

CITATIONS:**Bluebook 22nd ed.**

W. Clayton Wilder, Virtual Vice: The Urgent Need to Reassess Ashcroft v. Free Speech Coalition in the Age of AI-Generated Child Pornography, 48 *LAW & PSYCHOL. REV.* 169 (2023-2024).

ALWD 7th ed.

W. Clayton Wilder, Virtual Vice: The Urgent Need to Reassess Ashcroft v. Free Speech Coalition in the Age of AI-Generated Child Pornography, 48 *Law & Psychol. Rev.* 169 (2023-2024).

APA 7th ed.

Wilder, W. Clayton. (2023-2024). Virtual Vice: The Urgent Need to Reassess Ashcroft v. Free Speech Coalition in the Age of AI-Generated Child Pornography. *Law & Psychology Review*, 48, 169-196.

Chicago 18th ed.

Wilder, W. Clayton. 2023-2024. "Virtual Vice: The Urgent Need to Reassess Ashcroft v. Free Speech Coalition in the Age of AI-Generated Child Pornography." *Law & Psychology Review* 48: 169-196. HeinOnline.

McGill Guide 10th ed.

W. Clayton Wilder, "Virtual Vice: The Urgent Need to Reassess Ashcroft v. Free Speech Coalition in the Age of AI-Generated Child Pornography" (2023-2024) 48 *Law & Psychol Rev* 169.

AGLC 4th ed.

W. Clayton Wilder, 'Virtual Vice: The Urgent Need to Reassess Ashcroft v. Free Speech Coalition in the Age of AI-Generated Child Pornography' (2023-2024) 48 *Law & Psychology Review* 169

MLA 9th ed.

Wilder, W. Clayton. "Virtual Vice: The Urgent Need to Reassess Ashcroft v. Free Speech Coalition in the Age of AI-Generated Child Pornography." *Law & Psychology Review*, 48, 2023-2024, pp. 169-196. HeinOnline.

OSCOLA 5th ed.

W. Clayton Wilder, 'Virtual Vice: The Urgent Need to Reassess Ashcroft v. Free Speech Coalition in the Age of AI-Generated Child Pornography' (2023-2024) 48 *Law & Psychol Rev* 169 Export To:

Date Downloaded: Thu Jun 18 15:34:04 2026

Source: <https://access.heinonline.com/HOL/Page?handle=hein.journals/psyr48&id=181>

Terms, Conditions & Use of PDF Document:

Please note, citations are provided as a general guideline. Users should consult their preferred citation format's style manual for proper formatting. Your use of this HeinOnline PDF indicates your acceptance of William S. Hein & Co., Inc. and HeinOnline's Terms & Conditions: <https://help.heinonline.com/kb/terms-conditions/>. The search text of this PDF is generated from uncorrected OCR text. To obtain permission to use this article beyond the scope of your license, please use: <https://www.copyright.com>.

Please note: citations are provided as a general guideline. Users should consult their preferred citation format's style manual for proper citation formatting.

VIRTUAL VICE: THE URGENT NEED TO REASSESS *ASHCROFT V. FREE SPEECH COALITION* IN THE AGE OF AI-GENERATED CHILD PORNOGRAPHY

*W. Clayton Wilder**

“We are engaged in a race against time to protect the children of our country from the dangers of [artificial intelligence]. Indeed, the proverbial walls of the city have already been breached. Now is the time to act.”—Attorneys General of fifty-four U.S. States and Territories¹

*J.D., University of Alabama School of Law, 2025; B.A., Mississippi State University, 2022.

1. Letter from Nat’l Ass’n of Att’ys Gen. on A.I. and the Exploitation of Child. to Cong. Leaders (Sep. 5, 2023) (on file with author) [hereinafter *Attorneys General Letter*].

TABLE OF CONTENTS

I. THE DISTURBING REALITY OF AI-GENERATED PORN.....	171
II. <i>ASHCROFT</i> AND ITS LEGAL PRECEDENT: A VIRTUAL VICTIM IS NO VICTIM AT ALL.....	173
A. <i>Child Pornography Prevention Act of 1996 and Ashcroft's Response</i>	173
B. <i>Direct Harm</i>	175
i. <i>Ferber and Osborne: Direct Harm from Real Child Pornography</i>	175
ii. <i>Ashcroft: Direct Harm from Virtual Child Pornography</i>	176
C. <i>Indirect Harms</i>	177
i. <i>Ferber and Osborne: Indirect Harm from Real Child Pornography</i>	177
ii. <i>Ashcroft: Indirect Harm from Virtual Child Pornography</i>	178
III. WHY CURRENT LEGAL RESTRICTIONS ON VIRTUAL CHILD PORNOGRAPHY FAIL TO ELIMINATE HARMS INTRINSIC TO CHILD SEXUAL ABUSE.....	182
A. <i>The Obscenity Doctrine</i>	182
B. <i>United States v. Williams: Pandering Limitation</i>	184
IV. FROM 2002 TO 2024: HOW AI'S EVOLUTION CHALLENGES THE <i>ASHCROFT</i> COURT'S RATIONALE.....	184
A. <i>Direct Harm</i>	185
B. <i>Indirect Harm</i>	190
i. <i>Economic Motive Theory</i>	190
ii. <i>Seduction Theory</i>	192
iii. <i>Whetting the Appetites of Pedophiles</i>	193
V. THE PROVERBIAL WALLS HAVE BEEN BREACHED: NOW IS THE TIME TO ACT.....	195

I. THE DISTURBING REALITY OF AI-GENERATED PORN

Meet Claudia, a nineteen-year-old woman with long dark hair.² Claudia recently joined millions of creators who sell their nude photographs on online platforms.³ As one might expect, Claudia's flawless appearance in her revealing photos, with captions inviting viewers to interact with her account, attracted many users⁴—one user commenting, “[h]oly crap you are beautiful,”⁵ and another user mentioning his six-figure salary before asking her to go on a date.⁶ After hundreds of other users similarly praised Claudia, one user, experienced in artificial intelligence (AI) image models, finally warned the others that he suspected Claudia was an AI creation.⁷ This user was correct. Two computer science students created Claudia to see if they could fool unsuspecting people.⁸ The students used Stable Diffusion, an AI-image generator that creates a completely new image by analyzing the patterns of real images.⁹ The students' simple test was successful, making around \$100 before Claudia was exposed.¹⁰

Now, imagine that Claudia is not a nineteen-year-old woman. Instead, Claudia is a twelve-year-old girl. The creator intends to sell Claudia's AI-generated nude images using her child-like persona, even openly stating her age and AI origin. The Creator uses language that mimics a pre-teen's vocabulary and speech patterns to make the account more appealing. The creator plans to charge a high price since he is using Citivia, an AI-generating tool described as “‘Stable Diffusion models for pervs’ that can help generate ‘uber realistic porn.’”¹¹ The creator's only worry is

2. Jordan Hart, *Meet ‘Claudia,’ the 19-Year-Old Selling Nudes Online That’s Actually an AI Creation*, BUS. INSIDER (Apr. 12, 2023, 2:43 PM), <https://www.businessinsider.com/ai-generated-nude-photos-woman-selling-online-2023-4>.

3. Anne Marie Tomchak, *Megan Barton Hanson Apparently Makes Nearly £800,000 a Month Selling Her Content on OnlyFans, but Is It Worth It?*, GLAMOUR (Nov. 16, 2020), <https://www.glamourmagazine.co.uk/article/how-does-onlyfans-work>.

4. Hart, *supra* note 2.

5. Drew Harwell, *‘Claudia’ Offers Nude Photos for Pay. Experts Say She’s an AI Fake.*, WASH. POST (Apr. 11, 2023, 6:00 AM), <https://www.washingtonpost.com/technology/2023/04/11/ai-imag-ing-porn-fakes/>.

6. Stacy Liberatore, *ChatFISHED: Lonely Men on Reddit are Tricked into Paying for Nude Images of a Busty AI-Generated Woman in Sexy School Uniform Named ‘Claudia.’*, DAILY MAIL (Apr. 12, 2023, 5:57 PM), <https://www.dailymail.co.uk/sciencetech/article-11966421/Lonely-men-Reddit-tricked-paying-nude-images-busty-AI-generated-woman.html>.

7. *Id.*

8. Hart, *supra* note 2.

9. Harwell, *supra* note 5.

10. Hart, *supra* note 2.

11. Harwell, *supra* note 5.

that the market is already saturated since he is just one of more than 77,000 downloaders in the past three months.¹²

The average layperson would likely conclude that the creator should be more worried about his conduct's legality rather than his business plan's success. This is an intuitive thought because both state and federal lawmakers have criminalized the production, possession, and distribution of child pornography, as it is not protected by the First Amendment.¹³ However, the creator's actions appear to be completely legal on their face. The creator is taking advantage of a "gray area in [United States] law"¹⁴ since the simulated content does not involve real children.¹⁵

In light of this gray area and AI's ever-increasing accessibility and sophistication, this note argues that the Supreme Court should revisit its two-decade-old holding in *Ashcroft v. Free Speech Coalition* that state and federal governments do not have a compelling interest in proscribing AI-generated child pornography, or otherwise known as virtual child pornography (VCP). This note's contribution is to connect the link between VCP and the sexual abuse of children, which will provide the compelling interest required to proscribe VCP.¹⁶ Part II addresses the foundational precedent limiting state and federal legislators from proscribing child pornography, specifically contrasting the Supreme Court's rationale when considering real child pornography (RCP) versus VCP. Part III argues current legal limitations are insufficient to eliminate VCP's harms. Finally, Part IV illustrates why the harms identified by the Supreme Court are now intrinsically related to child sexual abuse in the new AI-image generating era.

12. *Id.*

13. *New York v. Ferber*, 458 U.S. 747, 758 (1982).

14. Nikolas Lanum, *AI Now Being Used to Generate Child Pornography, Blackmail Teenagers: Digital Safety Expert*, FOX NEWS (June 29, 2023, 2:00 AM), <https://www.foxnews.com/media/ai-used-generate-child-pornography-blackmail-teenagers-digital-safety-expert>.

15. *See Ashcroft v. Free Speech Coal.*, 535 U.S. 234, 241 (2002).

16. *See generally* BRIAN GOLDBLATT, VIRTUAL CHILD PORNOGRAPHY: THE CHILDREN AREN'T REAL, BUT THE DANGERS ARE; WHY THE ASHCROFT COURT GOT IT WRONG 45 (2012) (arguing overturning *Ashcroft* is the only way to close up the child pornography market); Robert M. Sieg, *Attempted Possession of Child Pornography—A Proposed Approach for Criminalizing Possession of Child Pornographic Images of Unknown Origin*, 36 U. TOL. L. REV. 263 (2005) (proposing a statutory tool for prosecuting VCP in an attempt to circumvent *Ashcroft*); Benjamin A. Mains, *Virtual Child Pornography, Pandering, and the First Amendment: How Developments in Technology and Shifting First Amendment Jurisprudence Have Affected the Criminalization of Child Pornography*, 37 HASTINGS CONST. L. Q. 809 (2010) (arguing the PROTECT Act did not close the loophole left open by *Ashcroft*).

II. *ASHCROFT* AND ITS LEGAL PRECEDENT: A VIRTUAL VICTIM IS NO VICTIM AT ALL

A. *Child Pornography Prevention Act of 1996 and Ashcroft's Response*

The First Amendment explicitly states that “Congress shall make no law . . . abridging the freedom of speech.”¹⁷ However, as America’s free speech jurisprudence has evolved, the Supreme Court has made it clear that the First Amendment’s protections are not absolute. The Court has established categories where one’s right to expression must, at times, yield to significant societal interests.¹⁸ One of these unprotected speech categories is RCP, established in *New York v. Ferber*.¹⁹ In 1982, the *Ferber* Court held that a state has a sufficiently compelling interest in proscribing the distribution of RCP.²⁰ Eight years later, in *Osborne v. Ohio*, the Court expanded its ruling in *Ferber*, finding that a state’s interest in proscribing the possession of RCP outweighed any individual’s privacy interest.²¹

In 1996, Congress sought to expand child pornography legislation to close a loophole created by emerging technology and, in effect, attempt to curtail the rapidly expanding child pornography market.²² The legal loophole was a new image editing process called “morphing.”²³ At the time, morphing referred to a technique that created a new distinct image by combining multiple images.²⁴ The creator could also manipulate the combined image by removing hair, shrinking body parts, and adjusting skin tone.²⁵ Not only was the computer software needed to produce the morphed images readily available at the time, but the final image was nearly

17. U.S. CONST. amend. I.

18. See, e.g., *Miller v. California*, 413 U.S. 15, 36 (1973) (proscribing obscenity); *Brandenburg v. Ohio*, 395 U.S. 444, 447–48 (1969) (proscribing incitement); *New York Times Co. v. Sullivan*, 376 U.S. 254, 279–80 (1964) (proscribing defamatory statements where the speaker acted with actual malice); *Virginia v. Black*, 538 U.S. 343, 359 (2003) (proscribing true threats).

19. 458 U.S. 747, 765 (1982).

20. *Id.* at 756.

21. *Osborne v. Ohio*, 495 U.S. 103, 111 (1990).

22. See S. REP. NO. 104-358, at 12 (1996) (noting, at the time, the illegal pornography market was the third biggest organized crime market, making around eight to ten billion dollars per year); see also *A Bill to Amend Certain Provisions of Law Relating to Child Pornography, and for Other Purposes: Hearing on S. 1237 Before the S. Comm. on the Judiciary*, 104th Cong. 17 (1996) [hereinafter *CPPA Hearing*] (statement of Kevin V. Di Gregory, Deputy Assistant Att’y Gen., Crim. Div., U.S. Dep’t of Just.) (“Soon it will not be necessary to actually molest children to produce child pornography. . . . All that will be necessary will be an inexpensive computer, readily available software, and a photograph of a neighbor’s child shot while the child walked to school or waited for the bus.”).

23. S. REP. NO. 104-358, at 28.

24. Wendy L. Pursel, *Computer-Generated Child Pornography: A Legal Alternative?*, 22 SEATTLE U. L. REV. 643, 644 n.1 (1998).

25. *CPPA Hearing*, *supra* note 22, at 87 (statement of Bruce A. Taylor, President and Chief Couns., Nat’l L. Ctr. for Child. and Families).

indistinguishable from actual photographs of children.²⁶ However, unlike RCP, the morphed images fell outside the scope of federal law.²⁷ In response, Congress passed the Child Pornography Prevention Act of 1996 (CPPA).²⁸

The CPPA expanded the federal prohibition on child pornography to include computer-generated images that were not produced with a real child, referring to them as “virtual child pornography.”²⁹ Companies and artists challenged the statute’s constitutionality out of fear that the statute’s application was overbroad since its language criminalized “any visual depiction” that “appeared to” include a minor engaging in sexual intercourse.³⁰ The Supreme Court addressed the CPPA’s alleged overbreadth in *Ashcroft v. Free Speech Coalition*, focusing on images where a child “appears to be”³¹ engaging in “actual or simulated . . . sexual intercourse,” including images created by computer technology.³²

26. *Id.* at 37 (statement of Dee Jepsen, President, Enough is Enough).

27. S. REP. NO. 104-358, at 15.

28. H.R. REP. NO. 104-863, at 28 (1996) (Conf. Rep.).

29. *Ashcroft v. Free Speech Coal.*, 535 U.S. 234, 241 (2002) (noting the statute’s prohibition did not discriminate on how the visual depiction was produced).

30. *Id.* at 241-43; *see also CPPA Hearing, supra* note 22, at 51 (statement of Judith F. Krug, Dir. of Off. for Intell. Freedom, Am. Libr. Ass’n) (“To define child pornography more broadly [than depictions of real minors] would dilute the effort to protect children, while exerting a chilling effect on the dissemination of books, magazines, movies and videos that are protected by the First Amendment.”).

31. It is important to note a critical oversight in the Court’s understanding of how users create the VCP at issue. The Court explicitly states it is not considering the CPPA’s application to “morphed images” under Section 2256(8)(C) as they fall closer to *Ferber’s* definition of child pornography. *Ashcroft*, 535 U.S. at 241; 18 U.S.C. § 2256(8)(C) (2018). The Court’s statement suggests its misunderstanding. In reality, images that fall into the “appear to be” category are also created using morphing technology, just to a greater extent, *see CPPA Hearing, supra* note 22, at 2 (statement of Sen. Orrin G. Hatch) (“[M]orphing technologies have made composite or pseudo-child pornography increasingly indistinguishable from live photo depictions of actual children engaging in sexual conduct.”) (emphasis added); *see also* Debra D. Burke, *The Criminalization of Virtual Child Pornography: A Constitutional Question*, 34 HARV. J. ON LEGIS. 439, 440-41 (1997) (“No longer are children needed in the production of child pornography. Through a technique known as *morphing*, the image of a *Penthouse* Pet can be scanned into a computer, then transformed fairly inexpensively through animation techniques into the image of a child.”). Therefore, the Court’s statement that it is not considering morphed images is somewhat inaccurate. The proper distinction is not whether the image was created with morphed technology, but rather that Section 2256(8)(C) only captured morphed images that were made from an image showing an identifiable minor, which, to the Court’s credit, were usually made with less expensive and sophisticated technology, *see* 18 U.S.C. § 2256(8)(C) (defining child pornography where the “visual depiction has been created, adapted, or modified to appear that an identifiable minor is engaging in sexually explicit conduct”) (emphasis added). Thus, going forward, this paper will treat the Court’s analysis of VCP as a *species of morphed images* where a child’s photo was not used in producing the image.

32. *Ashcroft*, 535 U.S. at 241.

The *Ashcroft* Court agreed with the plaintiffs and held that the Government's interest in preventing child sexual exploitation by proscribing VCP did not outweigh the harm of restricting speech available to law-abiding adults.³³ The Court reasoned that VCP is not intrinsically related to the sexual abuse of children.³⁴ In doing so, the Court distinguished VCP from the RCP at issue in *Ferber* and *Osborne*.³⁵ The Court considered the Government's interest to be weak because the direct harm—harm that directly affects the pictured child—and the indirect harm—harm that is consequential to the deviant market's prosperity—that stems from VCP's production, possession, and distribution is contingent and indirect to the sexual exploitation of children.³⁶

B. Direct Harm

i. *Ferber* and *Osborne*: Direct Harm from Real Child Pornography

Both the *Ferber* Court and *Osborne* Court acknowledged that RCP causes direct harm to the child by acting as a permanent record of the child's abuse.³⁷ The *Ferber* Court held that the direct harm was sufficiently linked to the distribution of the material because “the harm to the child is exacerbated by [its] circulation.”³⁸ The Court also noted RCP's value is “exceedingly modest, if not *de minimis*.”³⁹ Accordingly, the “[s]tate's interest in ‘safeguarding the physical and psychological well-being of a minor’ is ‘compelling.’”⁴⁰ Thus, New York's conclusion that restraints on the distribution of RCP were necessary to “prevent[] [the] sexual exploitation and abuse of children constitutes a government objective of surpassing importance.”⁴¹ Based on these principles, the *Ferber* Court refused to second-guess the New York legislature's intent in preventing child sexual exploitation.⁴²

33. *Id.* at 251–52.

34. *Id.* at 250.

35. *Id.*

36. *See id.* at 250–51.

37. *New York v. Ferber*, 458 U.S. 747, 759 (1982); *Osborne v. Ohio*, 495 U.S. 103, 111 (1990).

38. *Ferber*, 458 U.S. at 759.

39. *Id.* at 762.

40. *Id.* at 756–57 (noting the well-rounded growth of its young people into mature citizens is essential for a democratic society's longevity).

41. *Id.* at 757.

42. *Id.* (quoting 1977 N.Y. Laws, ch. 910, § 1) (“[T]here has been a proliferation of exploitation of children as subjects in sexual performances The public policy of the state demands the protection of children from exploitation through sexual performances.”).

Following *Ferber*, the RCP market largely moved underground.⁴³ As a result, states began criminalizing the possession of RCP to further suffocate the market.⁴⁴ Eight years after its holding in *Ferber*, the Court granted certiorari to hear *Osborne v. Ohio*, once again considering what actions concerning RCP produce harms that are intrinsically related to the sexual abuse of children and, thus, unprotected by the First Amendment.⁴⁵ The *Osborne* Court expanded the standard set in *Ferber*, holding that Ohio could constitutionally proscribe the possession of RCP.⁴⁶ The Court supported its decision to stifle the possessor's privacy interest because the statute "encourage[d] the possessors of these materials to destroy them," erasing the permanent record of the victim's abuse.⁴⁷ Therefore, the continued possession of RCP was also intrinsically related to the sexual abuse of children.⁴⁸ For these reasons, the *Osborne* Court could not "fault Ohio for attempting to stamp out this vice at all levels in the distribution chain."⁴⁹

ii. *Ashcroft*: Direct Harm from Virtual Child Pornography

Notably, the government in *Ashcroft* did not make an argument concerning the direct harm of VCP in either its initial brief or reply brief.⁵⁰ This is likely due to the nature of the morphing software in 2002. As noted above, the images that fell under the CPPA's "appears to be" language were either created without a child or had been morphed to the extent that the image could not be traced to a child. Thus, there was no record of any child abuse. The *Ashcroft* Court acknowledged this, briefly denying that any direct harm stemmed from VCP.⁵¹ In doing so, the Court distinguished the material the CPPA sought to proscribe against the material at issue in *Ferber*. The Court reasoned: "In contrast to the speech in *Ferber*, speech that is itself the record of sexual abuse, the CPPA prohibits speech that records no crime and creates no victims by its production."⁵²

43. *Osborne v. Ohio*, 495 U.S. 103, 110 (1990).

44. *Id.* at 111–12 (noting that, at the time of this case, nineteen states had proscribed the possession of child pornography).

45. *See id.* at 108.

46. *Id.* at 110.

47. *Id.* at 111.

48. *Id.*

49. *Id.* at 110.

50. *See* Brief for Petitioner at 13–17, *Ashcroft v. Free Speech Coal.*, 535 U.S. 234 (2002) (No. 00–795); *see also* Reply Brief for Petitioner at 7–20, *Ashcroft v. Free Speech Coal.*, 535 U.S. 234 (2002) (No. 00–795).

51. *Ashcroft v. Free Speech Coal.*, 535 U.S. 234, 241 (2002).

52. *Id.* at 250.

However, Chief Justice William Rehnquist disagreed with the majority in his dissent.⁵³ Rehnquist argued the majority improperly expanded the statute's scope by failing to give the legislators' intent its due deference.⁵⁴ Rehnquist reasoned that the majority was defending speech that was not under attack; "[the CPPA] addresses the problem of high-tech kiddie porn," not "a depiction produced using *adults* engaging i[n] sexually explicit conduct, even where a depicted individual may appear to be a minor."⁵⁵ Rehnquist conceded that he agreed with the majority's inclination to find fault in language that could proscribe speech expressed through works like Shakespearian tragedies; however, the majority's expansive reading was unwarranted since Congress explicitly rejected any reading that produced this effect.⁵⁶

C. Indirect Harms

i. *Ferber* and *Osborne*: Indirect Harm from Real Child Pornography

The *Ferber* Court also acknowledged indirect harm is sufficient to show an intrinsic relation between RCP and the sexual exploitation of children.⁵⁷ Specifically, the *Ferber* Court noted, "the distribution network for [RCP] must be closed if the production of material which requires the sexual exploitation of children is to be effectively controlled."⁵⁸ In other words, not only is the pictured child harmed, but the Court implied that the material's distribution acts as fuel to a fire, incentivizing future production and resulting in the additional sexual abuse of children.⁵⁹ Additionally, the Court noted that the distribution process provided an economic motive for the distributor to continue this vicious cycle, even if the distributor is just the middleman.⁶⁰ In light of this, the Court stated that the most expeditious and potentially only practical method of eliminating these harms was to arm the states with a way to criminalize the distribution process which acted as a catalyst.⁶¹ Thus, the *Ferber* Court's rationale recognized that the state's interest in minimizing one's

53. *Id.* at 258–71 (Rehnquist, C.J., dissenting).

54. *Id.*

55. *Id.* at 270 (citing S. REP. NO. 104-358, at 7 (1996)); *see also* Free Speech Coal. v. Reno, 198 F.3d 1083, 1101 (9th Cir. 1999) ("From reading the legislative history, it becomes clear that the CPPA merely extends the existing prohibitions on [RCP] to a narrow class of computer-generated pictures easily mistaken for real photographs of real children."), *aff'd sub nom. Ashcroft*, 535 U.S. at 234.

56. *Ashcroft*, 535 U.S. at 270.

57. *See* New York v. Ferber, 458 U.S. 747, 759 (1982).

58. *Id.*

59. *See id.* at 759–60.

60. *See id.* at 761.

61. *See id.* at 760.

economic motive to distribute child porn is compelling to prevent indirect harm caused by the deviant market's prosperity.⁶²

The *Osborne* Court reaffirmed the *Ferber* Court's argument that indirect harm from RCP could be sufficiently intrinsic to child sexual exploitation. However, the *Osborne* Court's rationale did not rely on the possessor's economic motive, probably because a possessor's profit motive was minimal at best since the RCP market had largely moved underground following *Ferber*.⁶³ Instead, the *Osborne* Court argued that the "destruction of these materials [was] also desirable because evidence suggest[ed] that pedophiles use [RCP] to seduce other children into sexual activity."⁶⁴ The new seduction motive that the *Osborne* Court deemed intrinsically related to child sexual abuse clarified a question left open by *Ferber*. It was not clear in the *Ferber* majority's rationale whether the Court considered the indirect harm from the distribution of RCP to be a compelling factor because it incentivized the repeated abuse of the *same* child or incentivized continued future abuse to children in general. However, the seduction motive in *Osborne* clarifies the Court's stance; a state's interest in minimizing incentives to engage with RCP is compelling if it protects *any* child from indirect harm.

ii. *Ashcroft*: Indirect Harm from Virtual Child Pornography

In addressing the government's argument that VCP still presented sufficient indirect harms, the *Ashcroft* majority distinguished *Ferber* again. The government argued that the link between VCP and its indirect harms was sufficient to produce a compelling interest in protecting children that outweighed the interests of the accused.⁶⁵ The *Ashcroft* Court disagreed, beginning its analysis by acknowledging that VCP can be valuable speech before distinguishing VCP from the RCP at issue in *Ferber* and *Osborne*.⁶⁶ The Court then attacked the intrinsic link between VCP and the sexual abuse of children by minimizing its indirect harms.⁶⁷

The Court rejected the government's argument that the indirect harms are sufficient because VCP is rarely valuable speech for two reasons.⁶⁸ First, "*Ferber*'s judgment about [RCP] was based upon how it was made, not on what it

62. *See id.* at 762.

63. *Osborne v. Ohio*, 495 U.S. 103, 110 (1990).

64. *Id.* at 111.

65. *See Ashcroft v. Free Speech Coal.*, 535 U.S. 234, 250–51 (2002).

66. *See id.* at 250–253; *see also Osborne*, 495 U.S. at 108 (quoting *Ferber*, 458 U.S. at 762) ("[T]he value of permitting child pornography has been characterized as 'exceedingly modest, if not *de minimis*.'").

67. *See Ashcroft*, 535 U.S. at 253–57.

68. *Id.* at 251.

communicated.”⁶⁹ The Court cited limiting language in *Ferber*, stating that *Ferber* affirmed VCP is protected by the First Amendment if it is neither obscene nor the product of sexual abuse.⁷⁰ In other words, the intrinsic direct and indirect harms stem from RCP because its production requires a nude child, not because it reveals a nude child.⁷¹ Second, the Court argued that *Ferber* does not stand for the proposition that VCP is without value.⁷² Instead, the Court cited *Ferber*’s language that posits simulated material could provide an alternative and permissible means of expression to avoid prosecution under New York’s statute.⁷³ However, this alternative theory still required the Court to assume that VCP could not create indirect harm by incentivizing one to commit future sexual abuse, such as the economic and seduction incentives the *Ferber* and *Osborne* Courts discussed, respectively.⁷⁴

The *Ashcroft* Court considered this assumption and rejected the Government’s argument that the images were sufficiently linked to actual instances of child abuse.⁷⁵ The Court held that the causal link was “contingent and indirect” because the indirect harm did “not necessarily follow from the speech, but depend[ed] upon some unquantified potential for subsequent criminal act[ion].”⁷⁶ In doing so, the Court rejected the Government’s argument, which posed three indirect harms that affect children when VCP is produced, possessed, and distributed.⁷⁷

The Government’s first argument rested on an indirect harm theory not previously discussed in *Ferber* or *Osborne*. The Government argued that “[VCP] whets the appetites of pedophiles and encourages them to engage in illegal conduct.”⁷⁸ The Court rejected this argument because First Amendment protected interests are in the most danger when the government seeks to control thought or justify its laws

69. *Id.* at 251–52.

70. *Id.*; see *Miller v. California*, 413 U.S. 15, 24 (1973). The Court stated the obscenity test is: (a) whether ‘the average person, applying contemporary community standards’ would find that the work, taken as a whole, appeals to the prurient interest; (b) whether the work depicts or describes, in a patently offensive way, sexual conduct specifically defined by the applicable state law; and (c) whether the work, taken as a whole, lacks serious literary, artistic, political, or scientific value.

Id. (citation omitted).

71. See *Ashcroft*, 535 U.S. at 250–51.

72. See *id.*

73. *Id.* at 251 (quoting *New York v. Ferber*, 458 U.S. 747, 763 (1982)) (“‘[I]f it were necessary for literary or artistic value, a person over the statutory age who perhaps looked younger could be utilized. Simulation outside of the prohibition of the statute could provide another alternative.’”).

74. See *id.*

75. See *id.* at 250–51.

76. *Id.* at 250.

77. *Id.* at 251–56.

78. *Id.* at 253 (“The right to think is the beginning of freedom, and speech must be protected from the government because speech is the beginning of thought.”).

to prohibit an impermissible end.⁷⁹ The Court reasoned: “The mere tendency of speech to encourage unlawful acts is not a sufficient reason for banning it.”⁸⁰ In support, the Court distinguished “encouragement” from the prohibited speech category of “incitement,” determining that “[t]he Government has shown no more than a remote connection between speech that might encourage thoughts or impulses and any resulting child abuse.”⁸¹

The government’s second argument stated that “the CPPA is necessary because pedophiles may use [VCP] to seduce children,” relying on the majority’s rationale in *Osborne*.⁸² In the Court’s rejection of this argument, it noted that other forms of speech innocent in themselves, such as cartoons and videogames, can also be used for immoral purposes.⁸³ Yet, neither the Court nor society would expect these things to be proscribed because “[t]he evil in question depends upon the actor’s unlawful conduct, conduct defined as criminal quite apart from any link to the speech in question.”⁸⁴ The Court relied on the principle that the government cannot ban speech fit for adults just to shield children.⁸⁵ Instead, the government’s proper authority lied in its power to punish adults who provide unsuitable material to children.⁸⁶

Notably, the *Ashcroft* Court seemingly walked back its rationale in *Osborne*. Prior to *Osborne*, as discussed above, the Court held in *Ferber* that the prohibition on distributing RCP was constitutional.⁸⁷ Yet, the *Osborne* majority did not instruct the state that it could not criminalize possession since the state’s proper vehicle was to continue prosecuting distributors. Instead, the *Osborne* majority realized the RCP market had changed, and additional measures needed to be taken to prevent indirect harm to future children via seduction by child predators.⁸⁸

In order to reconcile these two seemingly contradictory rationales, the *Ashcroft* Court must have concluded that VCP was not a true substitute for RCP. While not in response to the same argument, the *Ashcroft* Court did explicitly state a similar contention in its third argument, rejecting the Government’s position “that its objective of eliminating the market for pornography produced using real children

79. *Id.*

80. *Id.* (citing *Stanley v. Georgia*, 394 U.S. 557, 566 (1969)).

81. *Id.*

82. *Id.* at 251.

83. *Id.*

84. *Id.* at 252.

85. *Id.*

86. *Id.* at 251–52.

87. *New York v. Ferber*, 458 U.S. 747, 764 (1982).

88. *See Osborne v. Ohio*, 495 U.S. 103, 110 (1990).

necessitates a prohibition on virtual images as well.”⁸⁹ The Government argued one’s distribution of indistinguishable VCP promotes the trafficking of works created through the exploitation of real children, relying on the economic motive theory in *Ferber*.⁹⁰ However, the *Ashcroft* Court disagreed, stating, “[i]f virtual images were identical to illegal child pornography . . .” then “[f]ew pornographers would risk prosecution by abusing real children if fictional, computerized images would suffice.”⁹¹ As a result, “[RCP] would be driven from the market by the indistinguishable substitutes.”⁹² Therefore, the Court primarily argued that if VCP was so compelling, then it wouldn’t just promote both forms of child pornography; rather, it would take over the market completely.⁹³

Once again, Rehnquist disagreed with the majority’s final decision to afford little weight to the indirect harms affecting children from VCP.⁹⁴ However, Rehnquist did not explicitly state that he disagreed that the indirect harms were, at the time, insufficiently linked.⁹⁵ Instead, he deferred to Congress’s decision to preemptively afford the indirect harms a greater weight in order to proactively enact legislation needed to respond to technology’s exponential development in 2002.⁹⁶ For example, Rehnquist, now famously, stated, “Congress has a compelling interest in ensuring the ability to enforce prohibitions of [] child pornography, and we should defer to its findings that rapidly advancing technology soon will make it all but impossible to do so.”⁹⁷ Thus, this remark, when coupled with his dissenting comments concerning the Court’s analysis of the direct harms, indicates Justice Rehnquist’s main contention was that the majority’s unwillingness to look outside of the statute’s text resulted in its failure to grasp the context surrounding the statute; a context that illuminated Congress’s proactive intent, rather than a remedial one.

In sum, the *Ashcroft* majority’s conclusion that the harms resulting from VCP are not intrinsically related to the sexual abuse of children eliminated the government’s ability to proscribe it under RCP laws.

89. *Ashcroft*, 535 U.S. at 254.

90. *Id.*

91. *Id.*

92. *Id.*

93. *Id.* (stating the hypothesis is implausible).

94. *See id.* at 267–73 (Rehnquist, C.J., dissenting).

95. *Id.*

96. *See id.* at 267–68.

97. *Id.* at 267.

III. WHY CURRENT LEGAL RESTRICTIONS ON VIRTUAL CHILD PORNOGRAPHY FAIL TO ELIMINATE HARMS INTRINSIC TO CHILD SEXUAL ABUSE

A. *The Obscenity Doctrine*

Immediately following *Ashcroft*, producers, possessors, and distributors of VCP only faced one limitation: a state's ability to proscribe the distribution of obscene material.⁹⁸ Although most would consider VCP to meet the obscenity standard simply by its nature, the Court held in *United States v. Williams* that it does not.⁹⁹ The obscenity standard requires the trier of fact to consider:

(a) whether 'the average person, applying contemporary community standards' would find that the work, taken as a whole, appeals to the prurient interest, (b) whether the work depicts or describes, in a patently offensive way, sexual conduct specifically defined by the applicable state law, and (c) whether the work, taken as a whole, lacks serious literary, artistic, political, or scientific value.¹⁰⁰

This doctrine is inadequate for two reasons. First, the government must prove the material falls within the obscenity standard—a standard that can be easily manipulated. Second, even if the government can prove that the VCP material is obscene, the direct and indirect harms opined in *Ferber* and *Osborne* are still present.

The obscenity standard poses a tough burden on the government seeking to prove VCP is obscene. As noted above, a contemporary community standard is applied to determine whether VCP is obscene, and thus, loses its First Amendment protection.¹⁰¹ This community standard, as applied to material distributed on the internet, is where the fault lies concerning its inadequacy in protecting children from the intrinsic harms of VCP.

The Supreme Court has stated that a distributor of material can proactively define the community standards that a court will apply to the allegedly obscene material by marketing the material behind paywalls and on secured, like-minded forums.¹⁰² In doing so, the distributor can effectively elevate the government's burden since a deviant forum will have a greater tolerance for hardcore VCP relative to that

98. See *United States v. Williams*, 553 U.S. 285, 297 (2008).

99. See *id.* at 303.

100. *Miller v. California*, 413 U.S. 15, 39 (1973).

101. *Id.* at 29.

102. *Ashcroft v. Am. C.L. Union*, 535 U.S. 564, 583 (2002) (plurality opinion) ("If a publisher wishes for its material to be judged only by the standards of particular communities, then it need only take the simple step of utilizing a medium that enables it to target the release of its material into those communities.").

of an open and diverse community. In fact, these underground forums are already prevalent online, such as on the dark web.¹⁰³ Therefore, the government seeking to invoke the Obscenity Doctrine's distribution limitation must overcome the high burden of convincing the trier of fact that a deviant community, desensitized to VCP, would consider the material to be obscene.

Moreover, even when the material fits within the obscenity category, its intrinsic harms to children are still present despite the category's limits. This idea is best captured by examining the limits placed on the three types of market participants: possessors, producers, and distributors. Beginning with the possessor, a state cannot regulate one's mere possession of obscene material in the privacy of one's home.¹⁰⁴ Thus, one can possess obscene VCP within the confines of one's home. This right to possess is the foundation for the pictures' continued existence—an existence that acts as a permanent recording of the child's sexual abuse.¹⁰⁵ For this reason, the *Osborne* Court found it necessary to proscribe the mere possession of RCP,¹⁰⁶ yet, the *Ashcroft* Court's holding leaves one's possession, and the direct harm that stems from obscene VCP, intact.¹⁰⁷

The statutory limits on one's ability to produce obscene VCP are similarly insufficient to eliminate the indirect harms to children. Federal law only prohibits the production of obscene material where the producer has an intent to distribute it.¹⁰⁸ Therefore, one is free to produce obscene VCP for one's own consumption, creating additional records of a child's sexual abuse. Further, a distributor can curtail obscenity restrictions by distributing the material to specific groups of predators, as noted above. As a result, the distribution limitation placed on producers is also nullified, leaving children to face the direct and indirect harms the *Ferber* Court found sufficient to place RCP in its own category.¹⁰⁹

In sum, the Obscenity Doctrine is inadequate for two reasons. First, its community standard is easily manipulated by distributing the material to closed-off communities, forcing the government to prove that a deviant community would find the VCP to be obscene. Second, obscene VCP still poses direct harm by acting as a record of the child's sexual abuse and indirect harm through its distribution. For

103. See Drew Harwell, *AI-Generated Child Sex Images Spawn New Nightmare for the Web*, WASH. POST (June 19, 2023, 7:00 AM), <https://www.washingtonpost.com/technology/2023/06/19/artificial-intelligence-child-sex-abuse-images/>.

104. *Stanley v. Georgia*, 394 U.S. 557, 568 (1969).

105. *Ashcroft v. Free Speech Coal.*, 535 U.S. 234, 250 (2002); *Osborne v. Ohio*, 495 U.S. 103, 111 (1990); *New York v. Ferber*, 458 U.S. 747, 759 (1982).

106. *Osborne*, 495 U.S. at 111.

107. *Ashcroft*, 535 U.S. at 250.

108. 18 U.S.C. § 1465 (2006).

109. See *Ferber*, 458 U.S. at 756–64.

these reasons, the Obscenity Doctrine is inadequate in protecting children from harms that the *Ferber* Court found provided state and federal governments with a compelling interest in proscribing RCP.

B. United States v. Williams: *Pandering Limitation*

Following the Court's finding that the CPPA was unconstitutional in *Ashcroft*,¹¹⁰ Congress enacted the Prosecutorial Remedies and Other Tools to end the Exploitation of Children Today Act of 2003 (PROTECT Act),¹¹¹ which criminalized the distribution of an "obscene visual depiction of a minor engaging in sexually explicit conduct."¹¹² The statute defined "sexually explicit conduct" as "actual or simulated sexual intercourse . . ."¹¹³ In *Williams*, the Supreme Court upheld the statute, despite the material's production not requiring a real child.¹¹⁴

The *Williams* Court, in part, based its rationale on the obscenity requirement, which "eliminate[d] any possibility that [VCP] . . . might be covered by the term 'simulated sexual intercourse.'"¹¹⁵ In support, the majority explicitly stated that it was not overruling its prior decisions in *Ferber* and *Ashcroft*.¹¹⁶ The Court stated, "[VCP] will be as available as ever, so long as it is offered and sought *as such*, and not as [RCP]."¹¹⁷ As a result, the direct and indirect harms that this paper argues in Section III, still freely flow from the production, distribution, and possession of VCP as long as the creator does not attempt to pass it off as RCP. Thus, while *Williams* restricts the distribution of VCP, it is limited at best.¹¹⁸

IV. FROM 2002 TO 2024: HOW AI'S EVOLUTION CHALLENGES THE *ASHCROFT* COURT'S RATIONALE

While AI was around in 2002, it was still in its infancy, only transitioning from its theoretical phrase in 1967.¹¹⁹ Subdisciplines like neural networks, which the

110. *Ashcroft*, 535 U.S. at 258.

111. 18 U.S.C. §§ 2252, 2256(2)(A).

112. *United States v. Williams*, 553 U.S. 285, 289–290 (2008).

113. *Id.* at 290.

114. *Id.* at 307.

115. *Id.* at 297.

116. *See id.* at 303 ("[A]n offer to provide or request to receive [VCP] is not prohibited by the statute.").

117. *Id.*

118. Mains, *supra* note 16, at 834–36 (arguing that the PROTECT Act and *Williams* are "underinclusive" because they do not "directly address [VCP] as a crisis in its own right, but rather criminalizes the pandering of imagery held out as [RCP]").

119. Shukla Shubhendu S. & Jaiswal Vijay, *Applicability of Artificial Intelligence in Different Fields of Life*, 1 INT'L J. SCI. ENG'G & RSCH. 28, 28–29 (2013) (stating that AI refers to the study of

generative AI at issue in this note is based on, are even younger.¹²⁰ Thus, the *Ashcroft* Court's conclusion that VCP was incapable of producing sufficient direct and indirect harms at the time was probably in good faith. For example, Justice Souter, joined by Justice Ginsburg in his dissent in *Williams*, stated:

If I were convinced there was a real reason for the Government's fear stemming from computer simulation, I would be willing to reexamine *Ferber*. Conditions can change, and if today's technology left no other effective way to stop professional and amateur pornographers from exploiting children there would be a fair claim that some degree of expressive protection had to yield to protect the children.¹²¹

Conditions have changed, and AI is now capable of producing VCP that produces harms intrinsic to sexual child abuse. As recent as September 5, 2023, fifty-four state and U.S. territory attorneys general acknowledged these harms, the same direct and indirect harms that the *Ferber* and *Osborne* Courts anchored their holdings on.¹²² As AI evolves, these harms will only become more prevalent. In support, the following section will address how AI has strengthened each direct and indirect harm that the *Ashcroft* Court held did not provide the government with a compelling interest in proscribing VCP.

A. Direct Harm

As noted above, the *Ferber*, *Osborne*, and *Ashcroft* Courts all stated that the direct harm from RCP stems from the material acting as a record of the child's sexual abuse.¹²³ For this reason, on its face, the link between VCP and its direct harm to children is, admittedly, weak. Given the accessibility of the AI-image-generating tools nowadays, most creators are not required to abuse children to create the images.¹²⁴ Moreover, just like the morphing technology at issue in *Ashcroft*,

developing machines that respond to prompted stimulation with traditional human responses, including a human's capacity for contemplation, judgment, and intention).

120. *See id.* at 29 (stating that neural networks allow the machine to learn by making connections between facts and conclusions).

121. *Williams*, 553 U.S. at 324 (Souter, J., dissenting).

122. *See Attorneys General Letter*, *supra* note 1 (acknowledging that while those committing internet crimes against children are being actively prosecuted, they fear that AI's capabilities concerning child sexual abuse material will make prosecution much more difficult).

123. *Ashcroft v. Free Speech Coal.*, 535 U.S. 234, 250 (2002); *Osborne v. Ohio*, 495 U.S. 103, 111 (1990); *New York v. Ferber*, 458 U.S. 747, 759 (1982).

124. *See Attorneys General Letter*, *supra* note 1 (stating that anyone with a computer can download the software and create the image by typing in a short description of the desired image).

the AI-image-generating tools produce a distinct image.¹²⁵ Therefore, on its face, the image is not a record of child abuse, which supports the *Ashcroft* Court's conclusion that direct harm does not exist if the final product does not perpetuate the child's sexual abuse.¹²⁶ However, unlike morphing, AI-generated images do involve children in the production process. In order to support this argument, it is necessary to explain how AI creates the final product.

At a high level, generative AI mimics human learning styles, utilizing artificial neural networks and repetition to refine the final product.¹²⁷ An artificial neural network, which mimics the neural pathways in a human brain, is the foundational learning tool for generative AI.¹²⁸ Through this tool, for example, AI image generators train on large data sets of existing images, learning the different aspects and characteristics of the training images.¹²⁹ As a result, AI image generators "have the capacity to create original, realistic, visuals based on textual input"¹³⁰

The artificial neural network also serves as the AI's memory.¹³¹ The AI uses the data learned from its pattern recognition to generate new images.¹³² Through negative feedback, the AI learns what mistakes it made. This negative feedback is mainly introduced through two methods: Generative Adversarial Networks (GANs) and Diffusion Models.¹³³ GANs help AI learn by pitting two neural networks together.¹³⁴ This idea can be best understood by analogizing the process to a painter and an art critic. One neural network (the painter) uses its learned pattern recognition to generate a simulated image, with the aim of it being indistinguishable from

125. See *AI Image Generation Explained: Techniques, Applications, and Limitations*, ALTEXSOFT (July 9, 2023), <https://www.altexsoft.com/blog/ai-image-generation/> [hereinafter *AI Image Generation Explained*].

126. *Ashcroft*, 535 U.S. at 241 (stating that VCP in 2002 "do[es] not involve, let alone harm, any children in the production process").

127. See Tamas Cser, *Learning about Deep Learning: Neural Network Architectures and Generative Models*, FUNCTIONIZE (June 26, 2023), <https://www.functionize.com/blog/neural-network-architectures-and-generative-models-part1#:~:text=In%20short%2C%20neural%20network%20architectures,that%20resemble%20the%20training%20data.>

128. See *AI Image Generation Explained*, *supra* note 125; see also Cser, *supra* note 127 ("[N]eural network architectures serve as the backbone for understanding and processing diverse data types, and generative models unlock the ability to create new data samples that resemble the training data.").

129. Cser, *supra* note 127; see ABEBA BIRHANE ET AL., MULTIMODAL DATASETS: MISOGYNY, PORNOGRAPHY, AND MALIGNANT STEREOTYPES I (2021) (noting their study found data sets to contain images of "rape, pornography, malign stereotypes, racist and ethnic slurs, and other extremely problematic content").

130. *AI Image Generation Explained*, *supra* note 125.

131. *Id.*

132. *Id.*

133. *Id.*

134. *Id.*

the real image.¹³⁵ The other neural network (the art critic) attempts to distinguish whether the image is real or generated by comparing it to authentic images.¹³⁶ If the painter fools the art critic, then it wins, and the art critic is updated.¹³⁷ If the art critic accurately identifies a fake image, it wins, and the painter is updated.¹³⁸ As the process repeats, the painter becomes better at generating indistinguishable images, and the art critic becomes increasingly better at spotting the simulated images.¹³⁹ The process is considered successful when the generated image dupes both the art critic and a human.¹⁴⁰ However, despite being considered successful, “[t]he game is never-ending: When the [art critic] gets better at identifying fakes, the cycle continues.”¹⁴¹

Unlike the process of GANs, Diffusion Models only use one artificial neural network.¹⁴² A Diffusion Model creates a new image by replicating the data it trained on.¹⁴³ The model begins with a real image, which a human has defined for the machine.¹⁴⁴ The AI model learns how to generate a simulated image through the process of adding “noise,” essentially blurring the picture with random pixels, and then reversing the noise.¹⁴⁵ In other words, returning to the artist analogy above, the artist begins with a finished painting.¹⁴⁶ Next, the artist will then throw random colors of paint on the canvas, assessing the painting after each alteration.¹⁴⁷ This process is

135. *See id.*

136. *See id.*

137. *Id.*

138. *Id.*

139. *See id.*

140. *Id.*

141. *Id.*

142. *Id.*

143. *Id.* A recent study suggests diffusion models may actually produce simulated images by copying and interposing pieces of training data into a final image, instead of using learned patterns to generate novel images. *See* NICHOLAS CARLINI ET AL., EXTRACTING TRAINING DATA FROM DIFFUSION MODELS 15 (2023). However, more studies will need to be completed. *Id.* If diffusion models simply copy and interpose training data, then VCP created by diffusion models would be a near direct record of a child’s sexual abuse. Thus, going forward, this paper will err on the current understanding of diffusion models and assume it produces novel images.

144. Tom Hartsfield, *How do DALL-E, Midjourney, Stable Diffusion, and Other Forms of Generative AI Work?*, BIG THINK (Sept. 23, 2022), <https://bigthink.com/the-future/dall-e-midjourney-stable-diffusion-models-generative-ai/>.

145. *Id.*

146. *Id.* (“Programmers give the model real images with meanings ascribed by humans: dog, oil painting, banana, sky, 1960s sofa, etc.”).

147. *Id.* (“In the ruining sequence, each step slightly alters the image handed to it by the previous step, adding random noise in the form of scattershot meaningless pixels . . .”).

repeated until the original image “fade[s] into statistic and its meaning [] disappear[s].”¹⁴⁸

Once this process is complete, the artist attempts to reveal the painting by wiping away the unnecessary splashes of paint.¹⁴⁹ The artist inspects the painting after each attempt, considering whether the reduction of noise reveals an image that more closely resembles the meaning of the original image, assigned by a human at the beginning of the process.¹⁵⁰ Likewise, to produce images associated with a description, the text is taken through a similar process at the same time.¹⁵¹ As a result, “the model is trained not only to produce an image with the high likelihood of meaning, but with a high likelihood of the same descriptive words being associated with it.”¹⁵² This process repeats until the AI understands the original picture’s fundamental patterns.¹⁵³

While AI learns through different processes, these two processes are similar in one regard: they both require an original image to train.¹⁵⁴ As a result, the “models can generate data (like images) that are very much like the ones they’ve been trained on.”¹⁵⁵ For example, the college students created Claudia, the AI-generated model in the note’s introduction, using Stable Diffusion, an open-source AI-generator trained on billions of images.¹⁵⁶ And, while the final result of Claudia may have been a completely new image, Claudia still had elements of each nude image that

148. *Id.*

149. *Id.* (“Starting with the nearly meaningless noise, it pushes the image back through the series of sequential steps, this time attempting to reduce noise and bring back meaning.”).

150. *Id.*

151. *Id.*

152. *Id.*

153. *Id.*; see also BIRHANE ET AL., *supra* note 129, at 14 (noting in the study’s findings that the AI-image generator associated explicit images with innocent words, such as mom, daughter, and daddy, and, the reverse effect, associating innocent images with explicit text descriptions generally searched with by pedophiles).

154. Hartsfield, *supra* note 144.

155. *AI Image Generation Explained*, *supra* note 125.

156. Harwell, *supra* note 5.

Stable Diffusion trained on.¹⁵⁷ Additionally, both processes are relatively new, with GAN being invented in 2014¹⁵⁸ and the Diffusion Model being invented in 2015.¹⁵⁹

Based on the new generative AI learning processes described above, the *Ashcroft* Court’s rationale is as outdated as the morphing technology is in 2024. Unlike the images produced by GANs and Diffusion Models, the morphed images at issue in *Ashcroft* began with distinctly legal pictures before being transformed into VCP.¹⁶⁰ In 2002, this morphing technology was sufficient to create VCP that was “virtually indistinguishable” from original images.¹⁶¹ However, in 2024, AI-image generators trained by processes such as GANs and Diffusion Models are necessary for those wanting to create life-like simulated images, such as VCP. Specifically, the creators will begin with a typical AI program that has been trained on “billions and billions of images, enabling them to carry out the basics of image generation.”¹⁶² The AI-image generator is then “fine-tuned” using RCP to produce the simulated image.¹⁶³

Moreover, it should be noted that not all AI-image generators produce high-quality images. The most important factor in creating a fine-tuned AI-image

157. See Jason Brownlee, *18 Impressive Applications of Generative Adversarial Networks (GANs)*, MACH. LEARNING MASTERY (July 12, 2019), <https://machinelearningmastery.com/impressive-applications-of-generative-adversarial-networks/>; see also TERO KARRAS ET AL., PROGRESSIVE GROWING OF GANs FOR IMPROVED QUALITY, STABILITY, AND VARIATION 19 (2018) (providing results and examples of a new GAN training methodology, including a high-quality version of AI-generated facial images made by an AI-image generator trained on the faces of celebrities); LIQIAN MA ET AL., POSE GUIDED PERSON IMAGE GENERATION 9 (2018) (noting their novel study produced generated photo-realistic images of a person in unique poses).

158. *AI Image Generation Explained*, *supra* note 125; see IAN J. GOODFELLOW ET AL., GENERATIVE ADVERSARIAL NETS I (2014) (describing the new generative model framework, Generative Adversarial Network).

159. Surya Ganguli’s Work on Diffusion Models Powers Modern AI Tools like DALL-E, STAN. UNIV.: APPLIED PHYSICS, <https://appliedphysics.stanford.edu/news/surya-gangulis-work-diffusion-models-powers-modern-ai-tools-dall-e#:~:text=The%20first%20diffusion%20model%20was,the%20Brain%20group%20at%20Google> (last visited Dec. 2, 2023).

160. See Burke, *supra* note 31, at 441–42. For general visual illustrations of morphing technology around 2000, see Yu-Li & Yi-Wen, *A Study on Face Morphing Algorithms*, STAN. UNIV.: CTR. FOR COMPUT. RSCH. IN MUSIC AND ACOUSTICS, <https://ccrma.stanford.edu/~jacobliu/368Report/index.html> (last visited Dec. 2, 2023) (illustrating how a woman is morphed into a lion); see also Thomas Penkler, *Morphing*, CESCg SEMINAR (1997), <https://old.cescg.org/CEscg97/penkler/index.html> (illustrating how a picture of a man is morphed into a woman).

161. *CPPA Hearing*, *supra* note 22, at 37 (statement of Dee Jepson, President, Enough is Enough).

162. Dan Milmo, *Paedophiles Using Open Source AI to Create Child Sexual Abuse Content, Says Watchdog*, GUARDIAN (Sept. 13, 2023, 6:46 AM), <https://www.theguardian.com/society/2023/sep/12/paedophiles-using-open-source-ai-to-create-child-sexual-abuse-content-says-watchdog>.

163. *Id.*

generator is the quality and quantity of data it trains on.¹⁶⁴ A good AI-image generator “has been trained on hours of footage” and “has been specifically generated for its context.”¹⁶⁵ This image disparity has led to creators selling their images at varying price levels depending on the material requested.¹⁶⁶ And, while the trainer of the AI may be subject to child pornography laws for possessing the child sexual abuse material used as training data, it is unlikely the AI user will face any punishment.¹⁶⁷ Second-hand creators of this material are exploiting this loophole by sharing pre-trained AI models and tips on how to create more realistic images.¹⁶⁸ When all these facts are coupled together, it is evident that virtual images are not just a record of one child’s abuse; instead, the final simulated image is a record of abuse for all the children the AI trained on. For this reason, direct harm flows from every simulated picture made by an AI that was trained on RCP. Therefore, VCP is intrinsically related to the sexual abuse of the child.

B. Indirect Harm

i. Economic Motive Theory

The *Ashcroft* Court’s contention that indistinguishable VCP would render RCP obsolete did not come to fruition. The *Ashcroft* Court’s prediction was based on one flawed assumption: child pornographers are pragmatically rational.¹⁶⁹ As one scholar noted, “[t]he *Ashcroft* Court essentially decided that if a child pornographer could choose between abusing a child and digitally creating a virtual one, he would almost always choose the latter.”¹⁷⁰ In other words, the *Ashcroft* Court misidentified

164. *Greater Creative Control for AI Image Generation*, META (July 14, 2022), <https://ai.meta.com/blog/greater-creative-control-for-ai-image-generation/> (stating the model focuses on the key aspects it determines are more likely to be important to the creator).

165. Benjamin Goggin, *From Porn to ‘Game of Thrones’: How Deepfakes and Realistic-Looking Fake Videos Hit it Big*, BUS. INSIDER (June 23, 2019, 9:45 AM), <https://www.businessinsider.com/deepfakes-explained-the-rise-of-fake-realistic-videos-online-2019-6>.

166. Angus Crawford & Tony Smith, *Illegal Trade in AI Child Sex Abuse Images Exposed*, BBC (June 28, 2023), <https://www.bbc.com/news/uk-65932372>.

167. This legal issue has not been considered in the VCP context; however, a similar issue is currently being litigated concerning copyright infringement. Winston Cho, *Scraping or Stealing? A Legal Reckoning Over AI Looms*, HOLLYWOOD REP. (Aug. 22, 2023, 12:18 PM), <https://www.hollywoodreporter.com/business/business-news/ai-scraping-stealing-copyright-law-1235571501/>. Artists are suing three major AI companies, alleging the AI-generators trained on copyrighted work, allowing users to “create” copyrighted pieces. *Id.* However, it appears that it will be the AI firms, not the user, that will come under fire. *See id.* “If the AI firms are found to have infringed on any copyrights, they may be forced to destroy datasets that have been trained on copyrighted works.” *Id.*

168. Milmo, *supra* note 162.

169. Shepard Liu, Ashcroft, *Virtual Child Pornography and First Amendment Jurisprudence*, 11 U.C. DAVIS J. JUV. L. & POL’Y 1, 39 (2007) (arguing that the *Ashcroft* Court’s rationale departed from its harm theory in *Osborne* and *Ferber*).

170. GOLDBLATT, *supra* note 16, at 24.

child pornographer's true motives. Congress acknowledged this flawed assumption in the PROTECT Act:

[RCP] results from the abuse of real children by sex offenders; the production of [RCP] is a byproduct of, and not the primary reason for, the sexual abuse of children. There is no evidence that the future development of easy and inexpensive means of computer generating realistic images of children would stop or even reduce the sexual abuse of real children or the practice of visually recording that abuse.¹⁷¹

Notwithstanding the *Ashcroft* Court's flawed assumption, VCP also provides an economic motive to those distributing it in the market.¹⁷² Not only is the virtual material being sold itself, but creators use it as a front to find likely customers for RCP. Creators will share the virtual images on popular social media sites to encourage potential customers to click on their account.¹⁷³ The creator's social media account will typically have direct links to underground groups.¹⁷⁴ However, these underground groups are not cabined to just VCP. As one journalist noted, "[w]ithin those groups, which will have 100 members, people will be sharing, '[o]h here's a link to real stuff.'"¹⁷⁵

Unfortunately, in 2024, both real and VCP are thriving and will continue growing if the trends stay at the same pace despite the availability of VCP.¹⁷⁶ While some users have presumably switched to VCP, the primary abusers have continued to engage with RCP.¹⁷⁷ Moreover, based on the investigations above, the primary abusers appear to use VCP as a sort of advertisement—using it to pique the interest of curious individuals in hopes that they will buy the RCP. Still, despite its indistinguishable nature, VCP has not overtaken the child pornography market as the *Ashcroft* court predicted;¹⁷⁸ instead, both RCP and VCP have coalesced to further

171. Prosecutorial Remedies and Tools Against the Exploitation of Children Today Act of 2003 (PROTECT Act), PUB. L. NO. 108-21, 117 STAT. 650.

172. See Crawford & Smith, *supra* note 166.

173. See *id.*

174. See *id.*

175. *Id.*

176. See Teresa Huizar, *Child Sex Abuse Content is Exploding Online. We're Losing the Fight Against It*, USA TODAY (Mar. 10, 2023, 5:00 AM), <https://www.usatoday.com/story/opinion/2023/03/10/how-social-media-emboldens-abusers/11413209002/> (noting that reports to the National Center for Missing and Exploited Children increased by 35% from 2020 to 2021); see also Jennifer Moreau-Chick, *Stopping CSAM*, ANTI-HUM. TRAFFICKING INTEL. INITIATIVE (July 12, 2023), <https://followmoneyfightslavery.org/category/child-sexual-abuse-materials/> (stating the 32 million reports to the National Center for Missing and Exploited Children included 88 million images and videos).

177. See Crawford & Smith, *supra* note 166.

178. See *Ashcroft v. Free Speech Coal.*, 535 U.S. 234, 254 (2002).

propel the deviant market's prosperity. Thus, the rationale for proscribing RCP under the economic motive theory also applies to VCP, as it will "deter[] the crime by removing the profit motive."¹⁷⁹ Therefore, VCP's distribution causes indirect harm intrinsic to child sexual abuse by stimulating the RCP market.

ii. Seduction Theory

Child predators are methodical in their approach to seducing children. This process is referred to in literature as the "cycle of victimization."¹⁸⁰ First, the predator will befriend the child, typically done through a reward system.¹⁸¹ Further along the nurturing process, the predator will meet the child and attempt to become their confidante.¹⁸² Once the relationship has been nurtured, the predator will introduce the child to adult pornography, "designed to raise the child's curiosity level."¹⁸³ As the child becomes comfortable with the material, the predator introduces more deviant forms of pornography, including VCP or RCP.¹⁸⁴ It does not matter whether the images are real or simulated, they have the same devastating effect on the child who sees them.¹⁸⁵ This process repeats until the child's inhibitions are lowered enough to allow for sexual contact and/or photographs to be taken.¹⁸⁶

In 2024, the same indirect harms discussed above attach to VCP when it is used to lower the inhibitions of a child. However, VCP's indirect harm can also occur much earlier in the victimization cycle than its counterpart. No longer is it necessary for predators to overcome that initial trust barrier between an unfamiliar adult and a child. For example, the Head of Child Safety and Human Exploitation at ActiveFence stated, "[f]orum members have discussed ways to create AI-generated selfies and build a fake school-age persona in hopes of winning children's trust."¹⁸⁷

179. *See id.*

180. *CPPA Hearing, supra* note 22, at 94; Lucy Berliner & Jon R. Conte, *The Process of Victimization: The Victims' Perspective*, 14 *CHILD ABUSE & NEGLECT* 29, 37–38 (1990) (noting that, "[d]espite the variety of abuse situations," three elements are common among every child-adult sexual abuse relationship: "sexualization of the relationship, justification of the sexual contact, and maintenance of the child's cooperation").

181. *CPPA Hearing, supra* note 22, at 93 ("The pedophile provides food, toys, movies, or even coins for video arcade games.").

182. *Id.*

183. *Id.* at 95.

184. *Id.* at 96 ("[RCP] or [VCP] is shown to convince the child that other children regularly participate in sexual activities with adults or peers.").

185. *Id.* at 97.

186. *Id.*

187. Harwell, *supra* note 103; *see* Guy Paltieli & Gideon Freud, *How Predators Are Abusing Generative AI*, ACTIVE FENCE (Apr. 18, 2023), <https://www.activefence.com/blog/predators-abusing-generative-ai/> (noting that child predators are using AI to generate scripts to groom minors and producing guides on how to locate vulnerable minors).

As a result, if the predator does not wish to actually meet the child, the predator can simply generate an AI-child persona, including photographs or videos of the AI-child participating in sexual conduct.

A predator's access to this technology likely expedites the victimization process. Instead of having to convince the child that the adult-child relationship is acceptable, the predator can instead masquerade as a child, building trust and rapport much quicker.¹⁸⁸ Additionally, the predator can use their AI persona's VCP images to accomplish the same goal that predators use RCP to achieve—to convince the victim that other children regularly participate in sexual activities.¹⁸⁹ However, instead of the victim viewing random children participating in sexual conduct, the material will show the predator's AI-generated persona with whom the victim has already established a relationship. Thus, AI-generating technology expedites the victimization process.

Despite these overwhelming harms, the *Ashcroft* Court's reasoning that the indirect harm is dependent on further subsequent action is still present with VCP.¹⁹⁰ However, the *Osborne* Court faced the exact same issue with RCP.¹⁹¹ And, still, the *Osborne* Court held that indirect harm from RCP in the seduction process was sufficient to prove the state had a compelling interest in proscribing the material.¹⁹² Therefore, despite the need for subsequent criminal action, VCP's ability to expedite the victimization process, and its indistinguishable resemblance to RCP, supports the idea that its indirect harm should be considered intrinsic to the sexual abuse of children.

iii. Whetting the Appetites of Pedophiles

Unlike the economic motive and seduction theories of indirect harm, the indirect harm that stems from whetting the appetite of pedophiles is not based on the AI's new sophistication.¹⁹³ Instead, the main argument lies in the sophistication of

188. See *Attorneys General Letter*, *supra* note 1 (describing the VCP as “realistic sexualized images of children who do not exist”); see also Aine Fox, *Internet Watch Foundation Confirms First AI-Generated Child Sex Abuse Images*, INDEP. (July 18, 2023), <https://www.independent.co.uk/news/uk/politics/internet-watch-foundation-rishi-sunak-prime-minister-national-crime-agency-b2377092.html> (noting the IWF's worry is that analysts will not be able to identify whether the image is real or virtual); Crawford & Smith, *supra* note 166 (describing the images as “life-like”).

189. See *CPPA Hearing*, *supra* note 22, at 96.

190. See *Berliner & Conte*, *supra* note 180.

191. See *Ashcroft v. Free Speech Coal.*, 535 U.S. 234, 250 (2002).

192. *Osborne v. Ohio*, 495 U.S. 103, 110 (1990).

193. The argument is based on the predator's psychological response to the material. However, like VCP now, morphed images were also indistinguishable from RCP in 2002. Further, no evidence indicates images captured with technology in 2024 act as stronger or weaker stimuli than images from 2002. As a result, one predator's psychological response to morphed images in 2002 and another

psychological studies performed after 2002. One 2008 study specifically focused on the government's indirect theory of harm in *Ashcroft* that VCP whets the appetites of pedophiles.¹⁹⁴ The study's results weakly supported the government's theory. After viewing VCP, participants were "more likely to associate sex and sexuality to subsequent non-sexual depictions of minors."¹⁹⁵ However, this finding is the only one that supported the government's theory. The study further suggested that exposure to VCP did not increase an adult's likelihood to act on their new association between youth and sexuality.¹⁹⁶ Therefore, the study concluded that because one's formation of a cognitive association between youth and sexuality "does not by any means guarantee deviant action," it is at most a weak predictor of deviant sexual behavior.¹⁹⁷

Other studies have found more compelling links between viewing any type¹⁹⁸ of child pornography and sexual abuse.¹⁹⁹ Still though, while the studies all purport to find varying strengths of correlation, they also fail to show a direct causal link pointing from child pornography to sexual abuse. Likewise, in 1996, panelists at the Senate hearing on the CPPA also acknowledged that research at the time could not definitively make this showing either.²⁰⁰ Thus, the Court will likely not consider

predator's psychological response to virtual images in 2024 are likely the same. Therefore, AI's sophistication in 2024 is likely rendered obsolete when this indirect harm is considered.

194. See Bryant Paul & Daniel G. Linz, *The Effects of Exposure to Virtual Child Pornography on Viewer Cognitions and Attitudes Toward Deviant Sexual Behavior*, 35 COMM'N RSCH. 3, 4 (2008).

195. *Id.* at 35 (finding the strength of the participant's association was stronger as the child appeared younger).

196. *Id.*

197. *Id.*

198. Emma Waters & Trey Boyd, *AI-Generated Child Pornography Fuels the Child Sex Exploitation Industry*, HERITAGE FOUND. (Aug. 28, 2023), <https://www.heritage.org/technology/commentary/ai-generated-child-pornography-fuels-the-child-sex-exploitation-industry> (stating both RCP and VCP have the same effect—stimulating "the same addictive descent into more and more graphic material").

199. See Candice Kim, *From Fantasy to Reality: The Link Between Viewing Child Pornography and Molesting Children*, 1 AM. PROSECUTORS RSCH. INST. 1 (2004) (finding that a predator's child pornography collection is the best indicator of past action or future intent to engage in similar conduct); see also Michael L. Bourke & Andres E. Hernandez, *The 'Butner Study' Redux: A Report of the Incidence of Hands-On Child Victimization by Child Pornography Offenders*, 24 J. FAM. VIOLENCE 183, 189 (2009) (finding that "mere" collectors of child pornography have a high risk of also engaging in hands-on sexual offenses); Lisa L. Sample, *An Examination of the Degree to Which Sex Offenders Kill*, 31 CRIM. JUST. REV. 230, 242 (2006) ("46% of child pornography charges were accompanied by charges for rape . . ."); Emily Weissler, *Head Versus Heart: Applying Empirical Evidence About the Connection Between Child Pornography and Child Molestation to Probable Cause Analysis*, 82 FORDHAM L. REV. 1487, 1512 (2013) (noting the Butner Prison Study, N-JOV Study, and Notable Pedophilia Study all found possession of child pornography indicate pedophilia).

200. *CPPA Hearing*, *supra* note 22, at 39 (statement of Dee Jepsen, President, Enough is Enough) ("It is difficult to quantify 'cause and effect' as it relates to what actions mentally-recorded stimuli initiate or encourage. We must rely often upon 'antidotal' evidence.").

VCP's causal connection with the encouragement of sexual abuse to be any more potent than that of morphed images in 2002.

However, this is not a fatal conclusion because neither the *Ferber* nor *Osborne* Courts relied on the whetting the appetite indirect theory. Instead, the Supreme Court need only find the presence of a direct harm and either the economic or seduction indirect theories to hold that VCP poses harms intrinsic to child sexual abuse. Thus, even though studies have failed to find a definitive causal chain indicating VCP whets the appetites of pedophiles, state and federal governments still have a compelling interest in proscribing VCP and RCP the same.

V. THE PROVERBIAL WALLS HAVE BEEN BREACHED: NOW IS THE TIME TO ACT

Chief Justice Rehnquist's warning in his *Ashcroft* dissent has come true.²⁰¹ Technology has rapidly advanced, and *Ashcroft*'s precedent that child pornography cannot be proscribed unless it is produced with a real child has handcuffed Congress.²⁰² As a result, child predators are free to create whatever image satisfies their most deviant desires, such as images of babies and toddlers being raped.²⁰³ Sure, private AI companies are attempting to provide solutions, such as "invisible watermarks" to identify the image's creator,²⁰⁴ employing filters to block inappropriate content,²⁰⁵ and reporting misuse of their product.²⁰⁶ However, the cat is already out of the bag. Many of these AI-generating tools are open-source, meaning anyone can download the pre-trained AI tool.²⁰⁷ Despite their built-in restrictions, once the AI-image generator is downloaded, a user can bypass the image restriction filters with

201. See *Ashcroft v. Free Speech Coal.*, 535 U.S. 234, 267 (2002) (Rehnquist, C.J., dissenting).

202. See Brian G. Slocum, *Virtual Child Pornography: Does It Mean the End of the Child Pornography Exception to the First Amendment?*, 14 ALB. L.J. SCI. & TECH. 637, 697 (2004) ("If the Court adheres to the principles it espoused in [*Ashcroft*], it is unlikely that any statute proscribing [VCP], regardless of how narrowly it is drafted, could pass constitutional muster."); see also Waters & Boyd, *supra* note 198 (stating the *Ashcroft* decision has "deterred Congress from passing sufficient regulations . . .").

203. Crawford & Smith, *supra* note 166.

204. Harwell, *supra* note 103.

205. Issie Lapowsky, *The Race to Prevent 'the Worst Case Scenario for Machine Learning.'* N.Y. TIMES (June 24, 2023), <https://www.nytimes.com/2023/06/24/business/ai-generated-explicit-images.html>.

206. *Id.*

207. Crawford & Smith, *supra* note 166.

a few lines of code.²⁰⁸ Still, companies defend the open-source approach to allow for creative freedom.²⁰⁹

The VCP debate illustrates a profound dilemma, exposing a stark rift between America's conviction in the First Amendment and the typical American's deep-rooted moral convictions. In 2002, the *Ashcroft* Court likely fell on the correct side given the technology of morphed images and the Court's broad reading of the CPPA. However, in 2024, AI-image generators pose both direct and indirect harms that are intrinsically related to child sexual abuse. VCP, created by GANs and Diffusion Models, act as a record of sexual abuse for every child whose image it trained on. Its distribution and possession also pose indirect harm to children as economic motives and tools for further seduction, respectively. Moreover, the Obscenity Doctrine and *Williams*, the current legal limitations, do not eliminate the direct and indirect harms that are intrinsic to child sexual abuse. Thus, state and federal legislatures have a compelling interest in proscribing VCP like RCP. However, as others have noted,²¹⁰ the Supreme Court must first unshackle Congress's legislative arm by revisiting *Ashcroft*. "[T]he proverbial walls of the city have already been breached. Now is the time to act."²¹¹

208. Harwell, *supra* note 103 ("On dark-web pedophile forums, users have openly discussed strategies for how to create explicit photos and dodge anti-porn filters . . .").

209. *Id.* ("[U]ltimately, it's people's responsibility as to whether they are ethical, moral, and legal in how they operate this technology . . .") (quoting Emad Mostaque, Stability AI's Chief Executive).

210. *Id.* ("[T]he ruling probably merits revisiting, given how the technology has advanced in the past two decades.") (quoting Daniel Lyons, a law professor at Boston College); Waters & Boyd, *supra* note 198 ("[I]t's time for Congress to once again consider measures to regulate the porn industry, starting with this latest AI-generated child porn[ography].").

211. *Attorneys General Letter, supra* note 1.