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LLM Law and Technology in Europe

Master Thesis

# Schrödinger's Crime: AI-generated Child Sexual Abuse Material as a Victimless Offense

Maria Lazaridou

SN: 7465343

Supervisor: Dr. Domenico Rosani

2<sup>nd</sup> Reader: Dr. Dave van Toor

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# Chapter 1- Introduction

## 1.1. Background

The rapid evolution of artificial intelligence (AI) has revolutionized various industries, offering substantial benefits. While AI and machine learning have been developing for decades, recent advancements have made these technologies accessible to the public through applications like ChatGPT. Now ubiquitous, AI technologies do not only enhance everyday tasks but also drive significant advancements in critical fields, such as healthcare. However, alongside these advancements, the proliferation of AI has introduced some unexpected challenges, especially in its unintended use for generating Child Sexual Abuse Material (CSAM).

AI's capabilities, widely celebrated for their potential to streamline processes and enhance productivity, can be exploited in alarming ways. For instance, algorithms such as Stable Diffusion, a machine learning model designed for generating high-quality images originally created without strict content controls, have been used to produce pornographic images, including those depicting minors, whether real or fictional.<sup>1</sup> This misuse of AI for generating CSAM has resulted in important legal consequences, exemplified by recent cases such as in the USA where an individual was recently prosecuted for producing, distributing, and possessing thousands of AI-generated images of minors engaged in sexually explicit conduct using the Stable Diffusion algorithm.<sup>2</sup>

AI CSAM is still a new phenomenon, and its true scale and severity have yet to be fully understood. In September 2023, an IWF study of a dark web forum revealed over 20,000 images of child sexual abuse generated by AI, of which approximately 11,000 were identified by IWF analysts as potentially criminal.<sup>3</sup> Despite its increasing prevalence, AI CSAM currently

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<sup>1</sup> Niedbala M, *The Problem of Criminal Liability for Generating Pornography Using Artificial Intelligence* Krytyka Prawa 2023 p. 72

<sup>2</sup> Office of Public Affairs, *Man Arrested for Producing, Distributing, and Possessing AI-Generated Images of Minors Engaged in Sexually Explicit Conduct* United States Department of Justice 2024 Press Release Number: 24-636. Available at: <https://www.justice.gov/opa/pr/man-arrested-producing-distributing-and-possessing-ai-generated-images-minors-engaged?ref=404media.co>

<sup>3</sup> Internet Watch Foundation *How AI is being abused to create child sexual abuse imagery* 2023. Available at: <https://www.iwf.org.uk/about-us/why-we-exist/our-research/how-ai-is-being-abused-to-create-child-sexual-abuse-imagery/> (IWF 2023 Report)

constitutes a small proportion of the IWF's overall activities, yet the organization underscores growing concerns about its alarming potential for rapid and widespread distribution.

Like all sexually aggressive offenses, AI CSAM provokes intense emotional reactions and widespread condemnation from the public. The sexual abuse of children is universally abhorred and incites strong societal backlash. AI-generated CSAM intersects with deeply ingrained moral beliefs, often driving the discourse with subjective opinions and moral stances rather than logical arguments.<sup>4</sup> Europe has been at the forefront of addressing child exploitation, particularly concerning CSAM. However, the criminalization of AI CSAM has sparked concerns about whether such conduct should be a criminal offense, given that AI CSAM is a “victimless crime”, causing no direct harm.

This thesis explores the complex issue of fully AI-generated Child Sexual Abuse Material by examining how existing and proposed European Union legal frameworks address this phenomenon, focusing on the risks of its non-criminalization and the potential dangers of criminalizing a “victimless crime”.

## **1.2 Problem Statement and Academic Relevance**

Fully AI-generated CSAM presents a profound legal dilemma, as it involves the depiction of children in sexual conduct while simultaneously has no real-world victims. The widespread revulsion towards CSAM, regardless of its virtual nature, underscores a societal moral opposition that transcends physical harm, focusing on symbolic and cultural harm. This thesis seeks to navigate the complex intersection of societal values and legal principles, examining the risks and implications of criminalizing a victimless crime, while also outlining the dangers of failing to control AI CSAM.

The challenge lies in aligning this criminalization with fundamental principles of criminal law, such as the harm principle, while addressing societal concerns about child protection. The recent Proposal for a revised Directive on combating child sexual abuse and exploitation

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<sup>4</sup> Eneman M, Gillespie A, Stahl B *Criminalising fantasies: The regulation of virtual child pornography* In Proceedings of the 17th European Conference on Information Systems (2009) p. 8-10.

(hereinafter: the Commission’s 2024 Proposal) mandating the full criminalization of AI CSAM exemplifies this tension, raising potential constitutional and practical issues for Member States. The core problem is whether the legal system can justify the criminalization of AI CSAM without undermining established legal principles and creating new issues in law enforcement and constitutional law. This study aims to explore this intricate problem in order to make clearer the need to maximize the safety of children while preserving the integrity of criminal law principles.

This thesis is crucially relevant as AI becomes increasingly ubiquitous, necessitating a deep examination of its implications on children’s safety. Unlike traditional forms of realistic CSAM, AI-generated material achieves unprecedented realism, demanding urgent scholarly scrutiny to address it appropriately.

### **1.3. Research Question**

The research question of this thesis is the following:

*“How do the existing and proposed EU legal frameworks address fully AI-generated CSAM? What are the potential risks associated with non-criminalization of fully AI-generated CSAM and which are the dangers of criminalizing a ‘victimless crime?’”*

This question comprises two subquestions. The first subquestion focuses on how existing legal frameworks approach AI CSAM, and what amendments the European Commission has proposed. The second subquestion consists of two parts. Firstly, it will present various problems caused by AI CSAM, advocating for its criminalization. Secondly, it will analyze why the criminalization of AI CSAM is highly problematic from a legal standpoint.

### **1.4. Terminological Preferences and Scope of this thesis**

This thesis adopts the terminology recommended by the Luxembourg Guidelines, preferring the term Child Sexual Abuse Material (CSAM) over “child pornography” for several

compelling reasons.<sup>5</sup> The term “child pornography” has been criticized for its trivialization of the abuse inherent in the creation and distribution of such material.<sup>6</sup> On the other hand, the term CSAM underscores the gravity of the situation, emphasizing that it arises from the grooming, coercion, and exploitation of vulnerable children by perpetrators. Conversely, “child pornography” erroneously suggests a mere subset of lawful pornography, downplaying the severity of child sexual abuse and its criminal nature.

To clarify the scope of this thesis, it is important to delineate various categories within the realm of CSAM. Virtual CSAM serves as a comprehensive category, encompassing a wide range of digitally manipulated images or videos involving children.<sup>7</sup> Within this spectrum, deepfakes represent a subset wherein AI technology or other editing tools are utilized to superimpose real individuals' faces onto explicit content.<sup>8</sup> Another subset is fully AI-generated CSAM, which pertains specifically to material generated using artificial intelligence algorithms.

This thesis focuses exclusively on fully AI-generated CSAM. The term refers to images or videos depicting fictitious children created entirely by AI algorithms, without the involvement of real individuals in the production process. By focusing on this specific subset, the thesis aims to delve deeper into the unique challenges and implications posed by AI-generated content in the context of child sexual exploitation. Throughout this thesis, the term “AI CSAM” will consistently refer to fully AI-generated Child Sexual Abuse Material, for brevity.

## 1.5. Research Approach and Methodology

This thesis follows a traditional desk research approach, involving the collection and analysis of legislation, scientific papers, surveys and other sources. While primarily focusing on the

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<sup>5</sup> Terminology Guidelines for the Protection of Children from Sexual Exploitation and Sexual Abuse adopted by the Interagency Working Group in Luxembourg on 28 January 2016 (Luxembourg Guidelines).

<sup>6</sup> Tobin J, *The UN Convention on the Rights of the Child* (2019) Oxford Commentaries on Interna p. 1314. IBSN 9780198262657.

<sup>7</sup> Luxembourg Guidelines p. 23

<sup>8</sup> Olson A, *The Double-Side of Deepfakes: Obstacles and Assets in the Fight against Child Pornography* (2022) 56 Georgia Law Review, p. 869. Available at: <https://georgialawreview.org/article/37803-the-double-side-of-deepfakes-obstacles-and-assets-in-the-fight-against-child-pornography>.

legal aspects of AI CSAM, it also incorporates insights from psychology and psychiatry to understand potential correlations with criminal activity. The doctrinal legal method is employed for legal sources, while the documentary and descriptive methods are used for sources from other disciplines.<sup>9</sup> The literature review draws upon online databases including Google Scholar, WorldCat, HeinOnline and similar sources to retrieve relevant data.

To address the first research question, which centers on the existing and proposed legal framework, various international and European legal instruments are examined. Given the thesis' European focus, particular attention is paid to the EU Directive 2011/93 on combating child sexual abuse and exploitation, alongside a critical analysis of the Commission's 2024 proposal for a revised Directive to amend it (Proposal for a revised Directive 2024/35), as it suggests intriguing amendments relevant to the criminalization of virtual CSAM.

To address the second question, especially regarding the risks of AI CSAM, a comprehensive approach is adopted. Surveys from NGOs, educational institutions, and independent researchers are considered, alongside scientific papers from psychologists, psychiatrists, sociologists, and legal experts. The second part of this question primarily draws on legal papers and journal articles, supplemented by contributions from other disciplines such as psychology and psychiatry.

## 1.6. Structural Overview

This thesis consists of 6 Chapters, including the Introduction. Chapter 2 examines the definitions of CSAM outlined in both international and European legal instruments, along with the discretion afforded to Member States in regulatory matters and a brief analysis of some of the proposed legal amendments, relevant to the subject of AI CSAM. Chapter 3 addresses the risks entailed by AI CSAM, spotlighting its alarming realism, the challenges for law enforcement, and the broader societal impacts such as desensitization and commercialization. On the other hand, Chapter 4 navigates the legal labyrinth surrounding the criminalization of

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<sup>9</sup> Hutchinson T, *The Doctrinal Method: Incorporating Interdisciplinary Methods in Reforming the Law* (2016) Erasmus Law Review. Available at: <https://doi.org/10.5553/elr.000055>; Langbroek P M, van den Bos K., Thomas M S, Milo M J, van Rossum M, *Methodology of Legal Research: Challenges and Opportunities* (2017). 13 Utrecht Law Review 3 p. 1–8, 2017, Available at SSRN: <https://ssrn.com/abstract=3118156>



AI CSAM, spotlighting issues pertinent to the harm principle, causation, mens rea, and the precarious balance between criminalization and individual liberties. Lastly, Chapter 5 delves into the contrasting options to dealing with AI CSAM within criminal law: full criminalization versus optional criminalization. It examines the advantages and disadvantages of each approach, conducting an evaluation to propose a balanced solution. Additionally, the chapter briefly discusses suggestions and potential alternatives to address specific challenges associated with AI CSAM.

## **Chapter 2 - Existing and Proposed Legal Framework on CSAM and AI CSAM**

### **2.1. Definitions of CSAM in International and European Legal Instruments**

#### **2.1.1. Background**

In this analysis, the definitions of CSAM as articulated in key international and European legal frameworks are examined, emphasizing how these definitions were formulated with the foresight to encompass emerging challenges, such as AI CSAM. While these legal instruments do not explicitly mention AI technology, they were crafted with an awareness of the evolving nature of digital abuse, including virtual pornography, which, to an extent, was already an issue at the time. Notably, each of these legal instruments refers to CSAM as “child pornography”, a term that was prevalent prior to the publication of the Luxembourg Guidelines in 2016. To maintain accuracy and fidelity to the original provisions, this chapter will use the term “child pornography” when explaining these legal provisions, as this is the terminology employed in the texts.

The definitions outlined in legal instruments such as the Optional Protocol on the Sale of Children, Child Prostitution and Child Pornography (2000), the Budapest Convention (2001), the Lanzarote Convention (2007), and the EU Directive 2011/93 on combating the sexual abuse and sexual exploitation of children and child pornography, play a pivotal role in delineating the scope and boundaries of criminal behavior related to the sexual exploitation of children. Originally designed in response to more traditional forms of CSAM, including photographs

and videos depicting minors engaged in explicit sexual activities, these definitions have demonstrated remarkable adaptability to technological advancements.

### 2.1.2. OPSC

The Optional Protocol to the Convention on the Rights of the Child (hereinafter: CRC) on the sale of children, child prostitution and child pornography in 2000 (hereinafter: OPSC) was among the earliest international legal instruments to address the issue of child pornography. Article 2(c) provides a broad definition of child pornography as “...any representation, by whatever means, 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”.

It can be supported that the terms “real or simulated” describe the sexual activity, not the child.<sup>10</sup> Since the OPSC is an extension of the CRC, the definition of a “child” in Article 1 of the CRC applies, which defines a child as “...every human being below the age of eighteen years...”. Therefore, it can be argued that the term “child” in OPSC’s definition of child pornography refers only to real children, meaning that only representations involving actual minors fall within its scope. This distinction highlights a potential gap in addressing AI-generated content that does not involve real children.

On the other hand, the phrase “any representation (of a real child) by whatever means” in the provision, is broad enough to be interpreted in such way as to include AI-generated representations of children.<sup>11</sup> This interpretation would align with the CRC Committee’s Guidelines, which express deep concern over the proliferation of online material, including virtual representations. The Committee encourages States parties to include in their legal provisions on CSAM representations of non-existent children, especially when these are used to sexually exploit real children.<sup>12</sup>

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<sup>10</sup> Witting SK, *Child sexual abuse in the digital era: Rethinking legal frameworks and transnational law enforcement collaboration* (2020) Doctoral thesis Leiden University p. 21. Available at: <https://hdl.handle.net/1887/96242>

<sup>11</sup> Ibid 22.

<sup>12</sup> CRC Committee, Guidelines regarding the implementation of the Optional Protocol to the Convention on the Rights of the Child on the sale of children, child prostitution and child pornography, CRC/C/156, para. 63 (Explanatory Report to the Budapest Convention)

### **2.1.3. Budapest Convention**

One year following the adoption of the OPSC, the Council of Europe, in the Convention on Cybercrime (hereinafter: Budapest Convention) expanded the definition of CSAM by including in article 9(2) material “that visually depicts: .... (c) realistic images representing a minor engaged in sexually explicit conduct”. According to the Explanatory Report, article 9(2)(c) covers images, which, “although ‘realistic’, do not in fact involve a real child engaged in sexually explicit conduct”. The Explanatory Report further clarifies that this category encompasses altered images, such as morphed photos of real individuals or entirely computer-generated images.<sup>13</sup> This definition is more specific than that of the OPSC and explicitly includes AI CSAM within its scope.

### **2.1.4. Lanzarote Convention**

The Council of Europe’s Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse in 2007 (hereinafter: Lanzarote Convention) adopts a definition of child pornography closely aligned with that of the OPSC.<sup>14</sup> Article 20(2) defines child pornography as “any material that visually depicts a child engaged in real or simulated sexually explicit conduct or any depiction of a child’s sexual organs for primarily sexual purposes”. The Convention defines a “child” as any person under the age of 18 in article 3(a).

Like the OPSC, the Lanzarote Convention's definition of a child does not explicitly cover virtual or fictional children, raising questions about its applicability to virtual CSAM. Notably, the Convention's Explanatory Report, when referring to article 20, makes an explicit mention to “...the production or possession of images that consist entirely of simulated representations or realistic images of a child who does not exist in reality...”, thereby showing the intent for the provision to encompass fully computer-generated materials within its scope.<sup>15</sup>

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<sup>13</sup> Explanatory Report to the Budapest Convention, paragraph 101.

<sup>14</sup> Council of Europe, Explanatory Report to the Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse (2007) para 142.

<sup>15</sup> Ibid para. 144.

### **2.1.5. EU Directive 2011/93**

Lastly, in the most recent European legal instrument, the EU Directive 2011/93 child pornography is defined in article 2(c) as “...(iv) realistic images of a child engaged in sexually explicit conduct or realistic images of the sexual organs of a child, for primarily sexual purposes”. The Directive acknowledges the potential for digitally created or manipulated content to be indistinguishable from real imagery, posing unique challenges for law enforcement and regulatory bodies. This definition aligns closely with the definition provided in the Budapest Convention, emphasizing the recognition of digitally altered or synthesized content as part of the landscape of child sexual abuse.

In conclusion, despite the absence of direct references to AI technology in these definitions, it is evident that the legal instruments were crafted with flexibility in mind, aiming to cover a range of scenarios and technologies that could be used for the production and dissemination of CSAM. However, as will be discussed in the following chapter, all other legal instruments, except the OPSC, allow Parties or Member States the discretion to opt out from criminalizing virtual CSAM.

## **2.2. Discretion of Parties/Member States to opt out from criminalizing AI CSAM**

Despite the inclusion of AI CSAM within international and European legal frameworks, a consistent approach emerges regarding its criminalization. Specifically, these legislative instruments afford Parties or Member States the discretion to refrain from criminalizing fully computer-generated CSAM under specified conditions. This differentiation in treatment reflects that AI CSAM is indeed perceived differently regarding the nature of victimhood, legal principles, and practical challenges associated with regulating content that does not involve real individuals.

Article 9(4) of the Budapest Convention offers Parties the discretion to not apply in whole or in part Article 9(2)(c), which as discussed above, pertains to the prohibition of “realistic images

representing a minor engaged in sexually explicit conduct”. Similarly, Article 20(3) of the Lanzarote Convention provides Parties with the right to not apply in whole or in part the obligation to criminalize the production and possession of CSAM consisting exclusively of “simulated representations or realistic images of a non-existent child”. On this note, it is important to mention that the Explanatory Report of the Lanzarote Convention when referring to this reservation, urges Parties to “be aware of the rapid developments in technology, which allow producing of extremely lifelike images of child pornography where in reality no child was involved and should avoid covering such productions by their reservation”.<sup>16</sup>

These provisions acknowledge the distinction between CSAM depicting actual minors and content that is purely fictional or computer-generated. By allowing Parties to opt out of criminalizing certain forms of CSAM involving simulated or realistic images, the Conventions recognize the challenges posed by material that does not involve actual children. These challenges will be discussed at length in Chapter 4.

Lastly, article 5(8) of Directive 2011/93 acknowledges that Member States have the discretion to determine whether to criminalize material that depicts child sexual abuse solely for private use, provided that certain conditions are met. Specifically, if the pornographic material falls under Article 2(c)(iv) of the Directive, involving realistic images of a child engaged in sexually explicit conduct or depicting the sexual organs of a child, it may not be subject to criminalization under the condition that it is produced and possessed strictly for private use.

However, this exemption applies only if no other forms of child sexual abuse material, covered under Article 2(c)(i), (ii), or (iii), were used in its production and there is no risk of dissemination of the material to others. Therefore, the provision strictly concerns cases in which no pictures of actual children were utilized for the creation of the material. This approach reflects a nuanced consideration of the complexities surrounding private possession of certain types of child sexual abuse material, taking into account the absence of direct harm to others in cases where the material remains private and does not involve the exploitation of real children.

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<sup>16</sup> Ibid.

The Directive’s differentiation between virtual CSAM and material involving real children underscores the legal and practical complexities within legislative frameworks. The law unequivocally prohibits the production, dissemination, and possession of CSAM depicting real children, reflecting a clear commitment to protecting vulnerable individuals from abuse and exploitation. However, when it comes to fully AI-generated CSAM, legal provisions afford Parties or Member States the discretion to decide whether criminalization is appropriate.

This allowance for discretion in addressing AI CSAM stems from several key factors. First, AI CSAM presents a formidable challenge due to the absence of tangible victims. The individuals depicted are entirely fictitious, raising fundamental questions about the basis for criminal liability in the absence of direct harm to real persons. This has sparked considerable debate within legal circles, with differing opinions on whether virtual, therefore also AI-generated, as a category of virtual, CSAM should be a crime.<sup>17</sup>

Additionally, many legal systems operate under the principle that criminal offenses require harm to a clear victim, as will be further explained in Chapter 4.1. Therefore, punishing conduct that does not harm any individual may be perceived as contrary to foundational principles of criminal law and consequently pose challenges in constitutional adherence.

On this matter, the Explanatory Report to the Budapest Convention emphasizes that when criminalizing CSAM depicting real children, the focus is on protecting against child abuse.<sup>18</sup> However, when addressing virtual CSAM—where no actual children are depicted—the concern is that such material might be used to encourage or seduce children into harmful acts,

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<sup>17</sup> Some of the literature discussing this issue: Ost S, *Criminalising Fabricated Images of Child Pornography: A Matter of Harm or Morality* (2010) 30 *Legal Stud* 230. Available at: <https://doi.org/10.1111/j.1748-121x.2010.00161.x>; Eneman (n 4); April K, *Cartoons Aren't Real People Too: Does the Regulation of Virtual Child Pornography Violate the First Amendment and Criminalize Subversive Thought* (2012) 19 *Cardozo Journal of Law & Gender* 241. Available at: [https://heinonline.org/HOL/P?h=hein.journals/cardw19&i=257](https://heinonline.org/HOL/P?h=hein.journals/cardw19&i=257;).; Byberg JHK, *Childless Child Porn - A "Victimless" Crime? A Comparative Analysis of the Validity of the Current Restrictions in the United Kingdom and United States on Virtual Child Pornography in Relation to the Right to Free Speech* (2012) SSRN Electronic Journal. Available at: <http://www.ssrn.com/abstract=2114564>; Russel G, *Pedophiles in Wonderland: Censoring the Sinful in Cyberspace Office of Justice Programs* (2008) *Journal of 98 Criminal Law and Criminology* 4. Available at: <https://dialnet.unirioja.es/servlet/articulo?codigo=2882636>; Helfer M, Rosani D, *Is This Intimate Image Abuse?: The Harm Principle Delimiting the Criminalization of Virtual Child Pornography and "Sexting"* in Caletti GM, Kolis Summerer K (eds), *Criminalizing Intimate Image Abuse: A Comparative Perspective* (2024) 1st edn, Oxford University Press Oxford. Available at: <https://doi.org/10.1093/oso/9780198877813.003.0008>; Goldblatt B, *Virtual Child Pornography: The Children Aren't Real, But the Dangers Are; Why the Ashcroft Court Got it Wrong* (2012) *Student Works* 41. Available at: [https://scholarship.shu.edu/student\\_scholarship/41](https://scholarship.shu.edu/student_scholarship/41).

<sup>18</sup> Explanatory Report to the Budapest Convention paragraph 102.

potentially contributing to a subculture that supports child abuse.<sup>19</sup> Despite these concerns, the Convention is among the legal instruments that provide discretion to its Parties regarding the criminalization of virtual CSAM, raising questions about why such latitude is given if virtual CSAM is considered harmful and dangerous to children. It has been supported that this discretion represents a regression in child protection efforts, as these legal gaps could potentially allow offenders to exploit the system, continuing their illegal activities and avoiding criminal accountability.<sup>20</sup>

Ultimately, the discretion afforded to Member States in addressing AI CSAM reflects a pragmatic response to the complex legal issues surrounding the criminalization of such acts. However, the Commission's 2024 proposal presents an alternative approach to addressing these issues, mandating for full harmonization of the criminalization of realistic CSAM. The following chapter will explore the rationale behind such an approach, elucidating the most pressing threats of AI CSAM.

## **2.3. Proposed Legal Framework**

### **2.3.1. Background of the Commission's 2024 Proposal for a Revised Directive**

The recent Proposal for a revised Directive on combating the sexual abuse and sexual exploitation of children and child sexual abuse material (hereinafter: the Commission's 2024 proposal) stems from a comprehensive evaluation of the existing legal framework by the European Commission in 2022.<sup>21</sup> This evaluation was prompted by the 2020 EU Strategy for a more effective fight against child sexual abuse, which outlined initiatives to bolster efforts against child sexual abuse and exploitation.<sup>22</sup>

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<sup>19</sup> Ibid.

<sup>20</sup> Astinova M, *The Crime of Child Pornography: European Legislative and Police Cooperation Initiatives* (2013) Master Thesis Tilburg University p. 22.

<sup>21</sup> European Commission, Explanatory Memorandum to the Proposal for a Directive on combating the sexual abuse and sexual exploitation of children and child sexual abuse material COM (2024) 60 final. (Explanatory Memorandum to the Proposal for a revised Directive)

<sup>22</sup> European Commission, *EU Strategy for a more effective fight against child sexual abuse* 2020/607 Brussels, 2020.

The evaluation focused on assessing the effectiveness of Directive 2011/93 in combating these crimes against children, and revealed challenges such as ambiguous definitions within the Directive.<sup>23</sup> The assessment also highlighted the alarming increase in online dissemination of CSAM, alongside perpetrators' enhanced ability to conceal their identities online, posing significant complications for law enforcement and increasing risks for children.

Furthermore, disparities among Member States in their legal frameworks for addressing these crimes, particularly involving new technologies, were identified. Inadequate criminalization of offenses and limited coordination in prevention and victim assistance efforts underscored the need for comprehensive reform at the European Union (EU) level. The Commission's subsequent actions emphasized the necessity for a renewed legislative framework adaptable to contemporary challenges. This chapter will examine the proposed amendments to Directive 2011/93 in light of these findings, seeking to address legislative gaps and enhance protections for children against sexual abuse in the context of advancing digital technologies.

### **2.3.2. Terminology Amendments**

A notable change proposed in the Commission's 2024 proposal is the transition from using "child pornography" to "child sexual abuse material" (CSAM), aligning with international standards outlined in the Luxembourg Guidelines in 2016.<sup>24</sup> This shift in terminology reflects a deeper understanding of the gravity of these offenses, emphasizing the exploitation and abuse inherent in such materials.<sup>25</sup> Stakeholders consulted during the evaluation of EU Directive 2011/93 expressed concerns about the current Directive's use of potentially misleading terminology and vague provisions.<sup>26</sup> They emphasized the need for terminology that is victim-centric and aligned with modern understanding, advocating for the replacement of "child

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<sup>23</sup> European Commission, Directorate-General for Migration and Home Affairs, Bartz, K., Gaglio, I., Linz, F. et al., *Study supporting the evaluation of the EU Directive 2011/93 and the impact assessment of possible options for its amendment: final report*, Publications Office of the European Union, 2024. Available at: <https://data.europa.eu/doi/10.2837/02158>

<sup>24</sup> Explanatory Memorandum to the Proposal for a revised Directive p. 10.

<sup>25</sup> Ibid.

<sup>26</sup> European Commission, Directorate-General for Migration and Home Affairs, Blondes E, Bruckmayer M, D'Auria S. et al., *Study to support the evaluation of the Directive on preventing and combating trafficking in human beings and protecting its victims and an impact assessment for a legislative proposal on the topic – Executive summary*, Publications Office of the European Union (2023) <https://data.europa.eu/doi/10.2837/638021> p. 246



pornography” with “child sexual abuse material” to accurately convey the severity of these crimes.<sup>27</sup>

The new terminology underscores the importance of addressing sexualized content involving children as forms of abuse and exploitation rather than mere pornography, which, when involving consenting adults, is legal in many countries. Therefore, this distinction helps in recognizing the non-consensual and harmful nature of such materials. The Commission’s 2024 proposal aims to align with these evolving standards by adopting terminology that better reflects the true nature of these offenses, emphasizing the exploitation and abuse inflicted upon children depicted in such materials.

However, while this proposed amendment appears to be a step in the right direction, its impact may be limited if it only affects English-speaking Member States. For the change to be truly effective, it must be implemented across all EU languages. Without comprehensive adoption throughout the EU, this terminological shift will not achieve the impact intended by the EU, thereby potentially diluting its effectiveness in conveying the seriousness of these offenses.

### **2.3.3. Amendments in the proposed definition of CSAM**

The proposed amendments to Article 2(c)(iv) of the Directive aim to broaden the definition of CSAM. Under the proposed definition in Article 2(3)(d), CSAM encompasses “realistic images, reproductions, or representations of a child engaged in sexually explicit conduct” expanding upon the existing Directive's focus on realistic images alone. This broader scope covers a wider range of potentially harmful material. According to the European Commission, the inclusion of an explicit reference to “reproductions and representations” aims to ensure that the definition of CSAM remains relevant amid evolving technological developments.<sup>28</sup>

Practically, this change equips law enforcement agencies and judicial bodies with a more robust framework to combat CSAM comprehensively. It closes potential loopholes that could allow certain types of manipulated or computer-generated content to evade regulation, as it aims to anticipate and encompass all potential future technological advancements. This updated scope

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<sup>27</sup> Ibid.

<sup>28</sup> Explanatory Memorandum to the Proposal for a revised Directive p. 10.

is designed not only to address current digital imagery but also to proactively include emerging technologies that may evolve in the future, such as holographic representations and other technologies that have yet to be conceived. This approach acknowledges that the current regulatory framework, which focuses solely on “images” may not adequately cover these rapidly evolving forms of digital content.

Another compelling aspect of the Commission’s 2024 proposal is its inclusion of “pedophile manuals”, expanding the scope beyond traditional definitions of CSAM. Recitals 10 and 12 of the Commission’s 2024 proposal emphasize the importance of addressing all forms of material that facilitate or promote child sexual exploitation. Notably, proposed article 2(3)(e) broadens the definition of CSAM to encompass “any material, regardless of its form, intended to provide advice, guidance, or instructions on how to commit child sexual abuse or exploitation, or child solicitation”.

This amendment represents a proactive measure, particularly in light of the alarming findings outlined in the detailed IWF 2023 Report focusing on AI CSAM.<sup>29</sup> The report exposed the widespread availability of guides detailing how to produce such material, highlighting a significant online dissemination of information on AI CSAM generation. Moreover, discussions surrounding the use of cloud-based tools and libraries and open source AI models intensify concerns about the accessibility of creating sophisticated AI CSAM, potentially enabling individuals with minimal technical knowledge to engage in this harmful activity.<sup>30</sup> Cloud-based AI models are AI systems hosted on remote servers managed by third-party providers that make it possible to access systems and algorithms via cloud computing platforms, making advanced AI technology available without needing local hardware or deep technical expertise.<sup>31</sup> Open source AI models are freely accessible AI systems where the source code is available for use, modification, and distribution by anyone.<sup>32</sup>

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<sup>29</sup> IWF 2023 Report p. 21-23

<sup>30</sup> Ibid.

<sup>31</sup> Dong Q, Chen X, Satyanarayanan M *Creating Edge AI from Cloud-based LLM in Proceedings of the 25th International Workshop on Mobile Computing Systems and Applications* (2024) Association for Computing Machinery, NY, USA, p. 8–13 <https://doi.org/10.1145/3638550.3641126>; Steinhoff, J, *The Social Reconfiguration of Artificial Intelligence: Utility and Feasibility* in Verdegem P (ed.) *AI for Everyone?* (2021) University of Westminster Press p. 127. Available at: <https://doi.org/10.16997/book55.h>.

<sup>32</sup> Eiras F et al., *Risks and Opportunities of Open-Source Generative AI* (arXiv, 29 May 2024) <http://arxiv.org/abs/2405.08597>, p. 18-19; Widder DG et al., *Limits and Possibilities for “Ethical AI” in Open Source: A Study of Deepfakes* ACM Conference on Fairness, Accountability, and Transparency (2022) <https://dl.acm.org/doi/10.1145/3531146.3533779> p. 2035-2037.

This technology, although openly accessible, might remain obscure to many without the aid of these manuals. The pedophile manuals provide straightforward and detailed instructions on leveraging this technology, which under normal circumstances would not pose a threat, to generate AI CSAM. This trend signals a disturbing prospect where the production of high-quality AI CSAM could become increasingly prevalent and accessible to a broader range of individuals, exacerbating the challenges faced in combating online exploitation and abuse of children.

By explicitly encompassing such handbooks within the scope of CSAM, the Commission's 2024 proposal demonstrates a commitment to combating the evolving threat of AI CSAM and protecting children from exploitation facilitated by advancing technologies. This proactive approach acknowledges the need to address not only the content itself but also the dissemination of knowledge that enables such harmful activities.

However, one could question whether it aligns with fundamental principles of criminal law to treat these manuals the same as actual CSAM. While the criminalization of pedophile manuals aims to prevent the dissemination and creation of AI CSAM, conflating these materials under the same legal framework raises several concerns. Criminal law typically distinguishes between preparatory acts and completed offenses, with different levels of severity in punishment, if any.<sup>33</sup> Manuals, although facilitating harmful acts, do not directly harm children in the same manner as actual CSAM. Punishing both under the same regime might blur this distinction and potentially lead to disproportionate penalties, consequently breaching the principle of proportionality.<sup>34</sup> This is why balancing the prevention of harm with the principle of proportionality is essential in addressing this new issue.

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<sup>33</sup> Bock S, Findlay S, *Preparatory Offences* in K. Ambos et al. (eds.) *Core Concepts in Criminal Law and Criminal Justice: Volume I* (2019) Cambridge: Cambridge University Press, p. 54–93. Available at: <https://doi.org/10.1017/9781108649742.003>.

<sup>34</sup> Tadros V, *Proportionate Punishment* in Tadros V (eds) *The Ends of Harm: The Moral Foundations of Criminal Law* (2011) Oxford Legal Philosophy Available at: <https://doi-org.proxy.library.uu.nl/10.1093/acprof:oso/9780199554423.003.0015>

#### **2.3.4. Removal of Discretion for Member States**

The pivotal amendment of the Commission’s 2024 proposal directly concerning AI CSAM is the removal of Member States' discretion to opt-out from criminalizing virtual CSAM. The Proposal abolishes the discretion outlined in Article 5(8), which, as discussed in Chapter 2.2, allows Member States to refrain from criminalizing virtual CSAM produced and possessed for private use without involving real children or risk of dissemination. This amendment imposes a definitive obligation for all Member States to criminalize AI CSAM without exception, establishing a unified legal framework across EU jurisdictions.

Additionally, the proposed amendment to the definition of CSAM in article 2(3)(d) to include “realistic images, reproductions, or representations” further solidifies the Commission's intent to cover as broad a category of such material as possible, thereby expanding the scope of protection. To this note, Article 33 of the Commission’s 2024 proposal obliges Member States to “bring into force laws, regulations and administrative provisions necessary to comply with article 2 paragraphs (3)(d) ...”, meaning that each Member State must implement the necessary regulatory changes to align with the criminalization of virtual CSAM, a category of which is fully AI-generated CSAM. Further exploration of the elimination of discretion and its potential constitutional implications will be addressed in Chapter 5.

Transitioning from the analysis of legal instruments addressing CSAM and AI CSAM, the subsequent chapter delves into the dangers posed by AI-generated CSAM. AI CSAM presents unprecedented challenges due to its hyper-realistic nature, which complicates detection and verification processes for law enforcement agencies. Additionally, the debate surrounding whether viewing CSAM leads to hands-on offenses is now central to the issue of AI CSAM. Although AI CSAM does not directly harm children, if a link between consuming AI-generated content and committing physical abuse is established, it could fundamentally alter the current narrative. This chapter explores the perceived and observed risks and dangers of AI CSAM to date, highlighting the urgent need for further research to substantiate many of these concerns.

# Chapter 3 - Risks of AI CSAM

## 3.1. Realism

The rapid evolution of generative AI technology has enabled the creation of increasingly realistic and deceptive content, raising significant concerns in the public debate, particularly when used for image-based sexual abuse.<sup>35</sup> In the context of AI CSAM, the increasing realism of AI-generated images is facilitated by the constant advancements in AI models, the growth of sharing communities, and the improved technical capabilities within these communities.<sup>36</sup>

A 2023 study found that AI-generated faces depicting white individuals were perceived as more human-like than actual human faces—a phenomenon termed AI hyperrealism.<sup>37</sup> The pursuit of photorealism and hyperrealism in AI-generated content underscores the potential for misuse of this technology. Perpetrators can easily utilize generative AI tools to produce large volumes of AI CSAM with minimal cost, effort and risk of detection.<sup>38</sup> The technology allows users to input specific descriptions or preferences, rapidly generating images that closely match the text prompts, while at the same time post-generation editing tools further enable customization and refinement of generated content.<sup>39</sup> This evolution has brought AI-generated imagery to a point where it is nearly indistinguishable from real photographs.<sup>40</sup>

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<sup>35</sup>McQue K, *Child predators are using AI to create sexual images of their favorite 'stars': 'My body will never be mine again'*, (June 2024) The Guardian Available at: <https://www.theguardian.com/technology/article/2024/jun/12/predators-using-ai-generate-child-sexual-images>; Hunter T. *AI porn is easy to make now. For women, that's a nightmare* (Feb. 2023) Washington Post. Available at:

[link.gale.com/apps/doc/A736886962/AONE?u=anon~cf01d29c&sid=googleScholar&xid=a0b21d8b](https://link.gale.com/apps/doc/A736886962/AONE?u=anon~cf01d29c&sid=googleScholar&xid=a0b21d8b;);

Lapowsky B. *The Race to Prevent 'the Worst Case Scenario for Machine Learning'* (June 2023) The New York Times. Available at: [https://www.nytimes-com.translate.goog/2023/06/24/business/ai-generated-explicit-images.html?\\_x\\_tr\\_sl=el&\\_x\\_tr\\_tl=en&\\_x\\_tr\\_hl=el&\\_x\\_tr\\_pto=wapp](https://www.nytimes-com.translate.goog/2023/06/24/business/ai-generated-explicit-images.html?_x_tr_sl=el&_x_tr_tl=en&_x_tr_hl=el&_x_tr_pto=wapp)

<sup>36</sup> IWF 2023 Report p.7-9.

<sup>37</sup> Miller EJ, Steward BA, Witkower Z et al. *AI Hyperrealism: Why AI Faces Are Perceived as More Real Than Human Ones* (2023) Psychological Science, 34(12), 1390-1403. <https://doi-org.proxy.library.uu.nl/10.1177/09567976231207095>

<sup>38</sup> Thiel D, Stroebel M, Portnoff R, *Generative ML and CSAM: Implications and Mitigations* (2023) THORN Standofrd Internet Observatory.

<sup>39</sup> Yarmel A, Lang J, *The Ethics of Customizable AI-Generated Pornography* (2024) Midwest Ethics Symposium p. 3-6. Available at: [https://scholarship.depauw.edu/midwest\\_ethics/2024/2024/22](https://scholarship.depauw.edu/midwest_ethics/2024/2024/22)

<sup>40</sup> Ibid 4; Shen B, Richard Webster B et al., *A study of the human perception of synthetic faces* (2021) 16th IEEE International Conference on Automatic Face and Gesture Recognition (FG 2021) p. 1-8; Ratner C, *When "Sweetie" Is Not so Sweet: Artificial Intelligence and Its Implications for Child Pornography* (2021) 59 Family Court Review p. 388-389. Available at: <https://doi-org.proxy.library.uu.nl/10.1111/fcre.12576>.

The IWF report conducted in 2023 on “How AI is being abused to create child sexual abuse imagery” (hereinafter: the IWF 2023 Report) is particularly valuable for the discussion of AI CSAM due to its comprehensive investigation into the issue. This report holds significant importance as the most recent exploration of the challenges posed by AI-generated content in the dark web and its focus on the realistic depictions resembling genuine photographs.

According to the report, AI CSAM displays diverse levels of realism, influenced by factors such as the technical proficiency of individual users, the computational resources employed, and the amount of time invested in the creation process.<sup>41</sup> Generally, simpler compositions involving single characters tend to appear highly photorealistic.<sup>42</sup> In contrast, images depicting complex scenarios with multiple characters may exhibit certain artifacts that reveal their synthetic origin.<sup>43</sup> However, skilled users can effectively address these artifacts through post-processing techniques, enhancing the overall quality and realism of the generated content.<sup>44</sup>

In this regard, the results of recent studies highlight the difficulties and complexities associated with distinguishing between real and AI-generated images and faces. In a survey conducted jointly by the University of Waterloo and Carleton University in 2024, involving 260 participants, the classification accuracy for identifying AI-generated images from real ones was found to be 61%.<sup>45</sup> This means that participants, when presented with 20 images to classify as either real or AI-generated, were able to correctly identify the nature of the images approximately 6 out of 10 times. The researchers concluded that the average internet user may struggle to reliably distinguish synthetic images from real ones, highlighting the challenges posed by AI-generated media in terms of visual realism.<sup>46</sup>

Comparatively, a 2023 study found that humans exhibited a higher misclassification rate of 38.7% when attempting to discern AI-generated images from real ones.<sup>47</sup> In contrast, AI

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<sup>41</sup> IWF 2023 Report p. 31

<sup>42</sup> Ibid.

<sup>43</sup> Ibid.

<sup>44</sup> Ibid.

<sup>45</sup> Pocol A et. al. *Seeing is No Longer Believing: A Survey on the State of Deepfakes, AI-Generated Humans, and Other Nonveridical Media* in Sheng, B, Bi L, et al. (eds) *Advances in Computer Graphics* (2023) 14496 Lecture Notes in Computer Science, Springer p. 434. Available at: [https://doi-org.proxy.library.uu.nl/10.1007/978-3-031-50072-5\\_34](https://doi-org.proxy.library.uu.nl/10.1007/978-3-031-50072-5_34).

<sup>46</sup> Ibid 438.

<sup>47</sup> Lu Z et al., *Seeing Is Not Always Believing: Benchmarking Human and Model Perception of AI-Generated Images* (2024) 36 Part of *Advances in Neural Information Processing Systems* p. 6. Available at: <https://doi.org/10.48550/arXiv.2304.13023>

models designed for AI-generated image detection achieved a lower misclassification rate of 13%, demonstrating greater accuracy in this task than human observers.<sup>48</sup>

Furthermore, earlier experimental findings from 2022 revealed difficulties in distinguishing between real and synthetic faces. The study reported an accuracy rate close to chance level (48.2%), with gender and race significantly influencing classification accuracy.<sup>49</sup> Notably, white faces were more difficult to classify, likely due to their overrepresentation in the training dataset.<sup>50</sup>

Interestingly, in the same study from 2022, when providing trial-by-trial feedback, the accuracy rate improved only slightly to 59.0%, with persistent challenges in classifying white synthetic faces.<sup>51</sup> This suggests that certain rendering artifacts in AI-generated faces may not always be perceptible, contributing to difficulties in accurate classification over time.

In summary, the rapid progress of generative AI presents significant challenges in combating the spread of misleading and harmful content, including AI CSAM. According to an analyst from the IWF 2023 Report, while a trained observer may currently identify AI-generated images, often due to notable imperfections like extra fingers, AI technology remains in its early stages.<sup>52</sup> As AI advances further, distinguishing between real and synthetic content is likely to become increasingly difficult.

### **3.2. Challenges for Law Enforcement and Judiciary Agencies**

The challenges that AI CSAM presents for law enforcement agencies (LEAs) and judiciary agencies are primarily rooted in the rapid advancement and proliferation of generative AI technology. As detailed in the preceding chapter, AI technology can now generate images of abuse with such realism that they are nearly indistinguishable from actual photographs. This ability to distinguish photorealistic AI CSAM from traditional CSAM impacts various aspects

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<sup>48</sup> Ibid.

<sup>49</sup> Nightingale SJ, Farid H, *AI-Synthesized Faces Are Indistinguishable from Real Faces and More Trustworthy* (2022) 119 Proceedings of the National Academy of Sciences of the United States of America p. 1. Available at: <https://doi.org/10.1073/pnas.2120481119>

<sup>50</sup> Ibid.

<sup>51</sup> Ibid.

<sup>52</sup> IWF 2023 Report p. 32

of investigation, victim identification, prosecution, and the overall effectiveness of combating online child exploitation.<sup>53</sup>

More specifically, the technological sophistication of AI CSAM sets it apart from other forms of material that sexualizes children such as manga, cartoons, drawings, or child sex dolls and child sex robots, all of which are unmistakably unreal. The lifelike realism of AI CSAM may hinder LEAs' efforts to investigate and prosecute offenders, as they could potentially struggle to differentiate between real and AI-generated content.<sup>54</sup> Verifying whether an image is entirely generated or contains parts depicting a child is exceedingly time-consuming and resource-intensive, yet essential for prosecution purposes.<sup>55</sup>

Furthermore, the speed and accessibility of AI technology exacerbate the challenge.<sup>56</sup> Perpetrators can rapidly generate vast quantities of AI CSAM offline, on-device, which may later be distributed online, hindering investigations of LEAs, which will be tasked with investigating seized devices containing large volumes of potentially illicit material.<sup>57</sup> The scale of potential AI CSAM dissemination across the internet further complicates detection and intervention efforts.

In conjunction with this, if AI CSAM is not explicitly prohibited, there is the potential that perpetrators could exploit this gap by arguing that the material they possess or distribute is solely the result of AI, even if the material contains actual child sexual abuse.<sup>58</sup> This loophole has the capacity to undermine legal proceedings and could allow offenders of traditional CSAM to evade justice.

Similarly, perpetrators can exploit the uncertainty surrounding the age of fictional characters depicted in such materials.<sup>59</sup> Since the age of these characters is determined solely by their creators and lacks objective verification, offenders can exploit this ambiguity by claiming that

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<sup>53</sup> Al-Alosi H, *Fantasy Crime: The Criminalisation of Fantasy Material Under Australia's Child Abuse Material Legislation* (2017) Doctoral thesis UNSW Sydney p. 54.

<sup>54</sup> Ibid.

<sup>55</sup> Ibid.

<sup>56</sup> Litska S, *Virtual Acts, Real Crimes? A Legal-Philosophical Analysis of Virtual Cybercrime* (2014) Doctoral Thesis University of Twente 2014 p. 148. Available at: <http://purl.org/utwente/doi/10.3990/1.9789036537131>

<sup>57</sup> IWF 2023 Report p. 41-42

<sup>58</sup> Al-Alosi (53) 54.

<sup>59</sup> Jenkins S, *Virtual Child Pornography – Policing Fantasy? A Critical Evaluation of the Justifications for the Criminalisation of Virtual Child Pornography* (2018) Doctoral thesis Middlesex University of Criminology and Sociology p. 189-191.



the generated children are of legal age.<sup>60</sup> This argument complicates legal proceedings, as prosecutors face the daunting task of proving, beyond any reasonable doubt, the age of someone that does not exist.<sup>61</sup> Particularly when perpetrators produce these images themselves, the defense often asserts that the depicted individuals are adults, further complicating efforts to prosecute these crimes effectively.<sup>62</sup>

A counterargument posits that the advanced technology capable of creating AI CSAM could also be harnessed to combat CSAM, aiding in the detection of both traditional and computer-generated content.<sup>63</sup> LEAs could potentially use AI technology to differentiate between real and AI-generated material. As algorithmic models continue to advance, they demonstrate promising capabilities in detecting AI-generated materials.<sup>64</sup> This evolution suggests that as technology progresses, crime will become more sophisticated, but the methods of detecting it will advance accordingly.

Besides that, it has been argued that while the intent to ease the prosecutorial burden is understandable, criminalizing AI CSAM because of the burden it causes to LEAs and prosecutors lacks legal soundness.<sup>65</sup> The law should not prohibit this conduct solely because it is challenging to differentiate between real and AI-generated material. Legal standards should be based on the intrinsic harm caused by the material, not on the practical difficulties of enforcement. Therefore, the argument that AI-generated CSAM may complicate law enforcement efforts is valid but is not a legally robust justification.

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<sup>60</sup> Ibid

<sup>61</sup> Al-Alosi (53) 150.

<sup>62</sup> Cases like this could potentially be covered under art. 2(c)(iii) of the EU Directive 2011/93 as material depicting “...any person appearing to be a child engaged in real or simulated sexually explicit conduct...” but the discussion of whether entirely fictional characters can be deemed “a person” arises.

<sup>63</sup> Singh S, Nambiar V, *Role of Artificial Intelligence in the Prevention of Online Child Sexual Abuse: A Systematic Review of Literature* (2024) *Journal of Applied Security Research* p. 1–42. Available at: <https://doi-org.proxy.library.uu.nl/10.1080/19361610.2024.2331885>; Paulo V, Sandra A, Mauricio P et al., *Leveraging deep neural networks to fight child pornography in the age of social media* (2018) 50 *Journal of Visual Communication and Image Representation* p. 303-313. Available at: <https://doi.org/10.1016/j.jvcir.2017.12.005>; Heidari A, Jafari N et al., *Deepfake detection using deep learning methods: A systematic and comprehensive review* (2024) *WIREs Data Mining and Knowledge Discovery* 14(2) e1520 p. 16-3. Available at: <https://doi-org.proxy.library.uu.nl/10.1002/widm.1520>.

<sup>64</sup> Baraheem SS, Nguyen TV, *AI vs. AI: Can AI Detect AI-Generated Images?* (2023) 9 *Journal of Imaging* 10. Available at: <https://doi.org/10.3390/jimaging9100199>.

<sup>65</sup> Byberg (n 17) 30.

### **3.3. Commercialization of “custom AI images”**

The IWF 2023 Report highlighted a disturbing trend in the commercialization of AI CSAM. Recently cases have been identified where individuals have been offering to sell “custom AI images”, indicating a troubling exploitation of AI technology for profit in creating and distributing illicit material.<sup>66</sup> This development is particularly concerning because AI CSAM allows for the creation of content that depicts children in the most distressing and abusive scenarios.

Moreover, the commercialization of AI technology exacerbates the issue by facilitating easier access to and dissemination of AI CSAM, leading to the creation of a significantly larger market for both traditional and AI-generated illicit material.<sup>67</sup> This market expansion could consequently increase the demand for more traditional CSAM, which might provide perverse incentives for perpetrators to abuse more children for the creation of real abuse material, or more AI-generated CSAM, creating an endless cycle of exploitation and victimization of children.<sup>68</sup>

However, the basis for criminalizing AI CSAM cannot solely rely on the concern about its widespread dissemination. While the potential for AI CSAM to proliferate is serious and cannot be ignored, simply stating that its prevalence warrants criminalization is not conclusive. The arguments of AI CSAM’s unprecedented realism and widespread availability underline the potential dangers of this phenomenon, not the actual harm caused. Thus, the issue of whether this specific conduct should be subject to criminalization remains. To address this issue, it is essential to detect the harm caused by fictional material, if any. The following chapter presents the arguments that attempt to connect AI CSAM with hands-on child abuse.

### **3.4. Real-World Impact and Desensitization**

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<sup>66</sup> Crawford A. & Smith T. *Illegal trade in AI child sex abuse images exposed* (June 2023) BBC News. Available at: <https://www.bbc.com/news/uk-65932372>

<sup>67</sup> Al-Alosi (n 53) 50-75.

<sup>68</sup> Christensen LS, Moritz D, Pearson A, *Psychological Perspectives of Virtual Child Sexual Abuse Material* (2021) 25 *Sexuality & Culture* p. 1354. Available at: <https://doi.org/10.1007/s12119-021-09820-1>

### 3.4.1. ReDirection Survey

In the exploration of risks associated with AI CSAM, it is crucial to determine whether and to what extent it can cause actual harm to children, particularly because it involves depictions of fictional rather than real children. To this note, in Recital 11 of the Commission’s 2024 proposal, the European Commission explicitly acknowledges a link between accessing CSAM and engaging in hands-on abuse, regardless of whether the material depicts real or realistic scenarios. Specifically, it considers this material as “the first step towards hands-on abuse”.<sup>69</sup> This recognition suggests that the Commission views realistic material of child sexual abuse as having real-world implications, highlighting the direct threat posed to children by individuals who consume such material.

However, this assertion is supported by findings from the ReDirection Survey Report conducted by the NGO Protect Children in 2021, cited as the sole basis for this argument. While research in this area is valuable, the Commission relies exclusively on a non-scientific document to substantiate the link between viewing CSAM and committing actual abuse against children. Despite this limitation and in the absence of additional scientific sources, this chapter will examine the survey's findings, as it serves as the sole argument behind the Commission's position on this issue.

### 3.4.2. Findings of the ReDirection Survey

The Protect Children survey, conducted anonymously on the dark web and gathering responses from 8,484 individuals, aimed to better understand the behaviors and attitudes of CSAM users. Through two distinct surveys, “Help us to help you” and “No need for help”, participants were provided an avenue to candidly disclose their habits, thoughts, and emotions regarding CSAM consumption.<sup>70</sup> The surveys maintained respondents' anonymity and privacy by abstaining from collecting identifiable personal characteristics like age, gender, and nationality.<sup>71</sup>

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<sup>69</sup> Explanatory Memorandum to the Proposal for a revised Directive recital 11.

<sup>70</sup> Insoll T, Ovaska A, Vaaranen-Valkonen N, *CSAM Users in the Dark Web: Protecting Children Through Prevention* (2021) Suojellaan Lapsia ry. ReDirection Survey Report p. 10. (ReDirection Survey Report)

<sup>71</sup> Ibid.

The findings underscore a troubling correlation, revealing that 52% of respondents expressed genuine fears that their engagement with CSAM could escalate to the commission of sexual acts against children.<sup>72</sup> This statistic sheds light on the impact of CSAM consumption, highlighting the deep-seated concerns individuals harbor regarding the potential consequences of their own actions. Furthermore, a noteworthy percentage of respondents, comprising 44%, openly acknowledged *thinking* of seeking direct contact with children after watching CSAM.<sup>73</sup> However, while these results raise ethical concerns, criminal law addresses the actual commission of a criminal act, not individuals' thoughts or fears about committing a crime. Therefore, since these findings concern the state of mind rather than actions, they do not hold relevance for criminal law. This distinction will be explored further in Chapter 4.2.

On a more practical level, a detailed examination of the survey data elucidates the frequency and extent of actual attempts to seek direct contact post-CSAM consumption among respondents. Analysis of this data reveals that, while a majority of respondents, comprising 63%, reported never attempting to contact a child after viewing CSAM, a significant proportion, representing 37%, admitted to having at least once initiated contact with a child following exposure to such material.<sup>74</sup>

In a subsequent study conducted by researchers from the team behind the initial survey, the objective was to delve deeper into the survey responses and ascertain any correlations between viewing CSAM and committing crimes against children or engaging in sexual violence.<sup>75</sup> Their findings revealed several factors associated with a self-reported likelihood of contacting children online after viewing CSAM, including frequent CSAM use.<sup>76</sup> Regarding the causal link between viewing CSAM and committing crimes, the study revealed the potential for such behavior to lead not only to direct contact offenses but also to other serious online offenses like grooming, livestreaming sexual abuse, harassment, and sexual extortion.<sup>77</sup>

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<sup>72</sup> Ibid 37.

<sup>73</sup> Ibid 38.

<sup>74</sup> Ibid 39-40.

<sup>75</sup> Insoll T, Ovaska A K et al., *Risk Factors for Child Sexual Abuse Material Users Contacting Children Online: Results of an Anonymous Multilingual Survey on the Dark Web* (2022) *Journal of Online Trust and Safety*, 1(2) p. 1-2. Available at: <https://doi.org/10.54501/jots.v1i2.29>

<sup>76</sup> Ibid 2.

<sup>77</sup> Ibid 2-4.

Additionally, researchers tested the hypothesis that frequent and long-term use of CSAM would correlate with an increased self-reported likelihood of contacting children post-CSAM consumption.<sup>78</sup> The results supported this hypothesis, revealing that individuals who reported higher frequencies of CSAM use were more likely to express intentions of seeking contact with children online after viewing CSAM.<sup>79</sup> In fact, the frequency of CSAM consumption emerged as the strongest predictor of such behavior among the surveyed individuals.<sup>80</sup>

This thesis acknowledges the legitimacy and significance of these surveys. Developed meticulously with contributions from diverse experts such as psychologists, researchers, and legal specialists, and supported by leading institutions like Europol and Interpol, they make an effort to shed light in the correlation of watching CSAM and committing hands-on abuse.<sup>81</sup> However, their findings suggest only a *potential* for CSAM consumption to lead to the commission of crimes, and not concrete evidence that it actually does. This argument will be further examined throughout Chapter 4.1.

### **3.4.3. The Link Between AI CSAM and Hands-on Abuse**

While it is widely believed by the public that individuals who engage with CSAM are more likely to commit contact offenses against minors, driven by their sexualization of children and the reinforcement of such inclinations through prolonged exposure to such material, the evidence in academia supporting this connection in prior studies has been inconsistent.<sup>82</sup> Studies have reported varying rates of contact sexual offenses among CSAM offenders.

Endrass et al. (2009) found that only 1% of their study participants had prior hands-on sexual offenses, and a mere 1% were charged with subsequent hands-on offenses during the 6-year follow-up.<sup>83</sup> They concluded that consuming CSAM alone does not seem to be a significant risk factor for committing hands-on sexual abuse, particularly for those without prior

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<sup>78</sup> Ibid 14-15.

<sup>79</sup> Ibid 14-15.

<sup>80</sup> Ibid 14-15.

<sup>81</sup> ReDirection Survey Report 5-11.

<sup>82</sup> Henshaw, M, Ogloff J R P, Clough, J A, *Looking Beyond the Screen: A Critical Review of the Literature on the Online Child Pornography Offender* (2017) *Sexual Abuse* 29(5), 416-445 p. 16-18. Available at: <https://doi.org/10.1177/1079063215603690>.

<sup>83</sup> Endrass, J, Urbaniok F, et al., *The consumption of Internet child pornography and violent and sex offending* (2009) *BMC Psychiatry* 9(43). Available at: <https://doi.org/10.1186/1471-244x-9-43>

convictions. Conversely, Bourke et al. (2009) observed a major contrast, finding that 85% of Internet offenders admitted to at least one hands-on sexual offense.<sup>84</sup> Bourke's study compared two groups of CSAM offenders: those with a history of solely possessing, receiving, or distributing child abuse images and those with documented histories of hands-on sexual crimes against children.<sup>85</sup>

Wacko et al. (2003) when analyzing data from the 2003 National Juvenile Online Victimization study, revealed that two-thirds of individuals arrested for child sexual abuse possessed sizable collections of CSAM.<sup>86</sup> Seto et al. (2006) explored if being charged with a CSAM offense accurately indicates sexual attraction to minors, measured by phallometric assessment of sexual arousal to children.<sup>87</sup> Their findings suggest that CSAM offending serves as a valid diagnostic marker of sexual attraction to minors, potentially more so than sexually offending against a child.<sup>88</sup> Although sexual attraction to minors does not automatically lead to abuse, the results are nonetheless concerning.

These findings illustrate a lack of consensus and the differing perspectives in research, with no conclusive evidence linking CSAM consumption to hands-on sexual offenses. For the argument that watching CSAM leads to committing crimes to hold weight in terms of criminalization, a causal link between CSAM consumption and offending must be established. Thus, while some of the results are indeed disturbing, they seem to contribute more to ethical discussions than criminal law. This argument is discussed in Chapter 4.1.3.

#### **3.4.4. Indirect Harm**

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<sup>84</sup> Bourke ML, Hernandez AE, *The "Butner Study" Redux: A Report of the Incidence of Hands-on Child Victimization by Child Pornography Offenders* (2009) 24 *Journal of Family Violence* p. 187. Available at: <https://doi-org.proxy.library.uu.nl/10.1007/s10896-008-9219-y>

<sup>85</sup> *Ibid* 185-190.

<sup>86</sup> Wolak J, Mitchell KJ, Finkelhor D, *Internet sex crimes against minors: The response of law enforcement* (2003) University of New Hampshire Scholars Repository for the National Center for Missing & Exploited Children Bulletin. Available at: <https://scholars.unh.edu/ccrc/32/>

<sup>87</sup> Seto MC, Cantor JM, Blanchard R, *Child pornography offenses are a valid diagnostic indicator of pedophilia* (2006) 115 *Journal of abnormal psychology* 3 p. 613-614. Available at: <https://doi.org/10.1037/0021-843X.115.3.610>

<sup>88</sup> *Ibid*.

While AI CSAM does not depict actual children being harmed, it has been supported that the harm to children arises indirectly from their sexual objectification. This argument suggests that the sexual objectification of children, achieved through the eroticization of inequality or a fabricated notion of equality, provides a compelling basis to recognize the harm inflicted on children in abstracto.<sup>89</sup> According to this view, accepting the legality of AI CSAM effectively legitimizes the sexualization of children, thereby normalizing it and embedding these damaging perspectives within society.<sup>90</sup> By normalizing AI CSAM, society risks desensitizing individuals to the exploitation of children, which in turn can contribute to a broader culture that undermines the protection of children from sexual exploitation.

Howitt and Sheldon (2007) conducted a survey that found internet offenders of CSAM are more likely to view children as sexual beings compared to contact offenders.<sup>91</sup> They suggest this could be because contact offenders have had direct sexual experiences with children and may have received feedback indicating the conduct's abusive nature.<sup>92</sup> This feedback from the victims is crucial, as it differentiates between viewing children as objects of sexual desire and recognizing them as individuals with bodily autonomy. In the case of AI CSAM, this distinction is particularly relevant. AI technologies can create fictional characters that resemble children and depict them as initiating or enjoying the abuse.<sup>93</sup> This portrayal can further entrench their sexual objectification, reducing them to objects of desire rather than acknowledging their personhood.

Drenkhahn et al. (2020) suggest that viewing virtual CSAM constitutes a violation of human dignity, as emphasized by international instruments such as article 1 of the Charter of Fundamental Rights of the European Union.<sup>94</sup> They argue that watching CSAM represents an aggression towards children, who are vulnerable to exploitation and require special protection and care, as outlined in Article 24 of the Charter.

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<sup>89</sup> Witting (n 10) 33-34.

<sup>90</sup> Christensen (n 68) 1359-1361.

<sup>91</sup> Howitt D, Sheldon K, *The Role of Cognitive Distortions in Paedophilic Offending: Internet and Contact Offenders Compared* (2007) 13 *Psychology, Crime & Law* p. 482-484.

<sup>92</sup> *Ibid.*

<sup>93</sup> Christensen (n 68) 1357.

<sup>94</sup> Picotti L, *Online Child Pornography Offences – A Brief Overview* in Drenkhahn K et. al. (1st ed) *Kriminologie und Kriminalpolitik im Dienste der Menschenwürde: Festschrift für Frieder Dünkel zum 70. Geburtstag* (2020) Mönchengladbach: Forum Vlg Godesberg p. 216.

Christesen et al. (2021) posit that the ability to generate such material means that anyone can produce highly graphic images and videos, including even scenarios where children appear to be enjoying the abuse, which can falsely create the impression that it is a harmless act.<sup>95</sup> AI technology enables the creation of the most horrific content, involving children as young as infants, without any limitation on what the algorithms can produce. This includes acts of sadomasochism, bestiality, necrophilia and other deeply disturbing scenarios.<sup>96</sup> Simplifying access to CSAM may inadvertently lead individuals to encounter such material, potentially increasing their interest in it.<sup>97</sup>

The truly concerning nature of AI CSAM is not disputed by this thesis. However, while arguments for the criminalization of AI CSAM highlight significant and troubling aspects of this issue, they also contain a degree of uncertainty that cannot be tolerated by criminal law. The following chapter presents several legal issues that arise from the criminalization of AI CSAM.

## **Chapter 4 - Issues of criminalizing AI CSAM, a “victimless crime”**

### **4.1. Criminalization of AI CSAM and the Fundamental Principles of Criminal Law**

#### **4.1.1. Background**

The preceding analysis highlights the severe risks and potential misuse associated with AI-generated CSAM, painting a troubling picture of its implications. However, a critical issue remains: AI CSAM is essentially a victimless crime—it does not directly harm any individual. This lack of direct harm challenges the foundational justification for criminalization.

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<sup>95</sup> Christensen (n 68) 1357.

<sup>96</sup> Christensen (n 68) 1361.

<sup>97</sup> Merdian HL, Wilson N et al., “*So why did you do it?*”: *Explanations Provided by Child Pornography Offenders* (2013) University of Lincoln Journal contribution. Available at: <https://hdl.handle.net/10779/lincoln.24332227.v4>



As discussed in Chapters 2.2. and 2.3, the current legal framework allows Member States to opt out of criminalizing AI CSAM. However, the Commission's 2024 proposal aims to eliminate this opt-out provision, requiring Member States to fully criminalize the possession, access, distribution, dissemination, or transmission of AI CSAM. This proposed shift demands a careful reexamination of the harm principle and the requirement of causation. It raises critical questions about the justification for criminalizing conduct that does not directly harm individuals and tests the traditional boundaries of criminal law.

#### 4.1.2. Harm Principle and Ultima Ratio

To grasp the complexities of criminalizing AI-generated CSAM, it is essential to first understand the rationale behind the criminalization of traditional CSAM. The primary objective of prohibiting material depicting child sexual abuse is to protect the actual victims depicted in the abusive material.<sup>98</sup> Creating CSAM involves the exploitation and abuse of children, as each image or video requires the actual abuse of a child. Those who possess such material contribute to the demand for new images to be produced and circulated, thereby perpetuating the cycle of abuse.<sup>99</sup>

While traditional CSAM may also pose a threat to children in general, who might face an increased risk of being objectified as targets of sexual abuse and exploitation due to the CSAM trade, the primary focus of its prohibition is on safeguarding the individuals directly victimized from the material depicting their abuse.<sup>100</sup> Given that AI CSAM does not involve real children and therefore lacks direct victims, its criminalization under traditional principles like the harm principle becomes difficult to justify.

The harm principle, first introduced by John Stuart Mill, states that the State is justified in criminalizing any conduct that causes harm to others or creates an unacceptable risk of harm

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<sup>98</sup> Bradley GV, *The Role of the Criminal Law in Regulating Pornography* in Masferrer A (eds) *Criminal Law and Morality in the Age of Consent* (2020) 84 Springer International Publishing p. 330. Available at: [http://link.springer.com/10.1007/978-3-030-64163-4\\_14](http://link.springer.com/10.1007/978-3-030-64163-4_14)

<sup>99</sup> Markovich E, *Two Clicks Away. An analysis analysis of the offence of viewing child sexual abuse materials on the Internet* (2017) Master thesis Lund University, p. 80.

<sup>100</sup> *Ibid* 32-33.

to others.<sup>101</sup> In the context of AI CSAM, a compelling argument against its criminalization is that no direct harm is inflicted on real individuals. AI CSAM, though clearly depicting children in ways intended to stimulate sexual arousal, does not involve real children.

This absence of direct harm to real victims challenges the application of the harm principle. Even attempting to justify it as a case of remote harm falls short, as the notion of remote harms holds that conduct not inherently harmful should not attract liability unless accompanied by an intention to encourage or assist a substantive offense.<sup>102</sup> In the case of AI CSAM, individuals who generate and privately use AI CSAM cannot be said with certainty to have such intentions. Consequently, without a solid and direct link to harm or an intention to facilitate actual abuse, the criminalization of AI CSAM becomes difficult to justify under traditional principles of criminal law.

There is an opposing view that AI CSAM can cause harm when utilized for grooming purposes.<sup>103</sup> Contact offenders often leverage CSAM to seduce children into sexual acts, as images of other children being involved in such acts can persuade initially reluctant victims.<sup>104</sup> Given its ability to generate highly convincing scenarios, where victims could even be portrayed as enjoying the abuse, AI CSAM becomes a particularly useful tool for manipulation. Therefore, criminalizing AI CSAM would disrupt the illegal dissemination chain and prevent its use for grooming and other crimes against children.<sup>105</sup>

However, the harm inflicted to actual children through grooming via AI CSAM is still rather indirect.<sup>106</sup> It may be more straightforward to establish harm to children directly caused by the act of grooming itself, irrespective of the methods used to achieve it.<sup>107</sup> Therefore, the proposition to criminalize AI CSAM solely based on its *potential* to facilitate the commission

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<sup>101</sup> Mill, JS, *On Liberty and Other Essays*, edited by J Gray, (1991, orig.1859) Oxford University Press, Oxford.

<sup>102</sup> Baker DJ, *The Right not to be Criminalized: Demarcating Criminal Law's Authority* (2011) Taylor & Francis Group. Available at: <https://ebookcentral.proquest.com/lib/uunl/detail.action?docID=4426232>; Ashworth A, Horder J, *Principles of Criminal Law* (2013) OUP Oxford University Press p. 28-30. Available at: 10.1093/he/9780199672684.001.0001

<sup>103</sup> Jenkins (n 59) 200-201.

<sup>104</sup> Witting (n 10) 44; Meek-Prieto C, (online ed) *Just Age Playing Around? How Second Life Aids and Abets Child Pornography* (2007) 9 North Carolina Journal of Law & Technology, p. 88-111. Available at: <http://scholarship.law.unc.edu/ncjolt/vol9/iss3/6>

<sup>105</sup> Astinova (n 20) 18; Simester AP, von Hirsch A, *Crimes, Harms, and Wrongs: On the Principles of Criminalisation* (2014) Oxford Hart Publishing p. 46-47.

<sup>106</sup> Al-Alosi (n 53) 220.

<sup>107</sup> Grooming is criminalized under Article 6 of the EU Directive 2011/93.

of other crimes may appear excessive and does not align the principle of ultima ratio, prompting a reconsideration of the appropriate legal response.

Building on this last argument, it is imperative to highlight that criminal law should be the last resort (ultima ratio), used only if other less coercive measures fail to adequately address the harmful conduct.<sup>108</sup> The principle of ultima ratio dictates that criminal law should not be used to impose moral standards on society; instead, it should be applied sparingly and only when absolutely necessary.<sup>109</sup> As Jareborg (2005) articulates, “*It is a mere description of the fact that not all interests that are worthy of protection are, or could practicably be, protected by the criminal law*”.<sup>110</sup> This is particularly relevant in cases of AI CSAM, which is targeted despite lacking direct harm, driven by concerns over *potential* future risks that lack concrete evidence.

### 4.1.3. Causation and Mens Rea

In criminal law, the principles of mens rea and causation play pivotal roles in determining legal responsibility. Criminal liability involves not only around linking an individual's actions to resulting harm but also on demonstrating their mental state, or mens rea. This dual requirement aims to ensure that individuals are held accountable only for actions they knowingly undertake and only for results that came directly from their actions. However, the emergence of AI CSAM presents novel challenges to these foundational principles.

Firstly, a key concern in addressing the complexities of prosecuting AI CSAM cases arises in establishing causation amidst the absence of tangible victims. Traditional CSAM laws target the link between actions such as possession, production, and dissemination of CSAM and the harm inflicted by these very actions on the depicted children.<sup>111</sup> AI CSAM disrupts this paradigm, as the absence of real victims undermines the foundation of the causal link.

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<sup>108</sup> Van Kempen H, *Criminal Justice and the Ultima Ratio Principle: Need for Limitation, Exploration and Consideration* in van Kempen H and Jendly M (ed) *Overuse in the Criminal Justice System: On Criminalization, Prosecution and Imprisonment* (2019) Cambridge/Antwerp/Chicago: Intersentia p. 3–22. Available at: <https://ssrn.com/abstract=3499004>.

<sup>109</sup> Jareborg N, *Criminalization as Last Resort (Ultima Ratio)* (2005) 2 Ohio State Journal of Criminal Law p. 521.

<sup>110</sup> Ibid 526.

<sup>111</sup> Stuckenberg CF, *Causation* in Dubber MD, Hörnle T (eds), *The Oxford Handbook of Criminal Law* (2014) Oxford University Press, online ed Oxford Academic. Available at: <https://doi-org.proxy.library.uu.nl/10.1093/oxfordhb/9780199673599.013.0021>

Even though it has been supported that the proliferation of AI CSAM could contribute to promoting a culture of exploitation and normalization of predatory behavior, establishing a direct causal link between consumption of AI CSAM and harm to children presents significant challenges. Chapter 3.4.4. explored how AI CSAM has the potential to indirectly endanger children in abstracto by presenting them as sexual objects rather than human beings, therefore undermining the protection of children from exploitation. However, proving that an individual who watches or generates AI CSAM poses a threat to children's safety is difficult, as these actions involve using algorithms rather than committing actual crimes of sexual abuse against a real person.

Asserting that viewing AI CSAM inherently implies a link to harm or jeopardizes the well-being of minors would be a significant extrapolation, particularly without concrete evidence to support such claims. Chapter 3 examined arguments suggesting that the widespread dissemination of AI CSAM has the *potential* to complicate the work of LEAs, that it could *possibly* expand the market demand for traditional CSAM or that AI CSAM consumption *might* lead to the commission of contact offenses. These arguments do not sufficiently establish a link between AI CSAM and actual harm inflicted upon children; rather, they highlight a possibility of such harm.

Regarding mens rea arguments, in criminal law, liability hinges on two essential components: actus reus, the conduct element, and mens rea, the “guilty mind” or the mental element of the act.<sup>112</sup> Actus rei elements regard the act or omission that contain the physical elements of a crime as required by the law.<sup>113</sup> On the other hand, the mens rea element encompasses the state of mind required by the law in order to convict a particular defendant of a particular crime.<sup>114</sup> Together these elements establish the basis for criminal liability, ensuring that both the behavior and the mindset are considered to ascertain guilt.<sup>115</sup>

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<sup>112</sup> Ibid 2.

<sup>113</sup> Wex Definitions Team, *Legal Encyclopedia* (2022) Legal Information Institute Cornell Law School. Available at: [https://www.law.cornell.edu/wex/actus\\_reus#:~:text=Actus%20reus%20refers%20to%20the,causing%20a%20criminally%20proscribed%20result](https://www.law.cornell.edu/wex/actus_reus#:~:text=Actus%20reus%20refers%20to%20the,causing%20a%20criminally%20proscribed%20result).

<sup>114</sup> Wex Definitions Team, *Legal Encyclopedia* (2022) Legal Information Institute Cornell Law School. Available at: [https://www.law.cornell.edu/wex/mens\\_rea#:~:text=Mens%20rea%20refers%20to%20criminal,defendant%20of%20a%20particular%20crime](https://www.law.cornell.edu/wex/mens_rea#:~:text=Mens%20rea%20refers%20to%20criminal,defendant%20of%20a%20particular%20crime).

<sup>115</sup> Chiao V, *Acts and Actus Reus* in Dubber MD, Hörnle T (eds), *The Oxford Handbook of Criminal Law* (2014) Oxford University Press, online ed Oxford Academic. Available at: <https://doi-org.proxy.library.uu.nl/10.1093/oxfordhb/9780199673599.001.0001>

In the context of AI-generated CSAM, Directive 2011/93, Article 5 requires that offenses involving child pornography must be committed intentionally. Intention, the most culpable form of mens rea, entails acting with the purpose of causing a specific outcome or with the desire to achieve that outcome, *knowing* that the actions are highly likely to lead to it.<sup>116</sup> This means that it is not enough for perpetrators to generate, acquire, distribute or offer AI CSAM (actus reus);<sup>117</sup> they must also intend to do so or at least be aware of the likelihood that their conduct will result in its generation, acquisition, distribution or offer (mens rea). However, establishing this mental state can be particularly challenging.

It can be argued that individuals who engage with AI-generated content may not necessarily be aware that they are interacting with material depicting underage persons. The challenge in these cases lies in justifying criminal liability when the age of the victim cannot be definitively determined, as discussed in Chapter 3.2. The actus reus is present; they engage with AI CSAM. However, mens rea requires awareness that the conduct consists of AI images that depict the sexual abuse of minors. In other words, the perpetrator of AI CSAM needs to be factually aware that the conduct consists of the actus rei elements.

Even when the image is found to have been intended to depict a minor and the age is established, the problem persists because those engaging with this material may not definitively know that the person in the material is under 18, potentially believing they are interacting with legal AI-generated pornographic content. Arguments that suggest individuals should have known the depicted person was a minor are irrelevant to the mens rea requirement. Mens rea is a factual judgment concerning whether the suspect knew or did not know about the nature of their actions, rather than a value judgment on what the individual should have known.<sup>118</sup>

#### **4.1.4. Moralism and Overcriminalization**

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<sup>116</sup> Monaghan N, *Mens rea in Criminal Law Directions* (2022) Oxford University Press p. 59. Available at: <https://doi.org/10.1093/he/9780192855374.001.0001>; Herring J, *Actus Reus: The Conduct Element* in Herring J (ed) *Criminal Law: Text, Cases, and Materials* (2018) Oxford University Press. Available at: <https://doi.org/10.1093/he/9780192855923.003.0002>

<sup>117</sup> These actions are some the punishable conducts mentioned in article 5 of the EU Directive 2011/93.

<sup>118</sup> Smith SF, *Proportional Mens Rea* (2009) 46 American Criminal Law Review p. 135. Available at: [https://scholarship.law.nd.edu/law\\_faculty\\_scholarship/22](https://scholarship.law.nd.edu/law_faculty_scholarship/22)

A serious concern in criminalizing AI CSAM is the risk of using criminal law to enforce moral standards rather than address actual harm. In many European countries, there is a noticeable trend toward the re-moralization of criminal law, particularly concerning sexual offenses against children.<sup>119</sup> While punishing harmful conduct is necessary, there is a renewed tendency to criminalize behavior based on moral judgments rather than tangible harm.<sup>120</sup> For instance, while it is easy to argue that images that depict identifiable children or recognizable parts of their bodies violate the child's personal integrity and should be subject to criminal prosecution, the same cannot be said about images that are entirely fictional. These images, as is the case of AI CSAM, are generally perceived to cause less harm, and as a result, it is believed that they do not warrant the same level of criminal response.<sup>121</sup>

As explained in Chapter 3, the rationale AI CSAM often hinges on the potential for such material to incite further criminal behavior, such as committing contact sexual offenses against children, or fostering a culture where child sexual objectification is normalized. This perspective argues that criminal prosecution is necessary to prevent possible criminogenic effects within the population, prioritizing collective moral concerns over the harm principle.<sup>122</sup> However, criminalizing AI CSAM on the grounds of the protection of collective harms risks slipping into legal moralism, where conduct is punished not for causing harm but for being seen as morally reprehensible.<sup>123</sup> This approach is seen as problematic given that moral preferences change over time and are culturally relative.<sup>124</sup>

Moreover, the tendency to criminalize conduct based on perceived immorality, rather than tangible harm, can lead to a “criminal law of the enemy” (Feindstrafrecht) where individuals are punished because they are perceived as a threat, not because of their actions.<sup>125</sup> This concept

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<sup>119</sup> Caroli P, *Child Protection, Sexuality and Feindstrafrecht: Critical Thoughts on Recent Reforms in Italy and Germany* (September 2022) VerfBlog. Available at: <https://verfassungsblog.de/child-protection-sexuality-and-feindstrafrecht>

<sup>120</sup> Helfer (n 17) 149.

<sup>121</sup> Ibid.

<sup>122</sup> Ibid.

<sup>123</sup> Moore MS, *Legal Moralism Revisited* (2017) 54 San Diego Law Review p. 443. Available at: <https://digital.sandiego.edu/sdlr/vol54/iss2/14>

<sup>124</sup> Schünemann B, *The System of Criminal Wrongs: The Concept of Legal Goods and Victim-Based Jurisprudence as a Bridge between the General and Special Parts of the Criminal Code* (2004) 7 Buffalo Criminal Law Review p. 554. Available at: <https://doi.org/10.1525/nclr.2004.7.2.551>; Ransley J, Prenzler T, *Defining Crime* in Hayes H, Prenzler T (eds), *An Introduction to Crime and Criminology* (2014) Pearson Australia Group p. 23-24.

<sup>125</sup> Krasmann S, *Enemy Penology* in Krasmann S (ed) *Oxford Research Encyclopedia of Criminology and Criminal Justice* (2018) Oxford University Press. Available at: <https://oxfordre.com/criminology/view/10.1093/acrefore/9780190264079.001.0001/acrefore-9780190264079-e-365>

of “future threat” relies on the inherently uncertain knowledge to anticipate forthcoming behavior, using punishment not as a reaction to crime, but to prevent possible future harms.<sup>126</sup> Such an approach risks undermining the harm principle and transforming criminal law into a mechanism for pre-emptive punishment based on subjective judgments of character.

Building on this, the fact that no definitive causal link has been established between the viewing of CSAM and the commission of sexual abuse, suggests that criminalizing entirely fictional images might be more about moral disapproval than protecting from real harm. Thus, justifying punitive measures based on perceived societal threats posed by such content, rather than solely on demonstrable harm to real individuals risks overcriminalization and undermines the fundamental principles of criminal law.<sup>127</sup>

In conclusion, the criminalization of AI CSAM raises profound questions about the application of the harm principle and the requirements of causation and personal liability in criminal law. Without concrete evidence of direct harm to real victims, and given the potential for overcriminalization and legal moralism, the use of criminal sanctions in this context must be carefully scrutinized. Ensuring that criminal law remains a tool of last resort used only when necessary to address tangible harm is crucial to maintaining the integrity and fairness of the legal system.

## 4.2. Right to View and Punishment for Thoughts

Given the legal intricacies surrounding the criminalization of AI CSAM it is important to highlight another key argument against such measures. This argument revolves around the idea that “*just viewing something about someone that does not exist cannot be illegal*”. Again, the fact that AI CSAM is a victimless crime raises concerns regarding potential rights violations that would arise from its criminalization.

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<sup>126</sup> Jakobs, G, *On the theory of enemy criminal law* in Dubber MD (ed), *Foundational texts in modern criminal law* (2014) Oxford Scholarship Online p. 418-421. Available at: <http://www.oup.com/uk/law/foundational-texts>.

<sup>127</sup> Herring J, *Great Debates in Criminal Law* (2020) 2nd edn., London: Red Globe Press, p. 8.; Husak D, *Overcriminalization: The Limits of the Criminal Law* (2007) online edn Oxford Academic p. 159. Available at: <https://doi-org.proxy.library.uu.nl/10.1093/acprof:oso/9780195328714.001.0001>.

Opponents of the criminalization of AI CSAM stress that banning such content infringes on individual rights and freedoms, such as the freedom of expression and the right to privacy, thus it could be seen as arbitrary censorship.<sup>128</sup> Of course, the necessity to safeguard children from harm outweighs the rights to privacy and freedom of expression, but the fact that the content in AI CSAM is entirely fictional complicates this case. When no real children are harmed or even involved, the justification for criminalizing the viewing of such content is tenuous.

Al-Alosi (2018) argues that the fictional nature of such materials raises questions regarding restrictions on freedom of speech and artistic expression, even if the content is overtly explicit.<sup>129</sup> This perspective suggests that imposing censorship and restricting access to fictional media forms violates the right to sexual expression, as well as the right to receive information and ideas without interference, a core element of free expression protected by Article 11 of the EU Charter of Fundamental Rights and Article 10 of the European Convention on Human Rights. Such concerns are rooted in the broader fear that allowing governments to censor particular types of speech might make other forms of expression more susceptible to prohibitions and pave an “easy way” to more restrictive regulations.<sup>130</sup>

Furthermore, discussions surrounding the right to view AI CSAM often draw parallels with virtual scenarios in video games, highlighting the argument that simply viewing non-existent entities should not be deemed illegal. Advocates of this viewpoint frequently refer to the ongoing debate on violent video games, which depict various human rights violations such as murder, torture, and acts of war, yet remain legally available and widely consumed.<sup>131</sup> Despite their graphic content, violent video games are supported by the argument that their depicted violence is entirely fictional, with no real victims. While they may face some disapproval, their continued legality suggests that banning them would lack logical and legal consistency.

Similarly, AI CSAM presents another revolting portrayal, but like video games, it is unreal and fictional. The abuse depicted does not actually occur; it is merely the result of a manipulated algorithm generating fabricated scenarios. Advocates who draw parallels between video games

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<sup>128</sup> Al-Alosi H, *The Criminalisation of Fantasy Material: Law and Sexually Explicit Representations of Fictional Children* (2018) 1st ed. Routledge. Available at: <https://doi-org.proxy.library.uu.nl/10.4324/9780203701829>

<sup>129</sup> Ibid

<sup>130</sup> Sorial S, *Sedition and the Advocacy of Violence: Free Speech and Counter-Terrorism* (2011) 1st ed Routledge, Oxon, p. 52. Available at: <https://doi-org.proxy.library.uu.nl/10.4324/9780203804322>

<sup>131</sup> Eelmaa S, *Sexualization of Children in Deepfakes and Hentai: Examining Reddit User Views* (2021) SocArXiv p. 231. Available at: <https://doi.org/10.3176/tr.2022.2.07>.



and AI CSAM argue that virtual CSAM should potentially be allowed since it causes no harm. Luck (2008) was the first to introduce the “gamer’s dilemma”, arguing that there is a moral inconsistency in how society accepts virtual murder in video games while universally condemning virtual pedophilia, despite both being virtual actions without direct physical harm.<sup>132</sup> He supported that both are fictional representations devoid of real-world victims, yet society accepts one while vehemently condemning the other.<sup>133</sup>

However, if AI CSAM were considered as harmless as violent video games, it would suggest that creating video games where users could virtually abuse children should be acceptable, since there is no actual harm done. While there are reasonable arguments for comparing AI CSAM to violent video games, the two are fundamentally different. As Bartel (2012) argued about the “gamer’s dilemma”, the main difference is that “*virtual paedophilia involves the depiction of sexual acts involving children, it is therefore an instance of child pornography*”.<sup>134</sup> Therefore, such games would not be permissible not due to double standards on morality or because murder is perceived as less harmful than child sexual abuse; rather, their prohibition would be based on the fact that depictions of child sexual abuse in the hypothetical game would qualify as realistic CSAM, as defined by article 2(c)(iv) of the 2011/93 EU Directive.

Lastly, it is important to mention that attempts to regulate or criminalize the viewing of explicit but fictional content can be seen as an unwarranted intrusion into the moral realm of an individual's thoughts.<sup>135</sup> According to a fundamental principle of criminal law, nobody endures punishment for thought, because law requires external conduct.<sup>136</sup> Punishing someone for privately generating and watching AI CSAM can be seen as effectively penalizing them for their thoughts and not their actions, for what is in their mind and not for how they choose to manifest their thoughts into action in the physical world. Proponents argue that criminalizing the viewing of fictional content, even when abhorrent, without evidence of real-world harm, sets a precedent that threatens individual privacy and freedom of thought.

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<sup>132</sup> Luck M, *The Gamer’s Dilemma: An Analysis of the Arguments for the Moral Distinction between Virtual Murder and Virtual Paedophilia* (2009) 11 Ethics and Information Technology p. 31. Available at: <https://doi-org.proxy.library.uu.nl/10.1007/s10676-008-9168-4>

<sup>133</sup> Ibid

<sup>134</sup> Bartel C, *Resolving the Gamer’s Dilemma* (2012) 14 Ethics and Information Technology 11. Available at: <https://doi.org/10.1007/s10676-011-9280-8>

<sup>135</sup> Al-Alosi (n 53) 164-165.

<sup>136</sup> Mendlow GS, *Why Is It Wrong to Punish Thought?* in Blitz MJ and Bublitz JC (eds), *The Law and Ethics of Freedom of Thought, Volume 1* (2021) Springer International Publishing. Available at: [https://link.springer.com/10.1007/978-3-030-84494-3\\_5](https://link.springer.com/10.1007/978-3-030-84494-3_5)

### 4.3. AI CSAM as a “safe outlet”

Advocates of the “safe outlet” argument propose that allowing the depiction of virtual CSAM could potentially serve a beneficial purpose by providing an outlet for individuals with harmful inclinations, thereby reducing the risk of harm to real children.<sup>137</sup> Arkin (2014) suggested that robots designed to resemble and behave like children could “*serve as a treatment for pedophiles the same way that methadone is used for drug addicts*”.<sup>138</sup> This approach hinges on the notion that facilitating access to virtual content might redirect dangerous behaviors away from actual harm, thereby safeguarding children from exploitation.

To begin discussions about allowing AI CSAM as a potential outlet for pedophilic urges, it is essential to first consider the nature of pedophilia. While the public often rushes to label it as merely a heinous sexual perversion, the scientific community has not reached a consensus on its nature.<sup>139</sup> Some researchers believe that pedophilia is a personality disorder, suggesting that individuals with this condition should receive help and therapy rather than being treated as criminals solely based on their disorder.<sup>140</sup> Another perspective classifies pedophilia as a sexual orientation, arguing that pedophiles are born with this predisposition and need to be

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<sup>137</sup> Diamond M, Jozifkova E, Weiss P, *Pornography and Sex Crimes in the Czech Republic* (2011) 40 Archives of Sexual Behavior p. 1037; Levy N, *Virtual Child Pornography: The Eroticization of Inequality* (2002) 4 Ethics and Information Technology p. 321. Available at: <https://doi-org.proxy.library.uu.nl/10.1023/A:1021372601566>; Moen OM, Stern AB, *Pedophilia and Computer-Generated Child Pornography* in D Boonin (ed), *The Palgrave Handbook of Philosophy and Public Policy* (2018) Palgrave MacMillan p. 369; Devlin K, *In Defence of Sex Machines: Why Trying to Ban Sex Robots is Wrong* (2015). Available at: <https://theconversation.com/in-defence-of-sex-machines-why-trying-to-ban-sex-robots-is-wrong-47641>; Cisneros D, *‘Virtual Child’ Pornography on the Internet: A ‘virtual’ victim?* (2001) 1 Duke Law and Technology Review. Available at: <https://heinonline.org/HOL/P?h=hein.journals/dltr1&i=589>.

<sup>138</sup> Strikwerda L, *Legal and Moral Implications of Child Sex Robots* in Danaher J, McArthur N (eds), *Robot Sex: Social and Ethical Implications* (2017) MIT Press p. 133-147. Available at: <https://doi.org/10.7551/mitpress/9780262036689.001.0001>

<sup>139</sup> Behrendt M, *Reflections on Moral Challenges Posed by a Therapeutic Childlike Sexbot* in: Cheok A, Levy D (eds), *Love and Sex with Robots* (2017) Lecture Notes in Computer Science, vol. 10715 Springer p. 98-99. Available at: [https://doi-org.proxy.library.uu.nl/10.1007/978-3-319-76369-9\\_8](https://doi-org.proxy.library.uu.nl/10.1007/978-3-319-76369-9_8)

<sup>140</sup> Bayram G et al., *Health Care Professionals’ View on Pedophilic Disorder: A Qualitative Study* (2021) 38 Sexual and Relationship Therapy p. 684. Available at: <https://doi.org/10.1080/14681994.2021.1900560>; Landgren, V et al., *Pharmacological Treatment for Pedophilic Disorder and Compulsive Sexual Behavior Disorder: A Review*. (2022) *Drugs* 82(6), p. 663–681 (2022). Available at: <https://doi-org.proxy.library.uu.nl/10.1007/s40265-022-01696-1>

destigmatized.<sup>141</sup> According to this view, they should have access to safe and abuse-free outlets for sexual release.<sup>142</sup>

Amidst these differing opinions, many argue that pedophiles consuming AI CSAM could serve as a form of self-control, providing a “healthy release” for those who might otherwise commit offenses in real life.<sup>143</sup> Similar to child-like sex dolls and robots, AI can generate highly realistic but entirely fictional representations.<sup>144</sup> Despite their life-like appearance, no real children are involved or harmed. Hence, if one views pedophilia as a condition or believes individuals are born with this age-centered sexual orientation, it could be argued that supporting them through safe outlets like AI and robots is sensible. This approach aims to provide a harmless way to manage their impulses without endangering children.<sup>145</sup> Therefore, it is believed by some that AI-generated CSAM, like child sex dolls and sex robots, could potentially offer a safe outlet for alleviating sexual tension without committing child sexual abuse.

However, it is important to recognize that there is currently no empirical evidence supporting the effectiveness of such tools and outlets for individuals with pedophilia.<sup>146</sup> Just as it is challenging to establish a causal link between watching AI CSAM and harming children, it is equally difficult to demonstrate that AI CSAM could serve as a safe outlet for pedophiles' urges or act as a prevention mechanism to deter them from hands-on abuse. The potential effects of allowing individuals with pedophilic tendencies to view AI CSAM remain uncertain.

Critics of the safe outlet argument express concerns regarding the utilization of child-like sex robots, sex dolls, and similarly, AI-generated CSAM.<sup>147</sup> Maras and Shapiro (2017) assert that the consumption of CSAM, both real and virtual, does not deter pedophiles from future

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<sup>141</sup> Seto MC, *Is Pedophilia a Sexual Orientation?* (2012) 41 Archives of Sexual Behavior p. 231–236 (2012). Available at: <https://doi-org.proxy.library.uu.nl/10.1007/s10508-011-9882-6>; Fafejta M, *Coming out of People with Pedophilic Orientation* (2021) 33 International Journal of Sexual Health p. 312. Available. At: <https://doi.org/10.1080/19317611.2021.1913687>

<sup>142</sup> Lehmann RJB et al, *Public Stigmatizing Reactions Toward Nonoffending Pedophilic Individuals Seeking to Relieve Sexual Arousal* (2023) 1 The Journal of Sex Research 11 p. . Available at: <https://doi.org/10.1080/00224499.2023.2198512>.

<sup>143</sup> Levy (137) 321.

<sup>144</sup> Strikwerda (n 138) 133-135.

<sup>145</sup> Danaher J, *Regulating Child Sex Robots: Restriction or Experimentation?* (2019) 27 Medical Law Review p. 569. Available at: <https://doi.org/10.1093/medlaw/fwz002>

<sup>146</sup> Ibid 570-571.

<sup>147</sup> Danaher J *Robotic Rape and Robotic Child Sexual Abuse: Should They be Criminalised?* (2017) Criminal Law and Philosophy 11 p. 71-95; Strikwerda (n 138) 133-147.

offending.<sup>148</sup> Instead, they suggest that it is considered a progressive addiction that can serve as a gateway to child sexual abuse.<sup>149</sup> Sullivan and Beech (2004) elaborate on this point, suggesting that engaging in activities such as masturbating to CSAM increases the risk of committing sexual offenses against children.<sup>150</sup> The action of masturbating and experiencing an orgasm, therefore receiving a reward for the act, ultimately shapes and reinforces their behavior.<sup>151</sup> This way CSAM users may develop a link between masturbation and thoughts of abuse, forming muscle memory that causes their bodies to instinctively recall and react to related stimuli.<sup>152</sup>

To summarize, although some may propose the use of AI CSAM as a prevention tool, its effectiveness in reducing or preventing contact offenses by pedophiles remains uncertain. There is no definitive evidence showing that AI CSAM leads to the commission of contact offenses, nor is it established that its availability ensures no such offenses occur. Consequently, this uncertainty complicates efforts to view AI CSAM as a viable solution for addressing the issue of preventing actual harm to children.

## **Chapter 5 –AI CSAM as the Schrödinger’s crime: exploring the solutions**

### **5.1. Introduction**

As discussed in Chapter 2.3.3., the Commission’s 2024 proposal for a revised Directive mandates that Member States fully criminalize AI CSAM without any discretion to opt out. This suggests a potential shift from the current regime of optional criminalization to one of full criminalization. The remainder of this chapter will examine the benefits and drawbacks of both of these options, building on the arguments presented throughout the thesis. Finally, it will

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<sup>148</sup> Maras MH, Shapiro LR, *Child sex dolls and robots: More than just an uncanny valley* (2017) *Journal of Internet Law* 21(5) p. 7.

<sup>149</sup> *Ibid* 7.

<sup>150</sup> Sullivan J, Beech AR, *Assessing Internet sex offenders* in Calder MC (ed), *Child sexual abuse and the Internet: tackling the new frontier* (2004) Lyme Regis: Russell House p. 69-83.

<sup>151</sup> *Ibid*.

<sup>152</sup> *Ibid*.

evaluate these two approaches and propose which one might be the optimal solution for the present circumstances.

## **5.2. The Solution of and EU-wide harmonization of the Criminalisation of AI CSAM**

The Commission's 2024 proposal, which mandates the full criminalisation of realistic CSAM, seems to set the harmonization of criminal laws regarding the protection of children as the highest priority above all other considerations. The discretion of Member States to decide whether to criminalize realistic CSAM can lead to inconsistent responses to online child sexual abuse and exploitation across the EU. Such variability could open the door to “forum shopping”, where offenders might seek jurisdictions with more lenient laws to evade stricter penalties.<sup>153</sup> Given the transnational nature of online offenses, a harmonized legal framework along with clear jurisdiction rules, is crucial to avoid such phenomena.

Harmonization of criminal laws falls within the EU's competence under article 83 of the Treaty on the Functioning of the European Union (TFEU). As stated by the Commission in Recital 12 of the 2024 proposal regarding the criminalization of pedophilic manuals, “*The lack of harmonization creates uneven levels of protection across the EU*”. By mandating the full criminalization of AI CSAM, the directive aims to create a unified legal stance across the EU, and mitigate the risks associated with virtual CSAM.

Additionally, the criminalization of AI CSAM aims to pre-actively address the potential risks that are associated with AI CSAM, as explored in Chapter 3. Despite AI CSAM not currently being the predominant issue within CSAM, as AI technology is still in its early stages, it is nevertheless a growing concern.<sup>154</sup> One advantage of criminalization is its ability to control a situation that could rapidly escalate and possibly harm children's rights, as criminalization

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<sup>153</sup> Luchtman M, *Choice of forum and the prosecution of cross-border crime in the European Union – What role for the legality principle?* in Luchtman M (ed.), *Choice of forum in cooperation against EU financial crime – Freedom, security and justice and the protection of specific EU-interests*, (2013) The Hague: Eleven p. 3 – 61.

<sup>154</sup> IWF 2023 Report p. 7.

creates a strong deterrent effect, discouraging individuals from engaging in such activities due to fear of the consequences.<sup>155</sup>

Furthermore, as stated before in this thesis, the primary challenge in criminalizing AI CSAM lies in its unique nature: it does not involve real children, making it difficult to establish a concrete link to actual harm. However, this link, while necessary for its criminalisation, is inherently challenging to determine definitively. Surveys primarily rely on self-reporting, which limits the ability to establish a concrete connection between viewing AI CSAM and subsequent child abuse or attempted abuse. As a result, proving this link beyond reasonable doubt is exceptionally difficult. This means that children might run all the risks associated with AI CSAM, because current scientific understanding lacks definitive methods to establish whether AI CSAM consumption directly results in tangible harm. Therefore, AI CSAM will remain legal not because it is safe, but because we cannot provide tangible proof that it is not.

Moreover, while the potential risks of non-criminalizing AI CSAM remain uncertain, they present a potential threat that cannot be ignored. The safety, dignity, and sexual integrity of children are values too important to be compromised. Non-criminalization of AI CSAM has the potential to create an unsafe environment for children both online and offline, for reasons that have been analyzed in Chapter 3. By taking a firm stance against AI CSAM, the solution of full criminalization prioritizes addressing these risks and fortifying defenses against technological changes that may compromise children's safety.

### **5.3. The Solution of Non-Criminalisation and Optional Criminalisation**

Another option is for realistic CSAM to either remain under the current regime of optional criminalization or be completely removed from the definition of CSAM. Although the latter scenario has not been discussed within the EU, it is considered here to ensure a comprehensive coverage of the potential solutions. The flexibility of the 2011/93 Directive regarding the opt-out discretion contrasts with the full harmonization of the criminalization of AI CSAM, which

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<sup>155</sup> Robinson PH, Darley JM, *The Role of Deterrence in the Formulation of Criminal Law Rules: At Its Worst When Doing Its Best* in Brooks T (ed) *Deterrence* (2014) Routledge p. 54-58. Available at: <https://doi-org.proxy.library.uu.nl/10.4324/9781315258089>

inherently excludes any possibility of optional criminalization, and is why the option of maintaining the current regime was not included in the previous chapter's discussion. For brevity, this chapter will refer to both these scenarios as “the option of non-criminalization”, including both non-criminalisation or optional criminalization.

Throughout this thesis, many valid concerns have been presented regarding the criminalization of AI-generated CSAM. Perhaps the most prominent argument is that AI CSAM causes no direct harm to any real individual, thereby its criminalization would be breaching the harm principle which is a fundamental principle of criminal law. Moreover, the criminalization of fully AI-generated CSAM challenges many other principles like the ultima ratio, mens rea and the causal link principle. It has also been accused of being an attempt to criminalize thought rather than action and a threat to freedom of expression.

Both the EU and its Member States are equally obligated to establish substantive grounds for resorting to the harshest form of social control, adhering to the ultima ratio principle.<sup>156</sup> In a democratic society, criminal punishment should be based on a concrete object of protection that justifies such measures.<sup>157</sup> The Commission's 2024 proposal justifies the full criminalization of AI CSAM positing a causal link between its consumption and hands-on abuse of children, yet fails to substantiate this claim with scientific evidence. The reliance on the ReDirection Survey as the primary justification lacks scientific rigor, diminishing its credibility as the sole basis for criminalization.

Furthermore, article 4(2) TEU and article 67(1) TFEU mandate that the EU respects the national identities, legal systems, and traditions of its Member States. Therefore, any endeavor to harmonize criminal laws at the European level cannot disregard that Member States must implement and enforce these rules, adhering to their constitutional constraints.<sup>158</sup> Consequently, requiring the criminalization of conduct that violates fundamental principles of criminal law, enshrined in many national constitutions, poses significant transposition challenges.

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<sup>156</sup> Buisman SS, *The Future of EU Substantive Criminal Law: Towards a Uniform Set of Criminalisation Principles at the EU Level* (2022) 30 *European Journal of Crime, Criminal Law and Criminal Justice* p. 173. Available at: [https://brill.com/view/journals/eccl/30/2/article-p161\\_004.xml](https://brill.com/view/journals/eccl/30/2/article-p161_004.xml)

<sup>157</sup> Kaifa-Gbandi M, *The Importance of Core Principles of Substantive Criminal Law for a European Criminal Policy Respecting Fundamental Rights and the Rule of Law* (2011) 1 *European Criminal Law Review* p. 17. Available at: <https://heinonline.org/HOL/P?h=hein.journals/euclr1&i=7>.

<sup>158</sup> *Ibid* 14.

Constitutional discussions on criminalization recognize that criminal punishment infringes upon liberty rights.<sup>159</sup> Hence, transposing into national law provisions criminalizing a conduct that has not been proven to cause any harm could lead to legal and constitutional conflicts within Member States, where criminalizing such conduct may be deemed unconstitutional. This could result in disparate interpretations and implementations of the Directive, potentially undermining its intended harmonization objectives. In other words, Member States will face the dilemma of either adhering strictly to the revised Directive and risking constitutional challenges, or reconciling constitutional principles with the revised Directive's requirements, which may prove untenable given its perceived violations of core legal principles. Without a genuine possibility for a comprehensive transposition, implementing criminalization within a given Member State will inevitably contradict the rule of law and therefore lack legitimacy.<sup>160</sup>

Aside from this, non-criminalization of AI CSAM maintains the integrity and full adherence of criminal law without the risk of descending into legal moralism or the criminal law of the enemy, driven by uncertainty about potential harms. Advocates of full criminalization refer to concerns about *potential* harm to children caused by offenders engaging with AI CSAM or utilizing it for grooming, the *possible* hyperrealistic-indistinguishable from real images-appearance of AI-generated material, *potential* complications for law enforcement agencies, and *broader* concerns about the objectification of children. However, none of these risks have been substantiated by conclusive empirical research. The uncertainty surrounding which, if any, of these risks will materialize underscores that addressing these issues with criminal law may not be a viable solution.

As follows, the solution of not criminalizing AI CSAM until a definitive link to actual harm is established would mean adhering to fundamental substantive principles of criminal law, which must be upheld in every liberal, democratically legitimized exercise of authority when defining crimes and punishment.<sup>161</sup>

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<sup>159</sup> Hörnle T, *Theories of Criminalization* in Dubber MD, Hörnle T (eds), *The Oxford Handbook of Criminal Law* (2014) Oxford University Press, online ed Oxford Academic. Available at: <https://doi-org.proxy.library.uu.nl/10.1093/oxfordhb/9780199673599.001.0001>

<sup>160</sup> Kaiafa-Gbandi (n 157) 16.

<sup>161</sup> Kaiafa-Gbandi (n 157) 11.



## 5.4. Evaluation

From the preceding analysis, it seems that full criminalization of AI CSAM cannot, yet, be justified. The advantages of its criminalisation are compelling from a moral standpoint and raise significant concerns about the potential threats to children's safety. However, merely considering a legal interest as socially significant is insufficient grounds for its protection under criminal law.<sup>162</sup>

Disregarding such fundamental principles of criminal law, such as the harm principle and the ultima ratio, cannot be tolerated without potentially creating larger issues. Criminalizing conduct that does not cause any harm to any individual raises questions about the extent to which legal boundaries can be stretched and what other conduct might be targeted under similar justifications, that seem to be more about morals.

As a result, it may be a more balanced solution for AI CSAM to remain under the current regime of optional criminalization. In the meantime, all relevant agencies have to collaborate to address the issue comprehensively. Firstly, extensive research should be conducted by both EU and national agencies to gain a deeper understanding of AI CSAM's impact. This research must be interdisciplinary, involving experts from psychology and psychiatry, legal experts and law enforcement agents. Secondly, technological advancements are crucial in distinguishing realistic AI-generated content from real content. Investment in innovative technologies and methodologies can aid in the accurate identification and categorization of AI CSAM, ensuring that enforcement efforts are appropriately targeted. Moreover, leveraging existing data on CSAM and hands-on abuse, and incorporating new insights from evolving technologies that enhance online tracking and detection, could provide a better understanding of the circumstances of AI CSAM consumption. Finally, if research concludes that AI CSAM is linked to tangible harm, it would justify a criminalization response. Conversely, if no causal link is found, or if it is determined that research cannot provide a definitive answer due to the nature of the issue, it would support the implementation of less severe methods.

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<sup>162</sup> Puig SM, *Legal Goods Protected by the Law and Legal Goods Protected by the Criminal Law as Limits to the State's Power to Criminalize Conduct* (2008) 11 *New Criminal Law Review* p. 409. Available at: <https://doi-org.proxy.library.uu.nl/10.1525/nclr.2008.11.3.409>

Hopefully, with sufficient attention to this matter from the scientific community and with the aid of ongoing technological progress, future advancements will be able to provide a more definitive basis for a well-founded legal framework addressing AI CSAM. Depending on the results of future research, such framework might not involve criminal law, but could, for instance, include regulations governing the use of AI technologies, requirements for companies offering AI generation services to prohibit prompts involving CSAM, restrictions on the types of data and images that AI systems can be trained on, and mandates that AI image generation be accessible only through verified accounts. This thesis does not delve into the feasibility of such regulatory choices, as it is beyond its focus.

## **5.5. Schrödinger's Crime**

Much like Schrödinger's cat, AI CSAM exists in a legal twilight zone—it is both considered a crime and it is not. It is simultaneously criminalized in the 2011/93 EU Directive because of its potential harm, yet open to Member States opting out due to its very nature as a victimless crime. Many express concerns about children's safety if AI CSAM is not criminalized while at the same time, others voice concerns about the safety of the legal system if laws disregard fundamental principles established to prevent legislative arbitrariness.

This duality leaves it in a state of uncertainty, much like the famous cat that is both alive and dead until observed. Just as opening the box in Schrödinger's thought experiment reveals the cat's true state, unlocking the mysteries of Schrödinger's crime would unveil whether AI CSAM indeed causes actual harm to real children, thus necessitating criminal intervention. However, resolving this ambiguity demands extensive interdisciplinary research and comprehensive legislation rooted in criminal law principles. Consequently, until this metaphorical box is opened, the debate surrounding the harm caused by AI CSAM will persist as an enigmatic and contentious issue, awaiting a definitive solution.

## Chapter 6 - Conclusion

This thesis has endeavored to present the current and proposed legal framework on AI CSAM as well as to highlight some of the issues and unanswered questions surrounding its criminalization. It has delved into the potential consequences of both non-criminalization and criminalization of fully AI-generated CSAM, emphasizing the need to maintain balance between safeguarding children and preserving legal principles in addressing what is deemed to be a “victimless crime”. Given the emotionally charged nature of this topic, this thesis aims to adopt a strictly legal standpoint, steering clear of moral debates.

The analysis of international and European legal frameworks concerning CSAM and AI CSAM revealed a nuanced approach to addressing emerging challenges in child protection. While definitions of CSAM in these frameworks encompass realistic CSAM, the discretion afforded to Member States to be able to opt out from its criminalization underscores the complexity of regulating content that does not involve tangible victims. However, the self-proclaimed future-proof proposal for a revised Directive aims to eliminate this flexibility as an attempt to ensure uniform criminalization across the EU. The reasoning behind the shift to full criminalization lacks robust scientific evidence establishing a causal link between AI CSAM and actual child abuse, necessitating further research to substantiate such claims.

The potential risks associated with AI CSAM stem from advances in AI technology, which enable the creation of increasingly realistic and deceptive content, nearly indistinguishable from authentic materials. These technological complexities, compounded by existing hurdles in detection and prosecution, add layers of difficulty for LEAs. Moreover, there is increasing concern about AI CSAM's role in motivating hands-on abuse and facilitating grooming, highlighting its potential to contribute to criminal behavior and harm vulnerable individuals. The widespread dissemination of AI CSAM could exacerbate the issue by widening the market for illicit material, thereby normalizing exploitation and creating a culture where children are perceived as sexual objects.

The dangers are indeed very serious but the criminalization of AI CSAM presents intricate legal issues, particularly concerning the application of traditional principles of criminal law. The absence of direct harm to real victims challenges the justification for criminalization under

the harm principle, while establishing causation and mens rea becomes difficult in the absence of real victims. The risk of overcriminalization and moralism further complicates the issue, raising concerns about individual rights and freedoms. Additionally, while some advocate for AI CSAM as a potential tool that could be used for the prevention of child sexual abuse, others caution against normalizing its consumption due to the potential risks it poses to children and its ineffectiveness in preventing future offenses.

Despite societal revulsion towards AI CSAM, the lack of tangible evidence to definitively prove its harm cannot be overlooked. While the EU's priority towards comprehensive child protection is important, potential conflicts with Member States' constitutional principles pose formidable obstacles. Sacrificing legal integrity for child protection, without solid scientific proof of harm in the first place, appears problematic. Therefore, this thesis leans towards the view that until concrete proof of harm is substantiated, opting for optional criminalization would maintain a balanced approach, safeguarding legal integrity while addressing concerns for child protection.

Currently, the dilemma surrounding AI CSAM makes it a “Schrödinger's crime”, a legal enigma where the existence of harm remains uncertain until observed. The divided stance within the scientific community highlights the necessity for additional research. Likewise, concerns about potential breaches of fundamental criminal law principles underscore the importance of enacting balanced legislation to effectively address AI CSAM while maintaining legal integrity. Opening the metaphorical box, akin to Schrödinger's cat, is imperative to shed light on the true nature of AI CSAM and devise appropriate solutions grounded in evidence and legality.

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