

SEXUALIZATION OF CHILDREN IN DEEPFAKES AND HENTAI

Simone Eelmaa

University of Tartu

Abstract: Technological advancements have begun to blur the line between the virtual and real, bringing about more threats to the safety and well-being of children. One such is creating virtual child sexual abuse material (CSAM) using deepfake technology. Another significant and well-established strand of creating overtly sexual content is hentai, in its meaning of anime and manga pornography. In early 2018, the online platform Reddit changed its rules on simulated pornography and sexually suggestive content involving minors after mainstream media raised deepfakes-related concerns. Based on a large dataset (N = 13293) of Reddit comments collected on the topic, this article takes a qualitative approach to examine Reddit users' views and attitudes about the sexualization of minors (SOM) in deepfakes and hentai. The analysis captured five major themes in the discussion over SOM: illegality, art, promoting pedophilia, increase in offending and general harmfulness. Furthermore, the discussion was underscored by the central question of who is a minor, which feeds the already problematic definitional ambiguity and keeps the perceived discursive boundaries of the illegality of SOM in flux.

Keywords: child sexual abuse material, deepfake, deepfake pornography, hentai, reddit, sexualization of minors

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1. Introduction

Over the last decade, reports regarding child sexual abuse material (CSAM)¹ have increased dramatically (Europol 2020). A steep escalation in demand for CSAM is one of the numerous challenges brought about by the COVID-19 pandemic as detected levels of sharing and re-sharing of CSAM saw a 106% rise during pandemic-related lockdowns (Europol 2020). This significant increase in demand underscores the pertinence of the discussion on the sexualization of minors in virtual CSAM. The proliferation of technological developments has further oriented and advanced emerging forms of public sexualized discourses, which now includes the creation of sexually explicit video content using deepfake technology.²

This technological advancement has also found use in creating such material of children (NetClean 2018). Provided that deepfake technology essentially creates an endless variety of *design* options for the user (Kikerpill 2020), producing computer-generated CSAM has never been easier. However, deepfake CSAM is only the most recent addition to the disturbing field of virtual CSAM. *Hentai* – known for its overtly sexual representations (often of fictional children) has been around for decades (Al-Alosi 2018) – hence providing an essential point of comparison in capturing how people conceptualize the sexualization of minors in the context of virtual CSAM.

The differentiation is important because the two forms of virtual CSAM, though standing antithetical to each other – deepfakes aiming to create as realistic and genuine-looking experience as possible in contrast to hyper-realistic and exaggerated representations intrinsic to *hentai* – both contribute to an already extensive list of concerns over image-based sexual abuse (Maddocks 2018). However, it is not just ‘offenders’ or people creating virtual CSAM that feed the problem. Public opinion, people’s views, and attitudes are central vehicles of discourses that sexualize minors (APA 2007). Therefore, this study seeks answers to the following questions: (1) How do people view the sexualization of minors in *hentai* and deepfakes? (2) How do people’s views/attitudes differ concerning the SOM in *hentai* vs. in deepfakes?

1.1. Sexualization of minors

Sex and sexuality, in general, have become a staple presence in the public sphere. The pornification of mainstream media (Paasonen et al. 2007) transpired a cultural shift to what is known as the sexualization of culture. Mass media’s hegemonic representations and misrepresentations of sexuality translate into every sphere and domain while still carrying harmful, dehumanizing messages, prejudiced views, double-standards, objectification, and normative expectations (Kelly 2017). These

¹ This study does not differentiate between child sexual abuse and child sexual exploitation material (CSEM); for the purposes of clarity and convenience, the term CSAM will be used hereinafter.

² Deepfake videos are created with the use of deep learning techniques by replacing original faces in existing videos with those that the creator wishes to depict instead, i.e. face-swapping in videos (see e.g. Cole 2018). The term itself is a combination of *deep learning* and *fake*, which followed from a Reddit user (username *Deepfakes*) who ‘added’ celebrity faces to pornographic videos to create what is now known as *deepfake celeb porn*, *fake porn* or *deepfake designer porn* (Cole 2018, Gosse and Burkell 2020, Kikerpill 2020).

powerful narratives also include children, both as subjects of such portrayals and as the recipients of these messages (APA 2007). Children are surrounded by messages that diminish their inherent value to looks and attractiveness. From early on, children are exposed to mediums and messages that aim to blur the lines between children and adults (Moore and Reynolds 2018). The premature sexualization of children and adolescents is a global issue that has only intensified over the preceding decade.

The concept of *sexualization* itself encompasses some definitional complexity. Although this study does not measure or seek to define sexualization, Luxembourg Guidelines (Greijer and Doek 2016) provide a helpful framing of the concept:

Sexualisation is not always an objective criterion, and the crucial element in judging such a situation is **intent** of a person to sexualise a child in an image or to make use of an image for sexual purposes (e.g. for sexual arousal or gratification).

Hence, this study considers sexualization as such that is inappropriately imposed upon children in the context of virtual CSAM. Previous scholarship suggests that most discussions about the sexualization of childhood focus on girls (Moore and Reynolds 2018), meaning we are discussing a strongly gendered discourse. Nevertheless, studies indicate that the *sexualization of childhood* in different spheres, particularly in media, is inherently damaging to all children, not just girls (APA 2007).

Adverse effects to children include self-objectification, body dissatisfaction, negative mood, lower self-esteem, anxiety, eating disorders, depression, the pressure to appear and behave ‘sexually’ at an early age (ibid). What is more, the sexualization of children has negative consequences on their ability to develop a healthy and complete sexual self-image (ibid). Children are enticed into this sexualized realm of public sexual discourse with commercial marketing, social media, television, video games, music videos, and other forms of media (ibid), but the impact goes beyond the developmental and contextual consequences to children. For instance, the metadiscursive messages of the SOM have materialized a cultural facet where sexual depictions of children are becoming further normalized (Kelly 2007, Moore and Reynolds 2018) and may well cultivate a further demand for SOM.

1.2. Virtual CSAM

CSAM, also often referenced to as child pornography,³ is any representation of a child engaged in real or simulated explicit sexual activities or any representation of the sexual parts of a child for primarily sexual purposes (Optional Protocol to the Convention on the Rights of the Child on the sale of children, child prostitution and child pornography, Article 2(c)). Virtual CSAM is any material with graphical sexualized depictions of children or child sexual abuse (CSA) that does not portray a real child, e.g., computer-generated images (CGI), cartoons, and morphed images (see,

³ Though in the Findings section, the term *child pornography* (CP) is applied, as it was used by the Reddit users, and it involves relevant contextual, definitional, and legal implications, the usage of this term is gradually being replaced. Mainly as the phrase mitigates the crime behind the term and undeservedly diminishes its gravity, also conflating CSA with pornography implies consent and a relation to sexual activities instead of its actual abusive/exploitative nature.

e.g., ECPAT International, SECO Manifestations), including both hentai and deepfakes.

Although the possession, production, and dissemination of CSAM that exploits real children is criminalized in most countries (ICMEC 2018), the issue is more problematic with fantasy materials that depict fictional children. The fictional status of such materials raises questions regarding restrictions on freedom of speech and artistic expression, even if the materials are clearly explicit, which is usually the case with hentai (Al-Alosi 2018). Nevertheless, the harm of desensitization towards and normalization of illegal acts when involving real children ought to be similarly considered in discussions about fictional CSAM. Particularly as viewing CSAM does not constitute a preventive safety valve (Russell and Purcell 2008: 61). In fact, research has shown that repeated exposure to CSAM may cause desensitization when a person becomes habituated to a specific stimulus that is used to evoke strong reactions (Paul and Linz 2008; Al-Alosi 2018). Such materials may mislead viewers into believing that sexual activity with children is normal and thus increase the risk of committing the act in real life (O'Donnell and Milner 2007: 74). It is also noteworthy that *hentai* and *teen* are among the most frequently searched terms in Porn Hub⁴ (Porn Hub 2019), indicating widespread interest in sexual depictions of minors. Furthermore, Taylor and Quayle (2002: 340) found that accessing images appeared to reinforce existing fantasies and was used to give permission to act on them.

The prevalence of deepfakes is another strand of concern. According to NetClean Report (2018), one in five police officers had come across deepfakes in CSA investigations. For investigative authorities, the inhibitory nature of deepfakes further advances the production of (virtual) CSAM and makes identifying children more difficult (ibid). Deepfakes can be used to produce new CSAM from the already existing material or creating CSAM from children who have not been subjected to *actual* [emphasis added] sexual abuse (ibid). The primary problem associated with any deepfake content is the ease of their production and dissemination, as well as the false beliefs deepfakes promote (Gosse and Burkell 2020). Given the degree of harm deepfakes may inflict, particularly regarding CSAM (Kirchengast 2020), there are calls for decisive regulation of such content (Delfino 2020). Furthermore, as it is possible to request *deepfake porn* featuring adults from openly accessible online forums (Kikerpill 2020) and the dark web has afforded the creation of similar forums for *sexual predators* (Chiang 2020), the potential combination of these two operational aspects render a serious threat to protecting children.

2. Materials and methods

The epistemological roots of this study are grounded in the social constructionism paradigm, which views reality as socially constructed through social interactions (see Berger and Luckmann 1966). To understand how people make sense of the SOM in virtual forms, a qualitative study was carried out (Krauss 2005). In early 2018, a popular online forum Reddit chose to change a rule regarding the SOM on their platform. The following paragraph is the original rule announcement:

⁴ Porn Hub is one of the largest and most popular free pornography sites.

Reddit prohibits any sexual or suggestive content involving minors or someone who appears to be a minor. This includes child sexual abuse imagery, child pornography, and any other content, including fantasy content (e.g., stories, anime), that encourages or promotes pedophilia, child exploitation, or otherwise sexualizes minors. Depending on the context, this can in some cases include depictions of minors that are fully clothed and not engaged in overtly sexual acts (Reddit 2018).

The reactions to this rule change are the subject of this study. User comments forming the initial sample (N = 13,293) were posted to a thread opened in Reddit's Announcements section in which the platform informed users of its sitewide rule change. The data set was obtained from the archives of Pushshift Reddit, i.e., a comprehensive search engine and real-time analytics tracker for the platform (Baumgartner et al. 2020). The dataset of user comments was organized by date from oldest to newest while maintaining the original structure of the comments (i.e., the chronological sorting followed from the time of posting of top-level comments in the thread). Hereinafter, the phrase *users* refer to the authors of the aforementioned Reddit comments.

2.1. Data analysis

An initial reading of around 500 comments was performed to familiarize oneself with the data for identifying the common topics and keywords for preparing the dataset for analysis. The identifier between all the comments was the term *Author* which was at the beginning of each new comment making it easier to distinguish between them. To clean and prepare the data for coding, four initial steps were employed:

- Off-topic, repetitive, or one-line comments were excluded from the sample.
- All date and time-related markers and links were excluded as these were irrelevant for the analysis and only took up extra space.
- All comments not including central keywords identified during the initial reading were left out of the dataset. These keywords were: *deepfake, df, child*, kid*, sex*, lewd, harm, porn*, parody, exploit*, CP, hentai, anime, loli*, manga, crim*, illegal, legal, pedo*, paedo*, face, consensual, involuntary, consent, fiction, erotic, drawing, abuse, victim, kid*, amendment, speech, expression, privacy, and police.*
- As the sample still included three thousand comments, another step was used to reduce the sample size. To avoid selection bias, stratified random sampling was used: the dataset was divided into three separate files containing around a thousand comments each. From each separate file, 3x50 comments were randomly chosen, meaning the final sample consisted of 450 comments.

Open coding of the data was used to create substantive codes; at the same time, handwritten memos were made for some initial observations about commonalities or differences between emerging codes. Initial 47 codes were divided into 12 major

categories. To further organize the codes and categories into themes, axial coding was used (Corbin and Strauss 2014: 156-158). Substantive codes were compared and organized by looking at associations between reasoning and attitudes evident in the data. Handwritten memoing was again used to help with the coding process. Two themes were derived from research questions (i.e., how users view SOM and how users differentiate between different forms of SOM); however, a third theme was identified as data presented some important issues that did not 'fit' under the first two themes. Thus, findings are presented as three overarching themes (*main statements*, *differentiating between hentai and deepfake*, and *defining a minor*). An overview of the *main statements* with both supporting and opposing arguments can be found in Appendix.

Findings are illustrated with representative quotes; however, throughout the study, ethical fabrication (Markham 2012) is used to protect the privacy of people and to avoid their direct identification. Representative quotes were carefully paraphrased and corrected without changing the meaning – this included correcting grammar, replacing jargon and abbreviations with equivalent phrases, or replacing idiosyncratic language with more common passages.

3. Findings

Discussions in the forum thread revolved around five central convictions about SOM in hentai and deepfakes. The axis of these statements, and subsequent rationalizations, varied considerably – users relied on personal convictions, experiences, emotional judgments, 'common sense,' morality, ethical values, news coverage, scientific literature, statistics, legal reasoning, laws, and court cases. The division of attitudes towards SOM was not as clear-cut as merely opposing or justifying SOM; a more detailed breakdown is provided after first reviewing the main statements about SOM.

3.1. Main statements

3.1.1. It is illegal

A primary basis for opposing SOM was declaring it illegal, though a clear consensus on the matter was not attained. The main influence here was the applicable law; users mainly relied on the legal definition currently applicable in their country, and often these laws, too, were employing a broad legal definition on the prohibition of SOM/CSAM; in most cases, producing, disseminating, and viewing such material was criminalized.⁵ There were several value-based arguments in the context of these discussions, yet, most users addressing legal issues provided or attempted to provide legal reasoning to sustain their case. The opposers claimed that SOM is not illegal or criminal. For some, the morality or the overall impact of such practices

⁵ Illegal does not always equal a criminal offence. Illegal may also imply a misdemeanour or other type of violation of the law (e.g., a violation of someone's privacy or defamation, which gives grounds to a civil suit).

was immaterial; the only relevant question was whether it is a criminal act; and if the answer was no, further debate on whether people *should* still do it was trivial. The existence of an immediate victim was a central factor; ‘no victim, no crime’ was a key argument used by those believing that SOM in deepfakes and anime does not fulfil the legal requirements of a crime. As SOM in different forms such as writings and fantasy content, is also criminalized in some countries, it brought on assertions claiming: ‘you cannot criminalize something that does not result in harm’. The statement above suggests people associate crimes with physical harm or immediate victims. It was also stated that drawings do not have rights, meaning they are not legal subjects and therefore do not need the protection of the law. The attitudes regarding deepfakes differed because (material of) real people is required. For supporters of SOM, banning deepfakes was received as possibly legitimate in comparison to banning hentai.

A lot of controversies came from definitional issues. For instance, one user claimed: ‘just because a child’s face is in the porn actress’s face doesn’t mean it’s child porn’. The logic followed that CSAM cannot be made of adults, and if sexual acts are carried out by adults, it was considered *de facto* adult pornography, not CSAM. Such contentions questioned whether deepfakes that merely use the face of a minor could be classified as CSAM. Users also asked how the *pornographic* element should be measured or determined as pornographic content itself is not a universal metric. Though again, a strong emphasis was relying on different national legislations and court decisions, the general tendency was that pornographic content needs to involve intercourse or other sexual activities relating to genitals. And from that, many further definitional issues resulted – as some users judged SOM to CSAM when the *genitals criterion* was fulfilled, anything outside that classification was met with either perplexity, not classifying the material as problematic, or relating it to *pedophilic tendencies*. The latter notion meant that only pedophiles could see something sexual in regular, non-sexual materials of children. Lastly, on definitional controversies, the vagueness of both law and court practice in establishing what exactly constitutes the context, particularly as the regulation states that sexual depiction of nudity is not always a requirement, was also met with dismay. Many users felt the vagueness of regulations makes it challenging to determine whether conduct is prohibited or not.

3.1.2. It is art

SOM in hentai was often approached as a form of art, an expression of one’s thoughts and fantasies, and therefore people’s (constitutionally warranted human) right that cannot be arbitrarily limited or violated. The question of harm was central in framing the premise. One approach was asserting that drawings, which anime is, ‘cannot hurt anyone’. Users largely relied on the assumption that without a valid cause, rights cannot be infringed; even more so, some held that there is a strong obligation to protect artists’ autonomy and free expression. It was further explained that policing or regulating the manifestation of someone’s fantasies and thoughts equal to thought policing, and such practice was accounted as arbitrary and

illegitimate. The idea of censoring thoughts, ideas, and expressions of such (e.g., in the form of art) was met with strong condemnation.

Opposers of this viewpoint expressed that as they consider it to be child pornography, such material has no artistic merit. Others claimed that even art has limits. Here some focused on *obscenity* as the criteria to determine art's limits, and besides CSAM, materials depicting rape, animal cruelty, and torture were also under scrutiny. For some, the specific content was immaterial, and the idea of SOM in any form was considered as generally harmful for children and for society at large. These users found that if the material brings about harmful influences for others, children in particular (e.g., it was said to normalize SOM and set expectations on children to be and act more 'sexual'), the harm 'criteria' is met. Though it was accepted that art might be shocking and cover controversial topics, users opposing the idea of such material being art stated that not every form of expression is art. A striking example given was that most people do not consider regular pornography as art though it is also a form of someone's expression. The harmful influence was also something that, according to some, gives ground to limiting artists' individual freedoms (e.g., freedom of speech and expression).

3.1.3. It promotes pedophilia

The idea that SOM promotes pedophilia was usually presented concurrently with the statement that SOM increases sexual offending against children. The latter was often claimed as a consequence of the former. Another thing is that associating AOM with pedophilia was ubiquitous; only in a handful of occurrences, users expressed that SOM is not *per se* linked to pedophilia or that pedophilia does not equal sexual offending. Though different forms of SOM were connected to pedophilia, the specific approach was somewhat different. The absolute opposers of SOM believed that any practice of SOM is an indicator of pedophilia: 'whether it involves fictional characters or not, sexualizing minors is pedophilia, by definition'. However, not everyone recognized that SOM in hentai makes one a pedophile since it was accepted that young people also consume anime, and for them, it was deemed possibly harmful yet (more) appropriate.

At the same time, the notion of SOM in deepfakes and hentai promoting pedophilia received some strong dissenting opinions. Users believed that promoting sexual attraction (towards children) was impossible because attraction was considered something people cannot choose; as an instance, homosexuality was mentioned by claiming that no one will suddenly 'become gay' just because someone is 'promoting it'. Another example was an analogy to video games: 'Claiming a sexualized drawing of a child will cause pedophilia is like saying video games cause violence.' This claim was supported by numerous references to studies that did not find video games to cause violent behavior, and hence provide the support that sexualized content of children does not cause pedophilia. The third claim against the argument of SOM promoting pedophilia was that pedophilia involves hereditary or biological factors. Here users explained that pedophilia is conditioned in the brain already when a person is born and therefore cannot be promoted or conditioned upon someone.

The general dissent was that sexual attraction depends upon brain design and is not something that can be developed by watching videos. According to users, being able to choose was a distinctive feature differentiating a pedophile from a person who likes sexual fantasies of children but does not have a sexual preference for children: ‘Fantasizing about (sex with) minors is not the same thing as not having a choice but to be sexually attracted to children’. Here, the distinction between SOM in deepfakes and anime was again notable. Users explained that pedophiles are sexually attracted to real children, not drawings. It was further held that the connection with pedophilia and SOM in anime is far-fetched, at best, a strawman case. SOM in anime was claimed to have nothing to do with *pedophilic tendencies*.

3.1.4. It increases offending

Supporters of this view maintained that allowing or accepting SOM increases sexual offending. Support was drawn from studies alleging that violent porn consumption leads to an increase in the likelihood of sexual offending or that consumption of CSAM has a strong correlation with sexual offending. Besides believing that the availability of CSAM heavily affects crimes against children, it was also expressed that deepfakes and hentai are ‘gateway materials’ because the consumption of materials that sexualize children were considered as conditioning the brain to associate sexual stimulation with children. Users explained that abnormal behavior tends to ‘progress towards escalation’, meaning offenders usually start with exposure to SOM through some medium and then progress into real-life offending. The prevailing tendency towards pedophiles was that society should not support or encourage pedophiles to ‘embrace who they are’ as it is corrupt. A commonly expressed notion here was: ‘These people need to be encouraged to seek professional help. We should not be enablers.’ Most who believed that materials including SOM are gateway materials to sexual deviations or even sexual offending did not believe these materials to be somehow healthy or helpful (for people to abstain from offending). Likewise, some users asserted that pornography, in general, harms people; reference was given to studies linking porn consumption to lenient views on rape and violence against women.

One of the claims the opposers of this statement made was that pedophilia is not a crime, and therefore pedophiles should not be treated as criminals but as people with a mental or paraphilic disorder who are sick and need help. Pedophiles consuming virtual CSAM was seen as a justified method of therapy or self-control. It was stated that these videos ‘offer a healthy release’ for people who might otherwise go off to offend in real life. Some even went on to say that getting rid of or prohibiting such material would cause more sexual offending because then ‘people have nothing left but to look for the real thing’. Here users made a counterargument that SOM, particularly in the form of deepfakes since it provides a more genuine experience, makes society safer. In addition, some users found that pedophilia, in most cases, is not even related to sexual offending. Here users distinguished between pedophiles and child rapists: ‘Child rapists are motivated by power, control, domination, and cruelty; pedophiles are motivated by affection and transference. Child rapists have

more in common with adult rapists than with pedophiles. It was further elaborated that the intersection between the two is that child rapists are mostly assaulting and producing CSAM, and pedophiles are merely using that CSAM. Other than that, the claims provided above about violent video games not causing violent behavior, were also used to argue against the SOM in deepfakes and hentai to increase offending.

3.1.5. It is generally harmful

The overall harmfulness postulation carried broader societal connotations but also individual-level effects on children, who now more than ever before are affected by the ever-evolving culture of sexualization. One such implication was that deepfake CSAM will bring more work to law enforcement agencies (LEA) as now LEAs must first deal with verifying whether the material is real or fake. Then, some users are concerned about technological advancements offering even more opportunities to produce CSAM or commit other related offenses. A major concern was that producing deepfake CSAM can be used to sexually harass or blackmail children whose pictures or videos are used in creation of that material. Users believed that even without much technical skills, generating convincing and genuine looking deepfakes is fairly effortless. Similarly, many users insisted that such depictions normalize the sexualization of children, which in turn desensitizes people meaning SOM would become less bothersome, more conventional, and further accepted in society. According to users, normalizing the SOM would only drive the demand for CSEM/CSAM. At the same time, the normalization of sexualized expectations on children was said to place more pressure on children to appear more ‘sexual’.

What is more, even without the direct interaction with offenders or CSAM, merely the existence of deepfaked CSAM was deemed to cause substantial damage, such as fear and psychological harm, harassment, negative self-image, relationship problems, even hampering future job opportunities, to name a few. To give an instance, one user explained: “These look so real that it will be hard to convince people to believe otherwise.” The overall conclusion of users opposing SOM remained that though virtual CSAM is not ‘real,’ it encompasses adverse effects and consequences, and should not be assumed as harmless. Though there were only a handful of people arguing against the general harmfulness standpoint, most opposing users found it irrelevant whether it is harmful or not. Instead, the focus was rather on constitutional rights prevailing over the ‘mere’ harmfulness since restricting individual rights was seen to undermine the foundations of a democratic society, and in turn, produce even more severe consequences.

3.2. Differentiating between hentai and deepfake

There were three types of justifiers and opposers and the type of material in question was a pertinent marker of differing perspectives. With opposing SOM, users were either the absolute opposers, opposers of visual SOM, or opposers of ‘realistic’ visual SOM. Absolute opposers followed the premise that SOM in any form *per se* is unacceptable and should not be justified with measuring legality, harmfulness,

artistic value, or any other criteria. Opposers of visual SOM held that the precise visual form of SOM is immaterial, artificially generated content was also included; some examples include ‘*anything that looks like child porn in forms of deepfakes, anime, manga, hentai, CGI, hand-drawn CP, porn with actors who look underage*’. The premise here was that ‘*sexualizing children and putting them in ‘fake’ porn is still fantasizing sexual conduct with children*’. The third type, opposers of real and ‘realistic’ visual SOM, only opposed such SOM, which included real children regardless of whether they were abused while producing the material or not; this entailed using videos or images of real children to create simulated CSAM. The third type did not consider SOM in anime or any other form problematic as such depictions were not realistic (Figure 1).

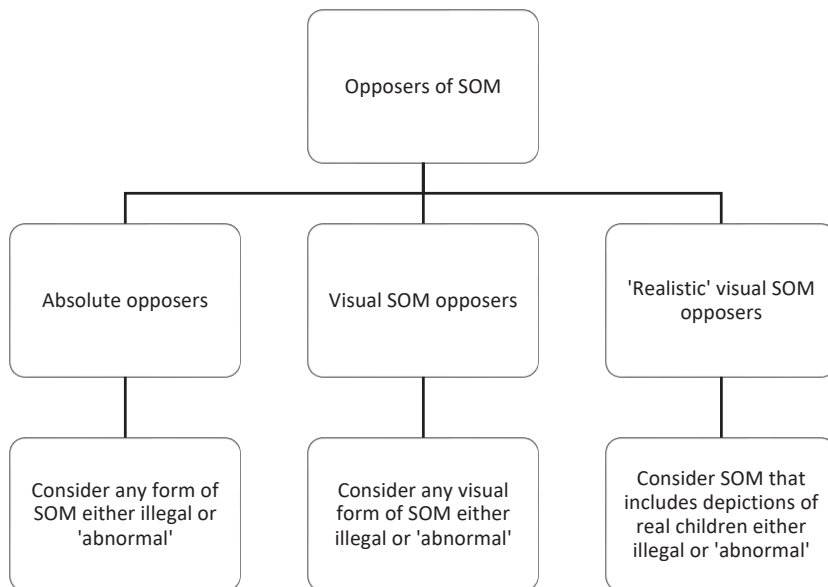


Figure 1. A schematic overview of different type of opposers to SOM.

With justifiers of SOM, the first type justified all forms of SOM. These users argued that SOM is not a crime and that they have constitutional rights and freedoms to either produce or consume such material. Central arguments were about individual rights, democratic principles, the arbitrariness of such prohibition, and unnecessary (or unjustified) censorship. The second type justified mainly SOM in deepfakes, and their main arguments were that it is not a crime since no child has been hurt during the production of such material, and that deepfaked CSAM makes our society safer since it offers a healthy release to people who might otherwise seek for the ‘real’ thing. Lastly, there were users who justified SOM in anime. Besides arguing over *not a crime aspect*, the key focus was on ‘this is art’ standpoint.

Overall, SOM in anime and similar outlets appeared so prevalent that the idea of banning SOM made a lot of users feel that according to this new rule, it would include *'almost all anime, cartoons, and video games that have characters in them'*. For many, SOM in any form (except anime) was regarded as prohibited and criminalized on legitimate grounds. SOM in the anime community was most often accepted as a 'normal' thing, sometimes even to the extent of defending it as an inherent part of anime, like in this comment: 'Try finding hentai with girls that look older than 16. It's legitimately difficult. It's the style,' or here: 'I'm defending anime culture, not pedophiles. Lolis have been a part of anime culture since forever.' *Loli* refers to the discourse of coupling *childlike* qualities with suggestive or sexual connotations. One justification a user provided for SOM in anime was that the core demographics and target audience of anime are teenagers. Another explanation, though not strongly supported, was that *'minors look physically smaller in Asian cultures'*, and that art of young Asian women can look like depictions of minors *'from the western point of view'*.

Regarding other materials, such as books and movies, an erotic depiction of teenagers was acceptable as *'many classic artworks, books and movies depict teenagers like that.'* In most cases, written materials (books and other such) were not connected to CSAM or considered a big problem due to words not having as powerful effect as visual material. In short, SOM in deepfake was more often considered illegal/criminal, as promoting pedophilia and increasing offending than SOM in anime forms. Hentai, however, was more strongly defended as an expression of art, though deepfake CSAM was only in a handful of occasions considered art. The general harmfulness statement applied to both forms of SOM. Altogether, SOM in anime was considered more as a question of morality, while deepfaked SOM was weighted more as an issue of legality and individual rights and freedoms.

3.3. *The compelling question: who is a minor?*

The greatest controversy emerged from the question of 'who is a minor' according to the new rule. For some, the content of the material was subsidiary, if not completely irrelevant. The primary issue was defining whether the material depicts a minor since that marker was limiting the legal or moral *right to watch* something. Hence, the moral compass of some led to the conclusion that the content is irrelevant as long as it does not depict children, yet for some, the difficulty in defining a minor brought on another level of justifications. Further, the distinction between CSAM and sexualization of minors was negotiated through discussions over the age, bodily features, and appearance of the person being sexualized ('But what defines the character as a minor? Height? Bust size? Curvature of their physique?'). Users asked whether 'an adult woman with small breasts' or other such *childlike traits* can be counted as someone who appears to be a minor; or alternatively, is it the factual age that should be the defining marker. Both possibilities were met with dissent, as considering a minor by appearance and physical features was seen as a highly subjective approach leaving too much room for interpretations and abuse of power. The latter notion was also seen as questionable, as in hentai, the artist can

depict a childlike character but still state that the character is over eighteen. Some users further felt that if the factual age is the defining marker, there is no difference in whether the person is turning eighteen in two days or is already an adult, making it 'absurd' to punish people for that. Another age-related question was prompted from common themes used in hentai, as to whether a 170-year-old vampire who was 'turned' while they were 16-years old, and hence is featured looking like a teenager, is considered as a minor.

Continuing age-related controversies, another tendency was to distinguish between younger and older children in relation to CSAM and 'mere' sexualization of minors. A distinction between children and minors was meant to signify that those teenagers were not children, followed by attitudes that further differentiate the severity and significance of SOM of different ages. It was claimed that depictions of 'young children', meaning those who are not teenagers yet, but as was implied in comments, those who have childlike bodily features and do not have a 'sexual agenda' or behave in a 'sexual manner', is more 'problematic' or 'abnormal' compared to sexual depictions of teenagers. The sexualization of teenagers, by some users, was not thought to be abnormal: "Also, let's not pretend that 16- and 17-year-olds are children. They're underage, but they're not children." The idea was that sexual depictions of teenagers are not much different from adult women. This notion was illustrated with claims of teenagers creating sexualized content of themselves or otherwise engaging in *overtly sexual behavior*. The last statement also prompted a discussion on "If the girls are taking and posting the pics themselves, how can they be victims". Again, dividing users into different sides, some claiming that it can still be considered CSAM, and they can be considered victims, in contrast to viewpoints that self-produced material was made voluntarily, which rules out criminality.

However, the biggest controversy was regarding the statement that 'you cannot put an age on a drawing'. It was argued that with anime characters, it is virtually impossible to determine the character's age. An anecdotal example was made of a sexualized depiction of a girl who looks like she could be around 8 years old but is actually a 400-year-old dragon. Many users expressed concern over the vagueness of such laws, especially on how to understand what *sexualized* or *sexually suggestive* means or how to understand whether it is a minor or when it is someone who seems like a minor. Throughout the study, there was not even one person who claimed that sexually abusing children or CSAM of real victims are not serious concerns; however, the topic of the SOM was approached in a different manner. Despite acknowledging the 'problematization' of SOM in anime, the moral right to consume such material was negotiated by separating 'real' from fictional: "It's sexualizing fictional characters, of which their age, ethnicity, appearance, or opinions are completely irrelevant because they're not real." With deepfakes, again, the fight was not that persistent. In either case, the discussion over 'who is a minor' prompted more questions than answers.

4. Discussion

Sexualization of children, in general, has grown into being such a normal part of everyday life that for it to be considered problematic, it must be illegal, connected to a crime. It seems that the pornification of media and culture has also shortened the length of childhood, meaning that not all those considered children by law are considered as such by the general public. The differentiation between a child and a 'mere minor' is relevant because people were more likely to view the sexualization of minors as wrong when considering younger children. Though pre-adolescent children and adolescents clearly differ when it comes to developmental stages and level of maturity, the sexualization of teenagers was conceptualized more similarly to adult women than that of children.

Though both individual and wider sociocultural determinants drive the formation of people's views and attitudes, a more explicit reference can be given to the legal culture people adhere to. In general, the way sexualization of children was apostrophized by participants was consistent with how different countries had regulated the legal status of virtual child sexual abuse material. Some countries prohibit sexual depictions of minors in any form; some only realistic depictions; and some only CSAM where a real child is physically involved in the production of the material (ICMEC 2018). Another aspect of consideration is the age of consent, which is negotiated between legal, historical, sociocultural, and developmental markers. Though on average, the age of consent is sixteen or eighteen (Clough 2012), in some countries it is below that (FRA 2017) to the extent of being even as low as twelve (UNFPA 2017). Such considerable differences shed light, at least to some extent, on the disparities in conceptualizing the sexualization of children and the recurring demarcating between children and teenagers. A more subliminal demarcation emerged over gender dimensions. While girls were portrayed through many paradigmatic representations (e.g., as the weak and vulnerable, or the deviated and pathologized), boys were largely absent from these discussions. This confirms that we are dealing with a strongly gendered discourse (Moore and Reynolds 2018). Unfortunately, such attitudes tend to ignore the fact that boys are also victimized (*ibid*) and need protection as well.

It is also noteworthy how SOM was persistently connected to pedophilia by using the terms 'pedophile' and 'sex offender' interchangeably. Firstly, the moral reasoning of users was influenced by confusing a psychiatric disorder with sex crimes. Not all sex offenders are pedophiles (Seto 2009), and such discourse only furthers the stigmatization of people who do not act on their urges and need treatment. Also, it trivializes and sets aside the general societal practices of the sexualization of children, particularly in media. It neglects these widely prevalent cultural practices and reduces SOM only to 'deviant' and criminal practices, meaning only sexualization related to victimization is considered problematic. In accord with previous studies, we found that virtual CSAM is sometimes perceived as a victimless and private activity (Bartels and Merdian 2016; Prichard et al. 2016). Furthermore, while internet users generally understand that viewing CSAM of real children is criminal, there is significant ambiguity regarding computer-generated CSAM, particularly

with ‘drawings’ (Hunn et al. 2020). Similar to this study, Leonard (2010: 255) found that viewers of CSAM endorse specific beliefs that minimize the harmfulness of the behavior, e.g., the material is ‘only an image’ (Leonard 2010: 255). Here, the reference goes to hentai, where the sexualization of minors was (considered) an inherent part of the anime culture. If a practice known to appropriate children as sexual and sexually willing beings is so strongly rooted in a specific culture that the eradication of the former would mean to prohibit the majority of the latter, what does it exactly imply? Further research on the topic is needed as the inappropriate content is depicted in a child-friendly form.

When deciding whether SOM in hentai should be considered a form of virtual CSAM that should be permitted, the legal connotations were not the factors differentiating hentai from deepfakes. People are more likely to consider a realistic material that sexualizes children problematic and against societal values, yet with anime culture, the extent of allowability is at the other end of the spectrum. Regardless of the specific form, the sexualization of children can be harmful since it feeds the culture of tolerance and normalization towards SOM and sustains both a market and demand for such material (Clough 2012; Duncan 2010). Deepfake CSAM can have real and direct implications on children, such as violation of their privacy, defamation, grooming, or extortion (Clough 2012; Duncan 2010). Nonetheless, these were hardly considered as central issues in the sample comments. An overarching theme in data was the clash of personal freedoms with the protection of wider societal values (and of children on an abstract level). Besides the influence of legal and sociocultural context, the lack of knowledge about SOM and CSAM appeared to be one source fostering this clash. Ultimately, legal provisions themselves are not sufficient to address such complex and controversial issues. Increasing public awareness of the effects of SOM and virtual CSAM seems integral.

5. Conclusions

The findings of the present study revealed that not all children are considered children when it comes to the issue of the sexualization of minors. The ‘deviant’ sexualization of younger and *real* [emphasis added] children was juxtaposed with the ‘if anything then morally wrong’ sexualization of adolescents and constitutionally protected ‘drawings’ of children. The wider sociocultural discourses influencing the sexualization of minors, and vice versa, have contributed to the shortening of childhood to the extent that even creating deepfake ‘pornography’ of teenagers might not be an issue since they are not considered children but as young women instead. The greatest challenge seems to lie in the deeply rooted beliefs and misinformation regarding the effects of the sexualization of minors. Educating the general public is essential; however, this bearing does not solely pertain to governments, policymakers, and other such authorities. Private companies, particularly those with wide online reach, have an immense potential in facilitating awareness-raising and reshaping harmful discourses that surround the topics of SOM and virtual CSAM.

5.1. Limitations and future studies

On a final note, one of the limitations of this study is that we relied on pre-existing data, meaning we were only able to look for patterns that were already present in discussions but not test or verify people's beliefs independently. As the data source was a public forum, users were able to read what and how the preceding comments stated. As 'seeing what people before you have said' could have influenced the forming of the trends found in data. Thus, the generalizability of these findings must be considered within the limits of this study. Besides, the study design did not include analyzing the statements by differentiating between users' genders, socioeconomic or cultural background, both of which would have given a more thorough insight on the matter. However, this was mainly due to the limitations of the data itself, which did not include explicit background information about all users. Future research could investigate how such characteristics influence people's views and beliefs.

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Conflict of interest statement

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Address:

Simone Eelmaa

Institute of Social Studies

University of Tartu

Lossi 36-411

51003 Tartu, Estonia

E-mail: simone.eelmaa@ut.ee

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Main statements and rationalizations about the sexualization of minors in deepfakes and hentai

Appendix

OPPOSING ARGUMENTS	STATEMENT	SUPPORTING ARGUMENTS
<ul style="list-style-type: none"> • Does not harm anyone • ‘No victim, no crime’ • These are not real children • Drawings do not have rights • Drawings cannot hurt anyone • You cannot do thought policing • Anime characters do not resemble children • It is not involuntary pornography unless someone is coerced 	IS ILLEGAL	<ul style="list-style-type: none"> • It is child pornography • Is criminalized (in many countries) • Children can be indirect victims • Violates victim rights (e.g., privacy) • Can be further used for blackmail or other crimes • Freedom of speech and expression are not absolute rights
<ul style="list-style-type: none"> • It is fiction • It is not real • These are not real children • Drawings do not have rights • Drawings cannot hurt anyone • Art is meant to be shocking • It is constitutional free speech • Prohibition is thought policing • Prohibition is unnecessary censorship • Prohibition is an arbitrary violation of our rights • Is an expression of thoughts and fantasy • Anime characters do not resemble children 	IS NOT ART	<ul style="list-style-type: none"> • Art has limits • (Legally) it is child pornography • Art should not harm people • Child pornography has no artistic merit • Normalizes sexualization of minors • Influences children to look and be more ‘sexual’ • Freedom of speech and expression are not absolute rights
<ul style="list-style-type: none"> • Pedophilia is a sexual attraction, and you cannot promote attraction • Cannot be promoted as pedophiles have a genetic disposition • Anime characters do not resemble children • Drawings cannot make you a pedophile, you must be attracted to real children for that 	PROMOTES PEDOPHILIA	<ul style="list-style-type: none"> • Promotes pedophilia • Offers abnormal fantasies • Acts as a gateway material • Promotes taking advantage of or abusing children • Creates an unhealthy sexual interest towards children
<ul style="list-style-type: none"> • Offers a healthy release for pedophiles • Makes our society safer • Countries that are restrictive on porn have higher sexual assault rates • Child rapists ≠ pedophiles 	INCREASES OFFENDING	<ul style="list-style-type: none"> • Acts as a gateway material • Promotes pedophilia • Desensitizes people • Exposure changes the brain to associate children to sexual stimuli • Normalizes fantasizing about SOM
<ul style="list-style-type: none"> • Drawings cannot hurt anyone • There is no ‘real’ or immediate victim • Real children are not harmed in the production 	IS GENERALLY HARMFUL	<ul style="list-style-type: none"> • Desensitizes people • Normalizes sexualization of children • Drives the demand for CSAM • Has negative effects on children • It can be used for blackmail • It makes investigation harder for law enforcement • Promotes harming children • Pornography, in general, has harmful effects on people