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“Basically... porn is everywhere”

A Rapid Evidence Assessment on the Effects that Access and Exposure to Pornography has on Children and Young People

By Miranda A.H. Horvath, Llian Alys, Kristina Massey, Afroditi Pina, Mia Scally and Joanna R. Adler

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About the Office of the Children's Commissioner

The Office of the Children's Commissioner (OCC) is a national organisation led by the Children's Commissioner for England, Dr Maggie Atkinson. The post of Children's Commissioner for England was established by the Children Act 2004. The United Nations Convention on the Rights of the Child (UNCRC) underpins and frames all of our work. The elements of the UNCRC of most relevance to this work are set out in Appendix 1.

The Children's Commissioner has a duty to promote the views and interests of all children in England, in particular those whose voices are least likely to be heard, to the people who make decisions about their lives.

One of the Children's Commissioner's key functions is encouraging organisations that provide services for children always to operate from the child's perspective.

Under the Children Act 2004, the Children's Commissioner is required both to publish what she finds from talking and listening to children and young people and those who work with them, and to draw national policymakers' and agencies' attention to the particular circumstances of a child or small group of children that should inform both policy and practice.

The OCC has a statutory duty to highlight instances where it believes that vulnerable children are not being treated appropriately in accordance with duties established under the UNCRC, as well as under other international and domestic legislation.

This report forms part of the Inquiry into Child Sexual Exploitation in Gangs and Groups commenced by the Children's Commissioner in October 2011, using powers made available under Section 3 of the Children Act 2004.

Acknowledgements

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We are deeply indebted to the experts (listed in Appendix 2) who gave up their time to participate in the workshop on 5 March 2013 and to those who were not able to attend the workshop but consulted with us individually. We would like to thank the young people who participated in the workshop held on 25 April 2013 and the staff from the school for making the event possible. Thank you to everyone who responded to the call for papers; without your help we would have missed many valuable references.

Finally, the team would like to thank their families and friends, who allowed them to "check out" of normal life and conduct a Rapid Evidence Assessment for three months!

Foreword

The first year of our Inquiry into Child Sexual Exploitation in Gangs and Groups revealed shocking rates of sexual violation of children and young people in these contexts. We obtained incontrovertible evidence that, between August 2010 and October 2011, at least 2,409 children were victims of sexual exploitation. Equally troubling was the evidence that at least a further 16,500 children were at high risk of being sexually exploited because they showed three or more risk indicators.

The Inquiry team heard children recount appalling stories about being raped by both older males and peers, often in extremely violent and sadistic circumstances, and in abusive situations that frequently continued for years. The majority of victims are female, although there is no doubt that boys are victims too.

This appalling abuse blights the lives of those affected, leaving them struggling to cope with the legacy of their abuse.

The use of and children's access to pornography emerged as a key theme during the first year of the Inquiry. It was mentioned by boys in witness statements after being apprehended for the rape of a child, one of whom said it was "like being in a porn movie"; we had frequent accounts of both girls' and boys' expectations of sex being drawn from pornography they had seen; and professionals told us troubling stories of the extent to which teenagers and younger children routinely access pornography, including extreme and violent images. We also found compelling evidence that too many boys believe that they have an absolute entitlement to sex at any time, in any place, in any way and with whomever they wish. Equally worryingly, we heard that too often girls feel they have no alternative but to submit to boys' demands, regardless of their own wishes.

We commissioned this important literature review to deepen our own and others' understanding of the impact on children and young people of viewing pornography, including extreme and violent images. Research in this area is fraught with ethical difficulties. While this report has shed considerable light on this complex and important issue, there is no doubt that much more work needs to be done before definitive statements can be made about causal links between the use of pornography and perpetrators going on to commit sexual abuse or exploitation.

It is unclear whether pornography is more extreme and violent today than in the past. What is clear, however, is that children's access to pornography is fundamentally different from that of previous generations because of the prevalence of these materials on the internet. Explicit sex and violent still and moving images depicting rape, bestiality, the use of pain and humiliation are potentially just a few clicks away. The proliferation of smartphones and tablets and their use by children and young people to access the internet, often away from adult supervision, make it very difficult for parents to control access to these images. In addition, there is a significant problem of sexual bullying and harassment through children and young people sending personal, intimate images to others; this can have profoundly distressing consequences.

This report goes some way to answering our questions about the impact on children of viewing pornography. Our request to the researchers was that they presented to us the unvarnished evidence, free from ideology. We know that pornography is pervasive and that a significant proportion of children are exposed to it or are accessing it. We know that boys are more likely to view pornography out of choice than girls, who are much more reluctant viewers. Most worryingly,

the evidence here shows that exposure to sexualised and violent imagery affects children and young people and that there are links between violent attitudes and violent media.

We are indebted to Miranda Horvath, Llian Alys, Kristina Massey, Afroditi Pina, Mia Scally and Joanna Adler for producing such excellent work within a very tight timescale.

This report contains eight recommendations and highlights further areas for research. It makes an invaluable contribution to our understanding of this serious and deeply troubling subject, shining a light onto issues that we as a society too often consign to the shadows, being simply too difficult to bring to the light. As one young person said to us: "Basically, porn is everywhere."

A handwritten signature in black ink that reads "Sue Berelowitz". The signature is written in a cursive, flowing style.

Sue Berelowitz
Deputy Children's Commissioner for England

Executive summary

Background

This Rapid Evidence Assessment (REA) was commissioned by the Office of the Children's Commissioner (OCC) as part of its Inquiry into Child Sexual Exploitation in Gangs and Groups (CSEGG). It was conducted by a consortium led by Middlesex University, to explore the effects that exposure and access to pornography have on children and young people. The CSEGG Inquiry was launched in October 2011 to better understand the scale, scope, extent and nature of child sexual exploitation in gangs and groups. An emergent issue was whether accessing and viewing pornography can have an impact on children and young people's expectations and attitudes towards sexual activity and relationships. Despite limited recourse to previous evidence, professionals interviewed over the course of the CSEGG Inquiry raised concerns about the impact of pornography at 43 per cent of site visits and 48 per cent of evidence hearings (Berelowitz et al., 2012). Professionals from many agencies reported particular concerns about the effects of pornography involving high levels of degradation, violence and humiliation, which they believe to be prevalent in material freely available online. Police case files that were reviewed cited instances of boys and young men referring to pornography during sexual assaults (Berelowitz et al., 2012). This REA was therefore commissioned to inform the CSEGG Inquiry Chair, Panel and Project Team, enabling them to add depth to their ultimate recommendations regarding child sexual exploitation in gangs and groups.

A narrow time frame was necessary in order to feed into the ongoing Inquiry. This precluded a full literature or systematic review and therefore a question-led REA was conducted over three months. In designing the REA, the language and terminology of the specified questions were crucial. Three research questions were devised to guide the review and operational definitions were constructed for each key term. These were then further refined in consultation with the research commissioners. The final versions of the guiding questions are included below:

1. Identify and assess the existing evidence base on children and young people's access and exposure to pornography.
2. Identify and assess the existing evidence base on the effects that access and exposure to pornography have on children and young people's sexual expectations, attitudes and behaviours.
3. Draw upon existing literature reviews and meta-analyses on the associations between access and exposure to sexualised or violent visual imagery on children and young people, and consider whether this bears relevance to the issue in question.

The key terms are defined in the full report. Our aim was to use terminology and definitions that were clear and concise while still capturing multifaceted experiences and perspectives.

Findings

A few robust conclusions can be reached from this REA, but it is apparent that much more research is needed. Gender differences have emerged as a continuous and highly pertinent theme throughout the questions addressed by this REA.

What can we confidently conclude?

FINDING 1 (RQ1, P21): A significant proportion of children and young people are exposed to or access pornography but there are differences in the literature regarding the regularity of exposure and access (or the rate of recurrence) which highlight the importance of considering frequency as well as prevalence in order to obtain a full picture.

FINDING 2 (RQ1, P24): Children and young people's exposure and access to pornography occur both online and offline. However, in recent years the most common methods of access have changed from magazines, videos, television and books, with the internet becoming more dominant. There is some evidence that children and young people consider pornography easy to access and culturally prevalent. Accessing pornography through one method appears to be positively related to accessing it through others.

FINDING 3 (RQ1, P23): Exposure and access to pornography appear to increase with age; there is greater risk of exposure with increasing age. Contradictory findings exist in relation to age of first exposure, with variations from 10 to 17 years old.

FINDING 4 (RQ1, P22): Exposure is more prevalent than (ostensibly) deliberate access. However, there is considerable variation in the rates of unwanted exposure and some studies report significant numbers of children and young people accessing pornography.

FINDING 5 (RQ1, P23): There are gender differences in exposure and access to pornography. Young men and boys are more likely to be exposed to pornography than young women and girls. They are also more likely to access, seek or use pornography and are exposed to or access pornography more frequently. These gender differences are also found in children and young people's attitudes towards pornography. Boys and young men generally view pornography more positively and state that they view it primarily out of curiosity while girls and young women generally report that it is unwelcome and socially distasteful and that they feel much more uncomfortable than boys and young men when viewing pornography.

FINDING 6 (RQ2, P34): Access and exposure to pornography affect children and young people's sexual beliefs. For example, pornography has been linked to unrealistic attitudes about sex; maladaptive attitudes about relationships; more sexually permissive attitudes; greater acceptance of casual sex; beliefs that women are sex objects; more frequent thoughts about sex; sexual uncertainty (e.g. the extent to which children and young people are unclear about their sexual beliefs and values); and less progressive gender role attitudes (e.g. male dominance and female submission). Children and young people learn from and may change their behaviour due to exposure and access to pornography.

FINDING 7 (RQ2, P36): Access and exposure to pornography are linked to children and young people's engagement in "risky behaviours" (e.g. engagement in sexual practices from a younger age, engaging in riskier sexual behaviours such as unprotected anal or oral sex, and the involvement of drugs and alcohol in sex). For example, young people who used pornography were more likely to report having had anal sex, sex with multiple partners and using alcohol and drugs during sex (Braun-Courville & Rojas, 2009). However, the majority of the research that has found this is cross-sectional and/or correlational, therefore causal relationships cannot be established. "Sexting" (which should be considered as comprising a range of activities) has recently emerged as another "risky behaviour" because it can lead to various negative outcomes for children and young people,

including through its potential use within bullying and exploitation. The majority of the harassment that is a consequence of sexting is directed by young men towards young women (Ringrose et al., 2012).

FINDING 8 (RQ3, P47): Considering sexualised and violent imagery more broadly, we can conclude that **exposure to sexualised and violent imagery affects children and young people**; however, the ways in which they may be affected and how long-lasting the effects may be are debatable. There are links between violent attitudes and violent media; specifically, children and young people who hold more violent attitudes access more violent media. One study found that exposure to sexualised material was related to the likelihood of young people engaging in more sexualised behaviour because they perceived more social pressure to have sex (Bleakley et al., 2011b).

There is more contradictory evidence concerning other issues. These issues are nonetheless important to note.

What are we less confident about?

The **contexts in which young people are exposed to and access pornography** appear to suggest that they can be both solitary and group activities, and that a range of motives and reasons can be ascribed to them. These findings may be less robust, particularly due to technological developments and trends in children and young people's preferences at both the general and individual level.

Few studies have focused on **the content of the pornography and whether there is anything particular about what children and young people are exposed to or access**. Much current discourse is asserted without a clear evidence base or is inferred from what is believed to be available on pornographic websites. Different and subjective definitions of pornography complicate the issue, as does the possibility that studies will rapidly become out of date since trends develop and subside in the production of pornography. Nonetheless, the issue is of utmost importance given claims that pornography has become more hard core, explicitly degrading and dehumanising, and with a greater focus on aggressive sexual activity.

There are also contradictory findings regarding the possible **effects of pornography on children and young people's sexual expectations**, but there is some emerging evidence indicating that young people are dissatisfied with the sex education they are receiving and that they are increasingly drawing on pornography, expecting it to educate and give information regarding sexual practices and norms. Only a few studies, or components of larger studies, have found that there are age differences in how children and young people process or are affected by pornography.

There is a reasonable amount of research that links **exposure to pornography with aggressive behaviour**. However, it is limited in its interpretive value. Fewer studies have investigated whether victimisation via aggressive behaviour is linked vicariously or directly to pornography. Even fewer studies have examined pornography's relationship with sexual offending among children and young people, and hardly any have used non-offending control groups. Viewing pornography can lead to the development of antagonistic and unhealthy views towards women and sexuality and can contribute to creating environments of greater tolerance and less disapproval of unwanted sex. Pornography has been linked to sexually coercive behaviour among young people, and, for young women, viewing pornography is linked with higher rates of sexual harassment and forced sex. This may be because young people may not have the opportunity to compare what they see in pornography with real life and they may be more susceptible to internalising the distorted images and modifying their behaviour accordingly.

Research on **children and young people's perceptions of risk and danger, potentially associated with their access and/or exposure to pornography**, reports mixed findings. Most consensus is found in relation to reports that children and young people are aware of the dangers of online pornography but feel that they have the necessary coping skills to deal with them. There appears to be a "third person effect", with many young people reporting that people younger than themselves are in greater danger. Only a handful of research articles report young people holding positive attitudes towards pornography. Young women and girls in particular are more worried than young men and boys about the portrayal of gender relations in pornography and the connotations of objectification associated with that skewed portrayal.

Viewing **sexualised and/or violent imagery** can affect children and young people's attitudes and behaviours, which may subsequently affect their attitudes towards sexual relationships and behaviours within them. However, the research is disparate in focus, with few studies directly examining attitudes towards relationships. It is possible to extrapolate, but the evidence is inconsistent. Highly contentious and contradictory findings also exist on the impact of violent imagery on children and young people, which may inform our understanding of the effects of pornography, but numerous methodological issues exist in the literature. The relationships between young people viewing violence and their attitudes and behaviours are complex and multifaceted.

There is emerging but contradictory evidence about the effects of other sexualised imagery on children and young people, through film, music, advertising and specialist media. Although not yet clear, we can infer that the format through which children and young people are exposed to sexualised media may be important.

Questions still to answer

This REA has found limited evidence to inform the following research or policy areas:

1. **Potential individual differences:** We do not know whether a child's or young person's characteristics, vulnerabilities and/or strengths are related to exposure and/or access (and, if they are, how and why).
2. **Likelihood of exposure or access:** How and whether we should limit opportunities for exposure and access are unclear.
3. **Cultural or subcultural effects** on young people's attitudes and behaviours towards and stemming from pornography have yet to be fully considered.
4. **Young people's feelings towards and perceptions of pornography** have been largely untapped.
5. **Potential associations between pornography and pathological behaviour** are not clear. For example, we cannot say whether sexual addiction or compulsivity among children and young people stem from access and exposure to pornography.
6. **The effect that viewing sexualised or violent images has on children and young people:** The remit of this REA meant that we could consider only those literature reviews and meta-analyses which showed that there is an extensive but mixed evidence base requiring further scrutiny.
7. **The mechanisms or duration of change** to either attitude or behaviour still need to be considered.

8. **Parameters and possible intersections between sexualised and violent imagery and pornography** are contested and unresolved.
9. **Causal relationships** between pornography and associated expectations, attitudes and behaviours are still to be elucidated.

Overall, there were seven significant concerns about the reviewed evidence base:

1. The lack of consensus within the literature regarding what was being examined, or even about who could be considered a child or young person, meant that it was difficult to generalise or extrapolate.
2. Problems with operational definitions of key terms made comparison challenging. These problems included limited knowledge of children and young people's conceptions or understanding of pornography.
3. Why do we still not know anything about causality? Maybe it is time to ask different questions.
4. Has the nature of the issue changed qualitatively or merely been exacerbated by the pace of technology and people's uncertainty in a climate of rapid change?
5. Very little research has been conducted that keeps children and young people's experiences at the centre.
6. The impacts of cultural differences and cultural context are rarely acknowledged or examined.
7. Few papers reviewed for this REA – whether they were included or excluded – even began to consider the effects of pornography on children and young people who were: an ethnicity other than the majority for the country in which the research was conducted; a sexuality other than heterosexual; transgender; or anything other than able-bodied and with full capacity (relative to their development).

Recommendations

Please note that given our last concern, all recommendations are made with the caveat that diversity must be a central consideration within future work.

For future research

All of the research that is proposed should be conducted in ways that give a voice to young people and, where appropriate, should be centred around them and have participatory processes embedded. More research is needed from multidisciplinary perspectives and using a wide range of methodologies; these should include meta-analyses and systematic reviews that can provide comprehensive accounts of what the existing evidence base tells us. All research should state clearly what definition of pornography was used and why. Authors should also be advised to state clearly whether they have separately (aside from pornography) considered:

- sexualised imagery (that does not meet the definition of pornography);
- violent imagery; and
- sex acts for storyline not arousal.

In light of the evidence in this report, we recommend that:

1. research should be conducted that investigates what children and young people think pornography is and the content of what they describe as pornographic; and
2. research should be conducted that investigates whether there are links between the pornography that children and young people are exposed to and/or access and their attitudes towards, aspirations about and feelings towards relationships and sex.

An extended list of recommended research questions is provided in Appendix 17 of the main report.

Recommendations to Government

In light of the evidence in this report:

1. **The Department for Education** should ensure that all schools understand the importance of, and deliver, effective relationship and sex education which must include safe use of the internet. A strong and unambiguous message to this effect should be sent to all education providers including: all state funded schools including academies; maintained schools; independent schools; faith schools; and further education colleges.
2. **The Department for Education** should ensure curriculum content on relationships and sex education covers access and exposure to pornography, and sexual practices that are relevant to young people's lives and experiences, as a means of building young people's resilience. This is sensitive, specialist work that must be undertaken by suitably qualified professionals, for example, specialist teachers, youth workers or sexual health practitioners.
3. **The Department for Education** should rename 'sex and relationships education' (SRE) to 'relationships and sex education' (RSE) to place emphasis on the importance of developing healthy, positive, respectful relationships.
4. The Government, in partnership with internet service providers, should embark on a national awareness-raising campaign, underpinned by further research, to better inform parents, professionals and the public at large about the content of pornography and young people's access of, and exposure to such content. This should include a message to parents about their responsibilities affording both children and young people greater protection and generating a wider debate about the nature of pornography in the 21st century and its potential impact.
5. Through the commitments made to better protect girls and young women from gender-based violence in the ending violence against women and girls action plan, the **Home Office** and the **Department for Education** should commission further research into the safeguarding implications of exposure and/or access to pornography on children and young people, particularly in relation to their experiences of teenage relationship abuse and peer exploitation.
6. **The Home Office** should incorporate the findings of this report into the ongoing teen abuse campaign. Future activity on this workstream should reflect young people's exposure to violent sexualised imagery within their peer groups and relationships.

Recommendation to the Youth Justice Board

7. The **Youth Justice Board** should include questions on exposure and access to pornography within the revised ASSET assessment tool, to better inform understanding of possible associations with attitudes and behaviour and improve the targeting of interventions for young people displaying violent, or sexually harmful, behaviours.

We welcome the important work being undertaken by Claire Perry MP, in her role as adviser to the Prime Minister regarding the availability of internet pornography. We ask that she consider the findings of this report and its implications for the Government's work on internet controls and the sexualisation of children and young people.

Rapid Evidence Assessment methodology

An REA is a tool for synthesising the available research evidence on a policy issue as comprehensively as possible, within the constraints of a given timetable. The REA comprised three stages that are briefly outlined below; for a detailed account please see Appendix 5 of the main report.

The first stage was to identify the literature. Inclusion/exclusion criteria were agreed between the OCC and the project team and search terms were developed from the research questions in order to maintain scope and rigour. Guidelines for conducting searches were developed to ensure consistency. Three approaches were taken for identifying literature: academic database searches, grey literature database searches, and a direct call for papers. During stage one, 41,000 items were identified.

The second stage was an in-depth screening of the literature. First, titles and either abstracts or executive summaries were reviewed against the inclusion/exclusion criteria (see Appendix 6 in the main report). At this point, 38,666 items were excluded and 2,304 included. Full text articles were then obtained for all includable materials; these were read in full and compared against the inclusion/exclusion criteria once again. If papers were judged not to meet the inclusion criteria, they were excluded at this stage (2,028 papers were excluded). Papers that met the inclusion criteria were coded in a specially designed data extraction form. Finally, they were assessed using a weight of evidence approach, in which the quality and relevance of the literature were assessed and given a strength rating: high, medium or low (see the main report for full details of this approach, which was derived from Gough, 2007). In total, 276 papers were included in the final analysis, with 155, 159 and 116 relating to research questions 1, 2 and 3 respectively (these figures add to more than the total number of papers included because some papers were applicable to more than one research question).

In stage three of the REA, the data collected for each of the research questions were synthesised, then examined for patterns, integrated and revisited to check the synthesis for quality, sensitivity, coherence and relevance. Initial findings were presented and discussed at a workshop with practitioners, policymakers, academics and members of the OCC team, and subsequently in a workshop with 16 to 18-year-old young people.

Background

Introduction

This document reports on a Rapid Evidence Assessment (REA) that was conducted by a consortium led by Middlesex University and commissioned by the Office of the Children's Commissioner (OCC) in order to explore the effects that exposure and access to pornography have on children and young people. The Inquiry into Child Sexual Exploitation in Gangs and Groups (CSEGG) was launched by the OCC in October 2011 and has gathered evidence to understand the scale, scope, extent and nature of child sexual exploitation in gangs and groups. Despite limited recourse to previous evidence, professionals interviewed over the course of the CSEGG Inquiry raised consistent concerns about the impact of pornography at 43 per cent of site visits and 48 per cent of evidence hearings (Berelowitz et al., 2012). Professionals from many agencies reported particular concerns about the effects of pornography involving high levels of degradation, violence and humiliation, which they believe to be prevalent in material freely available online. Police case files that were reviewed cited instances of boys and young men referring to pornography during sexual assaults (Berelowitz et al., 2012). The findings of this literature review will inform the CSEGG Inquiry Chair, Panel and Project Team, and the recommendations to tackle child sexual exploitation in gangs and groups made in the final CSEGG Inquiry report.

The Office of the Children's Commissioner tender specification for a literature review

The tender specified nine research objectives (see Appendix 3) to be addressed in three parts:

1. to identify and assess the existing evidence base on children and young people's access to, and use of, pornography;
2. to identify and assess the existing evidence base on the impact of pornography on children and young people's expectations, attitudes and behaviours; and
3. to draw upon wider evidence on the impact of viewing sexualised or violent images on children and young people, and consider whether this bears any relevance to the issue in question.

A narrow time frame was necessary in order to feed into the ongoing Inquiry. This precluded a full literature or systematic review and therefore a question-led REA was conducted over three months. In designing the REA, the language and terminology of the specified questions were crucial. Careful consideration was given to the existing debates about terminology (see, for example, Chronaki, 2013) and as a result the three research questions to guide the REA were amended and definitions constructed for the key terms. The final questions for the REA were as follows:

1. Identify and assess the existing evidence base on **children and young people's access and exposure to pornography**.
2. Identify and assess the existing evidence base on the **effects** that access and exposure to pornography have on children and young people's **sexual expectations, attitudes and behaviours**.
3. Draw upon existing literature reviews and meta-analyses on the associations between access and exposure to **sexualised or violent visual imagery** on children and young people, and consider whether this bears relevance to the issue in question.

Sub-questions were also developed for each research question to ensure that key issues were addressed (see Appendix 4). Each word or phrase in bold above was defined operationally to ensure that we would have clarity and consistency throughout the REA. We were aware that we could have conducted an REA on the semantics surrounding the terminology used, and while we acknowledge the importance of such discourse, our aims were more prosaic: namely, that we should use terminology and definitions that were clear and concise yet broad enough to capture the richness and diversity of experiences and perspectives available. Figure 1 gives the definitions for each term in bold in the research questions above.

Figure 1: Definitions used for the REA

Pornography

Sexually explicit media that are primarily intended to sexually arouse the audience (Malamuth, 2001, p.11817).

Children and young people

Any person aged up to 18 years, up to 24 years for children in the care system, and up to 25 years for disabled children. The use of the term "children" incorporates young people (CSEGG Inquiry, p.3).

Access

Deliberately obtaining and viewing pornographic material.

Exposure

Non-deliberate and/or coerced obtaining and viewing of pornographic material.

Effects

The influences that pornography may or may not have on children and young people and the associations between pornography and outcomes/next steps/consequences. These will be considered from multiple perspectives, including whether they are a) direct-personal; b) indirect-personal; c) direct-group; d) indirect-group; e) developmental; f) inter-group; g) intra-group; h) short or long term.

Sexual expectations, attitudes and behaviours

This is a catch-all term for the facets of children and young people that pornography may be associated with; it may also include aspirations and feelings. The relationships (or absence of a relationship) between these different elements, e.g. attitudes and behaviours, will be explored.

Sexualised visual imagery

This includes moving and static sexualised visual images created by anyone and that may or may not have sounds accompanying them (e.g. images from page 3, "lads' mags", advertising, music videos). We are not including imagery widely defined as art or other forms of sexualised material such as music or erotic literature that do not have images.

Violent visual imagery

This includes moving and static violent visual images created by anyone and that may or may not have sounds accompanying them (e.g. violent computer games, horror films, violent television programmes, music videos). We are not including imagery widely defined as art or other forms of violent material such as music or literature that do not have images.

We adopted the definition of children and young people already used by the CSEGG Inquiry. Where it was not possible to apply the older age brackets for children in the care system and disabled children, 18 was considered the standard cut-off point. In circumstances where publications were unclear about the ages of the children and young people that they had considered, 18 was considered to be the cut-off point.

When adopting a definition of pornography, we were conscious that there may be cross-over with material that is humiliating or extremely violent but not necessarily primarily intended to sexually arouse the audience. We remained mindful of this when conducting the REA. We were also aware of American author on pornography Gail Dines' observation that contemporary pornography is increasingly "hard-core, body-punishing sex in which women are demeaned and debased" (Dines, 2010, p.xi). We were also conscious of the increasing literature on sexualised media and the sexualisation or "pornification" of society. Given the short timescale of the REA and the specific requirements of the Inquiry, it was not possible to obtain a complete overview of children and young people's access and exposure to sexual media in general (for example, in music videos, advertising or works of art) nor was it possible to review the literature on pornification (nor was it desirable to do so, considering the likely duplication of work by Papadopoulos, 2010, and others). Due to the potentially very large scope of the literature on violent visual imagery and sexualised imagery, only reviews and meta-analyses were considered in order to complete the report in the time available.

Finally, we acknowledge that other evidence exists pertaining to the key research questions but it was not possible to gain access to all the original sources nor was it possible to list all sources with similar findings. We are confident, however, that the main themes in the literature have been identified.

Methodology

Study design

The research commissioners imposed a strict timeline on this project and their guidance was to meet that timeline even if material was overlooked or missed. In order to meet this requirement, a systematic literature review or meta-analysis was impossible. A question-led adapted Rapid Evidence Assessment (REA) was used in order to present a critical overview of key findings and to identify significant omissions in the literature.

An REA is a tool for synthesising the available research evidence on a policy issue, as comprehensively as possible, within the constraints of a given timetable. An REA toolkit produced for government social research has been widely adopted (see www.civilservice.gov.uk/networks/gsr/resources-and-guidance for details; for examples, see Brown et al., 2010; Disley et al., 2011; Horvath et al., 2012¹). According to Davies (2003) the functions of an REA are to:

- search the electronic and print literature as comprehensively as possible within the constraints of a policy or practice timetable;
- collate descriptive outlines of the available evidence on a topic;
- critically appraise the evidence (including an economic appraisal);
- sift out studies of poor quality; and
- provide an overview of what the evidence is saying.

The REA comprised three stages: identifying the literature, screening the literature and synthesising the data. These are briefly outlined below (a detailed account can be found in Appendix 5).

Stage one: identifying the literature

Setting criteria for the literature to be included and excluded was the initial step in identifying the literature. The inclusion/exclusion criteria were agreed between the Office of the Children's Commissioner (OCC) and the project team and can be found in Appendix 6.

Search terms

Search terms were developed from the research questions in order to maintain scope and rigour. The initial search terms used to identify relevant literature were agreed in conjunction with the OCC and were broken down by research question (see Appendix 7). Guidelines for conducting the searches were also developed to ensure consistency (see Appendix 8). Included and excluded data were separated into different documents and retained, and a minimum of 10 per cent of all searches were also moderated by the primary investigator.

Three approaches were taken for identifying literature: academic database searches, grey database searches, and a direct call for papers (for details of these strategies, see Appendix 5). Once materials had been located, each reference was screened in more depth. First, the titles and abstracts or executive summaries were reviewed against the inclusion and exclusion criteria. Where possible, stage one screening took place simultaneously with the searches (for more details of the process, see Appendix 5). Table 1 shows the number of items identified, included and excluded at each stage of data processing.

Table 1: Summary of the total number of items identified, included and excluded, at each stage of data processing

	Total	Included	Excluded
Stage one: identifying the literature	No.	No.	No.
<i>Academic searches</i>	38,165	1,910	36,225
<i>Grey literature searches</i>	2,656	303	2,353
<i>Call for papers</i>	179	91	88
Total	41,000	2,304	38,666
Stage two: screening the literature			
<i>Weight of evidence</i>	2,304	276	2,028

Stage two: screening the literature

Full text articles were then obtained for all material that fit the inclusion criteria (for more details of how this was achieved, see Appendix 5). Any articles not obtained were excluded due to the strict time frame for the data to be assessed. References that met the inclusion criteria were read in full and compared against the inclusion and exclusion criteria once again. If papers were judged not to meet the inclusion criteria, they were excluded at this stage (2,028 papers were excluded). Papers that met the inclusion criteria had their key information placed on the specially designed data extraction form (see Appendix 14). They were also assessed using a weight of evidence (WoE) approach, in which the quality and relevance of the literature were assessed and given a strength rating: high, medium or low (see Appendix 14 for the WoE coding form). This approach was developed by the EPPI-Centre (Evidence for Policy and Practice Information and Co-ordinating Centre; Gough, 2007) and can be used for both quantitative and qualitative studies. This method ensured consistency in approach and allowed us to assess extant research – which had been conducted using varied methodologies and diverse analytical strategies – according to a common assessment structure. We modified the EPPI-Centre’s approach for this study (the guidelines we used for conducting the WoE assessments are set out in Appendix 15). Each study was weighted according to three dimensions (A, B and C) in conjunction with each other:

- A) Taking into account all of the quality assessment issues, can the study findings be trusted in answering all of the study question(s)?
- B) Appropriateness of research design and analysis for addressing the question, or sub-questions, of this review.
- C) Relevance of particular focus of the study (including conceptual focus, context, sample and measures) for addressing the question, or sub-questions, of this review.

These judgements were then combined into a final dimension (D) that signified the overall WoE judgement (high, medium or low). The studies with lower judgements were given less weight in the synthesis. Table 2 shows the number of studies included and excluded at the second stage of screening.

Table 2: Summary of the papers included for each research question and the number of papers falling into each WoE category

	Number of papers included in the REA	Number of papers in WoE category		
		Low	Medium	High
Research question 1	155	67	60	28
Research question 2	159	68	63	28
Research question 3	116	56	37	23
Total	430*	191	160	79

See Appendix 16 for the full lists of papers included for each research question and their WoE category.

* This figure is greater than the total of included papers in Table 1 because some papers were applicable to more than one research question.

Stage three: synthesising the data

In order to produce the final report, the data collected for each of the research questions were synthesised. The first step taken to ensure synthesis was to focus on the research questions. This was undertaken from the very beginning and ensured by identifying search terms for each research question individually and keeping a log of which data applied to which research question. The data collected were then organised by research question into separate files and entered on a spreadsheet. The data were explored for patterns, integrated and revisited to check the synthesis for quality, sensitivity, coherence and relevance (see Appendix 5 for the details of this process). Initial findings were presented and discussed at a four-hour workshop with practitioners, policymakers, academics and members of the OCC team with relevant expertise; this took place on 5 March 2013. Participants for the workshop were recruited through general invitations that were part of the call for papers (see Appendix 11) and targeted invitations to people who were known to have expertise in the area. Fifteen people participated in the workshop (the full list is in Appendix 2). Three participants who could not attend the workshop were consulted on a one-to-one basis (see Appendix 2). No remuneration was provided for contributing to either the workshop or the consultations.

The workshop on 5 March and the draft report highlighted that little was known about children and young people’s understanding of what is meant by pornography, and therefore a workshop was conducted with seventeen 16 to 18-year-olds on 25 April 2013, to provide some support for and critical engagement with the REA findings (see Appendix 5 for full details of the workshop). Also, we believed it was important to have some participation in this review that was centred on young people. The Middlesex University Department of Psychology Ethics Committee reviewed the proposal for the workshop; it was conducted in line with the OCC’s Participation Strategy and Safeguarding Policy and with the permission of the school involved. The OCC gave the young people a £10 gift card to thank them for taking part.

A brief summary of the points of interest from both workshops are shown in Figure 2. Both workshops resulted in lively and passionate debates which enhanced the REA.

Figure 2: Points of interest from the workshops with experts and young people

Workshop with experts

The workshop with experts took place while the studies collected for the REA were being analysed and interpreted. The questions being asked and the terminology and definitions used came under close scrutiny during the workshop with experts. Many of the concerns raised appeared to result from the perspective from which the experts were approaching the issues. There was general consensus that the context in which research and other work is being done, specifically in relation to rapid advances in technology, means that our understanding is continually outdated. How can and should this be most effectively addressed was discussed a number of times by the experts without a satisfactory conclusion being reached. Another key concern from the experts' workshop was about the "normalisation" of pornography in our society and what the effects may be on children and young people. Related to this were concerns about the extremely violent and degrading content of some pornography that is now easily accessible to anyone with access to the internet.

Workshop with young people

The workshop with young people occurred once the draft report had been completed. The first discussion that took place in the workshop with young people was conducted in gender-specific groups. There were marked differences between the groups despite them being asked the same questions. The young men moved very quickly to discussing genres of pornography they were familiar with from website categories, whereas the young women covered a far wider range of images that may or may not be considered pornographic. The young men emphasised the "need for" and "benefits of" pornography to themselves and other young men, whereas the young women focused on the detrimental effects of pornography on young women both in relation to their body image and in sexual interactions. Generally, it proved complicated and challenging for the young people to define pornography. The second task was a debate in mixed-gender groups. It was immediately apparent that the young people who had to argue that pornography had no effect on children and young people found it almost impossible to construct arguments that supported this view. None of the young people actually believed that pornography had no effect. The need for more education about relationships and sex was highlighted by the young people repeatedly, as was the crucial role teachers and parents can play in helping them to make sense of, and develop strategies for coping with, pornography.

Summary of Rapid Evidence Assessment studies

For each research question we present first the findings that we are confident about, followed by those we are less confident about, and finally what we do not know from the Rapid Evidence Assessment (REA). Two final sections for each research question outline what we need to know urgently (high priority) and what should be addressed once the high-priority work has been conducted (low priority). A table is provided for each research question to summarise the findings for each section.

Research question 1: The evidence base on children and young people's access and exposure to pornography

This section of the report examines the literature concerning children and young people's exposure and access to pornography. A total of 155 articles, reports and book chapters were included. Excluded items appeared more relevant to questions 2 and 3. Most academic articles originated in the USA, but there were also a number of articles from Northern European countries such as the Netherlands, Sweden and Norway. Approximately 20 articles, reports and reviews from the UK were identified, of which less than half included "new" empirical evidence. It is worth noting that a few large-scale projects have generated a number of articles, for example the UK Children Go Online project (four reports), the EU Kids Online project (one academic report, three book chapters and one article) and the USA-based Youth Internet Safety Surveys (YISS-1 and YISS-2; six articles).

One of the challenges with this question was the proliferation of evidence referring to sexualised media that may or may not include pornography. Where there was doubt about the relevance of an article, this was discussed with the primary investigator. Given the short time scale of the REA and the specific requirements of the Inquiry, it was not possible to obtain an overview of children and young people's access and exposure to sexualised media in general (for example, in music videos, advertising or works of art). Here too, we acknowledge that other evidence exists pertaining to the current question, but it was not possible to gain access to all the original sources nor was it possible to list all sources with similar findings. We are confident, however, that the main themes in the literature have been identified.

It is important to note that for many studies it was not possible to distinguish between exposure and access, and many use "exposure" as a catch-all term; as such, the term "access" will be used only when studies made it clear that they were asking participants about deliberate access. The lack of consistency in terminology within the literature (unwanted exposure, accidental exposure, unintentional exposure, deliberate exposure, accessing or seeking pornography) highlights the challenge of describing children and young people's behaviour in such dichotomous terms. Intention or deliberation is not always clear, even for the actor. For example, a young man explained that he looked for pornography on the internet "for a laugh" but conversely "expressed frustration at the way it was then sometimes impossible to escape" (Buckingham & Bragg, 2003, p. 39). Ybarra et al. (2009) also explain how exposures may be unwanted but not necessarily involuntary (for example, their expectations regarding the X-rated material may have been different to the reality; "hard core" instead of "soft core" or a specific genre). Mitchell et al. (2003a, 2003b), Wolak et al. (2007) and Ybarra et al. (2009) recorded 13 per cent, 21 per cent and 17 per cent (respectively) of incidents where children and young people said they knew sites were X-rated before they entered the sites but found that these episodes were not otherwise distinguishable from other instances of unwanted exposure.

Table 3: Summary of findings for research question 1

Question	Findings
What do we know and are confident about?	<ol style="list-style-type: none"> 1) A significant proportion of children and young people are exposed to or access pornography. 2) Exposure is more prevalent than access. 3) There are gender differences in exposure and access to pornography. 4) Exposure and access to pornography appear to increase with age. 5) Children and young people are exposed to and access both online and offline pornography.
What do we think we know but are less confident about?	<ol style="list-style-type: none"> 6) Children and young people are exposed to and access pornography in a number of different contexts. 7) We do not know exactly what children and young people are being exposed to or what they are accessing.
What don't we know?	<ol style="list-style-type: none"> 8) Are a child or young person's characteristics, vulnerabilities and strengths related to exposure and access (and, if they are, how and why)? 9) How should we reduce the risk of exposure and prevent access? And should we be doing this?
What do we need to know? High priority	<ol style="list-style-type: none"> 1) How do young people define pornography and how do they rate explicitness? Are there different definitions according to gender, age or other demographic factors? 2) What are young people seeing when they are exposed to pornography and when they access it? 3) Are young people recording and distributing images of coerced sexual activity via mobile technology, for example in gang environments?
What do we need to know? Low priority	<ol style="list-style-type: none"> 4) How do children and young people's socio-demographic characteristics (ethnicity, socio-economic status (SES) etc.) and experiences (within the family and the wider context) influence their online decision making and moderate or mediate any impact of online experiences? 5) Are there associations between online gaming and exposure to sexual online content?

What do we know and are confident about?

Finding 1: A significant proportion of children and young people are exposed to or access pornography

Research findings are relatively consistent across studies, countries and times, suggesting that many children and young people are exposed to and access pornography. However, it is also important to note that a significant proportion is neither exposed to pornography nor seeks it out.

Despite commonalities across the literature, direct comparisons should be approached with caution as differences in sample composition (age, gender, culture etc.), temporal changes in social norms (Bryant, 2009), social desirability and other responding biases and the swift development of technology and the “porn business” make it difficult to capture rates of exposure, particularly across the lifespan. In particular, such issues should be borne in mind when attempting to draw any conclusions from retrospective studies (e.g. Sabina et al., 2008) where college or university students are asked to recall exposure to pornography in childhood and adolescence.

Notwithstanding differences in the age ranges sampled, studies of exposure across the lifetime of children and young people report considerable exposure and access rates across time and countries, from approximately 43 per cent to 99 per cent (for example, Häggström-Nordin et al., 2009; Kim, 2001, 2011²). Some Swedish studies report the highest rates; for example, 99 per cent of a sample of 16 to 24-year-olds had been exposed to pornography (Tydén & Rogala, 2004). Exposure and access rates for male children and young people range from 83 per cent to 100 per cent and reported rates for females are from 45 per cent to 80 per cent (Corne et al., 1992; Cowan & Campbell, 1995; Cowell & Smith, 2009³).

Recent studies looking at exposure to sexual or pornographic images online or offline and focusing on the previous three or twelve months understandably report lower rates of between 15 per cent and 57 per cent (Braun-Courville & Rojas, 2009; Livingstone et al., 2011; Shek & Ma, 2012⁴).

Ybarra and Mitchell (2005) report that children and young people who reported unintentional online exposure were more than 2.5 times as likely to report intentional exposure online. Not surprisingly, prior access is associated with future access in a number of studies (e.g. Peter & Valkenburg 2009, 2010a, 2011).

There are discrepancies in the literature with regards to the regularity of exposure and access (or the rate of recurrence). Some studies suggest that exposure and access across the internet and other media are infrequent; for example, while 99 per cent of Tydén and Rogala’s (2004) Swedish sample of 16 to 24-year-olds had been exposed to pornography, only 16 per cent had been exposed frequently, compared with 51 per cent occasionally and 33 per cent rarely (see also Flood, 2007; Mesch, 2009; Peter & Valkenburg, 2006, 2007, 2009, 2010a⁵). Other studies report greater frequency, largely, but possibly not solely, in relation to access (e.g. Mulley, 2013; Skau, 2007; Tsitsika et al., 2009⁶). Few studies have considered the length of time spent viewing pornography, however (Skau, 2007 is an exception).

This contradictory evidence highlights the importance of considering frequency as well as prevalence in order to obtain a full picture. Many studies cite only one or the other, and there are differences in categorisation of frequency. To illustrate the importance of reporting both, Brown and L’Engle (2009) found that very little exposure to sexually explicit media was reported in terms of frequency of exposure; however, when recoded as exposure or no exposure, 53 per cent of males reported exposure to sexually explicit media compared with 28 per cent of females.

Finding 2: Exposure is more prevalent than access

Studies that have distinguished between exposure and access report that unwanted exposure appears more prevalent than (ostensibly) deliberate access (e.g. Flood, 2007; Livingstone & Bober, 2003, 2004, 2005; Romito & Beltramini, 2011). However, rates vary considerably, with between 4 and 66 per cent of children and young people reporting unwanted exposure (Braun-Courville & Rojas, 2009; Cowell & Smith, 2009; Mitchell et al., 2003a, 2003b⁷), and some studies cite significant

numbers of children and young people accessing pornography. For example, Bleakley et al. (2011b) report that 50.7 per cent of a sample of 13 to 18-year-olds in the USA accessed sexualised media content from at least one source (movies, television, music, pornographic websites and magazines). Access was not necessarily frequent, however; most of the sample said that they did not intend to seek sexual content within the next 30 days.

Finding 3: There are gender differences in exposure and access to pornography

Young men and boys are more likely to be exposed to pornography than young women and female children (Cowan & Campbell, 1995; Fleming et al., 2006; Flood, 2007, 2009⁸). Young men and boys are also more likely to access, seek or use pornography (Alexy et al., 2009; Bleakley et al., 2011b; Bonino et al., 2006⁹) and are exposed to or access pornography more frequently (Bonino et al., 2006; Cowan & Campbell, 1995; Flood, 2007¹⁰).

Finding 4: Exposure and access to pornography appear to increase with age

A number of studies suggest a greater risk of exposure to pornography with increasing age (Brown & L'Engle, 2009; Hasebrink et al., 2009; Johansson & Hammarén, 2007¹¹). Livingstone et al. (2011) found that older adolescents were four times more likely than the youngest children to have seen pornography online or offline across all forms of media. They also report that the sexual images older adolescents have seen online are more explicit. In Wolak et al.'s (2007) sample of 10 to 17-year-old children and young people, the majority who reported unwanted and wanted exposure were 13 to 17 years of age. For males, wanted and unwanted exposure increased with age while unwanted exposure in the past year increased with age among females (few females reported wanted exposure).

Explanations for the increase in exposure and access with age include:

- older children's greater engagement in online activities (Hasebrink et al., 2009; Livingstone & Bober, 2004);
- more frequent use of the internet, in particular to look for medical and sexual health-related advice (Luder et al., 2011);
- pubertal status, but this has been considered by only a few studies and findings are conflicting (Brown & L'Engle, 2009; Luder et al., 2011; Peter & Valkenburg, 2006¹²); and
- other biological (sexual) trajectories (low among prepubescent children, increasing in adolescence and early adulthood, then declining thereafter). Bryant (2009) proposes that exposure may be consistent with these trajectories, and this is supported by Træen et al.'s (2004) findings – children and young people under 25 reported greater accessing of pornography than individuals over 25, while a greater proportion of older age groups reported no access. This may, however, reflect generational differences in attitudes towards, and use of, pornography

However, a handful of studies have not found significant differences in frequency of access according to age (Bleakley et al., 2011a; Bonino et al., 2006; Mesch, 2009¹³) or in frequency of watching sexually explicit television programmes (Vanwesenbeeck, 2001) or receiving unwanted sexual material through MySpace (Rosen et al., 2008).

"The transition from primary to secondary school is when most people see it but some people see it earlier because of older family members or neighbours"

Workshop with young people

More contradictory findings exist regarding age at first exposure. Some studies report significant numbers of children being exposed at approximately 10 or 11 years of age (Burton et al., 2010; Cowan & Campbell, 1995; Cowell & Smith, 2009¹⁴), while others report slightly older average ages (14 to 17 years) with first exposure before 13 years old being rare (Brown & L'Engle, 2009; Sabina et al., 2008). Some studies suggest a younger age of first exposure for males in comparison with females (Johansson & Hammarén, 2007; Morgan, 2011; Romito & Beltramini, 2011¹⁵). Skau (2007) reported that age at first exposure was predicted by gender, current age (the younger they were at the time of the study, the earlier the exposure), and whether their father has used or does use pornography. Kubicek et al. (2010) found that young men who had had sex with men reported finding pornography on the internet between the ages of 12 and 13 but had been exposed to "traditional" media (magazines, cable or videos) much earlier (4 to 10 years old). This may be due to differential accessibility of the internet; however, similar findings are reported by Skau (2007) and Ybarra and Mitchell (2005; information on sexual orientation is not reported in these studies).

Finding 5: Children and young people are exposed to and access both online and offline pornography

"Internet is the big one"

"Anyone can access it – it's the internet"

Workshop with young people

The literature demonstrates that the most common ways in which children and young people access pornography have changed in recent years, from magazines, videos, television and books (Becker & Stein, 1991; Roe, 1987) to the internet playing a more dominant role (Flander et al., 2009; Flood, 2007¹⁶), but DVDs, films, magazines and television are still widespread (Bleakley et al., 2011a; Buckingham & Bragg, 2003; Cowell & Smith, 2009¹⁷). Ybarra and Mitchell (2005) compared children and young people who sought pornography offline *only* with those who sought pornography online and offline; they found that the latter group was associated with being older, being of Hispanic ethnicity, having a poor emotional bond with caregivers, and reporting internet expertise and greater frequency of internet use.

Wallmyr and Welin (2006) reported low exposure through mobile phones (3 per cent); however, mobile phones have become considerably more prevalent in the last decade. More recent research (and discourses from commentators) suggests that mobile phones are one of the main sources of exposure and access (Cowell & Smith, 2009; Nitirat, 2007; Papadopoulos, 2010¹⁸).

Bale (2011) reported that children and young people know how to access sexual material (if they should want to) and they believe that they have a right to do so. There is some evidence that young people consider sexual material easy to access and prevalent in society (Cowell & Smith, 2009; Häggström-Nordin et al., 2006; Livingstone & Bober, 2003), with some possibly considering it to be too widely available and/or accessible to young children (Livingstone et al., 2011; Mattebo et al., 2012; Mulley, 2013). Greater access to pornography may have been facilitated by technological developments (increased platforms for distribution, easier and cheaper production, anonymity: Crabbe & Corlett, 2010).

There are variations in exposure to pornography via the internet according to country. In some countries (e.g. Estonia, Finland, Turkey and Spain), the internet is one of the most common sources of pornography; whereas in some other countries (e.g. UK, Germany, Ireland, Portugal and Greece), children are more likely to see pornography through other means (Livingstone et al., 2011). In

Sweden, children and young people report cable and satellite television as a common source of pornography in addition to the internet (Svedin et al., 2011; Wallmyr & Welin, 2006).

Studies from Europe and the US have found that accessing pornography through one method appears to be positively related to accessing pornography through others (Bonino et al., 2006; Livingstone et al., 2011; Peter & Valkenburg, 2006¹⁹). There also appear to be gender differences in preference for and use of different methods; young men and male children search a larger number of sources than young women and female children (Bleakley et al., 2011a; Brown & L'Engle, 2009; Livingstone et al., 2011). Gender differences in exposure to pornography across media are most pronounced in relation to the internet (e.g. Lo & Wei, 2005; Morrison et al., 2004; Romito & Beltramini, 2011²⁰). However, the gender difference in frequency of pornography exposure may be reversed in relation to receiving unwanted sexual materials through MySpace (more female recipients than males; Rosen et al., 2008). Another possible difference raised in our first workshop and by Phippen (2012) is that females may be more interested than males in erotic fiction such as *Fifty Shades of Grey*. There is limited evidence but it also seems that there are cultural differences in how young people are exposed to/access pornography (e.g. Bekele et al., 2011; Kinsman et al., 2000; Njue et al., 2011).

Some studies have investigated the means by which children and young people are exposed to pornography on the internet; methods identified include pop-ups (Livingstone & Bober, 2004, 2005; Livingstone et al., 2005, 2011²¹), being sent unsolicited images or links in email attachments or through chat rooms or instant messages (Buckingham & Bragg, 2003; Cameron et al., 2005; O'Connell et al., 2004²²), or being taken to a site accidentally while searching for something else (Buckingham & Bragg, 2003; O'Connell et al., 2004; Freeman-Longo, 2000²³). The literature also suggests that children and young people are exposed to pornography through websites that are not themselves pornographic or "adult"; for example, video-hosting sites (Livingstone et al., 2011; Mulley, 2013), social networking sites and websites where young people upload and rate each other's photographs (Livingstone et al., 2011; Månsson & Söderlind, 2013; Mulley, 2013²⁴), gaming websites (Livingstone et al., 2011; Mulley, 2013) and peer-to-peer file-sharing websites (O'Connell et al., 2004; Greenfield, 2004²⁵).

It is not the place of this review to consider whether sex offenders use pornography to "groom" children and young people; however, it should be noted that this means of exposure (both online and offline) was mentioned in a number of sources (e.g. Cline, 2001; Dombrowski et al., 2007; Independent Parliamentary Inquiry into Online Child Protection, 2012; Shrock & Boyd, 2008, 2011) and that Livingstone et al. (2005) and Livingstone and Bober (2004, 2005) reported that 9 per cent of 9 to 19-year-old children and young people in the UK Children Go Online project had been sent pornographic images from someone they know and 2 per cent from someone they met online.

What do we think we know but are less confident about?

Finding 6: Children and young people are exposed to and access pornography in a number of different contexts

Boyd and Marwick (2009) cautioned that technology should be examined in context due to its key role in young people's lives. With regards to location, research suggests that young people can be exposed to or access pornography in almost any location (including at home, in internet cafés, friends' houses, school and other public places; Buckingham & Bragg, 2003; Hasebrink et al., 2009; Livingstone & Bober, 2003²⁶). Context comprises much more than location, however. The literature suggests that, for children and young people, accessing pornography can be a solitary or group activity. Male children and young men are much more likely to view pornographic material when

alone than female children and young women (Cowell & Smith, 2009; Romito & Beltramini, 2011; Svedin et al., 2011²⁷); however, many young people, regardless of gender, watch pornography with friends (Cowell & Smith, 2009; Wallmyr & Welin, 2006). Having friends who want to do it is a reason for accessing pornography cited by both male and female children and young people (Romito & Beltramini, 2011; Sabina et al., 2008). Bryant (2009) suggests that watching pornography in a group can be a way to encourage bonding between young men and that it may also be a way to achieve “status”, either directly through being seen as “cool” by one’s peers or indirectly by enabling sexual engagement with young women. Unni (2010) found that young men in India reported peer pressure to use pornography (no young women reported this). Bryant (2009, p.2) maintains that “males are commonly integral to the initial intentional exposure of both sexes”. Female children and young people describe being shown pornography by males, for example at school (Livingstone & Bober, 2004), and more young women than men report watching pornography with a partner to induce arousal (Cowell & Smith, 2009; Romito & Beltramini, 2011; Wallmyr & Welin, 2006). One young woman stated that “boys show me porn all the time” (Cowell & Smith, 2009, p.8). Concerningly, Romito and Beltramini (2011) report that 1.5 per cent of males in their sample and 6.6 per cent of females had been pressured by another person to access pornography.

The apparent gender differences in context described above may be related to the motives and reasons children and young people give for accessing pornography; for example, using pornography for sexual arousal is largely likely to be a solitary activity or one engaged in by a couple (Löfgren-Mårtenson & Månsson, 2010).

Young people’s commonly cited reasons for accessing pornography include:

- curiosity (Bale, 2011; Buckingham & Bragg, 2003; Cameron et al., 2005²⁸);
- masturbation (Bale, 2011; Cowell & Smith, 2009; Wallmyr & Welin, 2006) or sexual arousal (Cameron et al., 2005; Wallmyr & Welin, 2006); and
- getting ideas or for educational purposes (Bale, 2011; Buckingham & Bragg, 2003; Cowell & Smith, 2009²⁹).

Other, less commonly reported reasons include:

- “for a laugh” (Buckingham & Bragg, 2003);
- to relieve boredom, to develop sexual skills and confidence, to break the rules or oppose censorship and to be disgusted (Bale, 2011).

However, gender differences are apparent; young men and boys are more likely to report getting aroused for masturbation and sexual excitement (Cowell & Smith, 2009; Sabina et al., 2008; Wallmyr & Welin, 2006). Regarding curiosity, some studies report that young women and girls are more likely to look at pornography for this purpose than young men and boys (Cowell & Smith, 2009; Wallmyr & Welin, 2006), whereas others report the reverse (Sabina et al., 2008). Bleakley et al. (2011a) found that intentions to seek pornography in the next 30 days were predicted primarily by perceived normative pressure to seek sexual content (whether people who are similar to the respondent would access sexual content and what people important to the respondent would think about them accessing it) but also by attitudes concerning ease of access, likely enjoyment, whether it would be good/bad or foolish/wise to access sexual content and self-efficacy (whether the respondent thought they could seek sexual content in the next 30 days). Some researchers (see Collins et al., 2010; Flood, 2009) suggest that the context of exposure or access (including other actors) may mediate (enhance or reduce) any effects.

There is some evidence in the literature of children and young people sharing pornography, for example borrowing movies, exchanging website addresses and magazines, and sharing by mobile phone (Chetty & Basson, 2006; Cowell & Smith, 2009; Flander et al., 2009³⁰). The taking and sharing of indecent images of themselves and their peers on their mobile phones and online has received much more attention in the media and research in recent years (Brown, 2011; Ringrose et al., 2012). Lenhart (2005) reports that there are three main scenarios for sexting:ⁱ

1. exchange of images solely between two romantic partners (however, Phippen's UK study in 2012 found that sexting was not commonly in the context of a relationship);
2. exchanges between partners that are shared with others outside the relationship; and
3. exchanges between people who are not yet in a relationship, but where at least one person hopes to be. This is the most common scenario as reported by Phippen (2012).

Other, not necessarily unrelated motives include being bored and being under the influence of peers (Kopecký, 2012). Phippen (2012) proposes that young women will usually create these images in response to a young man's request, while young men will take images without encouragement.

Studies suggest that about 4 to 17 per cent of young people have sent or received "sexts" or have posted self-generated images online; there is a positive correlation with age but little apparent variation across gender and SES (Dake et al., 2012; Kopecký, 2012; Lenhart, 2005³¹). Receiving sexts seems to be more prevalent than sending them (e.g. Lenhart, 2005) and young people's perceptions of the commonality of sexting varies (Lenhart, 2005). In the London Borough of Havering sex survey, 26.3 per cent reported seeing naked images of someone they knew in the past 12 months (Mulley, 2013). There may also be associations with mobile phone use in general (e.g. time spent texting: Dake et al., 2012; extent of mobile use; whether they pay their own phone bill; whether parents limit the number of texts they can send: Lenhart, 2005) and sexual orientation (Rice et al., 2012 report that LGBT students were more likely to report sexting than were heterosexual students).

Ringrose et al. (2012, p.7) suggest that sexting appears to be "an experience that is pressurised yet voluntary – they choose to participate but they cannot choose to say 'no'" and propose that it "is not just an individual practice but also a group, networked phenomenon". Both Phippen (2012) and Ringrose et al. (2012) suggest that young women appear to be at a disadvantage in sexting situations. Young men usually make the requests for images (Phippen, 2012) and young women feel pressured and are often disparaged whether they comply or not (they are considered either a "slut" or "frigid": Lenhart, 2005; Ringrose et al., 2012). Moreover, young men appear to collect these images as evidence of their masculine prowess, as "trophies" (Phippen, 2012, p.12) or as a form of "commodity or currency" called "ratings" (Ringrose et al., 2012, pp.8, 26). Such images can be taken and/or disseminated as part of bullying or their discovery may lead to bullying; they may also lead to threats or blackmail or may be posted to or shared via paedophile chat sites (Brown, 2011; Phippen, 2012). One of the major challenges sexting presents is that, while it may be part of age-related pushing of boundaries and sexual experimentation, it can be difficult to distinguish between coerced and non-coerced pictures (Hilton, cited in Brown, 2011). Wolak et al. (2011) examined cases reported to the police in the USA and described aggravated incidents involving abusive or illegal elements beyond the creation/distribution and possession of sexually explicit images of children and young people (involving both adult and young perpetrators). These were distinguished from experimental incidents (similar to the scenarios described by Lenhart, 2005), which did not involve adults or intent

ⁱ There is a growing body of literature on the practice of sexting but there appears to be a discrepancy with regards to the definition; some researchers use it to refer to the sending of sexual images via mobile phones only (e.g. Lenhart, 2005; Rice et al., 2012) while others (e.g. Collins et al., 2010; Kopecký, 2012; Livingstone & Görzig, 2012; South West Grid for Learning, 2012) use the term to refer to sending sexual images or messages via the internet and/or phones.

to harm or reckless misuse (dissemination without the knowledge of the person in the image). Fifty per cent of the adults involved were 18 to 24 years of age. Wolak et al. (2011) concluded that most children and young people are not being criminalised for sexting; however, in 18 per cent of the experimental cases, there was an arrest despite there being no other criminal or malicious activity beyond the making or transmission of images. In the UK, the Association of Chief Police Officers' (n.d.) position on this issue is that it does not support children being criminalised or prosecuted and that safeguarding should be a primary concern in such situations.

The literature reveals other behaviours that may or may not be related to sexting, including using naked or partially clothed and/or sexual photographs of oneself as a profile picture on social networking sites or blogs (e.g. Collins et al., 2010; Williams & Merten, 2008). Cowell and Smith (2009) found that over a quarter of 13 to 17-year-old young people surveyed had used a webcam to show themselves in a sexual manner; over 30 per cent had posed for explicit photographs and just under 20 per cent had been filmed performing a sexual act. In contrast to most of the above research on sexting, young women were more likely to have done all of the above. A small number (two young men and four young women) had been offered money or gifts in return. A third of those who reported being filmed performing a sexual act had not consented to this and 9 per cent had had their images distributed without their permission. Emerging research has reported the recording and distribution of images of sexual activity via mobile technology in gang environments (Beckett et al., 2012) and the recording and distribution of coerced sexual behaviour and sexual assaults (Billingham, 2009; Powell, 2010).

Finding 7: We do not know exactly what children and young people are being exposed to or what they are accessing

Few studies have looked in detail at the content of pornography or specifically examined what children and young people are exposed to online. Much current discourse is opinion or is inferred from what is believed to be available on pornographic websites (e.g. Bryant, 2009; Crabbe & Corlett, 2010; Ezzell, 2009³²). Different and subjective definitions of pornography and sexually explicit material compound the issue. Some studies did not provide participants with a definition of pornography or sexually explicit material (e.g. Becker & Stein, 1991; Bonino et al., 2006), thus allowing for misinterpretation and subjectivity. Others have been quite broad and may have elicited reports of exposure to art or sexual health websites (e.g. Wolak et al., 2007, p.249 gave the definition "pictures of naked people or of people having sex"). The questions upon which a determination of exposure is made can be subjective too; for example, they assume knowledge (e.g. "How often do you see X-rated movies?": Brown & L'Engle, 2009, p.138) or assume understanding (e.g. "In the past year, you will have seen lots of different images – pictures, photos, videos. Sometimes, these might be obviously sexual – for example, showing people naked or people having sex": Livingstone et al., 2011, p.49). Ybarra et al. (2009) cite another of the team's manuscripts submitted for publication that reports that 41 per cent of their 10 to 15-year-old sample claimed not to know what an "X-rated website" is. Peter and Valkenburg (2010a) provided their respondents with a clear definition of pornography (pictures or videos with clearly exposed genitals and pictures or videos in which people are having sex); however, it is acknowledged that there can be ethical concerns with providing children and young adolescents with definitions of pornography (this is why Livingstone et al., 2011 decided not to provide their participants with a definition).

Livingstone et al. (2011) is one of a small number of studies to ask children what they had seen; however, little detail is given concerning the explicitness of the behaviour observed (e.g. vaginal sex and/or anal sex, two people and/or group sex). Images or videos of naked people were most common (almost three-quarters of children exposed to online pornography), followed by people having sex, then images of genitals (almost half of children). This is consistent with some earlier

studies (e.g. 59 per cent nudity and 46 per cent sexual activity: Flander et al., 2009) and a little higher than others (32 per cent: Mitchell et al., 2003a). Studies suggest that, while most young people have seen "soft porn", exposure to extreme pornography (e.g. paraphilia, sexual violence, indecent images of children) appears to occur in a significant minority (Buckingham & Bragg, 2003; Cowell & Smith, 2009; Flander et al., 2009³³). Studies report rates of 2 to 7 per cent for exposure to images or videos of violent sexual content (Flander et al., 2009; Livingstone et al., 2011; Mitchell et al., 2003a; Ybarra et al., 2011). Romito and Beltramini (2011) reported significantly greater prevalence, however: 42 per cent of 18 to 25-year-old young men and 32 per cent of young women had seen violence against women, including extreme degradation, rape, torture and murder, while 33 per cent of young men and 26 per cent of young women had seen depictions of women seeming to enjoy the violence inflicted on them. Exposure to explicit content appears to be more likely among young men and boys (Håggström-Nordin et al., 2009; Romito & Beltramini, 2011; Sabina et al., 2008). Svedin et al. (2011) also reported that young men who were more frequent users of pornography (18 years old) had viewed all kinds of pornography significantly more often than young men in the control groups of less frequent users and non-users (with the exception of heterosexual sex). This included group sex, homosexual sex, sex with violence or force, sex with animals and sexual abuse between adults and children.

Some sources suggest that parents are particularly concerned that older young people (particularly males) seek out more hard-core or violent pornography (Mumsnet evidence to the Independent Parliamentary Inquiry into Online Child Protection, 2012) and that increased consumption leads to habituation and desensitisation and the growing need for more explicit material (Eberstadt & Layden, 2010). Concerns were also raised to the Inquiry (2012) that more explicit material can be found on the internet but there is a lack of empirical evidence to support this (i.e. limited systematic investigations). Skau (2007) compared pornographic content across different media and found that bestiality and fetishes were more likely to be seen on the internet but that rape was most often viewed on DVD or video.

What don't we know?

Finding 8: Are a child or young person's characteristics, vulnerabilities and strengths related to exposure and access (and, if they are, how and why?)

A number of studies have examined characteristics other than age and gender that may be associated with exposure to and accessing of pornography; however, there is yet to be a convergence of findings upon which to make robust judgements.

Most of the included studies reported predominantly White participants (e.g. Bleakley et al., 2011a) or did not provide ethnic information (e.g. Bonino et al., 2006). As such, it is not possible to consider whether perceived ethnicity or culture is associated with exposure to and access of pornography. Studies in the USA were more likely to include diverse populations and they report some tentative findings; being African American was associated with greater exposure for both young men and women in Brown and L'Engle's (2009) study and in Dake et al. (2012), while Rice et al. (2012) found that African American children and young people were twice as likely to sext than White children and young people. Religion is another characteristic that has received scant attention. An exception is an Israeli study by Mesch (2009), which found a negative relationship between internet pornography access and religiosity (self-defined and whether the participants attended a religious school).

Few studies have examined the effect of children and young people's educational level on their risk of exposure. An exception is Mesch's (2009) study, which found that accessing pornography online was associated with lower attachment to school in an Israeli sample of young people. Vanwesenbeeck

(2001) also reports that more educated young women watch sexually explicit television programmes less often; however, Luder et al. (2011) found that, for young women and female children, wanted and unwanted exposure were positively associated with being a student.

Research has also examined parental characteristics and SES, but the findings are conflicting (possibly due to different methods of determining SES). However, some research suggests that a positive parent–child relationship may be associated with less exposure to pornography (e.g. Mesch, 2009; Shek & Ma, 2012; Vandoninck et al., 2010). Dake et al. (2012) also found that sexting is more prevalent in children and young people from non-two-parent families. Exposure to pornography is associated with having less educated parents in some studies (e.g. Brown & L'Engle, 2009) but not in others; Luder et al. (2011) found that, for young women and female children, wanted and unwanted exposure were associated with having a more educated father. Some studies report no association with parental income and/or SES (Shek & Ma, 2012), while some have found a positive association (Mitchell et al., 2003a, 2003b) and others report a negative association (e.g. Brown & L'Engle, 2009; Hasebrink et al., 2009; Livingstone et al., 2005³⁴).

There is growing evidence in the literature that greater exposure to sexual images is associated with greater internet use (Fleming et al., 2006; Mesch, 2009; Mitchell et al., 2003a, 2003b³⁵) and the use of the internet for other functions, for example information seeking, gaming, surfing, downloading, chatting and instant messaging (van den Eijnden et al., 2008), and with greater expertise or digital literacy (Livingstone et al., 2005; Vandoninck et al., 2010).

Finding 9: Should we reduce the risk of exposure and prevent access (and, if so, how)?

There is increasing research on minimising exposure to pornography, focused on parental, technical and skills-based approaches. Hasebrink et al. (2009) report that, across Europe, parents (particularly those with higher SES) attempt to mediate their offspring's internet use through a number of strategies; setting time restrictions, monitoring children as they go online and discussing internet use seem to be preferred to technical strategies such as filtering and monitoring software. The activities of female children are mediated more often than those of males, and parental mediation appears to increase with age until the offspring is 10 to 11 years old and then decreases (Hasebrink et al., 2009). Hasebrink et al. (2009) further report that 31 per cent of European parents state that their child has encountered harmful content on the internet (compared with 21.9 per cent for the UK), and 66 per cent of parents say that their child knows what to do in such situations (compared with 75.4 per cent in the UK). However, research suggests that parents underestimate the actual extent of their children's exposure to pornography; for example, Livingstone et al. (2011) found that 40 per cent of parents whose child had seen sexual images online, when asked, reported that their child had not been exposed. There was an indication that parents were likely to overestimate exposure to pornographic content for younger children and slightly underestimate it for older children.

There are conflicting findings regarding parents' role in prevention. Wolak et al. (2007) report that if young people had attended an internet safety presentation by law enforcement personnel, they were at reduced risk of unwanted exposure; however, those who reported being talked to by parents or adults at school about online pornography had higher odds of exposure (this is perhaps consistent with Bleakley et al., 2011a, who found that parental disapproval was associated with greater exposure). Similarly, Mitchell et al. (2003a) report that parental supervision was not associated with a reduction in exposure; rather, they found that checking the history function, asking what the young person does while online, and checking the screen while the young person is online were associated with greater exposure. Ybarra and Mitchell (2005) found that online seeking of pornography was

associated with having household rules about not visiting pornography websites. However, it is unknown what came first; parents may be employing such strategies because their offspring have been exposed to or have been accessing inappropriate material. In contrast to the above findings from the USA, Livingstone et al. (2005) report that 12 to 15-year-olds in the UK with lower "peer-to-peer restriction" (those less likely to be told by parents not to use instant messaging, play games online, use email and download material) were more likely to be exposed to and access pornography. They also found that 16 to 17-year-olds who perceive their parents to have imposed privacy restrictions are less likely to be exposed to or access pornography.

A number of studies report that filtering and blocking software reduce the risk of unwanted exposure and access (Mitchell et al., 2003a, 2003b; Wolak et al., 2007; Ybarra et al., 2009), although there are exceptions (Fleming et al., 2006). Wolak et al. (2007) report that filtering and blocking software reduced the risk of unwanted exposure and access but they note that unwanted exposure to online pornography occurred despite the use of filtering and blocking software in more than half of families with home internet access (also see Mitchell et al., 2003a, 2003b; Ybarra et al., 2009). Interestingly, Ybarra et al. (2009) discovered that preventive software reduced unwanted exposure for children and young people aged 10 to 15 years but not for those aged 16 to 17 years. Moreover, other commentators and researchers have argued that filters can also block material that children and young people may want or need to access, such as websites concerning advice on sexual health or sexual orientation (Kaufman, 2003). An older study by Cameron et al. (2005) found that children and young people could easily get around indirect parental monitoring (e.g. checking history files) and that third party filtering or blocking software was often removed by parents due to inconvenience.

Some commentators and researchers question whether we should use filtering or blocking or whether to help young people and children to develop resilience and the skills to manage online content. In Buckingham and Bragg's (2003, p.74) study of sexual media, young people described positively rejecting material that they considered themselves too young to watch and were often not pleased at parents' attempts at regulation, seeing it as "patronising" and their parents as being "old-fashioned". Bryant (2009) also suggests that young people have standards of acceptable and unacceptable content by which they evaluate pornographic material and that they select material based on these standards. The literature suggests that young people have a number of strategies for dealing with unwanted exposure. Livingstone et al. (2011) explain that some respond passively (26 per cent), for example they stopped using the internet for a period of time, while others take a more proactive approach (22 per cent), such as telling someone like a friend or parent or changing filter or contact settings. Similar strategies were reported in studies by Fleming et al. (2006) and Livingstone and Bober (2004, 2005). In the study by Rosen et al. (2008), 94 per cent of responses to the receipt of unwanted sexual material on MySpace were appropriate (e.g. telling the person to stop, blocking them, logging off, reporting the incident to an adult or to MySpace). Some strategies may be considered risky, however: for example, clicking on the link or returning to it later (e.g. Livingstone & Bober, 2004, 2005). There may be gender differences in responses to exposure; for example, young women appeared more likely to report that they immediately deleted received messages (Flander et al., 2009; Tsaliki, 2011) or showed an adult (Flander et al., 2009), while young men were more likely to visit the proposed websites and were more likely to keep received messages. Tsaliki (2011) reported similar differences with regards to age, with younger children being less interested in trying to access the material. Vandoninck et al. (2010) and Mitchell et al. (2003a, 2003b) found that young people were less inclined to talk to others about negative experiences on the internet, with just under half never talking about them to anyone. Vandoninck et al. (2010) found that few approach an adult and that experiences were mainly shared with peers, while Mitchell et al. (2003a, 2003b) found that parents were told in 39 per cent of cases and friends or siblings told in 30 per cent of cases. Livingstone and Bober (2004, 2005) report lower rates of reporting to a parent or teacher (6 per

cent) or to peers (7 per cent). Mitchell et al. (2003a, 2003b) also found that relatively few unwanted exposures are reported through official channels and propose that this may be due to lack of awareness of these channels on the part of the children and young people and their parents.

What do we need to know?

High priority

This REA highlights a number of areas for further research. Before further research is undertaken, however, a discussion is required concerning definitions (e.g. Munro, 2011). There is a lack of consensus in the literature making it difficult to compare across studies. Children and young people must be included in this discussion. Their definitions should take precedence over those of policymakers and researchers if we are to examine their use of pornography in context. The following research questions require immediate attention:

- How do young people define pornography and how do they rate explicitness? Are there different definitions according to gender, age or other demographic factors?
- What are young people seeing when they are exposed to pornography and when they access it?
- Are young people recording and distributing images of coerced sexual activity via mobile technology, for example in gang environments?

Low priority

- How do children and young people's socio-demographic characteristics (ethnicity, SES etc.) and experiences (within the family and the wider context) influence their online decision making and moderate or mediate any impact of online experiences (Munro, 2011; Bryant, 2009)?
- Are there associations between online gaming and exposure to sexual online content (Hasebrink et al., 2009)?

Due to greater population mobility and the international reach of technologies such as the internet, more cross-national studies such as the EU Kids Online project should be conducted. Mixed methodological approaches seem the most informative, as quantified data alone cannot capture the meaning and reality of pornography exposure and access for children and young people. Conversely, it is important to acknowledge the need for accurate statistical information to contextualise the extent, incidence and frequency of matters identified qualitatively, to maintain perspective and add to the ability to generalise from findings. Munro (2011) suggests the use of peer research methodology to reduce any status or power discrepancy between the participants and the researcher. This may also encourage greater disclosure and honesty in responding.

Research question 2: The existing evidence base on the effects that access and exposure to pornography have on children and young people's sexual expectations, attitudes and behaviours

Research question 2 of the REA examines the literature pertaining to the effects that access and exposure to pornography (online and offline) have on children and young people's attitudes, behaviours and sexual expectations. There were 159 articles, reports and book chapters of relevance, evenly split between attitudes and behaviours. Far fewer examined sexual expectations directly (two out of eight in total), but elements of that could be found across most papers. The majority of research papers originated in the USA, followed by European studies (Sweden, in

particular) and Canadian studies. Very few directly relevant studies were conducted in the UK (approximately eight).

Table 4: Summary of findings for research question 2

Questions	Findings
What do we know and are confident about?	<ol style="list-style-type: none"> 1) There are differences in children and young people’s attitudes towards pornography according to their gender. 2) Access and exposure to pornography affect children and young people’s sexual beliefs. 3) Children and young people learn from and may change their behaviour because of exposure and access to pornography. 4) Access and exposure to pornography are linked to children and young people’s engagement in “risky behaviour”.
What do we think we know but are less confident about?	<ol style="list-style-type: none"> 5) Children and young people’s age is related to how they understand and process pornography and therefore how it affects them. 6) The effects of pornography on children and young people’s sexual expectations are unclear. 7) Exposure and access to pornography appear to be related to children and young people’s perpetration of and victimisation through aggressive behaviour. 8) Exposure and access to pornography as a child or young person appear to be related to sexual offending. 9) Exposure and access to pornography affect children and young people’s perception of risk and danger.
What don’t we know?	<ol style="list-style-type: none"> 10) We do not know what effects the cultural context has on young people’s attitudes and behaviours towards and stemming from pornography. 11) We cannot infer causality. 12) There is much we still do not understand about young people’s feelings towards and perceptions of pornography. 13) We do not know whether pornography leads to sexual addiction and compulsivity.
What do we need to know? High priority	<ol style="list-style-type: none"> 1) What roles do culture and socialisation play in the differences observed between studies and on young people’s attitudes towards pornography? 2) What are risk and protective factors for children and young people in relation to aggressive, risky and offending behaviours?

Questions	Findings
What do we need to know? Low priority	3) What is the effect of other sexualised media, such as advertisements, on young people and children? 4) Are there links between sexualisation, objectification of young people and tabloid media?

What do we know and are confident about?

Finding 1: There are differences in children and young people’s attitudes towards pornography according to their gender

“There’s more pressure on girls than on boys”

Workshop with young people

There are fairly consistent differences in how male and female young people view pornography. Boys and young men generally view it more positively and report that they view it primarily because of curiosity, while girls and young women generally report that it is unwelcome and socially distasteful and that they feel much more uncomfortable when viewing pornography (Bryant, 2009; Cameron et al., 2005; Caron & Carter, 1997³⁶). Girls, more frequently than boys, believe that pornography could create uncertainty and demands around sexuality (Häggström-Nordin et al., 2009). According to Livingstone et al. (2011), young women appear more upset about sexual material they are exposed to while using the internet than do young men. According to a 2013 paper on the same EU population, overall boys and young men appear more bothered by violence they see online than young women, while girls are more concerned with contact-related risks (Livingstone et al., 2013). Rogala and Tydén (2003) reported on data from a sample of Swedish female teenagers indicating that four out of five believed that porn influences people’s behaviour and that 32 per cent of those who viewed it believed it had influenced them; 19 per cent gave positive examples of the influence of pornography while 66 per cent gave negative examples. Other Swedish research by Wallmyr and Welin (2006) reports that 46.3 per cent of females and 23.3 per cent of males described pornography as “degrading”. The majority of males (62.7 per cent) responded positively towards pornography, describing it as “stimulating” and “cool”, but above all “exciting”. The youngest women were the most negative. Older females reported more positive views. However, this research included people up to the age of 25 and because no age breakdowns were provided we cannot be sure exactly what the views of children and young people were in this sample.

Finally, Cantor et al. (2009) found that males and females respond differently to pornographic stimuli. Males appear to focus more on the physical aspects of the stimuli and are more affectively positive than females, and females tend to focus on the relational aspects of the depictions. According to Johansson and Hammarén (2007), though, it is difficult to discern why these differences exist; they suggest that we need to look into the socialisation of the two genders more closely (see also the previous discussion concerning gender differences in the context and reasons for accessing pornography in research question 1).

Finding 2: Access and exposure to pornography affect children and young people’s sexual beliefs

“Porn is... providing an arousal in you. Stimulates ideas which make you want it more”

Workshop with young people

The systematic literature review by Owens et al. (2012) suggests that there is a relationship between young people who are exposed to internet pornography and an array of sexual beliefs. Studies in this area have been conducted in a wide range of countries; this means that, when interpreting or generalising from findings, caution must be applied as the impacts of societal norms are unclear.

A study of 529 Greek children and young people found that participants who were exposed to sexually explicit material were at risk of developing unrealistic attitudes about sex and were more likely to have maladaptive attitudes towards relationships (Tsitsika et al., 2009). A correlational study of 2,001 Taiwanese children and young people found that exposure to internet pornography was associated with greater acceptance of sexual permissiveness and a greater likelihood of engaging in sexually permissive behaviour. Most importantly, this effect remained when it was examined simultaneously with exposure to traditional pornography, general media use and demographics (Lo & Wei, 2005). Links between exposure to pornography, more sexually permissive attitudes and greater acceptance of casual sex have also been found in the US (Braun-Courville & Rojas, 2009; Brown & L'Engle, 2009; Zillman, 2000) and Sweden (Häggström-Nordin et al., 2006). Some of these studies have also found links with less progressive gender role attitudes (e.g. male dominance and female submission) (Brown & L'Engle, 2009; Häggström-Nordin et al., 2006). Participants also highlighted the double standard reinforced in pornographic material: that is, women with multiple partners are considered promiscuous, while men with multiple partners are revered (Häggström-Nordin et al., 2006). However, it must be noted that this particular sample's ages varied from 16 to 24, so generalisations should be made with caution. Other studies have found that not only do frequent viewers of pornography have more positive attitudes towards the material (than those who use it less frequently or not at all) but they believed that by using such material they could have a more stimulating sex life (Svedin et al., 2011).

The most prolific researchers in this field, Peter and Valkenburg from the Netherlands, published a series of relevant studies between 2007 and 2011 with the following findings:

- Exposure to sexually explicit online films was significantly related to the belief that women are sex objects (when exposure to other forms of sexual content was controlled for) (Peter & Valkenburg, 2007).
- How much children and young people liked internet pornography was a mediating factor in the relationship between exposure and the belief that women are sex objects. They also found the reverse relationship (the impact of the belief that women are sex objects on exposure to internet pornography is also mediated by a liking for internet pornography). Therefore, exposure to internet pornography is both a potential cause and a consequence of viewing women as objects (Peter & Valkenburg, 2009).
- Frequent use of internet pornography was linked with more frequent thoughts about sex, more frequent distractions because of sex and a stronger interest in sex. Peter and Valkenburg (2008) suggest that there may be a greater sex-related memory association as a result of sexual arousal caused by exposure to internet pornography and that may eventually lead to chronically accessible sex-related cognitions (i.e. sexual preoccupation).
- If children and young people perceive sexually explicit content to be similar to real-world sex and if they see it as useful, then they are more likely to have attitudes towards sex that are casual and hedonistic rather than affectionate or relationship-based (Peter & Valkenburg, 2010a).
- More frequent internet pornography use increased children and young people's sexual uncertainty (e.g. the extent to which they are unclear about their sexual beliefs and values) (Peter & Valkenburg, 2010b).

- The use of internet pornography by adults (n=833) or by children and young people (n=1,445) was not predicted by their belief in the rape myth:ⁱⁱ “women say no when they mean yes”. Interestingly, adults were found to be more susceptible to the impact of internet pornography on beliefs that women say no when they mean yes than children and young people (Peter & Valkenburg, 2011).

Meta-analysis by Allen et al. (1996) found that education had an effect on young people’s beliefs and attitudes. According to the authors, post- and pre-experiment education appear to reduce the harm sustained by watching or reading sexually explicit materials. There was also a reduction in acceptance of rape myths after the experiment, despite exposure to sexually explicit materials. Further research examining the direct effect of educational programmes is necessary to provide further support for this promising meta-analysis.

Finding 3: Children and young people learn from and may change their behaviour because of exposure and access to pornography

“They won’t understand, but when they’re in that situation they will treat women like shit”

Workshop with young people

There is a general consensus in the literature that children and young people can learn sexual behaviours from observing the behaviours displayed in pornography (Alexy et al., 2009; Laville, 2012; Häggström-Nordin et al., 2006³⁷). For example, in a mixed methods UK study, 80 per cent of young people taking part in the survey said that watching pornography affected the way in which they had sex; during their focus groups, young people referred to the new ideas that they accumulated from watching pornography and suggested sexual positions that they were eager to try (Cowell & Smith, 2009). Furthermore, Bleakley et al. (2011b) found that exposure to sexualised materials was related to the likelihood of young people engaging in more sexualised behaviour because they perceived more social pressure to have sex.

Finding 4: Access and exposure to pornography are linked to children and young people’s engagement in “risky behaviour”

Table 5 shows that the majority of studies find that there are effects on “risky behaviour” (e.g. engagement in sexual practices from a younger age, engaging in riskier behaviours such as unprotected anal or oral sex, or the involvement of drugs and alcohol in sex) if young people have been exposed to sexually explicit materials (SEM) and/or pornography, with the exception of the study by Luder et al. (2011). However, it should be noted that the majority of this research is cross-sectional and correlational and therefore causal relationships cannot be established. Furthermore, these studies are from different cultural contexts and backgrounds, and therefore what is considered “risky behaviour” varies.

ii Defined by Burt (1980, p.217) as “prejudicial, stereotyped, or false beliefs about rape, rape victims and rapists”.

Table 5: Findings from studies that have looked at the link between access and exposure to pornography and children and young people’s engagement in “risky behaviour”

If young people had	What “risky behaviour” had they engaged in?	Country	Authors and year
Been exposed to SEM	Higher acceptance and engagement in sexually permissive behaviours.	Taiwan	Lo & Wei, 2005
Been exposed to SEM	More liberal attitudes, more likely to smoke and consume alcohol.	India	Ghule et al., 2007
Consumed pornography	Half had anal intercourse. A quarter had one sexually transmitted infection. Half felt that pornography impacted on their sexual behaviour.	Sweden	Tydén & Rogala, 2004
Had frequent exposure to SEM	More likely to have had sex with a friend, group sex, oral sex and/or anal sex. Earlier age when they first had sexual intercourse. 71% believed that SEM influenced their peers’ sexual behaviour. 29% believed that SEM influenced their own sexual behaviour.	Sweden	Häggström-Nordin, 2005
Had early exposure to SEM	More likely to have had oral sex and to have had sexual intercourse for the first time when younger. Linked with early engagement in sexual activities.	USA Canada	Brown & L’Engle, 2009 Skau, 2007
Used SEM	More likely to report having had anal sex, sex with multiple partners and using alcohol and drugs during sex.	USA	Braun-Courville & Rojas, 2009
Been exposed to SEM	Was not associated with early sexual initiation or with multiple sexual partners.	Switzerland	Luder et al., 2011

Vandoninck et al. (2010) report that more digitally literate young people (particularly boys) spend more time online and therefore encounter more risks. Mitchell et al. (2003a, 2003b) report that unwanted exposure is associated with risky online behaviour such as talking to strangers online, harassing or playing jokes on people online and accessing pornography. Wolak et al. (2007) found similar associations with wanted exposure (accessing pornography) and a link between greater unwanted exposure and harassment online. There is also some evidence that exposure and access may be associated with risky offline behaviours such as delinquency, rule breaking and substance use (Tsitsika et al., 2009; Wolak et al., 2007; Ybarra & Mitchell, 2005) and conflicting findings concerning exposure and access and depression (positive association with exposure: Mitchell et al., 2003a; Wolak et al., 2007; no association between access and depression or loneliness: van den Eijnden et al., 2008).

Another behaviour that has recently emerged (as mentioned in research question 1) and is frequently referred to as “risky” is sexting (Brown, 2011). Wide and uncontrolled circulation of sexting material

via social media has been argued to pose risks because the material can be used for bullying, maltreatment and exploitation (Ferguson, 2011). Also, according to Wolf (2012), online distribution of material generated via sexting has the potential to lead to self-harm and/or suicide. There may also be associations with substance use and abuse, being bullied or physically abused by a partner and depression (including contemplated and attempted suicide: Dake et al., 2012). Rice et al. (2012) and Ringrose et al. (2012) also talk about the risks associated with sexting and characterise it as part of a cluster of health risk behaviours in which many children and young people are engaged. For example, children and young people who sexted were more likely to report being sexually active and exhibited a trend towards unprotected sex during their last sexual encounter (Rice et al., 2012). Furthermore, Ringrose et al. (2012) observe that sexting is not a single activity but a range of activities that may be motivated by sexual pleasure but are often coercive and linked to harassment, bullying and even violence, and that the majority of that harassment is directed by young men towards young women.

What do we think we know but are less confident about?

Finding 5: Children and young people's age is related to how they understand and process pornography and therefore how it affects them

Only a few studies or components of larger studies have found that there are age differences in how children and young people process and are affected by pornography (Benedek & Brown, 1999; Buckingham & Bragg, 2003; Cantor et al., 2009³⁸). Livingstone et al. (2011) found that younger children were more upset by online sexual images than teenagers. Very young children (up to 9 years old) appear to confuse sexually explicit activity with violence, as they seem unable to distinguish between unfamiliar repetitive movements and auditory stimuli that resemble pain; this may mean that stimuli may have the same effect as viewing violence on television (sleep disturbances and nightmares: Benedek & Brown, 1999). Buckingham and Bragg's (2003) study with 9 to 17-year-olds in the UK found that younger children appear not always to understand sexual references or connotations; they often have partial knowledge of sexual relations which contributes to misinterpretation of references to sexual matters (especially in the form of innuendo or suggestion, as often appears in music videos). Also, younger children appear less aware of cultural differences and conventions in sexualised media. A retrospective study about exposure to pornography with undergraduate students indicated that younger viewers (5 to 12-year-olds) responded more to surface features of the materials (e.g. nudity) with confusion or guilt and that older viewers (13 and over) responded more to the plot elements (e.g. rape) with more anger, disgust and sadness (Cantor et al., 2009). A further US retrospective study with a female sample (Corne et al., 1992) found that early exposure to pornography was linked to subsequent rape fantasies for women, and to holding more supportive attitudes towards sexual violence against women. Although the studies appear quite rigorous in their methodologies, some are rather dated (i.e. the cultural milieu might have been different from that of the present) and others are retrospective, where the participants are referring to incidents in their past, and hence results must be interpreted with caution.

Young people recognise that pornography is omnipresent and most young people report its negative effects (such as a dislike of the materials available) and recognise the distorted messages that pornography conveys regarding sexuality and body ideals (in particular for younger children). A recent health survey in the London Borough of Havering (Mulley, 2013) showed that one in two young people surveyed felt that pornography affects relationships, and that they believed the government should help limit accessibility of online materials. But some young people describe the positive aspects of pornography (e.g. sexual knowledge, curiosity and inspiration) (Daneback & Löfberg, 2011; Löfgren-Mårtenson & Månsson, 2010; Mattebo et al., 2012). However, when describing the positive aspects, many young people link these to their desire for information to supplement, or in

lieu of, formal sex education; when formal education is not found, they turn to pornography as a substitute.

Finding 6: The effects of pornography on children and young people's sexual expectations are unclear

Few studies have asked children and young people directly about their sexual expectations in relation to their access and exposure to pornography. Two qualitative studies discussed expectations with slightly different emphases (Häggström-Nordin et al., 2006; Löfgren-Mårtenson & Månsson, 2010). Häggström-Nordin et al. (2006) asked young people to discuss the expectations that are inferred in pornography relative to the female body image. Participants reported that they have clear expectations about female inferiority and also body ideals (thinness and smallness in size) and male superiority (muscular and bigger in size). Young Swedish men (aged 17 to 21) in the Häggström-Nordin et al. (2009) study also reported that watching pornographic films influenced their behaviour, as they either fantasised about or actually performed acts inspired by pornography. Löfgren-Mårtenson and Månsson (2010) reported that young men were preoccupied with being able to perform similarly sexually, and for the same duration, as the men in pornography, while young women (in a similar finding to that found in the above study by Häggström-Nordin et al., 2006) expressed the view that women in pornography represented the ideal body type and that made them feel unattractive. Most mainstream pornography describes a narrow ideal of body type and sexual behaviour that creates unrealistic and limited expectations for young people.

Finally, Træen et al. (2004) – drawing on a Norwegian population survey – reported that the majority of their respondents mentioned that the use of pornography leads to greater openness about sexuality, it makes people's sex lives better and it is not harmful to human sexuality. They did, however, also state that it degrades women but not men, it is too easily available and it also leads to sexualised violence in society. Men and younger people and those of lower educational attainment were more likely to state that pornography helped with sexual enhancement. However, some important caveats of this study were: a) that it had a wide age span (15 to 91) and a mean age of 43, so we cannot be sure to what extent the views of children and young people are represented; and b) no definition of pornography was offered by the researchers. Participants were asked to report what pornography they had seen or used, and therefore we cannot be sure that all participants were referring to similar content as their responses were not controlled for in the analysis.

Despite the lack of research on young people's sexual expectations, there is growing evidence that indicates that young people are unhappy with the sex education they are receiving and that they increasingly use pornography, expecting it to educate and give information regarding sexual practices and norms (Allen, 2006; Flood, 2010; Hilton, 2007³⁹). Research conducted in the UK (Hilton, 2007) indicates that young male children (aged 16 to 17) would like pornography to be included in sex education classes and report that issues around sex and sexuality are not covered sufficiently. These young male children have increasing expectations that pornography will teach them aspects that are otherwise unavailable to them. Kubicek et al. (2010) found that young gay men rely on pornography and the internet to acquire information about anal sex, its nature and risks because it is not covered in sex education. Kendall (2004) raises concerns about the consequences of this for young gay men, particularly with regards to the hyper-masculinity portrayed in gay porn and how this may affect young men's developing identity and sexual expectations.

Finding 7: Exposure and access to pornography appear to be related to children and young people's perpetration of and victimisation through aggressive behaviour

"Makes out that how women are portrayed in pornography is correct and that women can be treated this way, offers a sense of entitlement – you might go up to a girl and just grab her boob 'cause you feel that you can"

Workshop with young people

There is a fair amount of research that links exposure to pornography with aggressive behaviour, but it has many limitations. Most of the research has focused on the links between exposure to pornography and perpetration of aggressive behaviour. For example, in the USA, while frequent exposure to internet pornography was not linked to increased levels of sexual aggression generally, for young men with a predisposition towards aggressive sexual behaviour, frequent consumption of pornography meant that they had four times the level of sexual aggression of young men who were non-frequent consumers of pornography (Ybarra & Mitchell, 2005). A longitudinal study, also from the USA, found that men who were exposed to pornography in early adolescence were more likely to engage in sexual harassment in middle adolescence; 80 per cent (n=967) of male participants reported having committed some form of sexual harassment and having used some form of pornography (Brown & L'Engle, 2009). Conversely, another longitudinal study from the USA found that 5 per cent of the children and young people in the sample reported having perpetrated some form of sexually aggressive behaviour (included in-person sexual assaults and technology-based sexual harassment and/or solicitation). However, children and young people who intentionally accessed violent sexually explicit material were six times more likely to be sexually aggressive than those who did not access it (Ybarra et al., 2011). The difference between the two studies in relation to sexual harassment (80 per cent compared with 5 per cent) can be explained by the much more comprehensive sexual harassment questionnaire used by Brown and L'Engle (2009) (including face-to-face and other forms of harassment) whereas Ybarra et al. (2011) asked about online harassment only.

Two recent Scandinavian studies found links between the use of pornography and sexually coercive behaviours (Kjellgren et al., 2010, 2011). Among Swedish young men, frequent use of pornography, and the use of violent pornography in particular, were more common among those who had displayed sexually coercive behaviour or had conduct problems than normal controls (Kjellgren et al., 2010). The sexually coercive behaviour and conduct problems young men also indicated that they had peers who watched pornography more often, or liked violent pornography more than controls, while sexually coercive behaviour males liked violent pornography and depictions of child sexual abuse more than conduct problems males (Kjellgren et al., 2010). Female high school students from Sweden and Norway who displayed sexually coercive behaviour had sexual intercourse with more partners, were higher in rape myth acceptance and had watched violent pornography significantly more than non-coercive females. They also appeared to have sold sex significantly more and were more likely to have peers who watched violent pornography (Kjellgren et al., 2011).

Developing the link between pornography use and perpetration of sexual aggression, Bonino et al. (2006) found that Italian young people (14 to 19 years old) who use pornography seem more likely to establish relationships with their peers characterised by greater tolerance towards unwanted sexual behaviour. Viewing pornographic films and videos was related to having been sexually harassed or forced to have sex, especially for young women. Pornography, violent forms in particular, may at least contribute to constructing an environment in which there is greater tolerance for and less disapproval of unwanted sex.

Fewer studies have investigated victimisation via aggressive behaviour linked vicariously or directly to pornography. A US sample found that young people who reported being frequently sexually victimised online or via text messaging were nine times more likely to report being the perpetrators of sexually aggressive behaviour compared with non-victims; these were young people exposed to or seeking pornography as well (Ybarra et al., 2011). An Ethiopian study found that 68 per cent of secondary school female participants experienced sexual coercion, with the strongest risk factors for sexual violence victimisation being frequent pornography use, multiple sexual partners and substance abuse (Bekele et al., 2011). Finally, Mitchell et al. (2003b) and Wolak et al. (2007) found that young people who reported being harassed or sexually solicited online or being interpersonally victimised offline also reported more unwanted exposure to pornography.

One possible developmental pathway has been proposed in a working paper by Meszaros (unpublished). This is referred to as the "mirror neuron system" and is an attempt to look at whether neural networks might display some biological differences; this approach would be similar to the idea that we are socialised through modelling behaviours from one another. However, no data to test this proposition exist currently and it would be very hard to determine the interactions between underlying biology and proximal influences on the neural architecture, so we must consider this with caution.

Finding 8: Exposure and access to pornography as a child or young person appear to be related to sexual offending

Relatively fewer studies have examined pornography's relationship with sexual offending among children and young people (for a review, see Seto & Lalumière, 2010), but there are some tentative conclusions that may be drawn.

Many studies have focused on children and young people who have already been convicted of a sexual offence. Findings include the following:

- Juvenile sex offenders who used pornography were more likely "to engage in coerced vaginal penetration and forced sexual acts such as oral or digital penetration, to express sexually aggressive remarks (obscenities), and to engage in sex with animals" (Alexy et al., 2009, p.450) than those who did not.
- Among adolescent males with a history of physical sexual offences (n=256), early and inappropriate exposure to pornography may contribute to the development of antagonistic, unhealthy and distorted views of human sexuality and "glorification of promiscuity" (Hunter et al., 2010, p.146). Moreover, these authors argued that because children and young people normally would not have the opportunity to compare real-life experiences with actual sexual partners until later, they may be especially susceptible to internalising distorted pornographic images and may modify their behaviour accordingly (Hunter et al., 2010).
- A comparison of 284 male adolescent sexual abusers and 170 non-sexually offending delinquent youth (victims of sexual abuse were excluded from both samples) found that the sexual abusers reported more exposure to pornography before they were 10 years old than non-sexual abusers and were more likely to continue to use it as children and young people. However, there was no relationship between pornography consumption and sexual crime per se (Burton et al., 2010). Similar findings were first shown by Zgourides et al. (1997), who found a negative correlation between exposure to pornographic videos and sexual offences in adolescent sex offenders.
- Ongoing unpublished research conducted by Bulkley examines juvenile sex offenders in the USA and their risk of future reoffending and need for treatment. Two-thirds of the young offenders interviewed admitted to having viewed pornography on multiple occasions prior to their sexual

offending. These findings suggest that pornography exposure may be a contributing factor to sexual offending, and that youths who are exposed to it may draw on it heavily in conjunction with their offending behaviours. However, as this research has not been reviewed or published yet, these data should be viewed with caution and it is unclear whether the associations are direct, nor is it clear whether and how they might interact in conjunction with other risk predictors.

Other studies asked adult sex offenders retrospectively about their pornography use as children or young people. For example, in a Canadian sample, adolescent exposure to pornography was a significant predictor of the elevation of violence (e.g. an increase in victim humiliation) but was also linked with a releasing or cathartic effect of pornography (e.g. there was less physical harm to the victim if pornography was used prior to the attack: Mancini et al., 2012). These effects were not found with the offenders' use of pornography as adults, leading the authors to conclude that pornography affects offenders' propensity to degrade victims differentially over the course of their lives.

Finally, a Norwegian study explored the links between pornography access and/or exposure with sexual offending in a sample of non-convicted young people. It reported that young men's likelihood of engaging in sexual activity with children was linked with frequent use of pornography and also with having peers and friends with a positive interest in violent pornography and depictions of child sexual abuse (Hegna et al., 2004). This is the only study that looked at pornography and sexual activity with children in a non-convicted youth population, and therefore generalisability and interpretation should be treated with caution.

Finding 9: Exposure and access to pornography affect children and young people's perception of risk and danger

Several studies included a component on the attitudes of young people and children towards pornography and sexualised media; however, the findings are conflicting (e.g. Chetty & Basson, 2006; Livingstone & Bober, 2003; Lo & Paddon, 2000⁴⁰). Some consensus is apparent: young people seem to be aware of the dangers of online pornography, but feel that they have the coping skills necessary to deal with them. However, there appears to be a "third person effect", with many reporting that people younger than themselves are more in danger from online sexualised materials.

- Livingstone and Bober (2003, UK component of the EU Kids Online project) found that all young people asked (10 to 19 years) reported that they felt able to protect themselves from the dangers of pornography online, but that younger children should be actively protected. Also, some young men did not wish to see pornography restricted (Livingstone & Bober, 2003).
- Similar results were reported by Löfgren-Mårtenson and Månsson (2010) from a Swedish sample of young people (14 to 20 years) who expressed feelings of both normalisation and ambivalence towards pornography. They felt that it was a source of knowledge, information and sexual arousal, but also that it functions as a lens through which body ideals and sexual performances are viewed. These Swedish young people also reported having developed skills to deal with pornography in a sensible and reflective manner, but that younger people should be protected against exposure to it (Löfgren-Mårtenson & Månsson, 2010).
- This was also found in earlier studies (e.g. Lo & Paddon, 2000), where participants thought that pornography had a more negative influence on other people than on themselves.
- Half of Livingstone and Bober's (2004, 2005) UK sample (9 to 19 years) reported that they were not affected by watching pornography online; however, a significant minority (14 per cent) said that they did not like it. Furthermore, 45 per cent of the 18 to 19-year-olds who viewed pornography

online and offline reported that in hindsight they thought they were too young when they were first exposed to it (Livingstone & Bober, 2005).

Although these studies are very informative and contain a very large sample of participants, the details of their methodologies and analyses are not always clear. However, similar attitudes have been found in studies with smaller samples; for example, most of the 9 to 17-year-olds from the UK in Buckingham and Bragg's (2003) study, even those who condemned pornography, considered it a part of everyday life. Children's discourse in this study is again a mixture of fascination and disgust. Chetty and Basson's (2006) survey in South Africa, conducted as a direct comparison to Buckingham and Bragg's UK study, found very similar results; the vast majority of the sample (73 per cent of 13 to 17-year-olds) reported that watching pornography does have harmful effects on people. Furthermore, 51 per cent reported that watching such films made them more curious about sex, but also 42 per cent reported feeling uncomfortable when watching them. Fewer young people in this sample reported not being "bothered" about what images they came across (38 per cent), compared with 54 per cent of UK young people (Chetty & Basson, 2006).

The EU Kids Online project reported that the risks associated with online activity (e.g. exposure to pornography, bullying, receiving sexual messages, contact with people not known) were not necessarily experienced by the majority of children as either upsetting or harmful (Livingstone et al., 2011). Mattebo et al. (2012; 16 to 19-year-old Swedish youths) report that the young people in their study said pornography is widespread but they appeared to understand that there is a discriminatory sexuality illustrated in pornography in general (usually dominant man versus subordinate woman). They described pornographic messages as fictitious and portraying a distorted reality (with distorted body ideals and messages about sexual techniques and relationships). Even though young people were able to distinguish between fiction and reality in this sample, they also expressed ambivalent feelings towards pornography, such as anxiety and fear but also knowledge and inspiration (Mattebo et al., 2012). Contradictory findings were reported by Peter and Valkenburg (2010a), who found that children and young people's perceptions of the social realism and utility of sexually explicit material increased when they were frequently exposed to it. Why might the Swedish young people understand the distinction between fiction and reality when a Dutch sample appears unable to make that distinction? As discussed in research question 1, cultural differences, differences in sex and relationships education (SRE) and differences in the studies' methodologies and analyses may explain this disparity, but more systematic comparisons are necessary to be able to draw meaningful conclusions. Nevertheless, a more recent study stemming from a qualitative open-ended question put to the children involved in the EU Kids Online project (Livingstone et al., 2013) indicates that, in children's own words, their risk perceptions place pornography (named by 22 per cent of children) and violent content (18 per cent) at the top of their online concerns for themselves and their peers.

A smaller number of research articles report positive attitudes towards pornography or erotic materials. For example, young people (aged 14 to 19) in the USA who took part in focus groups reported that accessing sexually explicit websites had no negative effect on them (Cameron et al., 2005). The authors view that finding as notable and potentially problematic, as it contradicts previous findings, but there is a handful of studies that have found similar results. For example, in an earlier American sample considered by Cowan and Campbell (1995; mean participant age 14.7), 60 per cent of the boys in the sample believed that they had learned about sex from watching pornography; the figure for the girls was 47 per cent. Furthermore, Morrison et al. (2004) found that viewing sexual materials is linked with less sexual anxiety and more sexual esteem (but their participant age range of 17 to 42 is problematic for generalisation).

What don't we know?

Finding 10: We do not know what effects the cultural context has on young people's attitudes and behaviours towards and stemming from pornography

Some studies included in this REA are culturally bound and sample-specific and we do not know whether the findings can be generalised for the UK context; for example, Women's Forum Australia's (2008) discussion regarding aboriginal children's use of pornography; Wingood et al.'s (2001) finding that Black American children and young people frequently exposed to pornography are less likely to have used condoms; Stulhofer et al. (2008), who reported links between pornography and sexual compulsiveness in a Croatian sample; and findings from Lo and Wei's (2005) Taiwanese sample, Ghule et al.'s (2007) rural Indian sample, Irala et al.'s (2009) Philippines sample, Kim's (2001, 2011) Korean sample, Mesch's (2009) Israeli sample, To et al.'s (2012) Hong Kong sample, Wong et al.'s (2009) Singapore sample and Yu's (2012) literature review on Chinese teenage sexual attitudes.

We also do not know whether we have an accurate representation of pornography in all these studies. Some offer a clear definition of pornography for their study but others do not, making it hard to establish what we can compare between studies and samples (e.g. in the case of Steinberg and Monahan (2010), they report "sexy media" but do not say what that includes). Furthermore, nowadays it is suggested that more explicit and hard-core pornography is widely available, and some of the longitudinal studies and reviews that assess older studies may not have included such types of pornography (e.g. Edwards, 1998; Greenfield, 2004; Kanuga & Rosenfeld, 2004⁴¹).

Finding 11: We cannot infer causality

Research on the effects of pornography on children and young people's sexual expectations, attitudes and behaviours is largely cross-sectional and correlational, and so we are unable to infer causality and any interpretation of the results should be cautious. Because of the nature of the topic, and the ethical implications of speaking to children and young people about their sexual experiences, experimental manipulations of these variables are not possible. We are able to link certain behaviours and attitudes with exposure to pornography, and we can predict certain others, but we do not know whether exposure to or accessing pornography causes attitude or behavioural change, nor whether the attitudes children and young people hold before access or exposure to pornography may make them more likely to seek out pornography.

Finding 12: There is much we still do not understand about young people's feelings towards and perceptions of pornography

We know that a large number of people involved with children and young people (including parents, guardians, educators and carers) are concerned about their exposure to pornography and sexually explicit materials, and how this exposure may impact on their attitudes and behaviours and lead to potential conformity to the sexual stereotypes presented in this material (Bailey, 2011; Flood, 2009; Independent Parliamentary Inquiry into Online Child Protection, 2012⁴²). However, we do not yet have a clear picture of how young people themselves feel about pornography and pornographic materials, and what it is that they perceive when watching these materials (Mulholland, in press; Varnhagen, 2006). Some researchers maintain (Attwood, 2002, 2011; Bale, 2011; Chronaki, 2013) that we do not know how children feel about pornography because of a skewed/negative/moralistic viewpoint when asking them questions about their use and access to it, and when assessing their answers. There are also other factors, such as sexuality and sexual identity, that are largely ignored in present research (Billinghurst, 2009; Chronaki, 2013).

Finding 13: We do not know whether pornography leads to sexual addiction and compulsivity

There are several people who consider pornography to be linked with sexually compulsive behaviour, but there is no systematic evidence regarding this (e.g. Boies et al., 2004; Freeman-Longo, 2000; Katehakis, 2011). According to Boies et al. (2004), there is little information available (apart from clinical observation) on sexually compulsive behaviour of children and young people and the link to pornography. Katehakis (2011) talks about the possibility of pornography leading to sexual addiction and compulsivity by being relatively inexpensive, easy to access and easy to hide. She maintains that when masturbating to porn in an isolated setting, the adolescent brain is being shaped around a sexual experience that is very particular and potentially void of feelings of love or compassion, which are normally expected in reciprocal romantic relationships. She postulates that the adolescent brain will then be trained to expect a dopamine rush from real-life sexual experiences, and, when this is not present, engagement in riskier behaviours in order to find that rush will emerge, leading to potential sexual pathology. At the moment, this is hypothesised as a potential impact; Katehakis (or others) have yet to test it empirically.

What do we need to know?

High priority

This REA highlights a number of areas for further research in the attitudinal and behavioural component of pornography. There is a lack of consensus in the literature, making it difficult to compare across studies. The following research questions therefore deserve our attention:

- How are children and young people's attitudes related to exposure and access to pornography (as there appears to be conflicting evidence)?
- How can children be protected from risk factors that are associated with aggressive, sexually risky or offending behaviour (Billinghurst, 2009)?
- What is the role of pornography in shaping sexuality, sexual identity and the ability to develop and maintain intimate relationships (Attwood, 2002, 2011; Billinghurst, 2009; Chronaki, 2013)?
- How do attitudes towards pornography differ for children and young people depending on their sexual circumstances (Smith et al., unpublished)?
- Livingstone and Bober (2003) suggest that we need to systematically examine the gap between people's use of the internet and the impact of that use.
- Exactly how are young people's behaviours affected by the consumption of pornography?
- What role does the cultural context surrounding pornography (e.g. acceptability, availability, normalisation) play in explaining the differences found between old and new studies on pornography (e.g. Löfgren-Mårtenson & Månsson, 2010; Owens et al., 2012)?
- Are children and young people's own views and beliefs about pornography affected by societal norms about sex, gender relationship and sexual violence, and also general issues of socialisation (e.g. Johansson & Hammarén, 2007; Löfgren-Mårtenson & Månsson, 2010)?
- What are the educational needs and preferences of young people and how should effective resources be designed (e.g. gay and bisexual youth: Kubicek et al., 2010; young people's views on desirable SRE: Hilton, 2007)?

- What actions do educators, therapists and researchers looking into human sexuality need to take to update their education programmes to include the latest data on internet sexuality (Billinghurst, 2009 Boies et al., 2004)?
- We need to further examine the “third person effect” (where other children need to be protected but not themselves) that many young people report with regards to the effects of pornography and we need to address this issue in SRE.
- What are the effects that access and exposure to pornography have on LGBT children and young people?
- What are the effects that access and exposure to pornography have on ethnic and cultural minorities within the UK?

Low priority

Generally, we need more longitudinal studies on how access and/or exposure to pornography affect attitudinal and behavioural change among children and young people. We also need to revisit the methodologies used (e.g. questionnaire versus face-to-face interviews) and consider what the most effective ways are not only to access wider populations but also to obtain richness of information (Chronaki, 2013). We also need to answer the following specific questions:

- What is the effect of other sexualised media, such as advertisements, on young people and children (e.g. Buckingham & Bragg, 2003)?
- Are there links between sexualisation, objectification of young people and tabloid media (e.g. Papadopoulos, 2010)?

Research question 3: Do literature reviews and meta-analyses on the associations between access and exposure to sexualised or violent visual imagery on children and young people bear relevance to the issues addressed by this REA?

This part of the review examines the meta-analyses and literature reviews pertaining to the effects that access and exposure to sexualised or violent visual imagery have on children and young people. There were 116 articles, reports and book chapters of relevance. There were roughly equal numbers of studies that looked at the effects of viewing sexualised and violent images on young people. None directly compared the effects of pornography and other sexualised imagery, although eight made some reference to the one when considering the other. The majority of research papers originated in the USA, followed by European studies (Sweden and the Netherlands in particular) and other studies including African, Asian and Canadian studies. Very few directly relevant studies were conducted in the UK.

Table 6: Summary of findings for research question 3

Question	Findings
What do we know and are confident about?	1) Exposure to sexualised and violent imagery affects children and young people. 2) There is a link between violent attitudes and violent media.

Question	Findings
What do we think we know but are less confident about?	3) Viewing sexualised and/or violent imagery can affect children and young people’s attitudes and sexual and violent behaviour, which may in turn affect their attitudes towards relationships. 4) Highly contentious and contradictory findings exist on the impact of violent imagery on children and young people that may confound our understanding of the effects of pornography. 5) There is emerging but contradictory evidence about the effects of other sexualised imagery to which children and young people are exposed through film, music, advertising, mainstream and specialist media.
What don’t we know?	6) We do not know what effect viewing violent images has on children and young people. 7) We cannot draw conclusions about causality. 8) We do not know the mechanisms through which changes occur and whether changes are long term. 9) We do not know whether there are differences or similarities between the effects of pornography and the effects of other sexualised imagery.
What do we need to know? High priority	1) Do exposure and access to violent media cause violent attitudes? 2) Why do children and young people watch sexualised or violent media?
What do we need to know? Low priority	3) Do video games affect children and young people in the same ways as other forms of violent and sexualised media? 4) Are children and young people’s changes in attitudes sustained beyond initial exposure and/or access to pornography?

What do we know and are confident about?

Finding 1: Exposure to sexualised and violent imagery affects children and young people

The available research investigating the links between children and young people’s descriptions of relationships and their access to sexualised or violent imagery is inconclusive and contradictory, and there is little of which we can be confident. We believe that youth culture has been affected by violent and sexual imagery (Anderson et al., 2010; Löfgren-Mårtenson & Månsson, 2010; Peter & Valkenburg, 2007), that children and young people are concerned about online pornography (Livingstone et al., 2013), and that viewing such imagery can have effects on children and young people (Anderson & Bushman, 2001). However, further understanding of how children and young people may be affected, in what ways they may be affected and how long term the effects may be is needed. There is a substantial body of contradictory evidence and within that evidence there are methodological, generalisability and definitional problems with the available empirical work. Studies vary widely in the number, age and ethnicity of the participants involved. Studies carried out in countries other than the UK may not be generalisable to young people here. Possibly most problematic is the issue of what the author of each study considers to be pornographic, sexually

explicit and/or violent. The studies rarely give a description of the content of the media viewed by the young people and often rely on self-reporting.

Finding 2: There is a link between violent attitudes and violent media

As far back as 1994, there was research to support the idea that viewing violence through various media causes violence (Paik & Comstock, 1994). This link has never been demonstrated and causality has not been established. As such, all we can be confident about is that children and young people who hold more violent attitudes access more violent media (Anderson, 2004; Anderson & Bushman, 2001; Boxer et al., 2008⁴³).

What do we think we know but are less confident about?

Finding 3: Viewing sexualised and/or violent imagery can affect children and young people's attitudes and sexual and violent behaviour, which may in turn affect their attitudes towards relationships

Most of the studies found for this REA focused exclusively on young people's attitudes, sexual behaviour and violent behaviour and links with viewing sexualised and/or violent imagery. It may be the case that this affects their attitudes towards relationships, but we are less confident of the evidence for this and there is no strong evidence that young people who view sexualised or violent imagery hold discernible attitudes towards relationships or that those attitudes are different from those of young people who do not.

In 1996, Schooler and Flora stated that violent media affects young people's attitudes and behaviour and that the viewing of violence shapes ideas of appropriate behaviour; by extension, this could affect their views of relationships. More recent studies have suggested that exposure to sexualised images has an effect on how young people view others. For example, Papadopoulos (2010) concluded from numerous studies in her review that young people who view sexualised imagery hold certain body image ideals and the idea that to have sex you must look a certain way (Botta, 2003; Schooler et al., 2004; Thompson & Stice, 2001). Papadopoulos (2010) also concludes that the viewing of pornography leads young people to see sexual relationships as physical and devoid of any emotional or caring element and that young people who view pornography have ideas about sex and sexual relationships that are unrealistic. Viewing sexualised media has been linked to sexual risk taking, which could also imply a view that relationships are focused on sexual pleasure which is separated from care for another individual (Sinković et al., 2012). Other studies have linked it to reduced fear of contracting AIDS (Lemal & Van den Bulck, 2009), having sex earlier (Kraus & Russell, 2008) and having false expectations of sex (Häggström-Nordin et al., 2006).

There is evidence that shows a link between the marginalisation of social networks (for example, spending time alone, less commitment to families, fewer pro-social attitudes and less attachment to school) and pornography viewing in young people (Mesch, 2009). However, this study is correlational and it is possible that the young people studied had a pre-existing limited social network that resulted in the perceived need to enter a virtual world of sex and relationships. Also, this study was carried out on an exclusively Israeli population and focused on pornography consumption. Peter and Valkenburg (2010) describe similar findings, however, explaining that young people who use sexually explicit material view relationships as casual and functional and show lower levels of affection. These studies are also correlational.

This finding was replicated by Ward et al. (2005), who found in their lab study of 152 14 to 18-year-old African American young people that more frequent music video viewing was associated with more

traditional gender role acceptance and stereotypical attitudes. In 2006, Ward and Friedman found similar results when investigating "sexy prime-time" television shows. They found significant results for watching such shows and acceptance of traditional gender roles, views of sex as recreation and sex being male-driven with females viewed as sex objects. It is interesting to note that, contrary to Ward et al.'s (2005) finding, the results for music videos were not significant. The authors point out in their limitations that the sexual attitude subscales had relatively low scores and they looked at only three genres of media. Ward (2002) carried out a study with 259 American 18 to 22-year-olds and found that more frequent television viewing was associated with more sexual stereotyping, and that young women who viewed sexual stereotypes were more likely to endorse them. This result held even when sexual experiences and demographics were controlled for. However, this older age range of participants causes some difficulties when generalising to children and young people.

Although sexual stereotyping does not necessarily relate to how children and young people describe relationships, many of the studies seem to focus on this, rather than directly speaking to children and young people about how they view relationships. However, contradictory evidence exists, and the impact of viewing sexualised images appears to have positive effects on some young people and their attitudes towards relationships. For example, Martino et al. (2005) found that, among 1,229 12 to 17-year-olds in the USA, White and African American children and young people who regularly watched sex on television were more confident about their ability to have safe sex. This effect was not found for Hispanic young people. Morrison et al. (2004) found further positive effects of viewing sexually explicit material (such as television shows with sexual content, DVDs with sexual content or sexual visual material on the internet), in the form of heightened sexual confidence and higher levels of sexual esteem, and an inverse relationship between exposure to sexually explicit materials and sexual activity. This would suggest positive attitudes towards relationships. Conversely, Morgan (2011) found that frequency of viewing sexually explicit material correlated negatively with relationship satisfaction, so the more sexually explicit material viewed the less satisfied the individual was with their sexual relationship. As bivariate correlations were carried out in this study, causality is not possible to establish neither is a cut-off point or critical number of viewing hours as only a correlational relationship was established. Viewing of sexually explicit material was also associated with three of the sexual behaviours measured: lower age of first sexual experience, more sexual partners and casual sexual partners, again, a correlation was established. . It is worth noting that both of these studies were carried out with American college students: Morgan's study had an age range of 18 to 30 and the age range was 17 to 43 in Morrison et al.'s study (2004), which makes it difficult to be confident in generalising the findings to children and young people under 18 years of age.

In a study of young Nigerian men, Izugbara (2005) found that sexually explicit Nigerian chants, passed down orally through generations of men, affect young men's attitudes towards young women, normalising sexual coercion and the use of force to obtain sex. Due to the specific nature of a study of this kind, there is difficulty in generalising to a UK population. Despite there being a large Nigerian community in the UK, this study was specific to the Ngwa tribe in the south-east of the country.

Finding 4: Highly contentious and contradictory findings exist on the impact of violent imagery on children and young people that may confound our understanding of the effects of pornography

There is a wealth of opinion suggesting that viewing violence causes violence and leads to violent attitudes and acceptance of violence. In 1997, a study of 1,139 secondary school students in Hong Kong found that media variables are better predictors of adolescent deviant behaviour than family and school factors, as they remain significantly correlated with deviant behaviour even when other variables are controlled for (Cheung, 1997). However, the best predictor of deviant behaviour in this

study was the student's peer group. Over 10 years later, in a study including 820 young people from the USA (high school students and young offenders), Boxer et al. (2008) found that violent media exposure was significantly related to violent behaviour and aggression, even after controlling for the effects of sex and age. Ybarra et al. (2008) extended the scope of study in this field to investigate the links between viewing violent media and engaging in extremely violent behaviour: shooting or stabbing, aggravated assault, robbery and sexual assault. Five per cent of 1,588 American 10 to 15-year-olds reported engaging in extremely violent behaviour. The authors concluded that exposure to violence in the media is associated with concurrent reports of extremely violent behaviour and that the newer forms of violent media seem to be especially concerning. They did, however, acknowledge the effect of contextual and individual factors such as family factors and substance use. Moving away from individual studies, Villani's (2001) literature review concluded that media that is violent, gender-stereotyped, sexually explicit, drug- or alcohol-influenced or showing human tragedy changes a child's world view and increases high-risk behaviours, altering his or her capacity for successful, sustained human relationships. In 2010, Anderson et al. carried out a meta-analysis and again it was concluded that viewing violence causes aggressive cognitions, affect and behaviour and decreased levels of empathy. For this analysis, however, they grouped empathy with desensitisation, which is problematic as they are very different aspects of personality and this may well have affected the results on this variable. Again, these findings were also correlational and not causal.

Various explanations for the impact of violent imagery have been proposed:

- Schooler and Flora (1996) suggested that media influences are cumulative and mutually reinforcing and they stated that repeated exposure to prominent violent media messages, acts or social scripts of violence are especially damaging. They argued that mass media depictions of violence can shape young people's attitudes regarding behaving aggressively and how acceptable and common this type of behaviour is.
- Anderson and Bushman (2001) found that playing violent video games heightened levels of aggression in males and females and decreased pro-social behaviour. They argued that there are long-term effects of aggressive personality and that exposure to violent video games is linked to affect, cognition and physiological arousal. However, this study is correlational and therefore causality is not established.
- Bushman and Huesmann (2006) found modest but significant effect sizes for exposure to media violence on aggressive behaviours, emotions and cognitions and that the long-term effects of viewing violence are more pronounced for children and young people than for adults. This is because, when younger, it is easier to encode new scripts, schemata and beliefs.
- Lomonaco et al. (2010) suggest that social learning theory explains the effects of violence and the media, with people being less affected when there is parental explanation and guidance.

Not all studies seem to find that viewing, witnessing or perpetrating (video game) violence leads to real-world violence:

- Boyle and Hibberd (2005) conclude that it is not possible to claim a causal link between video game violence and actual violence.
- Browne and Hamilton-Giachritsis (2005) point out that short-term effects on young people when exposed to violent media do not necessarily mean there are long-term effects and that the effect of viewing violent media is stronger for those with a predisposition to aggressive behaviour.

- Ferguson and Kilburn's (2009) meta-analysis concludes that the evidence suggesting that media violence affects children and young people is driven by poor methodology, inadequate aggression measures and lack of consideration of other possible variables.
- Savage (2004) reiterates that, despite persistent publications stating that viewing violence causes violence, the body of published, empirical evidence does not support this view. The empirical evidence that exists is too flawed for conclusions to be drawn from it to either support or refute this hypothesis.

For every study that concludes that viewing violence causes aggression in children and young people, there seems to be one that contradicts this. Studies such as Willoughby et al. (2012) conclude that viewing violence in video games causes violence in young people even when other potentially significant factors are controlled for, and in the same year Markey and Markey (2012) found that only some people are affected by violent video games and those who are have pre-existing dispositions that make them susceptible. It seems that the relationship between young people viewing violence and their attitudes and behaviours is complex and multifaceted, with family, peers and society all playing a part in the effect on any individual young person. It seems that there are other, and possibly many, factors that contribute to the translation from viewing violence to acting violently. Although this study was looking predominantly at sexual behaviour, L'Engle et al. (2004) found that mass media explained only 13 per cent of variance when looking at young people's attitudes; other factors that were equally or more influential included parents, religion, peers, grades at school and demographics.

There are studies that go beyond merely attempting to establish or refute the link between media violence and the attitudes and behaviours of children and young people. For example, a case study of a 13-year-old American youth who committed media violence-inspired sexual homicide describes a host of individual factors that combine with media violence to lead to violence, including developmental abnormalities, neuropsychiatric vulnerabilities, family dysfunction and mental illness (Myers et al., 2003). This case raises the point that the media violence relationship is not a direct one. However, this is an extreme case and not the type of behavioural or attitudinal change most studies investigate. Gentile and Stone (2005) state that it is unhelpful to think of the effects of video games in terms of polarised "good" or "bad" and that video games could have both good and bad outcomes simultaneously; they may, for example, both lower school attainment but make good drivers. It is important, therefore, to understand the complexity of this aspect of many young people's lives. They acknowledge that video games are one factor that can contribute to aggression in young people but it is not the biggest risk factor for aggression. They suggest that one reason why media is often discussed as a problem is that it is an easily controlled factor. Taking the example of L'Engle et al. (2004), where 13 per cent of variance was explained by viewing media violence and 54 per cent was explained by peers, family, schools and demographics, the easiest factor for the government to address is media violence, for example by introducing parental advisory stickers or age certificates for video games, films etc. The Swedish Media Council (2012) highlights the many methodological issues in the literature looking at violent media and suggests that aggressive people like playing violent video games and that they are not caused to be violent by such games; the most likely explanation is that underlying factors affect both aggression and violent video game preferences.

Finding relevance between the literature on the effects of violence on attitudes and behaviours and the effects of pornography is difficult at best. The numerous methodological issues that exist in the literature, as stated above, mixed with the lack of studies that consider both violence and pornography makes this task one of presumption at this stage. There are a few studies that have made some links in this area, but, for differing reasons, they are far from ideal. For example, a meta-analysis of 217 studies of 6 to 21-year-olds looking at television violence found an especially strong

effect of erotica with or without violence and that depictions of women as promiscuous encouraged callous attitudes towards women (Paik & Comstock, 1994). Also relevant here are the studies of offenders that have linked pornography use to sexual violence reviewed for research question 2 (e.g. Alexy et al., 2009; Bonino et al., 2006; Burton et al., 2010; Mancini et al., 2012).

There are many problems with retrospective studies and with using only self-reporting as a measure in a scientific study. The Swedish Media Council (2012) highlights the lack of cross-sectional or longitudinal studies. In its review of the literature, the Council found that only 11 per cent of studies into media violence are longitudinal. It also highlights that the term “aggression” is often poorly defined and measured. It criticises the laboratory method for studying aggression, pointing out that there is a great deal of difference between suggesting an ability to engage in a particular behaviour and real-world aggression. Finally, studies that attempt to link media violence to aggression do so at the exclusion of other possible causes of violence, and mediating factors are considered very rarely.

Finding 5: There is emerging but contradictory evidence about the effects of other sexualised imagery to which children and young people are exposed through film, music, advertising, mainstream and specialist media

Poulter (2009) argues that because young people often have open, unfiltered access to certain media that are frequently sexualised, such as Twitter, YouTube and music videos, this increases the normalisation of these forms of media and perhaps makes their content feel more “realistic”.

Other forms of sexualised media have been found to have a range of negative effects on children and young people. Examples include the following:

- Studies of music videos exclusively have shown a negative impact on adolescent males’ attitudes towards females (Bailey, 2011).
- Studies of sexualised media (not classified as pornography) have found damaging effects on body image and a feeling of pressure to have an “ideal” body image as described by media ideals (Marvin, 2012).
- The use of sexually explicit material is related to whether individuals hold casual rather than affectionate attitudes towards relationships (Peter & Valkenburg, 2010a).

However, this relationship seems to be complex, multifaceted, contradictory and based on correlational findings. Wright’s (2009) literature review on sexualised messages in mass media highlights differing effects depending on the form of media, and differing messages. For example, female adolescents who primarily watch television comedies will view sex as being a risk-free activity, whereas female adolescents who read teen magazines will be exposed to a lot of information about sexually transmitted infections and contraception. Furthermore, in a re-analysis of Browne and Hamilton-Giachritsis’ (2005) data, Steinberg and Monahan (2010) found that viewing sexual images does not necessarily lead to early sexual experiences despite other research suggesting that it does (e.g. Kraus and Russell, 2008). Löfgren-Mårtenson and Månsson’s (2010) research with Swedish children and young people found that most young people were able to distinguish between the fantasy of sexually explicit material and real-life sexual interaction. These studies have been conducted in many different countries so there may be educational or cultural differences that account for the contradictory findings.

The format through which children and young people are exposed to sexualised media appears also to be important, especially if it is interactive; the internet has been found to have a greater influence on sexual attitudes than all other forms of media (Lo & Wei, 2005). The content of the sexual media

also seems to have an effect. A questionnaire study of 703 11 to 17-year-olds found complex relationships dependent on gender and on the messages about relationships and power dynamics in the prime-time television viewed (Tolman et al., 2007). Young women who saw "good girls" as setting sexual limits felt more comfortable voicing their own sexual needs than those who saw shows containing the traditional heterosexual script.ⁱⁱⁱ These latter girls and young women showed an inhibited ability to assert themselves sexually. However, this finding should be considered with caution as only a small amount of variance was explained, highlighting that prime-time television is only one means by which children and young people are exposed to this type of subject matter. No studies have considered the cumulative effect of multiple sources of sexualised media.

What don't we know?

There is some contradictory evidence with regards to the effect of viewing sexual or violent imagery on attitudes towards relationships, as there is evidence to suggest that "sexy media" is not linked to early initiation of sexual behaviour (Steinberg & Monahan, 2010; Martino et al., 2005) and that viewing media that includes sexual talk does not affect attitudes (Tolman et al., 2007). However, Pardun et al. (2005) found that the more sexual media adolescents see, the more likely they are to be sexually active and to anticipate future sexual activity.

Finding 6: We do not know what effect viewing violent images has on children and young people

There is no clear evidence about the effect of viewing violent images on attitudes towards relationships, predominantly because studies do not seem to directly ask young people to describe relationships or discuss their feelings about them; studies tend to focus on measuring behaviour or attitudes. It seems that the effect that violent images have on young people is contingent on the form of the media viewed (Lo & Wei, 2005; Stermer & Burkley, 2012; Ybarra et al., 2008), the support network around the young person (L'Engle et al., 2004), social learning (Hunter et al., 2010) and other key demographic factors, not least gender, which is consistently found to be a significant factor when looking at the effect of both violence and sexualised media (Anderson & Bushman, 2001; Kalof, 1999; Boxer et al., 2008⁴⁴). The issue of gender is crucial: studies show that when considering violent or sexualised imagery, young women and men differ in how they are affected and what their attitudes and preferences are. Most of the existing research on violent and sexualised content in video games has found that males are much more affected by it than females (Stermer & Burkley, 2012). It is unclear why this gender difference occurs, especially in regards to the effects of sexualised content. A possible explanation proposed by Stermer and Burkley (2012) is that of in-group and out-group bias: that is, men's sexist attitudes are geared towards an out-group whereas women's sexist attitudes are geared towards their own in-group.

Finding 7: We cannot draw conclusions about causality

There is currently no information available on the issue of causality; however, this will be addressed in full at the end of this section as the issues pertaining to causality apply to all findings for this research question.

iii The heterosexual script is a specific set of eight complementary codes that depict expectations of males and females in romantic and sexual relationships (Kim et al., 2007). The heterosexual script perpetuates ideas of male dominance and female submission because it represents a traditional understanding of gender.

Finding 8: We do not know the mechanisms through which changes occur and whether changes are long term

The confounding results of studies into sexualised and violent images are difficult to fully disentangle. The studies that assess the impact of viewing violence on attitudes and behaviours tend to be lab-based and involve the researchers exposing participants to violence, then immediately asking them about violence or testing attitudes towards women, sexism and rape myths. This raises several methodological and theoretical issues. Firstly, rarely is a comprehensive set of measures taken pre-exposure, and, as such, it is difficult to conclude that the attitudes held came from the exposure to violent media. These studies are able to find changes in attitudes towards females and/or violence (Boxer et al., 2008; Bushman & Huesmann, 2006) but they do not consider long-term behaviour or attitude change in people playing violent or sexual video games. Secondly, there is no understanding of the mechanisms through which the changes (if any) in attitudes occur; it is possible that exposure to sexist themes in video games simply facilitates accessibility to pre-existing sexist thoughts (Stermer & Burkley, 2012). Stermer and Burkley (2012) also point out that many studies fail to describe how participants in studies are exposed to the violent or sexualised video games, and, as described above, the interactive nature of these games is considered key to their influence: merely watching a clip of a game may not be representative of either its actual impact or the experience of playing it more fully. A further issue is that of time; most studies test attitudinal change immediately after exposure. This tells us little about long-term attitude change or, more importantly, behavioural change. Longitudinal studies are scarce and would provide invaluable information (Stermer & Burkley, 2012).

Finding 9: We do not know whether there are differences or similarities between the effects of pornography and the effects of other sexualised imagery

To date, there is no research to show if different forms of sexual media have differing effects; research therefore needs to be conducted in this area. We do not know if there are differences or similarities between pornography and other sexualised imagery, as different genres or media have not been compared sufficiently, thoroughly or systematically. Related to this, we do not know what children and young people consider pornography or sexually explicit media to be. In studies they may be asked if they use or view pornography or sexually explicit media, but we do not know what images, films or media they are thinking of when answering “yes” to these questions. This means that different studies may be working with numerous definitions, as it would depend on the idea of pornography held by the individual participants. It is not possible to compare pornography with other forms of sexualised imagery if what we are discussing is not specified in the first place.

This REA was unable to find any studies that directly provide evidence of any differences or similarities between pornography and other sexualised images presented to young people. There are studies that looked at the effects of viewing pornography and studies that looked at other forms of media such as advertising, music videos and computer games, but the different forms are not compared directly with each other. Although it is tempting to make comparisons between studies that looked at these different forms of media, this raises too many methodological issues and it would be impossible to ensure scientific rigour.

What do we need to know

High priority

Throughout this question, the issue of causality has been raised. Studies find links between viewing or using violent or sexualised media and engaging in such behaviours. This makes intuitive sense

without a notion of causality; if you are interested in or enjoy a particular activity, you would focus your viewing time on it as well as engaging in it. This does not mean that watching shows about your area of interest causes the interest. Few studies have attempted to investigate causal links with regards to either sexualised media or violence. Stermer and Burkley (2012) make the point that the issue of causality remains unanswered; studies consider attitudes, not behaviours, and the connection between the two is unknown.

We know little about adolescent sexual behaviour, yet we avoid asking young people about their behaviour (Gillispie, 2006), often for good, ethical reasons. Much of the literature focuses on blaming media for sexual activity among young people; however, we have little understanding of what young people are doing, how or why. By obtaining more accurate information from young people we will gain a better understanding of this area. In turn, this will give us clarity about what roles sexualised media play in informing our young people about sex and sexual relationships and whether this differs by gender, culture, peer group, socio-economic background, family dynamics and societal norms. In recommending this, we would, of course, urge that such research adopts participative, young person-centred methods of research that conform to best ethical practice.

Low priority

Longitudinal studies (Stermer & Burkley, 2012) are imperative if we are to fully understand the long-term changes that pornography, sexualised imagery and violent imagery have on children and young people. The insufficiency of laboratory studies in understanding the complexities of long-term attitudinal and behavioural change are discussed above; this also needs to be addressed in future research.

It is unclear whether video games have an impact on young people in the same way as other forms of sexualised media (Stermer & Burkley, 2012). Some authors suggest that it is possible that the effect of interactive forms of media may be stronger because of the active part the people playing them take in the sexualised activities. The length of exposure is another possible factor increasing impact; it is not unusual for the same video game to be played repeatedly and for many hours at any one time. Another reason given for the possible greater impact of violent video games as opposed to other forms of violent media is that video games often reward players for treating women as sex objects. This needs to be investigated further to provide a definitive answer as to whether the content of sexualised or violent games is especially harmful.

Discussion and conclusions

Pornography: contested terrain

The broader context for this Rapid Evidence Assessment (REA) is one where numerous debates about pornography have occurred between people working from polarised ideological frameworks (for overviews see, for example, Attwood, 2002, 2011; Boyle 2000, 2010; Dines, 2010; Long, 2011). The dominant approaches taken to investigating the effects of pornography and the discourses used to discuss it have been criticised as being too moralistic and too anti-porn in their starting point (Lo & Wei, 2005; Mesch, 2009).

The brief for this REA was not to work from a particular perspective but to conduct a rigorous assessment of the evidence available; however, we acknowledge that it is impossible to conduct an REA, or indeed any research, from an entirely objective and neutral standpoint. Throughout this REA we have focused on reporting findings from research conducted with a high standard of methodological rigour and have allowed the findings to speak for themselves. We acknowledge that readers may take issue with the terms and definitions used (as participants in the experts workshop did); they were selected in order to provide clarity for this REA and reflect as neutrally as possible what we were considering. One of the difficulties we encountered was the lack of definitions used in the research reviewed, and we would suggest more consistency within the literature would improve the evidence base; however, we acknowledge that this may not be possible for ideological reasons. Therefore, we endorse Long's (2011, p.59) suggestion that "another means of avoiding unnecessarily circular arguments around definitions is to grant that ideas about what constitutes pornography may differ, but to be clear about what is being referred to in any given context". This should be the next step for anyone carrying out work in this area.

Many of the debates mentioned above have not focused on the effects that access and exposure to pornography could have on children and young people. However, opinion-led discussion and government-led pledges for action have increased dramatically in the last 10 years. Potential reasons for this include:

- rapid advances in availability of and access to technology (Kirkup, 2012);
- aggressive (Crabbe & Corlett, 2010, "indiscriminate and sometimes coercive" (Flood, 2007, p.49) online marketing of pornography; for example, "free" taster material, unsolicited pop-ups and emails, website names that are similar to non-sexual topics and other means to capitalise on search engine processes, "mouse trapping" (where trying to leave a website actually takes you to another), few or no age-related barriers (e.g. requesting proof of age) and lack of warnings about adult content (Crabbe & Corlett, 2010 Dombrowski et al., 2007; Flood, 2007; Independent Parliamentary Inquiry into Online Child Protection, 2012; Mitchell et al., 2003a); and
- the widespread "pornification" of society (McNair, 1996, 2002), which refers to the influence of pornography on aspects of culture (Long, 2011).

There are ongoing and heated debates from differing ideological perspectives and a limited evidence base, which may be why media coverage of children and young people's engagement with pornography, and particularly their online activities, oscillates between recognising them as full social actors and the "traditional" view of childhood and children as incomplete and incompetent agents (Ponte et al., 2009).

Table 7 brings together the key findings for the three research questions addressed in this REA.

Table 7: Summary of the REA findings for all three research questions

Question	<i>Research question 1: Identify and assess the existing evidence base on children and young people’s access and exposure to pornography.</i>	<i>Research question 2: Identify and assess the existing evidence base on the effects that access and exposure to pornography have on children and young people’s sexual expectations, attitudes and behaviours.</i>	<i>Research question 3: Draw upon existing literature reviews and meta-analyses on the associations between access and exposure to sexualised or violent visual imagery on children and young people, and consider whether this bears relevance to the issue in question</i>
What do we know and are confident about?	<ol style="list-style-type: none"> 1) A significant proportion of children and young people are exposed to or access pornography. 2) Exposure is more prevalent than access. 3) There are gender differences in exposure to and access of pornography. 4) Exposure and access to pornography appear to increase with age. 5) Children and young people are exposed to and access both online and offline pornography. 	<ol style="list-style-type: none"> 1) There are differences in children and young people’s attitudes towards pornography according to their gender. 2) Access and exposure to pornography affect children and young people’s sexual beliefs. 3) Children and young people learn from and may change their behaviour because of exposure and access to pornography. 4) Access and exposure to pornography are linked to children and young people’s engagement in “risky behaviour”. 	<ol style="list-style-type: none"> 1) Exposure to sexualised and violent imagery affects children and young people. 2) There is a link between violent attitudes and violent media.

Question	Research question 1: Identify and assess the existing evidence base on children and young people's access and exposure to pornography.	Research question 2: Identify and assess the existing evidence base on the effects that access and exposure to pornography have on children and young people's sexual expectations, attitudes and behaviours.	Research question 3: Draw upon existing literature reviews and meta-analyses on the associations between access and exposure to sexualised or violent visual imagery on children and young people, and consider whether this bears relevance to the issue in question
What do we think we know but are less confident about?	<p>6) Children and young people are exposed to and access pornography in a number of different contexts.</p> <p>7) We do not know exactly what children and young people are being exposed to or what they are accessing.</p>	<p>5) Children and young people's age is related to how they understand and process pornography and therefore how it affects them.</p> <p>6) The effects of pornography on children and young people's sexual expectations are unclear.</p> <p>7) Exposure and access to pornography appear to be related to children and young people's perpetration of and victimisation through aggressive behaviour.</p> <p>8) Exposure and access to pornography as a child or young person appear to be related to sexual offending.</p> <p>9) Exposure and access to pornography affect children and young people's perception of risk and danger.</p>	<p>3) Viewing sexualised and/or violent imagery can affect children and young people's attitudes and sexual and violent behaviour, which may in turn affect their attitudes towards relationships.</p> <p>4) Highly contentious and contradictory findings exist on the impact of violent imagery on children and young people that may confound our understanding of the effects of pornography.</p> <p>5) There is emerging but contradictory evidence about the effect of other sexualised imagery to which children and young people are exposed through film, music, advertising, mainstream and specialist media.</p>

Question	<p>Research question 1: Identify and assess the existing evidence base on children and young people's access and exposure to pornography.</p>	<p>Research question 2: Identify and assess the existing evidence base on the effects that access and exposure to pornography have on children and young people's sexual expectations, attitudes and behaviours.</p>	<p>Research question 3: Draw upon existing literature reviews and meta-analyses on the associations between access and exposure to sexualised or violent visual imagery on children and young people, and consider whether this bears relevance to the issue in question</p>
<p>What don't we know?</p>	<p>8) Are a child or young person's characteristics, vulnerabilities and strengths related to exposure and access (and, if they are, how and why)?</p> <p>9) Should we reduce the risk of exposure and prevent access (and, if so, how)?</p>	<p>10) We do not know what effects the cultural context has on young people's attitudes and behaviours towards and stemming from pornography.</p> <p>11) We cannot infer causality.</p> <p>12) There is much we still do not understand about young people's feelings towards and perceptions of pornography.</p> <p>13) We do not know whether pornography leads to sexual addiction and compulsivity.</p>	<p>6) We do not know what effect viewing violent images has on children and young people.</p> <p>7) We cannot draw conclusions about causality.</p> <p>8) We do not know the mechanisms through which changes occur and whether changes are long term.</p> <p>9) We do not know whether there are differences or similarities between the effects of pornography and the effects of other sexualised imagery.</p>

<p>Question</p>	<p><i>Research question 1: Identify and assess the existing evidence base on children and young people’s access and exposure to pornography.</i></p>	<p><i>Research question 2: Identify and assess the existing evidence base on the effects that access and exposure to pornography have on children and young people’s sexual expectations, attitudes and behaviours.</i></p>	<p><i>Research question 3: Draw upon existing literature reviews and meta-analyses on the associations between access and exposure to sexualised or violent visual imagery on children and young people, and consider whether this bears relevance to the issue in question</i></p>
<p>What do we need to know? High priority</p>	<ol style="list-style-type: none"> 1) How do young people define pornography and how do they rate explicitness? Are there different definitions according to gender, age or other demographic factors? 2) What are young people seeing when they are exposed to pornography and when they access it? 3) Are young people recording and distributing images of coerced sexual activity via mobile technology, for example in gang environments? 	<ol style="list-style-type: none"> 1) What roles do culture and socialisation play in the differences observed between studies and on young people’s attitudes towards pornography? 2) What are risk and protective factors for children and young people in relation to aggressive, risky and offending behaviours? 	<ol style="list-style-type: none"> 1) Do exposure and access to violent media cause violent attitudes? 2) Why do children and young people watch sexualised or violent media?

Question	Research question 1: Identify and assess the existing evidence base on children and young people's access and exposure to pornography.	Research question 2: Identify and assess the existing evidence base on the effects that access and exposure to pornography have on children and young people's sexual expectations, attitudes and behaviours.	Research question 3: Draw upon existing literature reviews and meta-analyses on the associations between access and exposure to sexualised or violent visual imagery on children and young people, and consider whether this bears relevance to the issue in question
What do we need to know? Low priority	4) How do children and young people's socio-demographic characteristics (ethnicity, socio-economic status (SES) etc.) and experiences (within the family and the wider context) influence their online decision making and moderate or mediate any impact of online experiences? 5) Are there associations between online gaming and exposure to sexual online content?	3) What is the effect of other sexualised media, such as advertisements, on young people and children? 4) Are there links between sexualisation, objectification of young people and tabloid media?	3) Do video games affect children and young people in the same ways as other forms of violent and sexualised media? 4) Are children and young people's changes in attitudes sustained beyond initial exposure and/or access to pornography?

Methodological rigour

The process undertaken for this REA highlighted that many studies were excluded or did not achieve a high score on the weight of evidence (WoE) because of methodological problems. Some of these issues are specific to certain papers and some reflective of the literature as a whole (for a discussion of the methodologies used in the study of pornography and methodological issues, see Döring, 2009 and Flood, 2009 respectively). The six most pertinent concerns are briefly outlined below.

Problems with operational definitions

Many papers are neither explicit nor specific in the definitions or criteria they apply to the participants, attitudes or behaviours they are investigating. For example, many papers talk about children or young people without providing details of what age groups they are referring to. This is particularly problematic because, for example, 5 and 15-year-olds are at very different stages of development and therefore have had different experiences and will have different abilities. Similarly, pornography is rarely defined; as Livingstone et al. (2011, p.49) suggest, it is a broad category which is challenging

to define as it includes “a wide range of material from the everyday to the illegal”. This is important not because of the debates mentioned above, but because we do not know what children and young people consider to be pornography or sexually explicit materials, so when they are asked if they use or view pornography or sexually explicit materials, we do not know what images they are thinking about when answering these questions (Chronaki, 2013). Our workshop with young people on 25 April highlighted that, while it was challenging, they were able to reach a consensus on the constituent parts of a definition of pornography:

“Anything that’s made to get you ready, to arouse you”

“Porn is an explicit portrayal of sexual subject matter”

Workshop with young people

Although we had not told the young people in the workshop the definition of pornography we were using, the elements they highlighted closely mirror those in the Malamuth (2001) definition used for this REA. The images they described as fitting into that definition varied widely.

Consistency within the literature

Beyond individual papers, there is a lack of consistency in terminology within the literature (e.g. unwanted exposure, accidental exposure, deliberate exposure, accessing or seeking pornography), which illustrates the challenge of describing children and young people’s behaviour in such dichotomous terms. Intention or deliberation is not always clear, even for the actor (e.g. Ybarra et al., 2009), and agency is of central importance (e.g. Döring, 2009). Bale (2011, p.307) states that: “The use of the term ‘exposure’ within health and evidence-based medicine does not capture this kind of complexity and it can easily be misinterpreted.” Attwood (2011, p.14) has also criticised the “behaviourist stance” and its use of terms such as exposure and effect. This REA’s distinction between exposure and access is a conservative approach and avoids more detailed differentiation between sub-types, something that future research may want to consider. It was also adopted in order to be consistent and to reflect the terminology used in the wider literature.

Causality

Across all of the research questions, no evidence was found that provided any insight into causality. Owens et al. (2012) argue that the research needs to progress beyond correlational statistics and suggest the need to examine mediating and moderating variables. The question therefore arises as to whether it is possible to conduct research into causality; if it is, why has it not been done yet, and, if it is not, where do we go from here? If we cannot ethically and practically carry out research that will identify cause and effect, then perhaps it is time to ask different questions.

An age-old concern exacerbated by the pace of technology?

Research on methods of exposure and access is at risk of becoming outdated before it is even published due to the fast pace of developing technologies (Byron, 2008). There seemed to be differences in technology preference even in the most recent studies (e.g. the popularity of BlackBerry mobile phones was viewed differently by young samples in two UK studies published in 2012: Ringrose et al., 2012; Phippen, 2012). What seems apparent, however, is that our concerns regarding children and young people’s access to unsuitable material are not new and are not due to the advent of the internet. Boyd and Marwick (2009, p.410) maintain that “technology inflects age-old issues in new ways” and that “we see more risky behaviours not because risky acts have increased, but because the technology makes them more conspicuous” (Boyd and Marwick, 2009, p.413).

Keeping children and young people's experiences at the centre

The majority of the research included in this REA was not designed or conducted in close collaboration with children and young people, positioning them as experts in their own experiences. The workshop on 5 March with experts highlighted the concern that it is possible that much of what we think the evidence is telling us may be inaccurate because it has been designed with adults' concerns and understandings in mind. However, we found during the workshop on 25 April with young people that their experiences broadly reflected those found in the literature reviewed for this REA. Nevertheless, we strongly suggest that future research should be designed in consultation with children and young people. The young people in our workshop were passionate, engaged and highly motivated to take advantage of the opportunity to give their opinions about pornography. We also think that mechanisms should be developed and routinely used for checking findings with children and young people before conclusions are drawn.

Cultural differences

This REA has included research from around the world. Very little of that research has considered its findings in terms of cultural differences or indeed acknowledged that there may have been some (the EU Kids Online project is an exception). However, this was not a priority area for investigation for this REA so all that can be suggested at this stage is that little is known about the impact of cultural differences within or between different countries. Factors that may be relevant include how easy it was to obtain pornography traditionally and how this mirrors the uses of the internet and prevalence trends in different countries. Related to this, very few studies considered the impact that ethnicity, socio-economic status, nationality, sexual orientation and education may have on children and young people's experiences. Even though these questions cannot be answered currently, it is important that future work follows them up.

New frontiers

New frontiers for harm

"We're all victims of it"

Workshop with young people

Many researchers have suggested that pornography has become more hard core, explicitly degrading and dehumanising, with a greater focus on aggressive sexual activity (Bridges, 2010; Crabbe & Corlett, 2010; Dines, 2010; Ezzell, 2009); however, evidence to support such assertions is limited. A plausible explanation may be that the anonymity of the internet encourages experimentation and the pushing of boundaries, which create new markets in pornography (Kaufman, 2003). Furthermore, although much pornography may be similar in content due to commercial interests, online pornography is unregulated (and therefore some is potentially illegal) and may therefore be heterogeneous (Bryant, 2009). Indeed, some young people suggested that online pornography is more explicit than that available through other means (Phippen, 2012). Related to this is the recent phenomenon of young people producing sexual images of themselves and their peers; the extent and effects of this are still largely unknown. The consequences (both long and short term) of these possible changes in the production, content and distribution of pornography are unclear, but given the possibilities of harm to children and young people, as well as the potential for positive effects, investigation is needed desperately. Boyd and Marwick (2009, p.413) propose that we should redirect our attention from the content to the underlying problems – "just because technology makes an issue more noticeable does not mean that we should focus on eliminating its visibility. Instead, we should use visibility to get to the root of the problem."

There is much discussion in the literature about pornography affecting children and young people's body image and the idea that you have to appear in a very stylised, enhanced way to have sex (Löfgren-Mårtenson & Månsson, 2010). It has also been suggested that the choreographed and more extreme sexual practices depicted in pornography have led to children and young people engaging in “riskier” sexual behaviours (Sinković et al., 2012). This belief may be linked to the issue of lack of definition of what exactly children and young people are watching and where they are accessing it. Some internet pornography comprises real couples uploading clips of themselves having sex; in these types of clips, the bodies on display are real people and are less likely to be digitally or physically enhanced, and so many serve an educational function for some children and young people without the concerns raised about body image problems. It is difficult to determine if children and young people's issues with body image come from the effects of pornography or from wider media. The acts shown in clips of real couples may accurately represent how people have sex and so do not necessarily misrepresent real sex acts to children and young people. However, issues remain around consent and coercion in the decision to make images publicly available and the effects of normalising the creation and dissemination of such images. Much of the literature to date focuses on professionally produced pornography and therefore may not be representative of the pornography now widely available.

A lack of theoretical or explanatory models was identified in the literature. A notable exception is Livingstone and colleagues, who have attempted to bring together what we know about exposure, access and the potential effects of pornography on the internet. They have created an explanatory model of the online risks for children and young people that considers access, usage, the child or young person's role and underlying motives and the potential negative consequences (Hasebrink et al., 2009; Livingstone & Görzig, 2012). They identified four groups of young internet users with differing expertise, engagement with internet content and support needs (e.g. Livingstone et al., 2005) and have suggested hypotheses to explain exposure to pornography and any harm caused. The usage hypothesis suggests that the more children and young people use the internet (and the more able they are), the more opportunities and risks they will encounter while there, whereas the risk migration hypothesis suggests that children and young people who encounter more risk offline will also encounter more risk online (e.g. Livingstone & Görzig, 2012). Lastly, the vulnerability hypothesis suggests that, among those who encounter risks online, the more vulnerable the child the more likely that harm will result (e.g. Livingstone & Görzig, 2012). Much more research is needed to test the explanatory model. Attempts should also be made to examine “theoretical approaches to media representation, production or consumption, or to theories of the construction of sex and sexuality, or of the ways in which knowledge and truth are socially and culturally wrought” (Attwood, 2011, p.14).

New frontiers for education

Many questions remain about how accurate or helpful pornography is for children and young people in domains such as sexual knowledge, curiosity and inspiration. It is unclear whether it provides them with accurate, helpful information (as some studies in this REA suggest) or whether it skews their understandings (as other studies suggest). In order to fully address these questions, we must consider children and young people's abilities to critically engage with the material they are seeing. This is where education has an opportunity to play a proactive role. However, recent events suggest that this may

not be considered within a statutory framework; a recent consultation on personal, social, health and economic (PSHE) education by the Department for Education (2013) reported that many respondents felt that parents had primary responsibility for sex and relationships education (SRE) and as a result concluded that PSHE overall will remain a non-statutory subject. This decision, and the evidence upon which it was based, appears to be a missed opportunity. The major flaw in the analysis of the consultation responses appears to be the decision to weight all responses equally regardless of whether they were from one person or on behalf of an organisation with thousands of members. The decision itself has provoked "disappointed" reactions from many organisations working in the field (e.g. Accord Coalition, Brook, Relate, Sex Education Forum), as the decision not to make PSHE a statutory subject on the curriculum means that not all young people will have access to high-quality sex and relationships education and teachers will not receive extra training and support. This decision can be seen as being even more surprising in the light of the findings of this REA, which suggest not only that children and young people want more education and opportunity to discuss sex and relationships but also that many parents feel poorly equipped to help their children (Findlater, evidence given at the Independent Parliamentary Inquiry into Online Child Protection, 2012). There seems to be an opportunity and a need for education, both for adults and for young people.

Strengths and weaknesses of this Rapid Evidence Assessment

This REA is not a full systematic review and differs from a full systematic review in one important way: the scope and depth of its searches. Searching for a full systematic review can often take more than three months (more than the total time allocated to the REA), while the searches for this report took less than three weeks. The searches conducted depended almost exclusively on electronic databases and were not accompanied by the usual practice of searching key journals by hand. While a wide range of search terms were used, it was not possible to complete all the searches we intended in the time available. However, we did screen more than 40,000 references, which, given the constraints, means that we have considered a wide range of material.

The fact that studies were excluded based on their abstract alone is also a potential weakness of this REA. Usually, the full report of all potentially relevant studies would be retrieved, whereas in this case only those that met our strict inclusion criteria were retrieved. This may have led to, for example, some pornography studies with a minor focus on children and young people being excluded. Apart from the search strategy, this REA followed all the stages and adhered to the principles that one would expect of a full systematic review. While it is difficult to estimate whether a full systematic review would have found more studies, a larger piece of work would have been able to examine a greater range of outcomes and consider other issues, many of which have been highlighted in the discussion above.

Conclusions

We are confident that we know that a significant proportion of children and young people are exposed to or access pornography; this occurs both online and offline and increases with age. Exposure is more prevalent than access. There are gender differences in exposure and access to pornography. These gender differences are also found in children and young people's attitudes towards pornography. Access and exposure to pornography affect children and young people's sexual beliefs and they learn from and may change their behaviour because of exposure and access to pornography. Access and exposure to pornography are also linked to children and young people's engagement in "risky behaviour". Considering sexualised and violent imagery more broadly, we can conclude that exposure to sexualised and violent imagery affects children and young people and that there are links between violent attitudes and violent media. We are much less confident about the other findings outlined in this REA and there are many areas that we still do not know much, if anything, about. It is apparent that much more research is needed.

Recommendations

Few papers reviewed for this Rapid Evidence Assessment (REA) – whether included or excluded – even began to consider the effects of pornography on children and young people who were: an ethnicity other than the majority for the country in which the research was conducted; a sexuality other than heterosexual; transgender; or anything other than able-bodied and with full capacity (relative to their development). All recommendations are made with the caveat that diversity must be a central part of future work.

For future research

All of the research that is proposed, where applicable, should be conducted in ways that give a voice to young people and, where appropriate, should be centred around them and have participatory processes embedded. More research is needed from multidisciplinary perspectives and using a wide range of methodologies; these should include meta-analyses and systematic reviews that can provide comprehensive accounts of what the existing evidence base tells us. All research should state clearly what definition of pornography was used and why. Authors should also be advised to state clearly whether they have separately (aside from pornography) considered:

- sexualised imagery (that does not meet the definition of pornography);
- violent imagery; and
- sex acts for storyline not arousal.

In light of the evidence in this report, we recommend that:

1. research should be conducted that investigates what children and young people think pornography is and the content of what they describe as pornographic;
2. research should be conducted that investigates whether there are links between the pornography that children and young people are exposed to and/or access and their attitudes towards, aspirations about and feelings towards relationships and sex.

An extended list of research questions is provided in Appendix 17.

Recommendations to Government

In light of the evidence in this report:

1. **The Department for Education** should ensure that all schools understand the importance of, and deliver, effective relationship and sex education which must include safe use of the internet. A strong and unambiguous message to this effect should be sent to all education providers including: all state funded schools including academies; maintained schools; independent schools; faith schools; and further education colleges.
2. **The Department for Education** should ensure curriculum content on relationships and sex education covers access and exposure to pornography, and sexual practices that are relevant to young people's lives and experiences, as a means of building young people's resilience. This is sensitive, specialist work that must be undertaken by suitably qualified professionals, for example, specialist teachers, youth workers or sexual health practitioners.

3. **The Department for Education** should rename 'sex and relationships education' (SRE) to 'relationships and sex education' (RSE) to place emphasis on the importance of developing healthy, positive, respectful relationships.
4. The Government, in partnership with internet service providers, should embark on a national awareness-raising campaign, underpinned by further research, to better inform parents, professionals and the public at large about the content of pornography and young people's access of, and exposure to such content. This should include a message to parents about their responsibilities affording both children and young people greater protection and generating a wider debate about the nature of pornography in the 21st century and its potential impact.
5. Through the commitments made to better protect girls and young women from gender-based violence in the ending violence against women and girls action plan, the **Home Office** and the **Department for Education** should commission further research into the safeguarding implications of exposure and/or access to pornography on children and young people, particularly in relation to their experiences of teenage relationship abuse and peer exploitation.
6. **The Home Office** should incorporate the findings of this report into the ongoing teen abuse campaign. Future activity on this workstream should reflect young people's exposure to violent sexualised imagery within their peer groups and relationships.

Recommendation to the Youth Justice Board

7. The **Youth Justice Board** should include questions on exposure and access to pornography within the revised ASSET assessment tool, to better inform understanding of possible associations with attitudes and behaviour and improve the targeting of interventions for young people displaying violent, or sexually harmful, behaviours.

We welcome the important work being undertaken by Claire Perry MP in her role as adviser to the Prime Minister regarding the availability of internet pornography. We ask that she considers the findings of this report and its implications for the Government's work on internet controls and the sexualisation of children and young people.

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Endnotes

- 1 Also see Itzin et al., 2007; Underwood et al., 2007.
- 2 Also see Kraus & Russell, 2008; Flood, 2007; Rideout, 2001; Tydén & Rogala, 2004; Wallmyr & Welin, 2006; YouGov, 2009.
- 3 Also see Fleming et al., 2006; Johansson & Hammarén, 2007; Romito & Beltrami, 2011.
- 4 Also see Wolak et al., 2007; Ybarra & Mitchell, 2005; Ybarra et al., 2011.
- 5 Also see Shek & Ma, 2012; van den Eijnden et al., 2008; Wolak et al., 2007.
- 6 Also see YouGov, 2009.
- 7 Also see Rosen et al., 2008; Wolak et al., 2007.
- 8 Also see Hasebrink et al., 2009; Hegna et al., 2004; Livingstone et al., 2005; Lo & Wei, 2005; Mitchell et al., 2003a, 2003b; Romito & Beltrami, 2011; Sabina et al., 2008; Skau, 2007; Tsaliki, 2011; Vandoninck et al., 2010; Wolak et al., 2007; Ybarra et al., 2011.
- 9 Also see Braun-Courville & Rojas, 2009; Cowan & Campbell, 1995; Flood, 2007, 2009; Häggström-Nordin et al., 2009; Hasebrink et al., 2009; Livingstone & Bober, 2003, 2004; Livingstone et al., 2005; Löfgren-Mårtenson & Månsson, 2010; Luder et al., 2011; Mesch, 2009; Morrison et al., 2004; Peter & Valkenburg, 2006; Phippen, 2012; Romito & Beltrami, 2011; Shek & Ma, 2012; ter Bogt et al., 2010; Tsaliki, 2011; Wallmyr & Welin, 2006; Ybarra & Mitchell, 2005.
- 10 Also see Skau, 2007; ter Bogt et al., 2010; Peter & Valkenburg, 2007; Tsitsika et al., 2009; Wallmyr & Welin, 2006.
- 11 Also see Livingstone & Bober, 2004; Livingstone et al., 2005; Mitchell et al., 2003a, 2003b; Vandoninck et al., 2010; Ybarra & Mitchell, 2005.
- 12 Also see Skoog et al., 2009.
- 13 Also see Peter & Valkenburg, 2006.
- 14 Also see Romito & Beltrami, 2011; Skau, 2007; Sinković et al., 2012.
- 15 Also see Skau, 2007; Sinković et al., 2012.
- 16 Also see Livingstone & Bober, 2003, 2004, 2005; Lo & Wei, 2005; Shek & Ma, 2012; Tsaliki, 2011.
- 17 Also see Livingstone et al., 2011; Nitirat, 2007; Svedin et al., 2011; Træen et al., 2004; Tsaliki, 2011; Wallmyr & Welin, 2006; Ybarra & Mitchell, 2005; Ybarra et al., 2011.
- 18 Also see Ringrose et al., 2012; Romito & Beltrami, 2011; Silver, 2012; Tsaliki, 2011.
- 19 Also see Ybarra & Mitchell, 2005.
- 20 Also see Wallmyr & Welin, 2006.
- 21 Also see Mulley, 2013.
- 22 Also see Flander et al., 2009; Livingstone & Bober, 2004, 2005; Livingstone et al., 2005; Mitchell et al., 2003a, 2003b.
- 23 Also see Livingstone & Bober, 2004, 2005; Livingstone et al., 2005; Mitchell et al., 2003a, 2003b.
- 24 Also see Poulter, 2009; Rosen et al., 2008; Staksrud, 2009.
- 25 Also see Livingstone et al., 2011; Mulley, 2013; Wolak et al., 2007.
- 26 Also see Mitchell et al., 2003a, 2003b; Wolak et al., 2007.
- 27 Also see Wallmyr & Welin, 2006.
- 28 Also see Cowell & Smith, 2009; Romito & Beltrami, 2011; Wallmyr & Welin, 2006.
- 29 Also see Kubicek et al., 2010; Kinsman et al., 2010; Lauszus et al., 2011; Peter & Valkenburg, 2010a; Romito & Beltrami, 2011; Skau, 2007; Wallmyr & Welin, 2006.
- 30 Also see Livingstone & Bober, 2004, 2005; Nitirat, 2007; Skau, 2009; Tsaliki, 2011; Wallmyr & Welin, 2006.
- 31 Also see Livingstone et al., 2011; Phippen, 2012; Rice et al., 2012.
- 32 Also see Jensen, 2007.
- 33 Also see Häggström-Nordin et al., 2009; Hegna et al., 2004; Mulley, 2013; Romito & Beltrami, 2011; Skau, 2007; Svedin et al., 2011.
- 34 Also see Vandoninck et al., 2010.
- 35 Also see van den Eijnden et al., 2008.
- 36 Also see Häggström-Nordin et al., 2009; Livingstone & Bober, 2003; Johansson & Hammarén, 2007; Sabina et al., 2008.
- 37 Also see Häggström-Nordin et al., 2009; Hunter et al., 2009; Owens et al., 2012.
- 38 Also see Livingstone et al., 2011.
- 39 Also see Kinsman et al., 2010.
- 40 Also see Löfgren-Mårtenson & Månsson, 2010; Mattebo et al., 2012; Peter & Valkenburg, 2010a.
- 41 Also see Malamuth, 1993.
- 42 Also see NSPCC, 2011; Papadopoulos, 2010; Wornack, 2007.
- 43 Also see Willoughby et al., 2012.
- 44 Also see Markey & Markey, 2010; Stermer & Burkley 2012; not an exhaustive list.

