



Government  
Equalities Office

# **The relationship between pornography use and harmful sexual attitudes and behaviours**

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**Reader advisory: Please note this report contains content of a sensitive nature, including references to explicit content and descriptions of sexual violence**

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# 1. Executive summary

## Background

This literature review was commissioned by the Government Equalities Office to review evidence to answer the question 'To what extent does existing evidence establish a relationship between the use of pornography and negative attitudes and behaviours, including harmful sexual behaviours, towards women and girls?' It aims to inform the Government in taking an evidence-based approach to dealing with the potential harms caused by pornography, following a recommendation from the Women and Equalities Select Committee (WESC) inquiry into the sexual harassment of women and girls in public places.

## Scope

The focus of this review is on legal pornography use and legal, yet harmful, attitudes and behaviours towards women. It focuses solely on the attitudes and behaviours of adult males. Evidence investigating the use of illegal pornography, including child pornography, was not included. This review closely examined 19 academic papers (refined from a shortlist of 72) drawing on multiple research methodologies.

## Findings

Across all of the methodologies reviewed, there is substantial evidence of an association between the use of pornography and harmful sexual attitudes and behaviours towards women. The nature and strength of this relationship varies across the literature, and there are many potential moderating (potentially even mediating) variables that require further investigation. However, it is clear that a relationship *does* exist and this is especially true for the use of violent pornography.

Human behaviour is influenced by many interrelated variables and subconscious factors. It is not rational and linear, nor does it follow a simple cause and effect model and this is also the case when exploring harmful attitudes and behaviours towards women. It is incredibly hard to establish causality when the variables of interest cannot be manipulated ethically. The evidence base cannot establish a direct causal link between the use of pornography and harmful sexual attitudes or behaviours; this would require impractical and unethical study conditions (forced exposure to pornography in order to observe potentially harmful behaviour in the future).

The current context of pornography consumption is a critical part of the picture. Widespread smartphone adoption and high-speed streaming has facilitated easy, rapid access to pornography. The growth of content on mainstream pornography websites has made its availability seemingly limitless. Furthermore, a great deal of

this easy to access, mainstream pornography depicts (to varying levels) sexual violence and female degradation.<sup>1</sup>

Across the literature studied, there were four key themes of harmful sexual attitudes and behaviours that were associated with the use of pornography:

1. **Viewing women as sex objects.** Pornography has been shown to desensitise men<sup>2</sup> so that they learn to see women as sex objects, engaged in a transactional, one-way interaction. It can breed a lack of empathy towards the women who appear in pornography films, to the point where sexual aggression in these films is completely normalised<sup>3</sup>. Scenes of aggressive and repressive sex, with female actors showing outward enjoyment of degrading positions (even asking for them), can reassure the viewer that it is totally acceptable to watch the abuse of women<sup>4</sup>, while misleading video captions may be training men to misinterpret real life signals from women<sup>5</sup>. Given the correlation between seeing women as sex objects and attitudes supporting violence against women, this is particularly concerning.<sup>6</sup>
2. **Shaping men's sexual expectations of women.** Pornography use has been associated with 'sexual scripting': the learning, priming and acting out of new sexual behaviours, providing an easily accessible template for actual sexual behaviour. Furthermore, pornography use has been associated with increasing men's expectations of 'real-world' sexual encounters for 'porn-like sex'<sup>7</sup> (especially among younger viewers) and shaping unrealistic expectations of what women want and enjoy doing<sup>8</sup> sexually.
3. **Acceptance of sexual aggression towards women.** Pornography use has a statistically significant association with Attitudes Supporting Violence against women (ASV), as measured by the Ambivalent Sexism Inventory (ASI) (with violent pornography showing an even stronger association)<sup>9</sup>. In addition, past exposure to pornography has also been significantly associated with more hostile sexism. Although this was reflected among individuals of low

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<sup>1</sup> Sun et al (2014) p.1

<sup>2</sup> Whisnant (2010) p.120

<sup>3</sup> Antevska & Gavey (2015), Whisnant (2010)

<sup>4</sup> Antevska & Gavey (2015)

<sup>5</sup> Whisnant (2010)

<sup>6</sup> Wright & Tokunaga (2016)

<sup>7</sup> Flood (2010) p.9

<sup>8</sup> Miller et al. (2018) p.21

<sup>9</sup> Hald et al (2010) p.16-17

agreeableness, suggesting a circular relationship between pornography use and aggression towards women<sup>10</sup>.

4. **Perpetration of sexual aggression.** Lastly, pornography use has been associated with an increased likelihood of committing both verbal and physical acts of sexual aggression<sup>11</sup>. With the correlation being significantly stronger for verbal rather than physical aggression, but both were evident. The use of violent pornography produced a stronger correlation. Use of pornography has also been significantly associated with reduced willingness to intervene in a potential act of sexual violence<sup>12</sup>.

While it cannot be said that there is a direct causal link, pornography use is one among other potential factors that appear to contribute to a permissive and conducive context that allows harmful sexual attitudes and behaviours to exist against women and girls.

## Summary

This review found evidence of an influential relationship between use of pornography and harmful sexual attitudes and behaviours towards women. While the nature and strength of the relationship varies by study, the finding holds across multiple methodologies. A direct causal link cannot be established between these two variables as this would require impractical and unethical study conditions (forced exposure to pornography). The relationship is stronger for the use of violent pornography in particular. Findings suggest that pornography, alongside a number of other factors, contributes to a conducive context for sexual harm towards women.

## Background

This literature review was commissioned by the Government Equalities Office to review evidence to answer the question 'To what extent does existing evidence establish a relationship between the use of pornography and negative attitudes and behaviours, including harmful sexual behaviours, towards women and girls?'. It aims to inform Government departments taking an evidence-based approach to dealing with the potential harms caused by pornography, following a recommendation from the Women and Equalities Select Committee (WESC) inquiry into the sexual harassment of women and girls in public places.

## Scope

The focus of this review is on legal pornography use and legal, yet harmful, attitudes and behaviours towards women. It focuses on the attitudes and behaviours of adult

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<sup>10</sup> Malmuth et al (2000)

<sup>11</sup> Wright et al (2016) p.13

<sup>12</sup> Foubert & Bridges (2018) p.8



males. Evidence investigating the use of illegal pornography, including child pornography, was not included.

## **Findings**

From the literature reviewed, four key attitudes and behaviours emerged where there is evidence for an influential relationship between the use of pornography and harmful attitudes and behaviours towards women and girls:

### **Viewing women as sex objects**

The review found evidence of a significant relationship between the use of media that objectifies women (which includes pornography) and seeing women as sex objects. Seeing women as sex objects was in turn correlated with harmful attitudes towards women; specifically, attitudes supporting violence against women.

### **Shaping men's sexual expectations of women**

Literature reviewed showed the influence of pornography in providing a template for actual sexual behaviour. This has if men expect to play out violent and/or degrading interactions portrayed in pornography. There is evidence that use of pornography is associated with greater likelihood of desiring or engaging in sexual acts witnessed in porn, and a greater likelihood of believing women want to engage in these specific acts.

### **Acceptance of sexual aggression towards women**

The review found a significant positive association between pornography use and attitudes supporting violence against women, with this relationship being significantly higher for sexually violent pornography.

### **Perpetration of sexual aggression**

The review found evidence of an association between pornography and an increased likelihood of committing both verbal and physical acts of aggression, with a significantly stronger correlation with the use of violent pornography. Use of violent pornography and prior exposure to parental spousal abuse were the two strongest predictors of a first sexually violent act. The use of violent and degrading pornography was also found to be significantly associated with reduced self-reported willingness to intervene in a potential act of sexual violence.

## 2. Introduction

### 2.1 Background and aims

#### Background

Violence against women and girls (VAWG) continues to be a subject of serious concern for the UK. A recent report from the Women and Equalities Select Committee (WESC) on the sexual harassment of women and girls in public places<sup>13</sup> highlighted some worrying trends in public attitudes and behaviours, pointing to the potential harm caused by pornography. One of the recommendations of the WESC report was that the Government should take an evidence-based approach to addressing the harms of pornography. This review, commissioned by the Government Equalities Office (GEO), contributes to this evidence-based approach.

#### Aims

This report addresses the question: 'To what extent does existing evidence establish a relationship between the use of pornography and negative attitudes and behaviours, including harmful sexual behaviours, towards women and girls?'

### 2.2 Scope

This review focuses on legal pornography use by adult males (aged 16+) and legal, yet harmful, sexual behaviours and attitudes towards women and girls. Where the literature included female subjects, the data on male subjects was looked at in isolation wherever possible. As outlined below, it is extremely difficult to isolate use of 'legal' pornography (especially given the reliance on claimed behaviour), however studies focussing on illegal pornography were systematically excluded.

It was considered that a significant body of research already exists discussing the effects and impact of pornography on children (e.g. Children's Commissioner's report on the effects of pornography on children and young people<sup>14</sup>), and therefore the focus of this review is on adult males' use of pornography only. Taking into account the age of consent in the UK, this review is focused on the pornography use of those aged above 16 years, as this delineates the minimum age for legal, adult sexual activity. The exclusive focus on the use of legal pornography means that child pornography, in which parties depicted are under the age of 18, is excluded from the scope of this review.

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<sup>13</sup> Women and Equalities Select Committee, Sixth Report of Session 2017/19: Sexual harassment of women and girls in public places (accessed at [www.parliament.uk](http://www.parliament.uk))

<sup>14</sup> Horvath et al. (2013)

It should be noted that there is a considerable body of literature exploring illegal pornography use, and the use of pornography in the context of health issues and forming healthy relationships, but these topics are outside the scope of this review. These avenues, as well as less well-researched topics such as women's use of pornography, or intersectional considerations (i.e. the impact on women from LGBT+ or ethnic minority communities) could be pursued to more fully appreciate the subject matter.

A final consideration regarding the scope was to what extent constraints on recency needed to be placed on literature analysed and included. Taking into account how the digital landscape has changed (see section 3.1 for more detail), it was deemed necessary to focus the review on evidence produced after 2005, to reflect increasing use of the internet. However, where multiple studies referenced a critical piece of literature from before 2005, this evidence was also reviewed to provide informed context (in total four seminal pieces of literature from before 2005 were included on top of the 19 core pieces of literature).

## **2.3 Definitions**

### **Pornography**

For the purpose of this review, 'pornography' is defined as 'any media (including: internet, books, videos, magazines etc.) intended to sexually arouse consumers through the depiction of nudity or explicit sexual behaviour.'<sup>15</sup> This definition aligns with previous studies on pornography use, as well as resonating with the policy and legislative context. As previously mentioned in relation to child pornography, criminal offences are outside the scope of this review and as such illegal pornography has not been included in all references of 'pornography' in the review.

The review uses the UK legal definition for illegal pornography (officially termed 'extreme pornography'), whereby images are considered extreme if they are 'grossly offensive, disgusting or otherwise obscene' and depict acts involving necrophilia, bestiality, non-consensual sex, and/or resulting in serious injury or death.<sup>16</sup> It should be noted that the exclusion of illegal pornography does not mean the exclusion of all violent pornography. As long as the material does not contain any scenes depicting the above stated acts, pornography may contain violence without being deemed as illegal. As such, this review examines research regarding both violent and non-violent pornography.

### **Harmful sexual attitudes and behaviours**

The literature evidenced in this review defines harmful attitudes and behaviours differently; there is not a standard and consistent definition. Rather, interpretations of what constitutes attitudes and behaviours are wide ranging from sexual

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<sup>15</sup> Hald, Malamuth, & Yuen (2010) p.15

<sup>16</sup> Parliamentary briefing paper on Extreme Pornography (2016) p.7 & p.10

objectification of women to perpetration of violence. For the purpose of this review, 'harmful sexual attitudes and behaviours' is used to encompass a broad spectrum of negative attitudes and behaviours.

Harmful attitudes span from sexist attitudes, such as those captured in the 'Ambivalent Sexism Inventory'<sup>17</sup>, to objectification of women and sexual expectations, to Attitudes Supporting Violence against women (ASV), which have an evidenced association with the propensity to commit violent acts.<sup>18</sup> Harmful behaviours includes both acts of verbal sexual aggression and acts of physical sexual aggression, but not illegal behaviours such as rape.

## **2.4 Search and sift strategy for academic literature (in brief)**

The search process began with an inspection of previous literature reviews with a similar scope. These were examined to establish an initial list of search terms that had previously been proven to be effective for exploring material to the research question. Searches were conducted across the following academic databases: Web of Science, Google Scholar, JSTOR, Science Direct and UCL University Library. Material which surfaced in these searches was screened against the following criteria:

- Published after 2005 (rise of the internet)
- Published in a reputable peer reviewed journal
- Demonstrated methodological rigour
- Focused on legal, adult porn (where possible to discern this – i.e. not focussed on illegal pornography)
- Included adult males (aged 16+) as a main subject group (i.e. not focussed on children)

Where material appeared relevant the abstract was read, and where relevance was confirmed, the full article was accessed. Depending on the structure of the piece, the following were then screened against the inclusion criteria: introduction, methods, main findings/discussion and conclusions. If the piece met inclusion criteria, it was included for stage two of the sift: a full screening.

In addition, a call for grey literature across academic, policy and practitioner communities yielded additional academic material. Hand searches were also undertaken of sources referenced within papers that had already been screened in the main search. All grey literature sourced was screened against the same basic

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<sup>17</sup> Hald et al. (2013) referencing Glick and Fiske's 'Ambivalent Sexism Inventory' (1996)

<sup>18</sup> Flood & Pease (2009) p.126

criteria (but needed to be published by a reputable source rather than a journal, with primary research forming the basis of the article).

Experts in academic research on the use of pornography and its impact were consulted throughout the search and sift process, these include:

- Dr Fiona Vera-Grey, Leverhulme Early Career Fellow in the Department of Law at Durham University, researching violence against women and girls;
- Dr Maria Garner, published author on issues of gender and sexuality;
- Dr Max Waltman, published author and post-doctoral researcher on legal challenges to pornography and its association to gender-based violence and sex inequality.

## 3. The pornography landscape today

### 3.1 Changing access

In 2018, 78% of the UK adult population used an internet-enabled mobile phone, up from just 17% in 2007. The majority (62%) of the population's internet time is now via smartphone. Data use has also been rising quickly, such that UK consumers used an average of 190GB per fixed broadband line in 2017 (up from 17GB in 2011) and 1.9GB per active mobile subscription in 2017 (up from 0.11GB in 2011).<sup>19</sup> These figures highlight the opportunity for adults (and children) to access pornographic content - at high speed - on their personal devices. Indeed, looking at global data, PornHub estimates that 75% of their videos were accessed via mobile in 2017, up from just 1% in 2008.<sup>20</sup>

Widespread smartphone adoption has also facilitated new modes of access; it is now much easier for a person to access pornography in private, wherever and whenever they want. Furthermore, the growth of websites such as PornHub, Xhamster and RedTube has meant that the availability of pornography is seemingly limitless. As Dr Fiona Vera-Gray, a Research Fellow working in VAWG, points out "there is an endless array of possibilities, the available content is non-exhaustive. It's ever easier to pick and choose content to match specific sexual tastes, as well as switch between sites."<sup>21</sup>

### 3.2 Changing content

"Mainstream commercial pornography has coalesced around a relatively homogenous script involving violence and female degradation."<sup>22</sup>

Alongside increased access, the 'mainstream' pornographic content available today treads a fine line between legal and illegal. Sun et al (2014) summarise a trend observed by multiple scholars in the field that pornography websites now cater to every and (almost) all sexual desires. Unfortunately, there does not yet exist a comprehensive content analysis for mainstream online pornography to quantify the prevalence of different 'types' of pornography, including degrading or violent pornography.

A frequently quoted study on the nature of pornographic content is by Bridges and colleagues from 2010. The researchers analysed 304 scenes from the most popular titles of a major distributor of pornographic videos, Adult Video News (US, Dec 2004 to June 2005). Of the scenes analysed, the authors found that 88% contained

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<sup>19</sup> Ofcom: Communications Market Report, Aug 2018 p.6

<sup>20</sup> PornHub - 10 Years of Pleasure (2017)

<sup>21</sup> Personal communication with Dr Fiona Vera-Grey (in the capacity of expert adviser)

<sup>22</sup> Sun et al (2014) p.1

“physical aggression, principally spanking, gagging, and slapping” and that the “Perpetrators of aggression were usually male, whereas targets of aggression were overwhelmingly female.”<sup>23</sup> The authors found higher rates of aggression than similar studies conducted previously, however this may at least be in part due to the more narrow definition of aggression used in these earlier studies<sup>24</sup>. It should be noted that the content analysed was DVD content, so may not reflect the landscape of online pornography, where further study is required.

Popular choices for pornographic content can be extrapolated from data of top or trending videos on major pornography providers like PornHub. In the UK, the top search term for 2018, according to PornHub insights UK, was ‘lesbian’<sup>25</sup> consistent with the global, all-time top category (2008-2017)<sup>26</sup>. The hyper-sexualisation of lesbian women should be noted as an aspect of harm against women<sup>27</sup>, although, as mentioned, it is a nuance that falls beyond the scope of this review. Other top trending searches included: ‘elastigirl’ (from the movie *Incredibles 2* released that year), ‘tinder’ (in reference to the dating app) and ‘uncensored hentai’ (a pornographic sub-genre of anime and manga).<sup>28</sup>

Furthermore, pornography researchers Vera-Gray and McGlynn have found that a number of mainstream pornography websites readily showcase videos depicting ‘extreme’ pornography (as defined above)<sup>29</sup>. The terms and conditions of websites like Pornhub, Xhamster and XVideos state they prescribe any content that is obscene or illegal and yet Vera-Grey and McGlynn were able to find over 10,000 videos (many of them readily available on the landing page), that directly contravene these terms and conditions<sup>30</sup>.

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<sup>23</sup> Bridges et al (2010) p.1065

<sup>24</sup> Ibid p.1079

<sup>25</sup> PornHub - 2018 Year in Review: UK (2018)

<sup>26</sup> PornHub - 10 Years of Pleasure (2017)

<sup>27</sup> Personal communication with Dr Fiona Vera-Grey (in the capacity of expert adviser)

<sup>28</sup> Ibid

<sup>29</sup> McGlynn, C. & Vera-Grey, F. (2019). ‘Porn website T&Cs are works of fiction. We need radical measures to take them on’. *Huffington Post* (online - accessed 09/07/19)

<sup>30</sup> Ibid

# 4. Assessing the relationship between pornography use and harmful sexual attitudes and behaviours

## 4.1 Key methodologies and their limitations

The current evidence base cannot answer the question of causation. Studies are unable to examine the use of pornography in isolation from other moderating variables. In order to identify a causal relationship, researchers would need to conduct a randomised control trial, which would be both impractical and highly unethical. Put simply, it would be unethical to ask participants to view pornography in order to measure if they then demonstrate harmful behaviour towards women. In non-experimental studies it is therefore difficult to determine the order effects of moderating variables and pornography use. Individuals may turn to pornography because of a propensity to sexual aggression, but similarly this propensity to sexual aggression may well have been influenced by earlier pornography use (or other variables such as exposure to parental abuse or personal experience of abuse).

Across the literature review, several key research methodologies have been used. These are reviewed in turn, with a reflection of their advantages and disadvantages to exploring the relationship between pornography use and harmful attitudes and behaviours.

As a general point, it is important to recognise the difficulty that researchers have in trying to identify or control for the many variables (personal, social, cultural) that may interact with the variables under study. As such we can rarely be 100% sure of the true nature of the relationships found to be significant in research.

### Experimental studies

Experimental studies have the advantage of facilitating the isolation of a key variable (i.e. pornography use) for testing. In such studies there should be no other known factors that would influence the outcome being explored. This means the author could say with confidence that the variable 'caused' a certain effect in the outcome being examined. Moderating variables (other characteristics of the participants that increase or decrease an outcome) would have to be very strong to be noticeable.

A disadvantage of experimental studies is ecological validity: the likelihood that the results from the experiment would still be true in 'real life' settings. This is especially apparent when an outcome is measured in the short term, which in the case of pornography studies, is usually less than one week. Studies on pornography use and sexual responses are particularly 'unnatural' in their setting. Participants do not engage in masturbation during exposure to pornography in such experimental settings despite it being a typical behaviour associated with pornography use.



## **Cross-sectional (non-experimental) studies**

Non-experimental studies that take measurements at a single point in time (cross-sectional) are generally thought to have greater ecological validity than experimental studies (although less than longitudinal studies). This is because they take place in a 'naturalistic' environment, i.e. the respondent answers the questions at home or in another environment in which they feel comfortable.

However, cross-sectional studies only capture attitudes and behaviours in a snapshot of time and so cannot distinguish one hypothesis from its reverse. That is, use of pornography may correlate with acceptance of violence towards women, but we cannot be sure if the use of explicit content drove this sentiment towards women, or if the participant was already accepting of violence towards women before they chose to use pornography. Furthermore, the relationship may not be one-directional; there may be other variables (a 'mediating' or a 'moderating' variable) influencing the behaviour, such as underlying aggressive tendencies, that explains the relationship. Or the two variables may interact in such a way as to exaggerate the others' effects.

## **Longitudinal studies**

Longitudinal studies measure effects of a change in a variable over time. This temporal spacing allows researchers to make more confident directional inferences, since certain events or observations could be seen to precede or succeed others. In the case of sexual aggression studies, researchers are able to measure changes in pornography use over time, as well as features of sexually aggressive behaviours. If increased pornography use precedes a first act of sexual aggression, this could imply an influential relationship. Although even in this scenario there might exist a mediating variable that would explain the relationship.

As longitudinal studies take measurements at a number of different points in time, they have the advantage of capturing characteristics that might otherwise go unobserved. This can help the researchers control for these variables or hypothesise reasons for an observed trend. Multiple waves of data collection can also generate fairly large volumes of data facilitating more robust statistical analysis.

## **Meta-analyses**

Meta-analyses allow new insights to be gathered from a collection of pre-existing data on a subject. Where multiple studies on the same topic exist, with similar methodologies but potentially different results, meta-analyses can be used to find commonalities. The statistical analysis can be more robust, as there is more data to analyse, but choices involved in selecting studies, cleaning data and choosing which statistical tools to use can influence outcomes.

## **Sampling issues**

A common issue across all sociological and psychological studies is biases in sampling. Much of the literature on pornography use relies on university student populations. This higher-educated group represents a small sub-section of the broader population, and as such may skew findings on the relationship between pornography use and harmful attitudes and behaviours.

### **Self-reported data**

Research methods such as those discussed above commonly make use of surveys to measure pornography use. These researchers acknowledge that measures of both pornography use and sexual aggression are likely to be underreported. This is because they are relying on claimed attitudes and behaviours, which, in the case of sensitive and negative attitudes and behaviours, respondents are likely to underestimate or be dishonest in reporting. Across all types of studies, pornography use is almost always self-reported rather than observed.

## **4.2 Objectification of women**

A key theme that emerged from the literature reviewed is the role that pornography plays in the objectification of women in society, and the harmful nature of this objectification. The literature suggests that pornography use may desensitise men to the treatment of women as sex objects and/or facilitate the misinterpretation of signals from women. There is also evidence that seeing women as sex objects is associated with harmful attitudes.

### **Desensitising men to the treatment of women as sex objects**

In their 2015 qualitative study of male descriptions of the norms and appeals of pornography, Antevska and Gavey found a lack of empathy towards the women that appear on screen. Several participants in their study indicated that “whether or not the female performer experienced real pleasure was irrelevant”. Some participants explicitly told the researchers they were aware that women get mistreated within pornography, but that they chose to ignore this. The authors evidenced this ‘detachment’ from the women in the content across all men interviewed, to varying degrees of strength.

In the same study, many men spoke of how easy it was to come across highly degrading pornographic content, and that while they may not necessarily seek it out, they’re also unlikely to stop watching if it did come up (perhaps the result of a cognitive dissonance discussed in the next section). The ethics of their engagement with this sort of pornography was usually not thought through, as one participant explained:

*“...the lines are quite blurred I think around where the degraded [sic] and, consensuality [sic] begins and ends, yeah for instance, you’ll come across clips that,*

*the person you know being seemingly, umm... tied up and whipped and raped, by twenty or thirty people...*<sup>31</sup>

The male participant referred to a gender-neutral, non-descriptive 'person', which the authors suggested might be a psychological defence or detachment from the humiliation of the women shown.

In a critical analysis of the process by which men may be "groomed" by the pornography industry, Whisnant (2010) suggested a number of mechanisms by which men's viewing behaviours may escalate. One mechanism was through repeated exposure, leading to desensitisation: content that at first seems shocking becomes normalised after multiple exposures. Whisnant analysed comments on popular forums for discussing pornography content, such as *adultdvdtalk.com*. There she found comments indicative of this desensitisation, for example:

*"I've skimmed through Whipped Ass and Hogtied and some of the Water Bondage and I'm almost blown away. For some reason I've been digging this kind of stuff lately... Maybe I'm just jaded to standard porn fare."*<sup>32</sup>

Another mechanism for escalation is the ability to point to a palliative comparison – someone else behaving worse, who can be used to justify or excuse one's own behaviour.<sup>33</sup> The rapid expansion of content on the internet, freely accessible and catering to all desires, means that it is now always possible to find a palliative comparison online.

### **Misinterpreting signals from women**

In Antevska and Gavey's study on male perceptions of pornography a participant explained that because you see the actors "*talking and laughing*" after a segment such as the gang 'rape' scene (mentioned above) this "*mak[es] it quite clear that it was something that they'd gone into consensually and enjoyed*".<sup>34</sup> But, as the authors pointed out "any woman's claim to enjoy "rape" by so many men surely begs more careful consideration". The authors argued that by detaching themselves from the content they consume, men fail to critically analyse the signals that pornographers portray.

In her analysis of descriptions of pornographic videos, Whisnant (2010) consistently found that websites frequently made claims about the female participant(s) enjoying or even requesting degrading acts. Among other examples, Whisnant quoted a message sent out to members by the pornography site *GodGirls* claiming that the

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<sup>31</sup> Antevska & Gavey (2015) p.613

<sup>32</sup> Whisnant (2010) p.118

<sup>33</sup> *Ibid* p.120

<sup>34</sup> Antevska & Gavey (2015) p.613

“*girls want to push the boundaries of class now and then*”.<sup>35</sup> Whisnant argued that by claiming that the women on camera have actively chosen to be treated in more demeaning ways, the viewer is reassured that it is acceptable to enjoy watching the abuse of women. She summarised her analysis of the descriptions of pornographic videos as follows:

“Thus, pornography’s near constant message is that, whatever is being done to a woman, she wants it and likes it. Among other things, this message serves to deflect the consumer’s attention from his own preferences to the purported preferences of the women he is watching: instead of asking why *he* enjoys seeing women treated aggressively, he is repeatedly assured that such treatment is what *she* wants.”<sup>36</sup>

In their seminal analysis of the content of popular pornography DVDs, Bridges et al (2010) found that perpetrators of aggression were overwhelmingly male, while targets were overwhelmingly female. Additionally, when faced with aggression, 95% of the targets responded with expressions of pleasure or neutrally. Women were also significantly more likely to respond with pleasure or neutrality than men.<sup>37</sup> As the authors point out: “viewers of pornography are learning that aggression during a sexual encounter is pleasure-enhancing for both men and women. One may ask, what may be the social implication for this type of learning?”<sup>38</sup>

### **Seeing women as sex objects and associated harmful attitudes**

The literature indicates that viewing pornography is associated with seeing women as sex objects, and that seeing women as sex objects is associated with attitudes supporting violence against women (ASV). In their cross-sectional, survey-based study from 2016, Wright and Tokunaga used a structural equation model (a form of causal modelling), to test the significance of the path from exposure to pornography to seeing women as sex objects, to attitudes supporting violence against women (ASV). ‘Seeing women as sex objects’ was measured with agreement to statements such as: “*There is nothing wrong with men being interested in a woman only if she is pretty*”. ASV was measured with statements such as: “*When women go around braless or wearing short skirts and tight tops, they are just asking for trouble*”.

The authors found a significant relationship between consumption of pornography and seeing women as sex objects. That is to say, more frequent exposure to pornography was associated with stronger notions of women as sex objects. They also found a direct correlation between seeing women as sex objects and ASV. However, Wright and Tokunaga did not find a direct correlation between pornography use and ASV. From their study, pornography use cannot be said to lead directly to attitudes supportive of violence against women (or vice versa) rather

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<sup>35</sup> Whisnant (2010) p.124

<sup>36</sup> Whisnant (2010) p.124

<sup>37</sup> Bridges et al (2010) p.1077

<sup>38</sup> Ibid p.1081

it appears to influence other critical mediating variables, such as the objectification of women.

The authors use the theory of sexual scripting (discussed more in section 4.3) to explain their findings: people draw on the style of interactions they observe in media such as TV and film to inform their own behaviour in similar situations.<sup>39</sup> The authors summarise the logic as follows: “After having internalized the messages of male sexual privilege and female dehumanization, it should be easier for them to envision imposing themselves sexually on women and reacting punitively to women who frustrate their goals”.

### **4.3 Pornography shaping sexual expectations of women**

A further theme that emerged from the literature is the role that pornography plays in shaping men’s sexual expectations and perceptions of women in a sexual setting.

#### **Pornography and sexual scripts**

The theory of ‘sexual scripting’ can be used to investigate the relationship between pornography and the shaping of sexual expectations of women. As mentioned in the previous section, human behaviour - what is and isn’t acceptable, the likelihood of different outcomes to a course of action, and the nuances of varying contexts - is learned from the ‘scripts’ to which people are exposed.<sup>40</sup> Miller (2018) argued that the acquisition, activation and application model (3AM) brings to life the important role pornography plays in sexual scripting. Through the learning of new behaviours (script acquisition), priming learned behaviours (script activation), and encouraging the usage of these learned behaviours to inform sexual attitudes and behaviours (script application).<sup>41</sup>

Whisnant (2010) highlighted how pornography sites often encourage the fragmentation of their users’ personalities; whereby a ‘benign’, everyday self (who may have high ethical and moral standards) co-exists with a self who has ‘troublesome’ desires that may be in direct conflict with the values of the ‘benign’ self. This troublesome, alternate self is thought of as existing only within the realm of the pornography use.<sup>42</sup> However, sexual scripting does not support this idea of the separation of self. Sun et al (2014) stated that the cognitive processing of these sexual scripts is done with little forethought, primarily out of habit as ‘consumers of pornography use pornographic sexual scripts to navigate real-world sexual

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<sup>39</sup> Heusmann (1988)

<sup>40</sup> Ibid

<sup>41</sup> Miller et al. (2018) p.3

<sup>42</sup> Whisnant (2010) p.129

experiences and guide sexual expectations [...] Pornography is not simple fantasy; it is an easily accessible template for actual sexual behaviour.<sup>43</sup>

### **Shaping expectations of women's sexual behaviour**

Flood (2010)<sup>44</sup> detailed how specific portrayals of women and the prevalence of specific sexual acts in pornography (such as anal intercourse and extra-vaginal ejaculation) shape men's expectations of real-world sexual encounters. For example, the consistent portrayal of women with limitless sexual appetites, who are always sexually fulfilled by their male partners, combined with the ubiquity of anal intercourse in pornography, creates the understanding that "[such behaviours are] *normal, desirable and enjoyable for women*".<sup>45</sup>

In their study on pornography and sexual scripting, Sun et al (2014) found that younger age was associated with greater integration of pornography with sexual activity. Although it was beyond the scope of the research, the authors hypothesised that this difference in age is brought about by the changed digital landscape and the prevalence and availability of pornography online. Older men who developed their sexual identity outside of the modern pornographic script may have a more diverse heuristic model of sexual behaviour, whereas the younger men in the study have relied more heavily on pornography to form their sexual scripts.<sup>46</sup>

In addition to shaping sexual scripts and influencing expectations of porn-like sex from partners, Miller et al. (2018) pointed to the impact of pornography on shaping more general expectations of women to act in line with pornography discourses. This experimental study found that past use of certain kinds of pornography meant that men deemed women in general more likely to engage in porn-like sex in related scenarios. For example, men who had used workplace-themed pornography in the six months prior to the study judged the average woman more likely to engage in, and enjoy, porn-like sex with their boss.<sup>47</sup>

Given the ubiquity of men's pornography use, the relationship between pornography, sexual scripts and sexual expectations could have a widespread influence on societal conceptions of sexual norms. While the consequences of this relationship have not been tested, Miller et al suggested that the implications could include fostering sexual dissatisfaction within (heterosexual) relationships, where one partner may expect porn-like sex and another may have no desire or interest to do so.<sup>48</sup>

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<sup>43</sup> Sun et al. (2014) p.3

<sup>44</sup> Ibid p.9

<sup>45</sup> Flood (2010) p.171

<sup>46</sup> Ibid p.9

<sup>47</sup> Miller et al. (2018) p.21

<sup>48</sup> Ibid p.26

## 4.4 Propensity to sexual aggression

In addition to objectification and sexual expectations, evidence within the review also shows the role pornography use can have in relation to attitudes that support violence towards women.

### Attitudes supporting violence against women (ASV)

Attitudes supporting violence (ASV) is a strong indicator of future violence against women, and so its severity should not be underestimated. Flood and Pease (2009) state “there is consistent evidence of an association between violence-supportive beliefs and values, and the perpetration of violent behaviour.”<sup>49</sup>

The literature reviewed reveals a statistically significant relationship between pornography use and ASV. A key study on this subject is Hald, Malamuth and Yuen’s 2010 meta-analysis of non-experimental studies on this topic. The inclusion criteria they used overlaps with that used in this review. For example, the definition of pornography needed to be in line with the following: ‘sexually explicit materials intended to create arousal in the receiver’. The studies included in the review were required to have enough statistical information on male rather than female participants, and they were to use non-offender samples. Nine studies were included, of which 6 were pre-2005.

Hald and colleagues’ meta-analysis looked at nine different types of scales used in each of the studies to assess ASV, including for example the ‘adversarial sexual beliefs’ scale, the ‘rape myth acceptance’ scale and the ‘likelihood of rape’ scale.<sup>50</sup> It found (in contrast to the earlier study) a significant association between pornography use and ASV. The relationship was significantly higher for sexually violent pornography than non-violent pornography, but the latter was still statistically significant.

Hald and colleagues’ finding is in line with the evidence from experimental studies, which also tended to find an association between pornography use and ASV or other harmful attitudes towards women. Most experimental studies in this field were conducted before 2000 (with a quite different pornography landscape). After this time the lack of ecological validity meant they fell out of favour, with cross-sectional ‘naturalistic’ studies taking preference.<sup>51</sup> Nevertheless, meta-analyses of the experimental studies from the time found that exposure to both violent and non-violent pornography affects aggressive attitudes and behaviours. Furthermore, it also finds that violent pornography does so to a greater degree.<sup>52</sup>

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<sup>49</sup> Flood & Pease (2009) p.126

<sup>50</sup> Hald et al (2010) p.16-17

<sup>51</sup> Personal communication with pornography scholar Dr. Maria Garner, face to face discussion, 03/07/19

<sup>52</sup> Malamuth et al (2000) p.52

## **Past exposure of pornography associated with hostile sexism**

A more recent experimental study in Denmark by Hald and other colleagues (2013), found that past exposure to pornography was significantly associated with more hostile sexism<sup>53</sup>. Hostile sexism was assessed using the Ambivalent Sexism Inventory (ASI) which includes items like *'Women are too easily offended'* and *'Women seek power by gaining control over men'*<sup>54</sup>. The authors also explored the relationship between 'agreeableness' and hostile sexism. Individuals with low agreeableness tend to be antagonistic, hostile, suspicious and unfriendly - assessed using an internationally agreed-upon personality scale<sup>55</sup>. Low agreeableness was found to significantly predict higher sexist attitudes.

In their experiment Hald et al exposed a randomised group of participants to 30 minutes of pornographic video stimuli. They found that this exposure increased hostile sexism amongst individuals low in agreeableness, but not those high in agreeableness.<sup>56</sup>

It is also worth noting that it may be that pornography use contributes to reduced agreeableness. There might be a bidirectional relationship between these two characteristics. Malamuth and colleagues have argued a circular relationship between pornography use and aggression towards women,<sup>57</sup> but there are likely to be multiple circular relationships of this sort. There are only so many personal, familial or socio-economic factors that have been studied in the literature, and the interaction and effect between contextual factors have not been analysed in great depth.

## **4.5 Perpetration of sexual aggression**

The last section reviews evidence relating to the role of pornography and perpetration of sexual aggression (verbal and physical).

### **Pornography use and acts of sexual aggression**

Relevant to the discussion on the relationship between pornography use and sexual aggression is Malamuth, Linz and Heavey's widely-cited Confluence Model of Sexual Aggression.<sup>58</sup> This model asserts the convergence of interrelated characteristics on sexually aggressive behaviour in men, including 'Hostile Masculinity' (HM) and

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<sup>53</sup> Hald et al (2013) p.638

<sup>54</sup> Glick & Fiske (1996) p.500

<sup>55</sup> Hald et al (2013) p.641

<sup>56</sup> Hald et al (2013) p.649

<sup>57</sup> Malamuth et al (2000)

<sup>58</sup> Malamuth et al (1996)



'Sexual Promiscuity'(SP). The Confluence Model was used as an analytical lens in much additional work on the subject of pornography use and sexual aggression.

After reviewing historical meta-analyses (both experimental and correlational, stretching back to the early 1970s) on the relationship between pornography use and sexual aggression, Malamuth and other colleagues (2000) updated the Confluence Model to include pornography use as a risk factor. They found that men who were high in 'Hostile Masculinity' and 'Sexual Promiscuity' were more likely to report sexual coercion if they frequently, rather than infrequently, used pornography.<sup>59</sup> However, it cannot be assumed that this coercion was the result of more intense pornography usage, or simply that the most aggressive of these men were also seeking out more pornography. A later cross-sectional study by Baer and colleagues (2015) found that 'Hostile Masculinity' and 'Sexual Promiscuity' together were strong predictors of use of violent sexual media (including pornography), in comparison to non-violent sexual media.

Without a randomised control trial, it is not possible to ascertain which variable comes first: pornography use or 'Hostile Masculinity' / 'Sexual Promiscuity'. Further, it is possible that these two variables interact in a way as to drive one another, creating a more subtle interaction and influence. Malamuth et al acknowledge in their 2000 paper that associations between pornography use and aggressiveness toward women "could be explained by a circular relationship between high coercive tendencies and interest in certain content in pornography".<sup>60</sup>

A more recent key study on the topic of actual sexual aggression was Wright, Tokunaga and Kraus' 2016 meta-analysis. The study took into account 22 studies from 7 countries. All studies were naturalistic, general population studies where respondents self-reported their pornography use and acts of sexual aggression. The study assessed a range of variables that were perceived to have a moderating effect including age of participants, age of study (pre/post-internet boom in 1995) and type of pornography used.

Wright and colleagues (2016) found that pornography use was associated with an increased likelihood of committing both verbal and physical acts of sexual aggression. The correlation was significantly stronger for verbal rather than physical aggression, but both were evident<sup>61</sup>. Physical sexual aggression refers to the use or threat of physical force to obtain sex (e.g. 'using one's body weight to prevent movement or escape'); and verbal sexual aggression refers to verbally coercive communication to obtain sex or sexual harassment (e.g. 'being worn down by someone who repeatedly asked for sex')<sup>62</sup>. The authors noted that verbal aggression

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<sup>59</sup> Malamuth et al (2000) p.85

<sup>60</sup> Ibid p.85

<sup>61</sup> Wright et al (2016) p.13

<sup>62</sup> Ibid p.5

can be extremely damaging; a verbal coercion to obtain sex, even without the threat of physical force, is still an act of sexual violence<sup>63</sup>.

Additionally, the authors found that use of violent pornography produced a stronger correlation to ASV on average than use of non-violent pornography. This complemented findings from Foubert and Bridges (2016), Hald et al (2010) and Malamuth et al (2000) whereby violent pornography was a particular risk factor for harmful sexual attitudes and/or behaviours. Wright et al also found that the year of study was not a significant moderator: the association between pornography use and sexual aggression held both for pre and post-internet boom<sup>64</sup>.

This meta-analysis clearly indicated the presence of a relationship between sexual aggression and pornography use. As most of the studies are cross-sectional, there cannot be certainty as to the direction of the relationship from this evidence alone. However, longitudinal data can go some way in implying a causal relationship because they study a change in attitudes or behaviours over time.

A recent and thorough longitudinal study was conducted by Ybarra and Thompson (2018). Looking to explain the emergence of sexual aggression over time, the study generated six waves of data from 2006 to 2012, from 1,586 young people aged 10-21 years in the US. Each wave of the survey asked participants about behaviours relating to sexual violence (e.g. ‘...have you kissed, touched, or done anything sexual with another person when that person *did not want you to*’). Given the sensitivity of the topic, the authors highlighted that it is likely that sexual aggression will be underreported<sup>65</sup>. The study also asked about a range of individual characteristics including things like personal victimisation, aggressive behaviour, exposure to spousal abuse and exposure to pornography (divided into violent and non-violent)<sup>66</sup>.

The longitudinal nature of the data allowed Ybarra and Thompson to predict the probability of a first act of sexual violence. They used a range of multivariate logistic regression models and included only first instances of sexual violence. Participants who had reported sexual violence previously were not included. This allows for greater confidence in an influential relationship between variables, however it does result in lower sample sizes. As such, the authors mainly focussed on findings across both males and females. They found that the two strongest predictors of perpetration of a first sexually violent act were 1) prior exposure to parental/caregiver abuse, and 2) exposure to violent (but not non-violent) pornography.<sup>67</sup> For males alone, exposure to violent pornography was the strongest predictor of a first sexually violent act, although the confidence interval for this was fairly large and so the conclusion may not be as reliable. The longitudinal nature of the data provides

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<sup>63</sup> Ibid p.17

<sup>64</sup> Ibid p.12

<sup>65</sup> Ybarra & Thompson (2018) p.413

<sup>66</sup> Ibid p.406 – It should be noted that the authors do not explain how exposure to pornography was asked, or definitions ‘violent’ vs. ‘non-violent’ pornography

<sup>67</sup> Ibid p.411

evidence to suggest that violent pornography may influence later expressions of violent behaviour.

Ybarra and Thompson found that other variables were also statistically significant predictors, including current aggressive behaviour and being a victim of sexual harassment in the past.<sup>68</sup> The authors conclude that their findings “suggest several malleable factors that need to be targeted, especially scripts of inter-personal violence that are being modelled by abusive parents in youths’ homes and also reinforced by violent pornography.”<sup>69</sup>

### **Pornography use and reduced willingness to intervene in sexual violence**

As well as influencing harmful behaviours against women, pornography use may also influence indirectly, a witness’ willingness to intervene in sexual violence. This has been argued by Foubert and Bridges (2016), who studied the correlation between self-reported exposure to sexually explicit materials and ‘bystander willingness to intervene’. The former was measured with a standardised ‘exposure to sexual materials questionnaire’, which included items that the authors combined into a ‘violent/degrading pornography subscale’. The ‘bystander willingness to intervene’ measure was developed by Baynard et al (2005) and asks respondents their *likelihood* (on a 5-point scale) of engaging in 12 behaviours such as: ‘enlist the help of others if an intoxicated acquaintance is being taken upstairs at a party’. Foubert and Bridges found that for men (only), the use of violent/degrading pornography was significantly associated with reduced willingness to intervene in a potential act of sexual violence.<sup>70</sup> Use of non-violent/degrading pornography was not significantly associated.

Importantly, the direction of the correlation between violent pornography use and reported bystander willingness to intervene cannot be confirmed. It may be that men who are (already) more comfortable with other men taking advantage of women are also those that choose to watch more pornography. Either way it is clear that these two characteristics are related to one another. Additionally, longitudinal data such as Ybarra and Thompson’s show that pornography use can predict behaviour change.

Foubert and Bridges also studied bystander ‘efficacy’ using a self-reported measure, where respondents rated their perceived *ability* to intervene in a series of situations on a scale of 0-100%. They did not find a significant association between this measure and pornography use (violent or non-violent). Pornography use might not make men less capable of intervening, but it may make men less sensitive to recognising sexual harm.

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<sup>68</sup> Ibid p.411

<sup>69</sup> Ibid p.403

<sup>70</sup> Foubert & Bridges (2016) p.8

## 5. Summary: there is evidence to show an association between pornography usage and harmful attitudes and behaviours towards women and girls

Human behaviour is influenced by a plethora of interrelated variables and subconscious factors; it is not rational and linear. Human behaviour does not generally follow a simple cause and effect model. Furthermore, it is incredibly hard to establish causality when the variables of interest cannot be manipulated ethically. As the evidence cannot reveal causality, this review instead unpacks the quality of the relationship between pornography use and harmful sexual attitudes and behaviours. It has explored the evidence on the dynamics at play that may help us interpret this relationship fairly.

This review closely examined 19 academic papers (refined from a shortlist of 72) drawing on multiple research methodologies. Cross-sectional studies relying on self-reported data are the norm in the field due to the difficulties in passively measuring pornography consumption and sexual aggression. Experimental studies do exist but these skew older, having fallen out of favour for a lack of ecological validity. There are a few key longitudinal studies on the topic, which are potentially more powerful for their ability to establish a sequence of events. Requiring much greater investment than one-off studies, they are much less common.

Across all of these methodologies, there is substantial evidence of an association between the use of pornography and harmful sexual attitudes and behaviours towards women. The nature and strength of this relationship varies across the literature, and there are many potential moderating (potentially even mediating) variables that require further investigation, but it is clear that a relationship does exist. This is especially true for the use of violent pornography.

It is also critical to acknowledge the current context of pornography use. Widespread smartphone adoption and high-speed streaming has facilitated easy, rapid access to pornography. Websites such as PornHub, Xhamster have meant the availability of pornography is seemingly limitless with an array of possibilities to suit every sexual desire. Furthermore, a great deal of this easy to access, mainstream pornography depicts (to varying levels) sexual violence and female degradation<sup>71</sup> with the perpetrators of aggression usually male, and the targets of aggression overwhelmingly female<sup>72</sup>.

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<sup>71</sup> Sun et al (2014) p.1

<sup>72</sup> Bridges et al (2010) p.1077

There are four key themes of attitudes and behaviours that have been shown to be influenced by use of pornography:

1. **Viewing women as sex objects.** Pornography has been shown to desensitise men<sup>73</sup> so that they learn to see women as sex objects, engaged in a transactional, one-way interaction. It can breed a lack of empathy towards the women who appear in pornography films, to the point where sexual aggression in these films is completely normalised.<sup>74</sup> Scenes of aggressive and repressive sex, with female actors showing outward enjoyment of degrading positions (even asking for them), can reassure the viewer that it is totally acceptable to watch the abuse of women<sup>75</sup>, while misleading video captions may be training men to misinterpret real life signals from women.<sup>76</sup> Given the correlation between seeing women as sex objects and attitudes supporting violence against women, this is particularly concerning.<sup>77</sup>
2. **Shaping men's sexual expectations of women.** Pornography use has been associated with 'sexual scripting': the learning, priming and acting out of new sexual behaviours, providing an easily accessible template for actual sexual behaviour. Furthermore, pornography use has been associated with increasing men's expectations of 'real-world' sexual encounters for 'porn like sex'<sup>78</sup> (especially among younger viewers) and shaping unrealistic expectations of what women want and enjoy doing<sup>79</sup> sexually.
3. **Acceptance of sexual aggression towards women.** Pornography use has a statistically significant association with Attitudes Supporting Violence against women (ASV), as measured by the Ambivalent Sexism Inventory (ASI) (with violent pornography showing an even stronger association).<sup>80</sup> In addition, past exposure to pornography has also been significantly associated with more hostile sexism. Although this was reflected among individuals of low agreeableness, suggesting a circular relationship between pornography use and aggression towards women.<sup>81</sup>
4. **Perpetration of sexual aggression.** Lastly, pornography use has been associated with an increased likelihood of committing both verbal and physical

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<sup>73</sup> Whisnant (2010) p.120

<sup>74</sup> Antevska & Gavey (2015), Whisnant (2010)

<sup>75</sup> Antevska & Gavey (2015)

<sup>76</sup> Whisnant (2010)

<sup>77</sup> Wright & Tokunaga (2016)

<sup>78</sup> Flood (2010) p.9

<sup>79</sup> Miller et al. (2018) p.21

<sup>80</sup> Hald et al (2010) p.16-17

<sup>81</sup> Malmuth et al (2000)

acts of sexual aggression.<sup>82</sup> With the correlation being significantly stronger for verbal rather than physical aggression, but both were evident. The use of violent pornography produced a stronger correlation. Use of pornography has also been significantly associated with reduced willingness to intervene in a potential act of sexual violence.<sup>83</sup>

The evidence presented therefore indicates how these four harmful sexual attitudes and behaviours are associated with the use of pornography, especially violent pornography.

While it cannot be said that there is a direct causal link, pornography use is one among other potential factors that appear to contribute to a permissive and conducive context that allows harmful sexual attitudes and behaviours to exist against women and girls.

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<sup>82</sup> Wright et al (2016) p.13

<sup>83</sup> Foubert & Bridges (2018) p.8

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# 7. Appendix

## 7.1. Search and sift strategy for academic evidence (in full)

Previous literature reviews with a similar scope were examined to establish an initial list of search terms that had previously been proven to be effective in searching for relevant material to the field. The initial list was adapted to ensure relevance for the scope of this review, with the following exclusion criteria applied to the list:

- Exclusion of terms designed to capture content that is sexualised, but the primary purpose is not to sexually arouse (e.g. “sexual media”) given that this is in contradiction with the definition of pornography used
- Exclusion of terms that imply a passive or unintended use of pornography (e.g. “exposure”, “receive”) or the creation of pornographic material (e.g. “make”) as these are considered to be outside the scope of the review
- Exclusion of terms relating to young people and children as this is outside the scope of the research

This resulted in the following list of terms, with which an initial search was conducted in order to identify relevant literature. A secondary search was then completed, combining all outcome/impact search terms (in italics) with the search terms ‘Women\*’ and ‘Girls\*’ and where the functionality of the database allowed, an asterisk was added to include all variants of search term and an ‘AND’ was used between words to search for a string of words to be included to ensure that the literature reflected the primary focus of attitudes and behaviours ‘towards women and girls’.

Pornography\*

Erotic\*

Sexually\* explicit\*

Access\* Pornography\*

View\* Pornography\*

*Pornography\* Impact\**

*Pornography\* Outcome\**

*Pornography\* Association\**

*Pornography\* Result\**

*Pornography\* consequence\**

*Pornography\* role\**

*Pornography\* attitude\**

*Pornography\* behaviour\**

*Pornography\* effect\**

*Pornography\* influence\**

*Pornography\* relationship\**

*Pornography\* perception\**

*Pornography\* affect\**

The first and second searches yielded thematically broad material, which would have been impossible to screen all or a proportion of it effectively within the given timeframe. These searches were a useful broad first sweep, as it highlighted methodological and thematic conventions across the study of pornography and helped identify salient new terms in line with the research aims.

As per inclusion/exclusion agreements, searches focused on studies concerning only legal pornography. However, when reviewing the broad range of literature identified in the first and second searches, 'violence', and 'aggression' emerged as central points of inquiry across the literature on pornography and harms, meaning that terms such as those below were included:

*Inequality*

*Racism*

*Homophobia*

*Sexism*

*Misogyny*

*Lesbian*

*Violence against women*

*Sexual violence*

*"pornography" / "sexually explicit" + "objectification" "rape myth" "sexual aggression" "violence" "sexual socializ(s)ation" "sexual script" "media effects" "sexual behavio(u)r"*

Searches were conducted across the following academic databases: Web of Science, Google Scholar, JSTOR, ScienceDirect and UCL University Library.

3225 items were located using the search terms from the first and second search. This included both qualitative and quantitative research (and mixed-method reports) and meta-analyses. An initial sift of these was conducted to check for relevance, using the following exclusion/inclusion criteria:

- Published after 2005 (rise of the internet)
- Published in a reputable peer reviewed journal
- Demonstrated methodological rigour
- Focused on legal, adult porn (where possible to discern this – i.e. not focussed on illegal pornography)
- Included adult males (aged 16+) as a main subject group (i.e. not focussed on children)

Where material appeared relevant the abstract was read, and where relevance was confirmed, the full article was accessed. Depending on the structure of the piece, the following were then screened against the inclusion criteria: introduction, methods, main findings/discussion and conclusions. If the piece met inclusion criteria, it was included for stage two of the sift: a full screening. As well as the inclusion/exclusion criteria, an iterative approach was undertaken in terms of whether the piece being assessed linked to emerging themes in the material that had already been screened and included. Similarly, if material held theoretical/critical value to the overall aims of the literature review, it was included as a potential source of context building across the review. In addition, a call for grey literature across academic, policy and practitioner communities yielded additional academic material. Hand searches were also undertaken of sources referenced within papers that had already been screened in the main search.

Experts in academic research on the use of pornography and its impact were also consulted throughout the search and sift process, these include:

- Dr Fiona Vera-Grey, Leverhulme Early Career Fellow in the Department of Law at Durham University, researching violence against women and girls;
- Dr Maria Garner, published author on issues of gender and sexuality;
- Dr Max Waltman, published author and post-doctoral researcher on legal challenges to pornography and its association to gender-based violence and sex inequality.

In addition to this, our expert partner, Dr Fiona Vera-Grey, put out a call for grey literature to her contacts across third sector organisations, women's charities and sexual health charities in the UK.

Their expertise helped to further identify literature and steer the direction of focus, to make sure that material found was relevant to the scope and the research question, while ensuring that no foundational pieces of research were missed from the search.

### Stage one of the search and sift:

Source	Sifted	Excluded	Included at Stage One
Web of Science	903	878	25
Google Scholar	640	619	21
JSTOR	975	967	8
Science Direct	137	132	5
University Library	600	599	1
Snowball			12
<b>Total</b>	<b>3225</b>	<b>3195</b>	<b>72</b>

**Table 1: initial search and sift outcomes**

The initial search and sift yielded 72 items for full review in the second screening stage.

From these 72 items, 3 overarching themes emerged:

- Pornography and its relationship with acceptance of, and propensity towards, violence against women
- Pornography and its relationship with objectification of women, and
- Pornography and its relationship with negative influences on sexual relationships

The 72 items were then fully screened for relevance to these meta-themes, as well as with the following, additional exclusion criteria to increase specificity and pertinence to the stated scope of the review:

- Exclude if the study was written before 2005 (unless a seminal study referred to in multiple subsequent papers).
- Exclude if the majority of the sample of participants in the research were female and/or the results were not differentiated by gender to reflect the limited focus on men watching porn.
- Exclude if the main focus of the research was an intersectional dynamic – for example the representation of black women, Asian women or lesbian women (as this review does not have the scope to explore the nuances of harmful attitudes and behaviours towards different types of women).

This resulted in 19 items being included in this literature review.

## 7.2. Inclusion of grey literature

Recognising that not all relevant research in this field is published academically, grey literature was included in this review. A recent report from the Women and Equalities Select Committee was read, in order to provide a better understanding of the landscape in which this research is taking place.<sup>84</sup>

All grey literature sourced was screened on the following exclusion criteria:

- Published after 2005 (rise of the internet)
- Published by a reputable source
- Focused on legal, adult porn (where possible to discern this – i.e. not focussed on illegal pornography)
- Included adult males (aged 16+) a main subject group (i.e. not focussed on children)
- Included original qualitative or quantitative research

In addition, grey literature sources were assessed in relation to their relevance to the identified meta-themes (stated above). From this, 5 items of grey literature were included in the review.

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<sup>84</sup> Women and Equalities Select Committee, Sixth Report of Session 2017/19: Sexual harassment of women and girls in public places (accessed at [www.parliament.uk](http://www.parliament.uk))







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