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Foreword | *The probability that a young person will have exposure to pornography prior to the age of 18—the legal age in Australia at which it is permissible to view and purchase such materials—is very high. Concern exists, among both parents and policymakers, that widespread, premature exposure to pornography is changing the nature of sexual attitudes, behaviours, and intimate relationships and potentially contributing to sexual violence in society. The extent to which it is difficult to determine, owing to the scarcity of adolescent-based research and differing conceptions about harm. This paper examines the many factors that underpin pornography exposure, and stresses how the risk factors for exposure and problematic sexual behaviours intersect to contribute to harm. An understanding of the complex interplay of factors such as gender, age, attitude, personal characteristics and social context of use is important in the development of strategies that will assist young people to avoid any potential adverse outcomes. The available evidence remains highly incomplete, and its interpretation is highly contested, so the paper highlights the need for longitudinal studies of use and of actual behaviour, and for studies that focus on cultural contexts and emerging media.*

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Adolescence, pornography and harm

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The proliferation of pornographic materials and their ease of access are such that it is not a matter of *whether* a young person will be exposed to pornography but *when*. Exposure may be inadvertent (such as through unsolicited e-mails or an accidental encounter with pornography online) or intentional. Concern exists that young people are being inundated with sexual information before they are developmentally capable of integrating it into a healthy sexual identity, with ramifications for both individual and society. Drawing on recent Australian and international research, this paper examines social factors that place young people at increased risk of exposure, or of experiencing potentially negative outcomes from early exposure, to pornography. In this paper, the term *pornography* refers to materials that are, or would be, classified as X18+ rated (movies on DVD, video, film) or Category 1 and Category 2 Restricted (magazines, books and publications with differing levels of sexual explicitness) or that would be refused classification based on their sexual content under the National Classification Code (May 2005). As such, it includes sexual content ranging from nudity to explicit sexual activity and includes sexual content involving violence or extreme sexual practices.

Factors affecting exposure

Though pornography exposure is widespread among Australian adolescents, the degree and risks of it vary markedly with demographic, social and personal characteristics.

Demographics

Gender: Males not only are exposed to more pornography inadvertently as they undertake activities and socialise within environments that place them at higher risk, but also will more actively seek out sexually explicit material than females will. When they do so, they tend to consume pornography at greater rates than their female counterparts. Though possibly affected by the willingness to disclose, a telephone survey of 200 young Australians aged 16 to 17 by Flood and Hamilton (2003) found rates of exposure as follows:

- **X-rated videos:** 73 percent of males (5% exposed weekly; 16% exposed every three to four weeks), compared with 11 percent of females (all exposed less than once every three months);

- **Inadvertent online exposure:** 84 percent of males (24% exposed weekly; 22%, every three to four weeks) compared with 60 percent of females (7% weekly; 6% every three to four weeks);
- **Deliberate online exposure:** 38 percent of males (4% exposed every week; 7%, every three to four weeks), compared with two percent of females (less frequently).

Males may also differ from females in how they prefer to engage with pornographic media. Though media-usage patterns change rapidly, males in many cultures are more likely than females to seek pornography on line, with females demonstrating greater attraction to regulated markets, e.g. videos (Flood & Hamilton 2003; Wallmyr & Welin 2006).

Age: Methodological difficulties such as sample heterogeneity, generational changes in social norms and mores, increased availability of pornography, and lack of longitudinal studies hamper attempts to describe how pornography exposure varies across the human lifespan. On a broad scale, exposure likely mirrors the biological and cognitive cycles that modulate sexual interest, desire and risk taking, as it is low among preadolescents (less than 10 years), increases sharply in adolescence and emerging adulthood, and likely declines throughout adulthood (e.g. Carroll et al. 2008). In detail, however, the relationship between pornography use and age appears to be complex, owing to the many factors that shape sexual behaviours.

Age of first exposure is generally lower in boys than in girls. It is unclear how this has changed as a result of the internet, as knowledge of childhood exposure prior to this time is poor. Available evidence indicates that many children less than 16 years of age were exposed to pornography prior to widespread internet availability (McKee, Albury & Lumley 2008). Moreover, though the internet remains of critical concern to parents and vigilance is required, this medium is not necessarily the first or preferred mode of exposure among younger adolescents, and the preferred pornographic media potentially change with age. Ybarra & Mitchell (2005) found that the

prevalence of intentional internet exposure increased with age, from eight percent among 10- to 13-year-olds to 20 percent among 14- to 17-year-olds, with younger children favouring more traditional media like magazines and videos. Though there is a need to identify the nature of and harms of prepubescent exposure, ethical concerns for child welfare largely prevent such research.

Social factors

Gendered differences in pornography use arise out of broader social constructs that shape 'appropriate' sexual identity and expression, pornography acceptance and concepts of 'valid porn use'.

Attitudes toward pornography: Males report attitudes more positive toward pornography from an early age than do females (Carroll et al. 2008; Wallmyr & Welin 2006). In contrast, young females usually have very negative attitudes toward pornography, but increasingly more positive attitudes emerge with age. By their mid 20s, males and females *may* report similarly positive attitudes (Carroll et al. 2008). The extent of gender-based differences in pornography acceptance is likely affected by culture.

Reasons for exposure: Adolescent exposure to pornography can be both inadvertent and intentional. Moreover, there are many reasons for which intentional exposure occurs, and these reasons may vary by sex and age. Wallmyr and Welin (2006) found that 15- to 25-year-old males primarily viewed pornography to get aroused and masturbate (48.8%), out of curiosity (39.5%) or because 'it's cool' (28.5%). Although arousal and masturbation remained key uses irrespective of age, there was an increasing tendency to use it to facilitate sexual relationships and less likelihood for 'curiosity motivated' viewing with age. In contrast, similarly aged females primarily viewed pornography out of curiosity (54.6%) and because 'it's cool' (19.1%). Curiosity remained an important factor cited by 20- to 25-year-old females, reflecting the generally greater ages at which females engage with the media. Marked increases with age were evident in the

percentage of females using pornography as a means of arousal prior to sexual activities or to vary their sex lives. By 20 to 25 years of age, females in the study were more likely to use it to vary their sex lives than were males.

Social context of use: Gendered differences in the acceptance of pornography, reasons for its use, and its role in sexual socialisation processes manifest in gendered differences in pathways to, and social contexts of, exposure. Both solitary and group use were reported more commonly by males than by females, owing to its importance (to males) in masturbation and (to females) in sexual socialisation (e.g. Wallmyr & Welin 2006). Commensurately, high rates of deliberate online exposure occur when young males use the internet at a friend's house (Wolak, Mitchell & Finkelhor 2007). As female use of pornography is more often relationship centred, they are more likely to watch pornography with their partner than with friends (e.g. Wallmyr & Welin 2006). Males are commonly integral to the initial intentional exposure of both sexes.

Personal characteristics

Historically, pornography use has been taboo, and it remains so for younger children. Hence, strong associations are seen between risk-taking / rule-breaking behaviours and pornography use. Adolescents who have high sensation-seeking needs (Peter & Valkenburg 2006), who enact rule-breaking behaviours, or who are delinquent commonly report higher rates of deliberate exposure (Bjørnebekk 2003; Wolak et al. 2007). Delinquent youth not only are more likely to have been exposed to pornography but also report more exposure, exposure at an earlier age (often under 10), and more extreme pornography use than their peers (Bjørnebekk 2003). Greater exposure to it is also reported of dissatisfied and depressed youth, possibly due to links with impulsivity; relief of dysphoria; poor social functioning; and offline and online victimisation (e.g. Peter & Valkenburg 2006; Wolak, Mitchell & Finkelhor 2007; Ybarra & Mitchell 2005).

Nevertheless, though some personal factors may increase risk of exposure, not all youth

who are routinely exposed to pornography have psychological problems. Nor is 'at risk' pornography use necessarily marked by readily identifiable problematic behaviours.

Harms of pornography

Not surprisingly, given the high rates of adolescent exposure, concern exists that young people are being inundated with unwanted and wanted, and possibly violent sexual information before they are developmentally capable of constructively dealing with it. This may detrimentally transform sexual attitudes and behaviours and ultimately sexuality and intimate relationships. Concerns within different parts of the community focus on the potential of pornography to:

- interfere with normal sexual development (e.g. encouraging early sexual activity)
- foster 'open' sexual lifestyles (e.g. acceptance of casual and extramarital sex, multiple partners, etc.) and 'unnatural' practices (e.g. anal and oral sex, homosexuality)
- undermine physical, emotional and psychological wellbeing (generate shame, guilt, anxiety, confusion, poor social bonds, and addictions)
- undermine relationships and foster sexual violence (e.g. Jensen & Okrina 2004; Zillman 2000).

Debates about pornography are exceedingly complex; controversial; and highly emotive. Although scientific research can assist understanding, conceptions of harm ultimately encapsulate broader, contemporaneous philosophical considerations about sexual ethics, freedom of sexual expression, notions of idealised human development, and how these are or should be negotiated within and between cultures. Reflecting society's philosophical diversity, the literature is divided about both the perceived harms and the extent of the effect, with continual debate over research methods' validity and applicability.

It is impossible to encapsulate all of these arguments, or to definitively characterise the harms of pornography among young people, in this paper. Scientific research is

struggling to keep pace with the changing face of media technologies and children's (less than 18 years of age) engagement with it. Research into the effects of childhood exposure remains limited, being hampered by both ethical consideration in research and prior failure to consider childhood and adolescent exposure. Current adolescent-based research remains limited, and somewhat simplistic, failing to examine the role of pornography exposure in the context of the holistic way in which sexual attitudes are constructed and behaviours enacted at individual and societal levels.

Although opinion about the harms of pornography remains divided, there is an emerging consensus founded on adult-based research that the effects of pornography are unlikely to manifest uniformly in society. This heterogeneity arises because adverse attitudinal and behavioural outcomes manifest out of the complex interactions between media content, existing personal factors (experiences, characteristics, knowledge), and broader sexual socialisation processes (e.g. Malamuth, Addison & Koss 2000). Several factors that may influence relationships between pornography exposure and sexual violence are discussed below. Where possible this uses research based on adolescents (10 to 18 years) and emerging adults (up to 25 years).

Content: Pornography varies markedly in terms of its content, ranging from nudity to the sexually explicit and from non-violent to violent (in which no reasonable prospect of consent exists; e.g. child pornography, necrophilia, bestiality, rape, etc). Rigorous quantification of how content varies across media types is difficult. Although much content is likely to be similar due to the presence of similar commercial interests, online content is more diverse, incorporating self-produced materials. Online content is often unregulated and therefore can include sexual violence and other sexual content that is illegal in Australia.

In terms of harm, content does matter. Experimental research demonstrates that, whereas exposure to nudity may actually decrease aggression, violent pornography is associated with increased risk of

aggression (Allen, D'Alessio & Brezgel 1995). Adolescent exposure to violent pornography is of concern. Little is known about the range of materials young people are exposed to and how this varies with gender, age and type of exposure.

Nevertheless, adolescents are not simply helpless victims of media. Even children demonstrate thoughtful consideration of their own capacity to view content and its potential harms, taking into account age, gender, developmental capacity, the ability to delineate between reality and fiction, the nature of the media content and its modality as entertainment or information (Nightingale, Dickenson & Griff 2001). While inadvertent exposure is, by definition, not a considered choice, the response is. Having been exposed, children demonstrate willingness to engage or to disengage based on their own perceived capacities and desires (e.g. Livingstone & Bober 2003). Concern arises because young people routinely underestimate the potential effects of media on themselves relative to others, many reporting when they were older that they had been too young to see pornography when they did (Livingstone & Bober 2003; Nightingale et al. 2001).

Deliberate contact with pornography is self-regulated. Nevertheless, many adolescents set standards about what sexualised content they find objectionable and likely select media congruent with their disposition (e.g. Bogaert 2001). Violent pornography exposure may be more prevalent among individuals who are characterised by a greater acceptance of interpersonal violence or antisocial behaviours (e.g. Bjørnebekk 2003; Malamuth et al. 2000).

Nevertheless, concern remains that less-explicit, non-violent pornography promotes unhealthy sexual attitudes and behaviours, by encouraging males to view females simply in terms of sexual potential, not as entire beings worthy of mutual respect and regard (e.g. Zillman 2000). In pornography, it is argued, sex is largely divorced from intimacy, loving affection and human connection; women are essentially nymphomaniacs, who want sex from all men and enjoy anything men do to them;

Figure 1: Schematic of the effect of social relations on individuals' engagement with and interpretation of the media



Note: Family, peers, culture and society lay, through their values, beliefs, attitudes and actions (e.g. love, abuse, violence, socialisation processes), the antecedents for a child's or adolescent's own engagement and interpretations.

and women who do not realise that this can be turned on with force (Jensen & Okrina 2004). But feminist academics are divided on this issue. Some see pornography as being detrimental to broader societal conceptions of body, gender, sexuality and intimacy; to others it potentially offers positive effects upon female sexuality. The latter argue that sexism in pornography is inherently a manifestation rather than a cause of that which is already evident in society (Assiter & Carol 1993). A critical failure of current research, inherent in psychological research more generally, has been to encapsulate the complex role that emotions and intent play both in the use of pornography and in sex, a role that may either enhance or minimise harm.

Interpretation of content: According to social learning theory, it is not the content itself but the underlying values that people 'choose' to accept that provides the potential for harm. As in other media subjects, relationships between pornography and sexual attitudes and behaviours are mediated by the perceived realism of the material and an individual's

engagement with it (Peter & Valkenburg 2006; Ward & Rivadeneyra 1999). What one chooses to accept from media is shaped by social antecedents and frameworks, established through experience by an individual's interactions with family, peers, culture and society. Exposure to violence, sexism and discrimination during childhood may have a profound effect on these frameworks.

Personal factors: It is evident from the above that personal factors, like personal characteristics, experiences and childhood development, play a major role in how individuals engage with their environment. As previously noted, pornography use that is more extreme (earlier age of exposure, greater use, more violent content) is commonly associated with risk-taking and rule-breaking behaviours. Hence, these individuals are also more likely to engage in sexual behaviours that have historically been or currently are viewed as taboo. Not surprisingly, positive attitudes toward, and engagement in, casual sex is more common among individuals who are characterised by sensation seeking, hypermasculinity

(exaggerated concepts of masculine sex roles, with strong emphasis on dominance, virility, strength and aggression), psychotism (antisocial personality) and erotophilia (feeling less guilt and talking more openly about sex) (e.g. Bogaert 2001). Many individuals undertake multiple risk-taking behaviours, which may compound the potential effects. For example, a higher acceptance of pornography is associated with increased alcohol usage (Carroll et al. 2008), and alcohol may exacerbate the negative effects of pornography exposure and increase the risks of sexual coercion or aggression (Norris & Kerr 1993).

Statistically significant associations are found between pornography use and some specific sexual behaviours, but the extent of the *causal* role of pornography is under debate. Its role in sexual violence is argued to be mediated by personal factors such as general hostility, hostility toward women, hypermasculinity, empathy deficits, impersonal sexuality, precocious sexual behaviour, and behavioural difficulties such as interpersonal difficulties, hyperactivity, impulsiveness, delinquency and antisocial behaviour (e.g. Seto, Maric & Barbaree 2001). But the ways in which it is argued it mediates this relationship differ (Seto Maric & Barbaree 2001):

- the use of pornography causes sexual offending, through mediating factors (e.g. antisocial personality)
- pornography use and sexual offending are both related to a third factor (e.g. antisocial personality, hypermasculinity)
- sexual offending is caused by a third factor in conjunction with the use of pornography (e.g. sexual deviance is exacerbated by exposure).

According to the last two hypotheses, the harmful effects of pornography exploit pre-existing factors such as hostility and problematic behaviours, which manifest out of childhood experience rather than arising from pornography itself. This does not mean that pornography use is not harmful, but rather that it is not the origin of the harmful effects.

Sexual socialisation: Other sources of sexual socialisation, including other media subjects, family, peers, culture and society

may either exaggerate or moderate the effects of pornography exposure.

Compounding media effects: Although the approach of puberty brings increased interest in sexual media, the role of media in sexual socialisation essentially begins in early childhood. Many of the 'problems' credited to pornography have also been attributed to other media. For example, exposure to sexualised media on television has been associated with more liberal sexual attitudes, greater acceptance of sexual improprieties, a greater acceptance of premarital sex, stronger endorsement of recreational attitudes toward sex, and higher expectations of sexual activity among one's peers (Ward & Rivadeneyra 1999). The implication is that media effects probably compound, with prior exposure to sexualised media increasing probabilities of pornography exposure.

Preliminary research indicates that interactions between sexualised media are complex and may depend on the specific attitude or behaviour examined. For example, the effect of adolescents' exposure to sexualised media on their intentions to have sex appears to be cumulative; that is, greater exposure translates to a greater intention to have sex; but pornography may be more influential than other media in shaping notions of women as sex objects (Peter & Valkenburg 2007).

The more complex pathways by which exposure and attitudinal and behavioural changes may be facilitated by media and environmental interactions remain to be fully explored. For example, exposure to sexualised media on television may increase perceptions of sexual activity among one's peers, which combined with the perceived benefits of sex, expounded through advertising and peer pressure, increase intentions to have sex. Pornography may then be sought in the formation of sexual identity, facilitating early sexual activity. Pornography use and male bonding may then combine to reinforce notions of women as being sex objects. Adolescent pornography may be problematic, but minimising harm requires addressing the complex factors that lead to problematic usage and harm.

Peers: Young people cite their peers as their principal source of sexual information (e.g. Wallmyr & Welin 2006). Peers are central to how concepts portrayed in the media become incorporated into the performance of gender identities (Attwood 2005). Pornography's role in this process differs markedly between the sexes.

Male homosociality (socialising with others of the same sex) centres on two elements: identification and competition. Group pornography use is a common means of promoting male bonding (e.g. Flood 2008). Pornography may also play a role in achieving status directly ('coolness factor') and indirectly (by facilitating heterosexual sexual activity), but this hypothesis is poorly evaluated. Sexually focused competition within male homosocial relationships strengthens hypermasculinity, notions of women as being sex objects, and recreational attitudes toward sex. But exaggerated male bonding undermines males' platonic relationships with females and even sexual relationships with females and may be seen as dangerously feminising (e.g. Flood 2008). Risk of sexual coercion and assault is greater in groups and cultures emphasising male dominance, gender-based separation, and ideologies of toughness (e.g. male athletic groups, street gangs and friendship circles) (Flood 2008). Pornography may exaggerate competition and bonding, but it is not necessarily its origin.

Adolescent females also use media to generate 'appropriate' sexual identity. In this case, conservative views of femininity and heterosexuality are commonly reinforced through associated discussions about sexuality and body image rather than sexual prowess (Attwood 2005). Pornography is largely counterproductive to this purpose, as its themes directly challenge conservative definitions of female heterosexuality (promiscuity threatens female status) and may contribute to unease about attractiveness (Attwood 2005). Adolescent females' positive attitudes toward, and greater use of, pornography tend to occur simultaneously with sexual relationships, which therefore are more relevant to their formation of sexual identity formation than to adolescent boys'.

Peer pressure within groups may potentially exaggerate effects of pornography but pornography use by socially isolated (real or perceived) individuals may also be problematic, due to the absence of the potentially moderating elements of peer sexual socialisation. A danger arises when such individuals find social identification through connections with other individuals with problematic sexual behaviours.

Culture: The impact of the globalisation of western pornography on traditional cultures, within and outside of western countries, is poorly evaluated. High rates of sexual violence are not uncommon in many emerging states, which have seen large influxes of pornography, although this is often confounded by other factors, including disruption to traditional law and sexual socialisation practices, and a high incidence of factors pre-disposing to sexual violence (e.g. depression, trauma, violence). Factors that may influence resulting harms include differences in perceived realism of the material, different sexual socialisation customs and a desire to emulate western culture.

Inexperience: Though adolescents commonly possess a keen desire to explore their own sexuality, they often also have a poor understanding of important sex-related issues, including safe sex, sexual violence, and sexual negotiation and communication: factors that place them at increased risk of experiencing sexual violence. Hence, though many demonstrate a capacity to think about the effects of media, they do not necessarily possess sufficient foundational knowledge or experience to be entirely aware of the subtlety of the messages incorporated within pornography. Hence, pornography might be expected to have an exaggerated effect on adolescents compared with that on adults. This is likely exacerbated when there is an over-reliance on pornography as a source of sexual information (directly or indirectly through equally unknowledgeable peers). As pornography is fantasy-based, it provides little information that is constructive,

and possibly even some that is detrimental,
about sexual rights and responsibilities
(e.g. respect, safe sex and sexual
communication).

Conclusions

The extent to which pornography exposure during adolescence inhibits the development of positive relationship skills, and to which it ultimately contributes to the perpetuation of sexual violence, remains to be rigorously evaluated. Males may be most vulnerable to harmful effects due to typically earlier and greater exposure and because sexual focus in male homosociality both encourages use and endorses its most problematic aspects. Though restricting exposure will remain a priority, an over-reliance on this approach to protect against the perceived harms of pornography is problematic as it fails to recognise the realities of ready availability and the high acceptance of pornography among young people. Moreover, it fails to examine the holistic way in which adolescents' sexual expectations, attitudes and behaviours are shaped in our society and the complexity of factors that give rise to the cited harms. Protecting young people necessarily requires equipping them, and their caregivers, with adequate knowledge, skills and resources (e.g. media literacy; sex education; education about pornography and rights and responsibilities of sexual relationships; safe engagement with technologies) to enable successful navigation toward a sexually healthy adulthood, as well as tackling factors predisposing to sexual violence.

Further research is necessary in order to assess patterns of pornography use over time; correlates of harm; pornography use

in defining and enacting adolescent sexuality (including homosexuality); how emerging media will change exposure; and the cultural impacts of usage.

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All URLs were correct as at 5 January 2009

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