# INQUIRY INTO IMPACTS OF HARMFUL PORNOGRAPHY ON MENTAL, EMOTIONAL, AND PHYSICAL HEALTH

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Submitted via parliamentary website

Dear Committee,

SUBMISSION TO THE IMPACTS OF HARMFUL PORNOGRAPHY ON MENTAL, EMOTIONAL AND PHYSICAL HEALTH INQUIRY

Thank you for the opportunity to contribute to this most important inquiry.

Between 2016-2020 I completed a PhD on assessing effective education programs for reducing the negative effects of pornography amongst adolescents. This was through the University of Sydney's Discipline of Child & Adolescent Health in the Faculty of Medicine.

In this research, I analysed numerous studies on pornography, particularly focusing on children and youth, and conducted a variety of studies among school students in New South Wales. Much of the evidence presented here reflects the findings from those studies, along with other recent Australian research. My ongoing epidemiological work in the fast-evolving online landscape has kept me informed about adolescent exposure to sexualised media, and I believe this contribution will be valuable to the inquiry as these important issues are examined.

I welcome the opportunity to make this submission and give my consent for this submission to be published. I also welcome any opportunity to appear before the committee and make further oral submissions in support of this important inquiry.

Yours faithfully,

Marshall Ballantine-Jones, PhD CEO of DigiHelp Publishing

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# **Executive Summary**

- This executive summary outlines the urgent concerns surrounding the impact of pornography on young people and the broader implications for mental health, social behaviour, educators and carers.
  - 1.1 **Definition of Pornography:** Pornography includes any media created to sexually arouse its audience, such as images, videos, and literature. It is widespread across platforms like adult websites, mainstream media, and social networks, with its classification being subjective.
  - 1.2 Understanding Harm: "Harmful" refers to the negative effects of pornography on individuals and society. Research shows that early exposure, typically around ages 11 to 12, correlates with detrimental outcomes, including increased compulsive behaviour, negative sexual attitudes, harmful sexual behaviours, and poorer emotional and social well-being.
  - 1.3 **Key Findings on Early Exposure:** Early exposure to pornography leads to:
    - Increased frequency of use.
    - Higher likelihood of engaging in risky sexual behaviours.
    - Greater acceptance of casual sexual encounters.
    - Increased narcissism, lower empathy, increased compulsivity and poorer social conduct.

- 1.4 **Cultural Impacts:** The prevalence of pornography in mass media contributes to the sexualisation of youth, objectification of women, and normalisation of aggressive sexual behaviours, promoting harmful stereotypes, abuse and trauma.
- 1.5 **Societal Concerns**: The pornography industry is exploitative and poorly regulated, driven by profit, and highly exploitative. Vulnerable individuals on platforms like OnlyFans face pressure to share explicit content, risking their safety and mental health.
- 1.6 **Deepfake and Al-Generated Pornography**: Deepfake and Al-generated pornography create new risks, especially for young people. These technologies allow for explicit content to be made without consent, leading to serious emotional trauma.
- 1.7 **Impact of Violent and Misogynistic Pornography**: Mainstream pornography often contains violent and misogynistic themes, particularly against females. Sites like PornHub and XNXX normalise aggression, distorting young people's views on sex and undermining healthy education.
- 1.8 **Educational Gaps:** Current sex education often overlooks the influence of pornography on adolescent behaviour, including many consent and respect programs. Programs like DigiHelp show promise in effectively changing perceptions and behaviours regarding pornography and focus on the foundational drivers behind rising negative interactions.
- 1.9 Access and Parental Controls: Pornography is primarily accessed through internet-enabled devices, with existing restrictions often inadequate. Enhanced parental education about pornography's risks is crucial for safeguarding children.
- 1.10 Conclusion: The negative impacts of pornography exposure highlight the need for comprehensive educational reform, parenting support and protective measures for youth and children. Addressing these issues is essential for fostering healthier attitudes towards sex, respect, and consent.

## **Terms of Reference**

- 2. This submission restricts its responses to the following terms of reference referred by the Attorney General to the Committee:
  - 2.1 (a)-age of first exposure to pornography and impacts of early exposure to pornography;
  - 2.2 (b)-media by which pornography is accessed and circulated;
  - 2.3 (c)-impacts on body image;
  - 2.4 (d)-the relationship between pornography use and respect and consent education;
  - 2.5 (e)-the production and dissemination of pornography, including deepfake or AI-generated pornography;
  - 2.6 (f)-the impact of exposure to violent and/or misogynistic pornography on children, teenagers and young adults;

- 2.7 (h)-the effectiveness of any current education programs about use and misuse of pornography, and how these may be improved;
- 2.8 (i)-the effectiveness of current restrictions on access to pornography and consideration of any need to improve these; and
- 2.9 (j)-The resources and support currently available to parents and carers to educate children about pornography, and how these might be improved.

# **Defining pornography**

- 3. What is pornography? Pornography refers to any media that is designed to sexually arouse its audience. This encompasses a variety of formats, including images and videos featuring nudity and sexual activities, erotic literature, fan fiction, manga, anime, video games, and materials related to paraphilia. While it's often linked to adult websites like PornHub or traditional publications like Playboy and Penthouse, pornography can also be found across social media, mainstream films and television, advertising, music videos, and poetry. Its classification is subjective, as any media that elicits sexual arousal can be considered pornography.
- 4. What is harmful? For the purposes of this submission, I interpret "harmful" as relating to the negative effects caused by exposure to and consumption of pornography. This harm can impact the individual exposed, affecting them physically, emotionally, and psychologically, as well as having repercussions for others, including harm to relationships and society at large.

# (a) Age of first exposure to pornography

- 5. In respect to the age of first exposure to pornography, the following can be said:
  - 5.1 the average age of first exposure to pornography is 11.5 12 years;
  - 5.2 by age 15, 70% of males and 21% females will look at porn monthly or more [1]; and
  - 5.3 56% of teenage males will be looking at it weekly or more [2].

## (a) The impacts of early exposure to pornography

6. A substantial body of peer-reviewed quantitative research has emerged since the advent of the internet, investigating the effects of pornography, including of early exposure. In addition to numerous studies on adults, at least 85 studies focus on children and adolescents, alongside 65 neurological studies examining these effects (see Owens [3], Peter and Valkenburg [4], Flood [5], Springate [6], and Bloom [7]). This extensive research consistently demonstrates that exposure to, and engagement with, pornography is harmful.

- 7. My own research of 1,300 students from 12 school samples found that the earlier one is exposed to pornography, more they are likely to:
  - 7.1 consume higher volumes of pornography as they age;
  - 7.2 engage in negative sexualised behaviours on social media, such as sexting;
  - 7.3 desire more casual sexual activity;
  - 7.4 have a positive view of pornography;
  - 7.5 will use pornography compulsively;
  - 7.6 will engage in sexting behaviours;
  - 7.7 have poorer social conduct and empathy; and
  - 7.8 will be more narcissistic.
- 8. Another recent Australian study found that earlier exposure correlates with an increased likelihood of first sexual intercourse and a higher risk of mental health issues [8]. Additional risks associated with more frequent viewing of pornography include increased comfort and less distress that is, the more one watches, the less they care. They will have less social empathy, and will be more likely to have friends who view pornography. As noted, there is a large body of international research describing the effects of pornography exposure. The following summary outlines the main observations.

## Negative effects associated with pornography exposure

- 9. Some of the well-established negative effects associated with pornography exposure include:
  - 9.1 adapting attitudes of sexual objectification towards women [9];
  - 9.2 increased sexual aggression [9-13];
  - 9.3 increased positivity towards uncommitted sexual exploration [14];
  - 9.4 negative gender attitudes [9, 15, 16];
  - 9.5 increased compulsivity [17] and addictive behaviours [18];
  - 9.6 reduced self-esteem [19, 20], emotional stability, social empathy [12, 21] and social conduct [3];
  - 9.7 poorer family [3, 13] and peer relationships [22];
  - 9.8 increased sexualised behaviours on social media, including 'sexting' [15, 23]; and

- 9.9 poor academic outcomes, especially for adolescents, have been observed in pornography users [24]. Some studies have shown that memory retention is also compromised in long-term pornography users [25, 26].
- 10. Recent research in neuroscience, including at least 65 peer-reviewed studies (e.g., [27-31]), indicates that compulsive pornography users experience significant changes in brain structure and function, similar to patterns found in substance addiction. These studies reveal heightened responses to sexual cues in brain regions associated with desire, yet with no corresponding increase in enjoyment of sexual activities compared to non-users. Users also display attentional biases akin to those seen in drug addiction. Notably, there are reductions in grey matter in critical areas such as the prefrontal cortex and striatum, which play essential roles in decision-making and impulse control. Altered connectivity between the prefrontal cortex and reward-related regions points to a reduced ability to regulate behaviour. Additionally, increased activity in the amygdala, which is linked to emotional processing, further drives compulsive behaviour. Together, these findings suggest that compulsive pornography use can lead to substantial structural and functional changes in the brain, affecting emotional regulation and decision-making.
- 11. Pornography culture has a significant impact on trends in mass media, influencing social behaviour. Research shows that exposure to sexualised mass media can accelerate sexual activity and lead to earlier sexual experiences among young people. It also contributes to the sexualisation of young girls, as mainstream media increasingly reflects pornographic themes. The marketing tactic of "age compression" (where brands target younger consumers by positioning products or services as appealing to an older age group, blurring the lines of age-related consumption) diminishes girls' agency, reshaping the concept of femininity through sexualised media exposure and intensifying the pressure to conform to sexualised ideals. Furthermore, pornography cultivates a culture of objectification, encouraging users to adopt objectifying attitudes toward others—particularly women. This can lead to aggressive behaviours and the normalisation of female victimisation, primarily affecting male consumers. Furthermore, the portrayal of women in pornography reinforces harmful stereotypes and power imbalances in gender relations, impacting societal views on gender equality [32-34][35][9, 12, 36, 37]. Unsurprisingly, early exposure to pornography is influencing how children interact, contributing to an increase in child-on-child sexual abuse [38].

## Positive effects of associated with pornography

12. Some literature presents a minority perspective suggesting that exposure to pornography may have positive or neutral effects on young people. Some studies indicate that viewing pornography can be linked to stronger relationships, increased desire between couples, improved sexual understanding, and therapeutic benefits for sexual dysfunctions. Proponents argue it offers educational value, helping individuals learn about sex and new techniques, even if it doesn't always lead to better experiences. Additionally, some research claims that pornography can enhance attitudes toward women without correlating with sexual aggression, rape culture, or relationship breakdowns. However, evidence supporting these claims is limited, often stemming from academics connected to the pornography industry, and is significantly outweighed by research highlighting pornography's negative effects. For example, see [39-42].

## (b) Media by which pornography is accessed and circulated

- 13. Pornography is accessible through various mediums, including internet-enabled devices like phones and tablets. It can also be found on streaming platforms like Netflix, though to a lesser degree, and in print, with erotic literature often favoured by women. However, websites remain the primary source. About 25% of pornography traffic occurs through the four leading sites alone: Pornhub, RedTube, XNXX, and XHamster. In July 2023 there were 42Billion separate visits to the top 10,000 websites [43].
- 14. My research found that 88.3% of students accessed pornography through an internet connected digital device. The preferred viewing devices were phones (55.1%), laptops (19.8%), and tablets (12.3%) [1]. Women are more likely to prefer erotica literature over websites when accessing sexually arousing material [44].

## (c) Impacts on body image

15. In relation to pornography's impact on body image, the association is well known amongst researchers and clinicians. A systemic review of 26 studies found widespread associations with pornography viewing and body image, both for males and females [45]. Amongst men, pornography increases insecurity about penis size [46], muscularity and body fat dissatisfaction, and anxiety [47]. It increases self-objectification amongst both genders [47].

# (d) & (h) Education programs relating to pornography, and the relationship between pornography use and respect and consent education

### Respect and consent education

- 16. As a developer and publisher of school-based educational curricula, I've surveyed numerous syllabuses and observed various educators in schools. My assessment is that most respect and consent programs overlook the significant influence of pornography on adolescent behaviour. There has been a rise in negative sexualised behaviours correlated with the increase in sexualised media. While students need reinforcement in social and sexual relations, as well as a better understanding of consent laws, there is a general lack of awareness regarding how pornography shapes thoughts and behaviours. These programs often ignore the neurochemistry of sexuality and addiction, particularly how excessive dopamine affects impulse control and the link between narcissistic social media behaviour and sexual risk-taking. It's well-established in behavioural addiction science that arousal can inhibit self-control, increasing the risk of impulsive, unwanted behaviours.
- 17. While the 2027 NSW Syllabus shows promise for a more holistic approach to Respect and Consent, I am concerned about its effectiveness if it doesn't address the influence of pornography and social media on adolescent attitudes and behaviours.
- 18. Additionally, we know that classroom education has its limitations; parents and peers significantly influence sexual and social behaviours. Parents set communication standards, expectations, and technology restrictions, while peers shape normalised expectations.
- 19. In response, I harnessed my PhD research to develop a series of programs called DigiHelp for stages 3-5, integrating engaging education with parental oversight and peer-based critical thinking. Empirical evaluation of this approach demonstrated that it effectively changed behaviours and attitudes, particularly among more frequent pornography users [1]. The program is now run in dozens of schools, and receives high praise for its effectiveness and ease of teaching.

## **Current education programs**

20. There are only a few published programs in circulation that directly address pornography. In addition to my own DigiHelp programs, there is *In the Picture* [48], which is a single program for mid-high school that helpfully includes broader resources for mobilising school-wide engagement, even if it has a basic treatment of pornography. To my knowledge, only DigiHelp

has been evaluated for efficacy. As noted in 19., DigiHelp uses a methodology that engages parents and peers in the learning process. Analysis of the program's effectiveness found that:

- 20.1 students increased their negative attitude to pornography culture;
- 20.2 there was a significant reduction in the objectification of women;
- 20.3 reduced in desire for uncommitted sexual relations;
- 20.4 increased sense of pornography being ethically wrong;
- 20.5 students become less influenced by peer culture, while developing counter cultural attitudes amongst closer peer friendships;
- 20.6 increase efforts to abstain from pornography use;
- 20.7 students reduced their regular social media use; and
- 20.8 there was no increase in any negative effects, including wellbeing.

# (i) & (j) Effective restrictions and support for parents and carers

#### The effectiveness of current restrictions

- 21. In respect to the effectiveness of current restrictions on access to pornography and consideration of any need to improve these, there are numerous apps and devices designed to limit access. These include Bark, Qustodio, Canopy, Covenant Eyes, and Apple's inbuilt restrictions to name a few. They can be used effectively if parents and carers are diligent and attentive, however they are not foolproof.
- 22. In addition, some mainstream pornography sites have a simple age verification landing pages, but not many. These do not inhibit access if someone desires to proceed. Regarding more advanced age-verification procedures, for example, as directed to the eSafety Commission for implementation by the House of Representatives Standing Committee on Social Policy and Legal Affairs in 2022, these processes are not currently available in Australia. Internet Service Providers are not required to restrict access to mainstream adult content, although there is a selection of banned international sites which are permanently restricted.
- 23. What I can confirm, is that when access restrictions are set in place, children and teenagers greatly benefit. They have less engagement with pornography, less desire to act out, objectify women less, while having more empathy and friends who also engage less with pornography [1]. Anecdotally, my family trialled various methods to restrict access with my four teenage kids. We found Qustodio (formally FamilyZone) was relatively easy to use and effective. Apple Restrictions

- were also effective, but also required remembering passwords and applying clunky actions to give various other permissions.
- 24. Most schools have access restrictions in place in their internal networks, although this doesn't stop children from hotspotting their phones to bypass filters for pornography access. Some schools have gone to extra lengths by outright banning phones on campus, and or other internet devices. Emerging evidence is suggesting this has been very beneficial for students [49].
- 25. The downside to these tools is their cost, they require some technical ability to install and manage, and can be broken/bypassed by determined kids. There are some free open-source options which require advanced knowledge to implement. Parents who are time poor, under budget constraints, and non-technical will be inhibited in using these options. Improving the affordability and accessibility to these services will help increase their uptake.
- 26. Overall, my research found that enabling parents and carers to better restrict access to pornography goes a long way towards reducing its broad negative effects.

### Resources and support for parents and carers

- 27. In respect to the resources and support currently available to parents and carers to educate children about pornography, and how these might be improved, this connects with the previous point insofar that it is parents who primarily gatekeep their child's engagement with online sexualised media. In addition to access restriction tools, there are many educational resources available. For example, the eSafety commission provides useful parental information about what children are at risk of accessing, and how to mitigate those risks. There are countless websites by private businesses, media companies, blogs and so on which also provide content. These vary in their usefulness, quality, and evidence base. In addition, many community groups like churches and independent schools invest in parent education. I have observed that the uptake of free information services, especially at schools, is generally low. Parents are either time poor, overly confident, disinterested or overwhelmed with the task of protecting their children.
- 28. What I can say, based on my research, is that when parents engage and communicate with their children about pornography and sexualised culture, including helping critique concepts and values, while explaining why restriction rules are in place, there is a vast reduction in the child's engagement with pornography and sexualised behaviours. Educating parents on technology, the risks of pornography and sexualised media, and how to speak better to their children, are vital tools for safeguarding individuals and communities. It is an ongoing challenge for all stakeholders

to improve parental resourcing. Enabling schools to implement compulsory parent education is a possibility.

# (e) Concerning the production and dissemination of pornography, including deepfake or Al-generated pornography

- 29. At a broader societal level, pornography is recognised as a highly exploitative and unethical enterprise. The industry is lucrative yet poorly regulated, with annual global revenue estimates ranging from \$12 billion to \$96 billion. In California, despite being the most regulated area, basic worker entitlements like health insurance and minimum wage are often inadequate. Platforms like OnlyFans face criticism for exploiting vulnerable individuals, pressuring them to share explicit content that jeopardises their safety and mental health. Performers frequently encounter societal stigma, privacy concerns, and significant income disparities, with only a small percentage earning substantial amounts. The industry actively resists regulations that threaten profits, as seen in its opposition to measures like the 2012 Measure B in Los Angeles. While top performers may negotiate better terms, most receive low pay, raising concerns about income sustainability. Additionally, performers experience higher rates of mental health issues, exploitation, and coercion, with broader risks including financial exploitation and human trafficking. Even those who leave the industry often struggle with lasting stigma and lack control over the distribution of their past activities [50-57].
- 30. Regarding deepfake and Al-generated pornography, it is increasingly available, sophisticated, and intrusive—especially among young people. Deepfake porn includes apps which combine an individual's face with pre-produced pornographic scenes, a practice that has existed for decades, particularly involving celebrities. There are also undressing apps where pictures of fully clothed persons are presented as naked. With the advent of AI, this process has become automated, simple, and free. As of now, there are approximately 127 different deepfake apps available on the Apple App Store and Google Play, giving users easy access to create pornographic videos and images by uploading facial portraits of anyone—primarily women—turning them into instant porn stars. Anecdotally, I've spoken with at least 12 schools about incidents of this occurring among students, often without the consent of the individuals featured, leading to serious trauma and humiliation. Additionally, this often involves people under 18 years of age, which is likely criminal. The images are typically sourced from social media accounts, public photos, and even school yearbooks without the consent of the person.

31. Not all AI pornography involves deepfakes. There are now simple yet powerful image generators capable of creating any style of pornographic scene. In these cases, the entire image is artificial, requiring no existing video or portrait. While one might argue that this is preferable to traditional pornography involving real people, it's important to note that AI can only generate these images using the templates of actual pornography for reference.

# (f) The impact of exposure to violent and/or misogynistic pornography on children, teenagers and young adults

- 32. Most mainstream pornography involves forms of violence [58], mostly directed towards females. For example, the mainstream pornography sites like PornHub, XNXX, XVideos and XHamster which constitute a quarter of internet pornography traffic, export high volumes of violent and misogynistic themes. For example, my research team examined the landing pages of each during October 2024 using clean ip addresses to replicate what a first-timer young-person might encounter. The trending themes include incest, anal sex, choking, facial cumshots, Kink and BDSM, extreme masturbation, and female targeted porn. Most videos are categorised as POV (point of view) or Gonzo porn, which are styled to bring the viewer up close to the action, feel part of the action, is raw and unscripted, and creates realism and immediacy. There is an absence of erotica, intimacy, romance, kindness, reciprocity, and attention to how females generally prefer sex. This is the primary sex education being administered to those young people when first encountering porn.
- 33. Why is this concerning? As noted in 10., there are substantial brain changes from repeated porn use where increasing preoccupancy with, and desire for, the concepts depicted in the content. In detail, sexual arousal and orgasmic climax produces very high volumes of dopamine, oxytocin, vasopressin and noradrenaline. These enable the production of neural pathways that reinforce interest in the source of pleasure. Pornography is rightly called a supernormal stimuli because it enhances the volume and frequency of these neurochemicals on demand. The standard teenage boy has had more sexual experiences before his first kiss than a typical man would have in his entire life pre-internet. Thus, the neural pathways imbedded and reinforced by pornography create deep preoccupancy, unrealistic expectations, objectification, obsession, insecurities and confusion.
- 34. All pornography may be considered harmful, because the brain will be altered to desire that fantasy content. Indeed, regardless of the genre, all pornography increases objectification, sexual preoccupancy, and sexual seeking. What is particularly concerning is the additional impact on

- child and adolescent brains, which are highly maladaptive and undergoing substantial structural changes already.
- 35. In light of the high quantity of violent and misogynistic pornography being accessed, we shouldn't be surprised to see young people emulating those concepts. I have spoken to high school students across many dozens of schools. I always ask students to describe their experiences, and many girls and female teachers, and occasionally male students, report:
  - 35.1 Boys regularly making sex sounds around the girls and teachers, including moaning and groaning;
  - 35.2 Boys frequently talking about sex, porn, and making sexual jokes around the girls, even though it is unwanted;
  - 35.3 Girls receive sexualised comments about how they look, what they should do, how much weight they should lose;
  - 35.4 Girls are leered, even wolf whistled at;
  - 35.5 Girls experience unwanted and inappropriate physical contact, female teachers are often intimidated by groups of boys;
  - 35.6 Boys often send unsolicited sexual content to them;
  - 35.7 Girls are pressured to send sexual content to others;
  - 35.8 There is regular disrespecting of girls for their female attributes (e.g. weaker, slower, less sporty); and
  - 35.9 Girls are harassed for their achievements, especially when surpassing the boys.
- 36. There is no doubt in my experience that these behaviours are increasing, and I am confident that the early and frequent exposure to modern aggressive and misogynistic pornography has aided this. Also, I note that despite widespread focus on consent and respect education, these behaviours are not diminishing, rather increasing. I am led to conclude that until we tackle the source of these negative attitudes and behaviours, pornography, we will not see effective results from the consent/respect programs.

### **Recommendations for the Committee**

- 37. In the light of overwhelming evidence that pornography is a major instrument of harm and social disruption, I offer the following recommendations:
  - 37.1 minimise pornography access;

- 37.2 work at increasing the age of first-time exposure;
- 37.3 require evidence-based and comprehensive education on pornography and sexualised media, including:
  - (a) Healthy sexuality;
  - (b) Body image and identity;
  - (c) Healthy relationships;
  - (d) Ethical online engagement;
  - (e) What pornography gets wrong about sex and relationships;
  - (f) How online behaviours shape the brain, feelings, attitudes and behaviours
- 37.4 empower parents to engage with and monitor child's online activity;
- 37.5 educate parents about sexualised culture and how to engage better with their children;
- 37.6 cultivate peer-based critical thinking about the online world;
- 37.7 increase support services for mental health;
- 37.8 increase extra-curricular activities that replace excessive reliance on phones and the internet;
- 37.9 teach how to relate well in social and sexual contexts (including respect and consent education);
- 37.10 cultivate environments that improve inter-relational activity, and reduced isolation;
- 37.11 train teachers and counsellors on the risks of the online world, addictive behaviours, and how to reduce negative impacts on pornography will enhancing positive alternatives; and
- 37.12 challenge legislators to enact societal solutions that protect children and punish perpetrators of harmful content
- 38. If you wish to consult further with me regarding my submission, or other relevant research related to my PhD, please do not hesitate to contact me. I would welcome the opportunity to speak publicly to my submission in oral evidence before the Committee.

Yours faithfully,

Marshall Ballantine-Jones, PhD CEO of DigiHelp Publishing

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