takes place.

Differences between adolescents and adults

There have been mixed results as to whether or to what extent there are differences in the effects of pornography for adults and adolescents. There is little research that compares these groups, though one study found that the implications did not appear to differ (Peter & Valkenburg, 2011c). Though there exists more research on adults, these are adults who grew up in a substantially different technological context than the current situation (i.e., without smart phones or Internet connections capable of streaming videos).

How do effects differ for adolescents (than for adults)? *Which* adolescents are most likely to be harmed? *Who* is vulnerable to which harmful effects? Do adolescents think pornography is more realistic than adults do? How do adolescents identify with the sexual acts depicted? How do they perceive pornography to act in their own relationships? What do *adolescents* think are the effects/harms? Research with adults indicates that many women feel betrayed upon discovering their male partner's pornography consumption (e.g. Tylka & Van Diest, 2014). Do adolescents have similar (or different) experiences and to what effect?

What *kinds* of SEIM are adolescents watching? How do preferences develop? Do they form habits that become stable into adulthood, or do they move on? For example, do "teens who see sexually explicit materials early in their sexual maturation maintain an interest in such material and 'graduate' to more explicit content over time, or if they satisfy their curiosity, perhaps grow bored, and move on to other kinds of media content and/or activities"? (Brown & L'Engle, 2009, p. 147) If people do "move on" from pornography, when? And does this relate to developing sexual relationships? Does becoming a parent affect SEIM use and its position within relationships? These are important questions for future research.

Adolescent relationships

If, as research suggests, most boys use Internet pornography, while most girls do not use pornography *and* find pornography degrading, then there are important questions to be asked about the relationships *between* boys and girls. More research is needed into adolescents' experiences within relationships and the role pornography may play in developing sexual repertoires, as well as sexual pressure and coercion *within relationships*. In particular, how do girls experience their boyfriends' pornography use?

One online survey of USA college psychology students (aged 18–29) in heterosexual relationships found that "women's reports of their male partner's problematic pornography use were negatively associated with their self-esteem, relationship quality and sexual satisfaction" (Stewart & Szymanski, 2012, p. 265). For men in that study, relationship quality and sexual satisfaction were also negatively associated with their pornography use (Szymanski & Stewart-Richardson, 2014). In another study, female partners of adult male SEIM users reported decreased sexual intimacy, lower self-esteem and demands that they participate in activities they find objectionable (Manning, 2006). It is important to recognise that for many couples SEIM use forms a shared part of their sexual relationship. For example, in one study of heterosexual couples, 72% of men and 56% of women reported SEIM use, and shared sexual media use was associated with higher relational satisfaction compared to solitary use (Bridges & Morokoff, 2011). In a longitudinal study with newlyweds in the Netherlands, researchers found a reciprocal relationship between SEIM use and poorer relationship satisfaction for husbands, which they explained as, "Husbands in poor relationships use more SEIM and more SEIM among husbands leads to poorer relationships" (Muusses, Kerkhof, & Finkenauer, 2015, p. 83). All of these findings are not necessarily indicative of *adolescents'* relationships, however.

Safer sex practices

It is worth noting that the practice of withdrawal (*coitus interruptus*)⁶ seems never to have been considered in research exploring adolescents' associations between pornography use and sexual behaviours. Considering this is a sexual act indicative of almost the entire genre of pornography, this omission seems remarkable. If young people are influenced by what they see in pornography, then why has there been such a dearth of research into practices of withdrawal and its effects? In California, where much of the professional pornography is produced, regulations regarding safe work practices mandate the use of condoms and dental dams as barriers, as well as "ejaculation outside of the partner's body" (Grudzen et al., 2009, p. S152). Future research would do well to consider such a practice in terms of sexual health outcomes, including emotional effects, in more detail.

See Appendix 1 for the evidence library that accompanies this report.

⁶ Sexual intercourse in which the penis is withdrawn before ejaculation.