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TOWARDS A GLOBAL INDICATOR
ON UNIDENTIFIED VICTIMS IN CHILD SEXUAL EXPLOITATION MATERIAL

Technical Report

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Contents

Acknowledgements

This report, written by ECPAT International and INTERPOL tries to answer several essential questions:

- What is the extent of child sexual abuse material and child sexual exploitation material on the Internet?

- How many unidentified victims exist?

- What patterns of offending can be identified that might help us better understand the plight of these victims in order to identify and protect them?

Foreword

Alongside economic globalisation, internationalisation, and free trade; the growth of the Internet has been an extraordinary catalyst for innovation and education.

Today, even in the remotest or poorest of communities, digital access has become essential to economic development and growth. And perhaps none will benefit more from this technology than our children.

But interconnectedness has brought about its own set of unanticipated social problems. Among these has been a dramatic increase in the number of opportunities for those who would harm children. The Internet makes it easier for offenders to produce, access and share child sexual abuse material, find like-minded offenders, and reduce their risk of detection. It has never been easier for perpetrators to make contact with children, share images of abuse and inspire each other to commit further crimes. And the anecdotal evidence suggests that this has resulted in perhaps millions of children being sexually exploited in recent years.
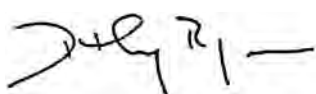
We know that sexual violence against children is a gross violation of their rights, which can cause emotional and physical suffering well into adulthood. But what is less clear is the precise extent of the problem. In order to end the sexual exploitation of children we have to understand it. Law enforcement agencies around the world agree that the scale of the problem is substantial, under reported and ubiquitous. However, the online sexual exploitation of children is by its very nature, secretive and hidden. Good quality empirical evidence remains hard to come by.

The research partnership between INTERPOL and ECPAT International that has led to this report, will help to change this situation by shining a light onto the Internet's most darkest and disturbing corners. It is a first step in understanding the scale of online abuse and the way children are being exploited, and a contribution towards developing an indicator related to the extent of violence against children online which can contribute to monitoring efforts related to the Sustainable Development Goals that call for an end to sexual violence against children.
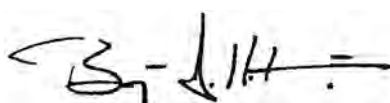
By analysing the International Child Sexual Exploitation Database housed at INTERPOL, we are now better able to fathom some offending patterns and behaviours, as well as (where possible) show a range of demographic data relating to children and their abusers, such as the approximate age of the children involved.

The findings of this report are disturbing because they confirm what we have long suspected – that the most vulnerable of children are more likely to be subject to the most horrendous abuse – and often on an industrial scale. At the end of the day, however, this research will lead to more children being protected and more perpetrators getting caught.

We would like to thank the members of the Technical Working Group who helped complete this report. The information contained in this document was gleaned from months of scrutinising and eloquently applying academic rigour to a set of often difficult and emotionally challenging data. Thanks must also go to the European Commission for funding this exercise and providing political and technical support along the way.

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Abstract

This report presents the results of a two-part analysis of the multi-country data set contained in the International Child Sexual Exploitation (ICSE) Database housed at INTERPOL and of consultations with law enforcement personnel in relation to the identification of victims and offenders pictured in Child Sexual Abuse Material (CSAM) and Child Sexual Exploitation Material (CSEM) seized by law enforcement around the world. It forms one component of a larger programme of the ICSE Database enhancement activities financed by the European Union and carried out between 2016 and 2018 under the title International Child Sexual Exploitation (ICSE) database Connectivity and Awareness Raising Enhancements (I-CARE) Project.

A ground-breaking cooperation between INTERPOL and ECPAT International, the study is broader in country coverage and possibly in other dimensions than any other previously analysed and publicly reported on. It responds to widespread recognition of the scarcity of reliable data and research on CSAM and CSEM to inform evidence-based policy and programmes to tackle the issue and protect children from online sexual exploitation and abuse across the world. It highlights the urgent need to develop representative international baselines of empirical data on the victimisation of children depicted in CSAM and CSEM, and to enhance the response by law enforcement agencies around the world to this problem.

The analysis has been subject to a number of legal, institutional and ethical conditions, which have been duly and carefully considered, and which have been addressed in the exercise. Taken together, a comprehensive perspective on the overall database contents, and a mix of quantitative and qualitative findings from a selected sample of observations, has produced a broad range of findings, whose statistical validity has been confirmed by an expert reviewer.

The study provides insight based on visual analysis of images and videos into the profile of unidentified child victims and their abusers, including age, gender, and type and severity of abuse, and further presents the results of analysis of case-related metadata for cases recorded as both identified and unidentified in the ICSE Database. It highlights the multi-faceted challenges presented to the law enforcement and child protection community by rapid evolutions in the means available for online child exploitation and abuse as a distinct subset of child sexual abuse and exploitation, and the increasingly complex role played by youth-produced sexual content in this landscape. Through analysis of confirmed and suspected locations of abuse as recorded in the ICSE Database, the study also considers the relationship between resource allocation for victim identification and rates of identification worldwide.

The study acknowledges that there are qualitative limitations inherent in the multi-country and multi-user data set of the ICSE Database, but also highlights the unique nature of the data set resulting from this diverse user base. This in turn underlines the distinctive position and potential of the ICSE Database for further technological evolutions, country connections, and as a tool in victim identification efforts, and reinforces the usefulness the ICSE Database for further research and as focal point for future efforts to build a global indicator.

Terminology and definitions

The *Terminology Guidelines for the Protection of Children from Sexual Exploitation and Sexual Abuse, or Luxembourg Guidelines*,[1] provide an overview of the key terms and definitions related to the phenomena of child sexual exploitation and abuse. They are the framework for terms used in this report. For referencing purposes, this document will be cited to in the table below as TG.

TERM	DEFINITION
Baseline	Baseline is a category created in the ICSE Database as an international standard that aims to isolate the worst of child abuse materials. To be considered as baseline, the material has to show: • A real child (not an artificially created image); • A prepubescent child (no sign or very first signs of puberty, appearing to be younger than 12 or 13 years old); • The child involved in/witness to sexual activities; and • The media has a clear focus on the child's sexual/anal area.
Child	Any person under the age of 18 years.[2]
'Child pornography'	Material depicting acts of sexual abuse and/or focusing on the genitalia of the child. The term 'child pornography' is still used when addressing legal issues and contexts, in particular when reference is made to international and domestic legal treaties that explicitly include this term… "Nevertheless, […], there is a growing tendency among both law enforcement bodies and child protection agencies to question the appropriateness of this term, and to suggest alternative terminology."[3]
Child sexual abuse material (CSAM)	The term 'child sexual abuse material' can be used as an alternative to 'child pornography' for material depicting acts of sexual abuse and/or focusing on the genitalia of the child.[4]
Child sexual exploitation material (CSEM)	The term 'child sexual exploitation material' can be used in a broader sense to encompass all sexualised material depicting children, including 'child sexual abuse material'.[5]
COPINE Scale	A widely employed scale from 1-10 for use in the analysis of sexual victimisation depicted in online CSAM/CSEM.
Grooming	In the context of child sexual exploitation and sexual abuse, 'grooming' is the short name for the solicitation of children for sexual purposes. 'Grooming/online grooming' refers to the process of establishing/building a relationship with a child either in person or through the Internet or other digital technologies to facilitate either online or offline sexual contact with that person.[6]
Hash value	Hash values can be thought of as fingerprints for files. The contents of a file are processed through a cryptographic algorithm, and a unique numerical value – the hash value – is produced that identifies the contents of the file. If the contents are modified in any way, the value of the hash will also change.[7]

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[1] Interagency Working Group on Sexual Exploitation of Children (2016), "Terminology Guidelines for the Protection of Children from Sexual Exploitation and Sexual Abuse" (hereinafter Luxembourg Guidelines). Retrieved from: http://luxembourgguidelines.org/.

[2] *Ibid*., 5-11.

[3] *Ibid*., 35-40.

[4] *Ibid*., 38-40.

[5] *Ibid*.

[6] *Ibid*., 51.

[7] TrendMicro, "Hash values". Retrieved from: https://www.trendmicro.com/vinfo/us/security/definition/hash-values.

TERM	DEFINITION
Hotline	Hotlines are services that offer the public a way of anonymously reporting material from the Internet they suspect to be illegal, including child sexual abuse material. A hotline will ensure that the matter is investigated and if found to be illegal the information will be passed to the relevant Law Enforcement Agency and in many cases the Internet Service Provider hosting the content.[8]
Information and communications technology (ICT)	ICT has no universal definition. Information and communication technology, abbreviated as ICT, covers all technical means used to handle information and aid communication. This includes both computer and network hardware, as well as their software.[9]
International Child Sexual Exploitation (ICSE) Database	Managed by INTERPOL, the International Child Sexual Exploitation (ICSE) image Database is an intelligence and investigative tool, which allows specialised investigators to share data related to child sexual exploitation investigations with colleagues across the world.[10]
ICSE user	Trained and certified law enforcement personnel and accredited non-law enforcement analysts.
Live online child sexual abuse	Live transmission of child sexual abuse broadcasted to viewers through 'streaming' over the Internet [often referred to as 'live streaming']. Streaming means the data are transmitted instantaneously to the viewer, who can watch and engage while the abuse is occurring. Live streaming may also be referred to as 'live streaming of child sexual abuse' or 'on-demand child sexual abuse'.[11]
Media (ICSE)	Video or image in the ICSE Database.
Online child sexual exploitation/ abuse (OCSE)	Online sexual abuse and/or exploitation can be any form of sexual abuse of children that has a link to the online environment.[12]
Paraphilic disorders	"To be diagnosed with a paraphilic disorder, the USA Diagnostical and Statistical Manual of Mental Disorders (DSM) -V requires that people with these interests: • feel personal distress about their interest, not merely distress resulting from society's disapproval; or • have a sexual desire or behaviour that involves another person's psychological distress, injury, or death, or a desire for sexual behaviours involving unwilling persons or persons unable to give legal consent."[13]
PhotoDNA	PhotoDNA is a technology developed by Microsoft and improved by Hany Farid of Dartmouth College that computes hash values of images, video and audio files to identify alike images. Use of PhotoDNA has become a leading practice in the industry's fight against child exploitation.[14]
Sexting	The "self-production of sexual images", or the "exchange of sexual messages or images" and "the creating, sharing and forwarding of sexually suggestive nude or nearly nude images through mobile phones and/or the Internet".[15]
Sextortion	Sexual extortion, also called 'sextortion', is the blackmailing of a person with the help of self-generated images of that person in order to extort sexual favours, money, or other benefits from her/him under the threat of sharing the material beyond the consent of the depicted person (e.g. posting images on social media).[16]

[8] INHOPE Foundation, "INHOPE at a glance". Retrieved from: http://www.inhope.org/gns/who-we-are/at-a-glance.aspx.

[9] European Commission, "Eurostat: Statistics explained". Retrieved from: http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Information_and_communication_technology_ (ICT).

[10] Interpol, "Victim identification". Retrieved from: https://www.interpol.int/Crime-areas/Crimes-against-children/Victim-identification.

[11] Luxembourg Guidelines (2016), 47.

[12] *Ibid*., 22.

[13] American Psychiatric Association (2013), "Paraphilic Disorders". Retrieved from: https://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwi7tem-no_ZAhVGZVAKHZOJCq4 QFgguMAA&url=https%3A%2F%2Fwww.psychiatry.org%2FFile%2520Library%2FPsychiatrists%2FPractice%2FDSM%2 FAPA_DSM-5-Paraphilic-Disorders.pdf&usg=AOvVaw3PAuSsF0F-itR5eVa0gBgH.

[14] Microsoft, "Fighting the harmful content problem". Retrieved from: https://www.microsoft.com/en-us/photodna; ECPAT international, "What are Hashes? What is Photo DNA?". Retrieved from http://www.ecpat.org/wp-content/uploads/legacy/IT%20Factsheet%20-%20What%20is%20PhotoDNA_0.pdf.

[15] Luxembourg Guidelines (2016), 44.

[16] *Ibid*., 52

TERM	DEFINITION
Travelling child sex offender	A 'travelling child sex offender' has been defined as a person who travels in order to commit sexual offences against children. Travelling child sex offenders may travel within their own country or region as well to commit sexual offences against children.[17]
Victim	For the specific purposes of this report, a child (under the age of 18 years) who is subjected to sexual exploitation and/or abuse where the act of sexual abuse and/or exploitation is recorded in images and/or videos.
Victim identification	The term 'victim identification' refers to an investigation process by experts to analyse CSAM/CSEM (child sexual abuse material/child sexual exploitation material) in order to identify the victims of sexual abuse or sexual exploitation.[18]
Victimisation	"The act of victimising someone; singling (someone) out for cruel or unjust treatment. The sexual exploitation and sexual abuse of children represent forms of victimisation, whereby the child is the victim of the exploitation/abuse."[19]

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[17] *Ibid.*, 88.
[18] *Ibid.*, 78.
[19] *Ibid.*, 81.

Acronyms

COPINE	Combating Paedophile Information Networks in Europe
CSAM	Child sexual abuse material
CSE	Sexual exploitation of children
CSEM	Child sexual exploitation material
CSO	Civil society organisation
EC	European Commission
EU	European Union
I-CARE	the International Child Sexual Exploitation (ICSE) database Connectivity and Awareness Raising Enhancements Project
ICSE	International Child Sexual Exploitation Database (INTERPOL)
ICT	Information and communication technology
INHOPE	International Association of Internet Hotlines
NCMEC	National Centre for Missing and Exploited Children (USA)
NGO	Non-governmental organisation
OCSE	Online child sexual exploitation
SDG	Sustainable Development Goals
SEC	Sexual exploitation of children
UNDP	United Nations Development Programme

A note on use of the terms CSAM and CSEM in the report

While acknowledging the use of the term 'child pornography' when addressing certain legal issues and contexts, ECPAT International and INTERPOL use the terms child sexual abuse material (CSAM) and child sexual exploitation material (CSAM).

'Child sexual exploitation material' can be used to encompass all sexualised material depicting children, including 'child sexual abuse material' which refers specifically to material depicting acts of sexual abuse and/or focusing on the genitalia of the child. The distinction between CSEM and CSAM is generally one of legal status, although detailed definitions and indeed use of these key terms varies between countries and languages. Because the ICSE Database contains both CSAM and CSEM, and because a discussion of the broader category of CSEM is relevant to any discussion of CSAM, this study addresses both types of material using the agreed definitions stated above.

As such, the study uses the combined term child sexual abuse material/child sexual exploitation material, or CSAM/CSEM, except where the distinction forms part of the narrative. Examples of this include when describing the different legal status of CSAM and CSEM in some countries, or when discussing distinctive phenomena in relation to one of the terms.

1 Introduction

1.1 About the project: Towards a global indicator

There is widespread recognition of the scarcity of reliable data and research on child sexual abuse material (CSAM) and child sexual exploitation material (CSEM). This is due to the clandestine and criminal nature of these phenomena. As noted below, some studies documenting the use of technologies to sexually exploit and abuse children have been conducted, with an emphasis on the characteristics of those victims depicted in the imagery.[20] However, the underlying constraints on evidence generation in the area remain. These are due, in part, to a lack of comprehensive and consistent data (e.g. on victim experience), methodological, ethical and legal challenges in researching CSAM/CSEM, and highly limited resourcing in relation to the scope and significance of the issue. No representative international baselines of empirical data have been produced on the victimisation of children depicted in this material, or on the quality of the response by law enforcement agencies around the world to this problem.

Through their respective programmes of work, INTERPOL and ECPAT International recognise an urgent need to fill this gap. Evidence is needed in order to raise awareness; support advocacy for improved policies, laws and resourcing; strengthen evidence-based programming, and to enhance law enforcement and other intervention in the sphere of victim identification at national, regional and international level. The present study is intended as an initial effort towards this goal, taking advantage of the momentum of heightened international attention and new commitments and partnerships to address online child sexual exploitation (OCSE), and the sexual exploitation of children more generally.

Background to the project

The idea of developing a global indicator for child sexual abuse material was first discussed by ECPAT and INTERPOL in 2015 in direct response to several calls in 2014 for increased research and indicators on this phenomenon. Those calls included the report of the Special Rapporteur on the sale of children, child prostitution and child pornography to the Human Rights Council,[21] and the First #WePROTECT Children Online Global Summit.[22]

The production of a global indicator is also closely aligned with the ECPAT International Strategic Framework 2015 – 2018 and Beyond,[23] and the INTERPOL General Assembly Resolution AG-2011-RES-08 relating to "Promoting victim-centric management of child abuse material at the national level",[24] which was adopted unanimously by INTERPOL Member States in 2011. Both partners see research and measurement of OCSE as essential for understanding the scale and nature of the problem, and for designing appropriate responses and countermeasures.

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[20] Baartz, D. (2008), "Australians, the Internet and technology-enabled child sex abuse: A statistical profile", Canberra: Australian Federal Police; Canadian Center for Child Protection (2016), "Child Sexual Abuse Images on the Internet: A Cybertip.ca Analysis". Retrieved from https://www.cybertip.ca/pdfs/CTIP_CSAResearchReport_2016_en.pdf; Carr, A. (2004), "Internet traders of child pornography and other censorship offenders in New Zealand". Wellington, New Zealand: Department of Internal Affairs; Quayle, E., and Jones, T. (2011), "*Sexualised Images of Children on the Internet*", *Sexual Abuse: A Journal of Research and Treatment*, 23(1), 7-21; Seto, M. C., Buckman, C., Dwyer, R. G., and Quayle, E. (2018), "Production and Active Trading of Child Sexual Exploitation Images Depicting Identified Victims: NCMEC/Thorn Research Report". Alexandria, VA: National Center for Missing and Exploited Children, forthcoming publication.

[21] Report to the United Nations General Assembly by the Special Rapporteur on the sale and sexual exploitation of children, Maud de Boer-Buquicchio (2014). Retrieved from: https://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&ved=0ahUKEwjXvaiGvpHZAhWLaVAKHYuvB7cQFgg3MAI&url=http%3A%2F%2Fwww.ohchr.org%2FEN%2FHRBodies%2FHRC%2FRegularSessions%2FSession28%2FDocuments%2FA_HRC_28_56_ENG.doc&usg=AOvVaw26ofw6ujO3uQyUXTrX0sbO

[22] WeProtect Global Alliance, "Worldwide cooperation to stop the crime of online child sexual abuse and exploitation". Retrieved from: http://www.weprotect.org.

[23] ECPAT International (2016), "ECPAT International Strategic Framework 2015-2018 and beyond". Retrieved from: http://www.ecpat.org/resources/ecpat-international-strategic-framework-2015-2018-and-beyond/.

[24] Interpol (2011), "INTERPOL General Assembly Resolution AG-2011-RES-08: Promoting victim-centric management of child abuse material at the national level". Retrieved from: https://www.INTERPOL.int/content/download/12398/85453/version/4/file/AG-2011-RES-08.pdf.

Due to the sensitive and confidential nature of law enforcement information, one reality is that third parties, including civil society organisations, have rarely been granted access to law enforcement data in order to measure and interpret the nature of child sexual abuse material (CSAM) and child sexual exploitation material (CSEM) around the world.[25]

Through this ground-breaking and unique cooperation between ECPAT International and INTERPOL, it has been possible for an experienced researcher contracted by ECPAT International to conduct both quantitative and qualitative analyses of data stored in the International Child Sexual Exploitation Database (the ICSE Database) housed at INTERPOL.

This research is intended to serve as a step towards greater understanding of CSAM and CSEM. It is hoped that it will help design evidence-based policy and programmes to tackle the issue and protect children from online sexual exploitation and abuse across the world.

1.2 The partners

1.2.1 ECPAT International

ECPAT International was founded in 1990 by a small group of individuals, who in 1991 launched the ECPAT "End Child Prostitution in Asian Tourism" campaign. Building on the success of mobilisation that ensued from this, ECPAT, together with UNICEF, the NGO Group for the Committee on the Rights of the Child (known now as Child Rights Connect) and the Government of Sweden organised the first World Congress against the Commercial Sexual Exploitation of Children (CSEC) in 1996. It was followed by a second World Congress in 2001 (organised with the Government of Japan) and a third in 2008 (organised with the Government of Brazil). All three Congresses successfully raised awareness and resulted in commitments by governments and civil society to end CSEC at all levels.

At global and regional levels, the ECPAT International Secretariat today coordinates research, advocacy, communication and capacity building actions to end the sexual exploitation of children. The 102 member organisations of the ECPAT Network working in 93 countries implement similar actions at national and local levels, and in a number of countries are involved in the direct provision of services to child victims or those at high risk of becoming victims of sexual exploitation. At all levels, the organisation has a strong track record of ensuring that children, particularly those who have been victims, have an opportunity to express their views and have them taken into account.

ECPAT fights the sexual exploitation of children in all its manifestations. In particular, ECPAT works on the following issues:

- Ending exploitation of children in prostitution;
- Ending sexual exploitation of children in travel and tourism;
- Ending child trafficking for sexual purposes; and
- Ending online child sexual exploitation, including child sexual abuse materials.

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[25] The terms 'Child Sexual Abuse Material' and 'Child Sexual Exploitation Material' will be used in accordance with the definitions and associated notations set down in the Luxembourg Guidelines.

The current report relates specifically to ECPAT's programme Combatting Online Child Sexual Exploitation:

1 Conduct research to collect information related to online child sexual exploitation;

2 Develop reliable data to support core advocacy goals at the international, regional and national levels, including the production of factsheets and papers;

3 Work with ECPAT members and other civil society organisations to increase awareness and understanding of online child sexual exploitation and build skills for more efficient advocacy work at a national level; and

4 Build partnerships with governments, law enforcement agencies, the technology and Internet industry, NGOs and United Nations agencies, to tackle online child sexual exploitation more effectively.

Together with its partners, ECPAT invests its technical expertise and time in dialogues, forums, processes and platforms that collectively seek to define and operationalise comprehensive strategies to address SEC. A key illustration of this approach, and of particular relevance to the theme of this current report, is the Model National Response (MNR) of the WePROTECT Global Alliance initiative,[26] on the Advisory Board of which both INTERPOL and ECPAT currently serve. The MNR provides a roadmap and guidance for the range of interventions required at national level to end online child sexual exploitation (OCSE).

In collaboration with numerous other stakeholders, ECPAT helped to develop the MNR, which now guides government agencies, the private sector and civil society to deliver synergistic and complementary interventions in the fight against OCSE.

The MNR and the work of ECPAT and its members in the fight against OCSE should also be seen in the context of the Sustainable Development Goals' (SDGs) commitment to address sexual violence against children (Targets 5.2, 8.7 and 16.2), which has led to heightened global attention to the problem and mobilised wider partnerships across the world.[27]

1.2.2 INTERPOL: Coordinating a global response to crimes against children

INTERPOL is the world's largest international police organisation, with 192 member countries.

INTERPOL's General Secretariat is based in Lyon, France, supported by the INTERPOL Global Complex for Innovation in Singapore, seven regional bureaus, and Special Representative offices at the African Union, the European Union and the United Nations. In addition, each member country has a National Central Bureau staffed by its own highly trained law enforcement officials.

INTERPOL enables police in its 192 member countries to work together to fight international crime. The organisation provides a range of policing expertise and capabilities, supporting three main crime programmes: Counter-terrorism, Cybercrime, and Organized and Emerging Crime.

The INTERPOL Crimes against Children (CAC) Unit operates as part of the Organized and Emerging Crime programme. Based in the General Secretariat in Lyon and with officers in its regional bureaux in Buenos Aires, Bangkok and at the INTERPOL Global Complex for Innovation in Singapore, the CAC Unit's task is to coordinate and respond to crimes committed against children, primarily focused on sexual abuse and exploitation. A key part of its work is in Victim Identification, for which it houses and administers the International Child Sexual Exploitation police Database, or the ICSE Database on which this research is solely based.

[26] WeProtect Global Alliance, "Worldwide cooperation to stop the crime of online child sexual abuse and exploitation". Retrieved from: http://www.weprotect.org.
[27] United Nations, "Sustainable Development Goals". Retrieved from: https://sustainabledevelopment.un.org/?menu=1300.

1.3 The focus of the report: Unidentified victims

This report contains the findings and recommendations of a unique collaboration between INTERPOL, through its Crimes against Children Unit, and ECPAT International, through its Programme Combatting Online Child Sexual Exploitation. The latter are based on the analysis of the multi-country data set contained in the ICSE Database housed at INTERPOL. This data set is broader in country coverage and possibly in other dimensions than any other data previously analysed and made public. The report is just one component of a larger programme designed to enhance the ICSE Database's activities from 2016 to 2018, under the title *International Child Sexual Exploitation (ICSE) database Connectivity and Awareness Raising Enhancements* Project (I-CARE). The I-CARE Project was co-funded by the Internal Security Fund of the European Union.

While both partner organisations recognise the complex and frequently interconnected nature of the many types of crimes committed against children worldwide, they also recognise and seek to address the specific challenges and risks to children in the online and digital environment. As such, this report focuses on child victims of child sexual abuse material and child sexual exploitation material, as a subset of the unknown number of child victims of sexual abuse.

Furthermore, while this research does include analyses of case data relating to identified victims as recorded in the ICSE Database, the overall focus of this research is on the subset of victims recorded in the ICSE Database as unidentified. This is to highlight the need to:

- Advocate more resources to identify victims in every country by presenting a descriptive profile of the victims who remain unidentified but whose victimisation will in many cases be on-going. This imperative to act is at the heart of the global indicator concept; and

- Investigate possible reasons that victims remain unidentified, given the significant record of law enforcement in identifying victims in countries where this work is prioritised and adequately resourced. While not the focus of this study, future programmes of research examining how and why certain investigations result in the identification of victims and/or offenders, could be beneficial to design future policies, programmes and trainings for law enforcement globally, including INTERPOL.

The overall benefits of this research and the application of its findings – namely to assess the situation of unidentified victims of online child sexual exploitation and abuse – are to:

1   Establish a basis from which to monitor the situation of unidentified victims, and to drive advocacy surrounding their situation; and

2   Develop metrics and related tools in support of law enforcement responses to this phenomenon across countries.

Significant benefits are anticipated from enhanced understanding and evidence-based approaches to addressing unidentified child victims of sexual exploitation and abuse. In particular, benefits include enhancement of the knowledge and capacity to respond of key duty bearers, including national law enforcement and justice systems, relevant international entities, and other stakeholders, as well as ultimately families and communities supported by these systems. This in turn is expected to lead to concrete benefits for current and potential child victims of sexual exploitation and abuse as the scope and depth of the phenomenon continue to increase.

Structure of the report

Chapter 1 provides a background to the study and the implementing partners, ECPAT and INTERPOL. It states the goals and objectives and describes the technical oversight and ethical standards applied.

Chapter 2 provides a review of the context in which the study has been developed.

Chapter 3 outlines the methodology used and describes the data and procedure for analysis.

Chapter 4 contains the results of the analysis and offers discussion surrounding those results.

Chapter 5 provides conclusions and recommendations for further action to enhance victim identification globally and to build a global indicator on CSEM.

1.4 The international child sexual exploitation database: A unique source of data on victim identification worldwide

As a key element of its work in Victim Identification, INTERPOL houses and administers the International Child Sexual Exploitation Database, or ICSE Database, on which this research is solely based. The ICSE Database is supported by the G8 and co-funded by the Internal Security Fund of the European Union. It was launched in 2009 as the successor to the INTERPOL Child Abuse Image Database, which had been in use since 2001.

The ICSE Database is a specialised tool for use by certified law enforcement officers to investigate child sexual abuse material (CSAM) and child sexual exploitation material (CSEM) in the form of images, videos and hashes, and compare them to other such data seized by law enforcement worldwide and stored in the database.

The main purposes of the database are to facilitate the process of identification of child victims of sexual abuse and to minimise duplication of efforts by law enforcement relating to the identification of said victims.[28] As of December 2017, law enforcement and other accredited personnel from 53 connected countries, plus INTERPOL and Europol staff that have been trained and subsequently certified by INTERPOL are connected to and use the database to share seized CSAM and CSEM and case-related information. Because the INTERPOL General Secretariat may also upload data into the ICSE Database on behalf of an INTERPOL member country that is not yet connected to the database, INTERPOL currently facilitates uploading from 88 countries to the ICSE Database.

The ICSE Database is available through INTERPOL's secure global police communications system to law enforcement and other accredited personnel in member countries qualified by the INTERPOL ICSE Database training. All INTERPOL National Central Bureaus hold primary control over the access of their national users to the ICSE Database. To be connected to the ICSE Database, a country must have a national criminal legislation proscribing CSAM/CSEM, a specialised national unit working with victim identification, and sufficient bandwidth to support the operation of their connection to the database.

As a tool and collaborative platform for investigation, the content of the ICSE Database is not restricted to illegal material. All material related to a known or suspected child victim of sexual abuse or exploitation can be relevant to his or her identification, and therefore may be stored in the database.

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[26] At the time of data extraction and analysis in August 2017, law enforcement officers and other accredited personnel from 50 countries plus Europol and INTERPOL were connected to the ICSE Database.

Figure 1: Organisation of CSAM/CSEM within the ICSE Database
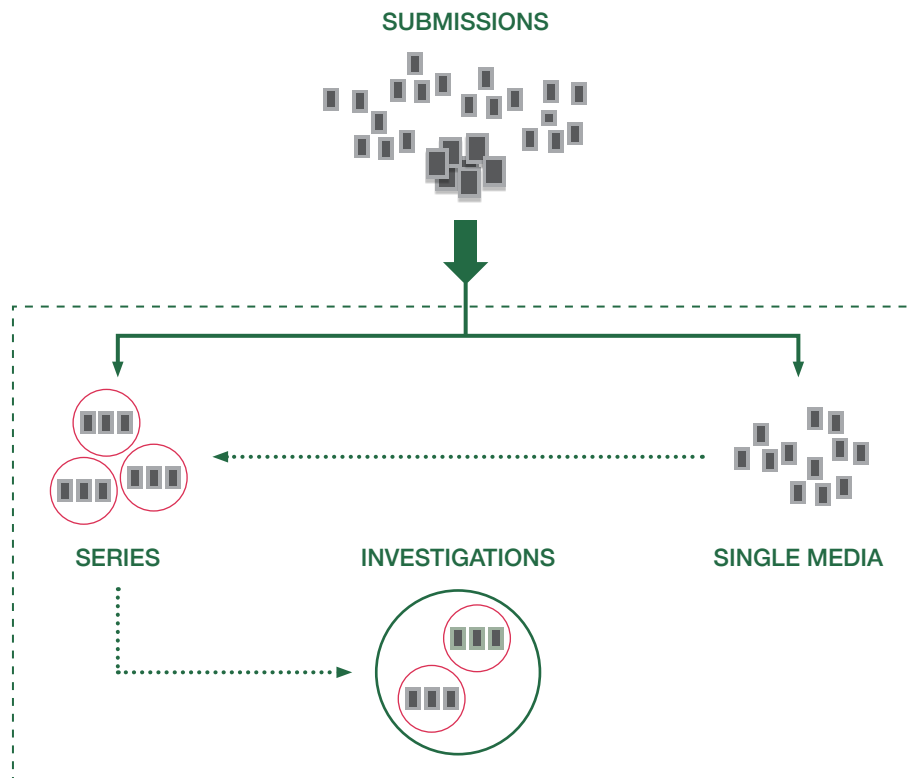
Users of the ICSE Database can organise their uploads or submissions of CSAM/CSEM based on known or suspected groupings of the materials and case-related status as shown in Figure 1. This includes:

1   **Series:** a grouping of images and/or videos according to criteria deemed relevant to the investigator.

2   **Investigations:** a grouping of series containing images and/or videos that signals an on-going investigation of those series.

The voluntary nature of database administration means that the amount and quality of information it contains is contingent on the will and resources of individual users. The system administrators of INTERPOL's General Secretariat provide quality control to ensure the integrity of the information entered as much as possible. The operation of the ICSE Database is supported by an INTERPOL resolution. However, there is no international mandate for countries to maintain a national database. The establishment of a database and connection to the ICSE Database is primarily dependent upon political priorities and available resources at national or local levels.

Triage of materials uploaded to the ICSE Database

Because of the two primary purposes of the ICSE Database (i.e. identify victims and offenders and avoid duplication of work by law enforcement officers), certain types of images and videos are uploaded to the ICSE Database as a priority.

1   Any image or video which would fall under the definition set forth in article 20(2) of the Council of Europe Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse (2007), namely: "*Any material that visually depicts a child* [according to Article 3 of the same convention, a child is any person under the age of 18 years] *engaged in real or simulated sexually explicit conduct or any depiction of a child's sexual organs for primarily sexual purposes.*"[29]

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[29] Council of Europe (2007), "Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse" (hereinafter Lanzarote Convention), signed on 25th October 2007, entered into force on 1st July 2010, Article 20(2).

2 Photographic media (images and videos) not falling under the above definition but that could be helpful in the identification of the child. Drawing, graphic animations, adult pornography or images/videos that are entirely unconnected to child abuse or exploitation generally (e.g. a library photo of a tortoise) or specifically (i.e. the investigating officer assesses the image/video to have no value for victim identification), are not eligible for storage in the ICSE Database.

The ICSE Database is a victim-centric tool to aid the identification of child victims and to reduce duplication of effort. Therefore, media are categorised according to the status of the child victim in an investigation:

- Images and videos depicting *identified children*, to minimise the likelihood of any duplication of effort relating to the identification of those victims; and

- Images and videos depicting *unidentified children*, with the aim of identifying the children.

In turn, these images and videos of identified and unidentified children may be categorized as *'distributed'* (known to be circulating online) or *'undistributed'* material (i.e. material believed not to have been shared by the offender).

Furthermore, for several reasons outlined below, the status of the offender (identified or not identified) does not always correspond to the status of the child victim.

Categorisation in the ICSE Database

When a country uploads an image or a video, the ICSE Database verifies whether the media already exists in the system. If the identity of the child victim or offender is known to law enforcement, the victim and/or offender are considered 'identified'. INTERPOL relies on the case owners at the agency level to update the status of cases (unidentified to identified) and to enter case information. Therefore, the number of unidentified cases in the database may be overestimated.

Suspected country of abuse

An ICSE user may attribute an image or a video a 'suspected country of abuse' if the user has strong reasons to believe the abuse occurred in a given country. The suspected country of abuse will be automatically alerted when this assignment is made.

It should be noted that the suspected country of abuse may be recorded by users of the ICSE Database based on information they have and/or their own knowledge. This should be seen as unconfirmed information intended to support victim identification through various means. For example, each time this field is completed by an investigator, the named suspected country of abuse will, if connected to the ICSE Database, receive an alert to review the new information and assess whether the victim may be from their country. Furthermore, this designation can be used to draw the attention of victim identification experts from a particular country or region or with knowledge of a particular language on the new information, with the hope that a more specific location could be determined.

Volume of data in the ICSE Database

As of August 2017, the ICSE Database contained over 1 million unique individual images and videos. Precise figures at the time of data extraction and analysis are provided in section 3.1.2 below.

Elements of the ICSE Database

ICSE Term	Notes
Series	A series is a group of images and/or videos that are related to each other in some way that is meaningful to the investigator, for example if the images and videos depict the same victim or the same crime scene. All related media should be linked to the same series as grouping is an essential process of victim identification. A series can consist of only one image if that image contains sufficient information to help identify a child, or if there is only one image depicting a child who has already been identified.
Ungrouped media	Media in the database that are not part of any series.
Metadata	All descriptive information linked to a media and/or series, added by an ICSE user during the upload process. This information may include a national case reference, the identification status of the victim or offender, where and how the media was discovered, the place of abuse and duration of abuse (if known) and the age of the victim(s) during the abuse.
Investigation	A user creates an investigation in the ICSE Database to inform all other connected countries and INTERPOL either that the child and/or offender has been identified in their own country, or that the country is actively working on the case. Several series may be linked to an investigation.
Baseline	Baseline is a category created in the ICSE Database as an international standard that aims to isolate the worst of CSAM. A media categorised as baseline in the ICSE Database should be illegal in every country where there is legislation in relation to CSAM. The aim is to provide industry partners with the hash list of these media so that they may detect its presence on their networks or systems, and report and remove it. To be considered as baseline, the material has to show: • A real child (not an artificially created image); • A prepubescent child (no sign or very first signs of puberty, appearing to be younger than 12 or 13 years old); and • A child involved in/witness to sexual activities, or the media has a clear focus on a child's sexual/anal area.

1.5 The goals and objectives of the project

By analysing images, videos and case-related data (metadata) stored in the International Child Sexual Exploitation (ICSE) Database housed at INTERPOL, this study aims to:

1 Contribute to producing indicators on unidentified victims of CSAM and CSEM; and

2 Provide an evidence base to advocate for States to allocate the needed resources to better address the sexual abuse and exploitation of children online, specifically in relation to CSAM/CSEM.

Research objectives:

1 Develop a descriptive profile of unidentified children depicted in CSAM/CSEM in the ICSE Database;

2 Offer insight into the usage and content of the ICSE Database; and

3 Present recommendations for further research and for the enhancement of international victim identification activities coordinated by INTERPOL through the ICSE Database.

1.6 Technical oversight of the project

ECPAT International in consultation with INTERPOL convened a Technical Working Group (TWG) to oversee the research and validate the findings contained in this report. The TWG consisted of eight leading experts on sexual exploitation and abuse of children, its online manifestations and related research, namely:

- Dr. Michael Busch, European Commission Directorate General for Communication Networks, Content and Technology;

- John Carr, Independent Consultant;

- Paul Griffiths, Victim Identification Manager, Argos, Queensland Police Service;

- Dr. Sean Hammond, Vice Head and Senior Lecturer, School of Applied Psychology, University College Cork;

- Jennifer Newman, Child Victim Identification Programme, National Centre for Missing and Exploited Children;

- B.A.(Ben) van Mierlo, National Programme on Vice, Child Abuse Images and Travelling Child Sex Tourists, Dutch National Police;

- Katarzyna Staciwa, Strategic Analyst FP Twins, European Cybercrime Centre, Europol; and

- Dr. David Parker, Independent Consultant.

1.7 Application of ethical standards and procedures

This research did not fall under the purview of an Institutional Review Board (IRB) or other ethical review panel of an academic institution of either partner organisation. Accordingly, an *ad-hoc* ethical review procedure was established through the Technical Working Group set up to oversee the project.

1.8 Conflicts of interest

No actual or potential conflicts of interest were identified by the ethical review subcommittee or the TWG in relation to the research team or to others involved with the research.

2 Reviewing the context

This section provides an overview of the context of CSAM/CSEM as a form of online child sexual exploitation (OCSE). It presents a picture of the fast and ever-evolving landscape of OCSE, and the child protection challenges these evolutions present. This in turn highlights the challenges of developing indicators on unidentified victims, and the importance of such indicators to inform policy and programming to protect children.

2.1.1 Current challenges in OCSE and barriers to identification

The sexual exploitation of children and young people, in any form, is a severe human rights violation as established under Articles 19 and 34 of the 1989 United Nations Convention on the Rights of the Child (UNCRC).[30] Sexual violence against children can manifest itself in many ways, including: in the form of incest, prostitution, child sexual exploitation and abuse materials, human trafficking and sexual aggression. All of which can result in serious physical and mental health consequences for children.[31] The right to be protected from sexual abuse and exploitation is fundamental in the sense that it largely determines children's possibilities to fulfil other basic rights that affect positive child development.[32]

The ascent of information and communications technologies (ICTs) has led to the proliferation of innovative mediums that enable people from diverse backgrounds to share materials and experiences in an unprecedented manner. Their communicative potential is such that online interactions mirror, and sometimes transcend, those that are possible in the offline world, overcoming physical, geographical and temporal constraints on human interaction. This rise of online technology, particularly social media, has offered young people a powerful platform for socialisation, leisure, community participation and educational development.[33] By extension, these developments have expanded the ecology of the child to encompass unchartered online environments.[34] These environments offer powerful, unbounded and interactive spaces for communication, in which some children become vulnerable to adult-perpetrated online sexual abuse and exploitation, and others become involved in the abuse or exploitation of their peers.[35] In this expanded ecology, children are too often stripped of traditional forms of guardianship – that of parents, families, schools, and wider communities. However, that guardianship is critical to child protection as it safeguards children against online child sexual abuse and exploitation.

In a similar vein, ICT has challenged law enforcement's capacity to surveil, manage and prevent sexual offences against children. Online media may be used at any stage of the process of exploitation and abuse. They may be used to engage with and predate on children, to facilitate networking with like-minded, deviant peers, or to support the proliferation of sexual images of children for example via distribution after an offline sexual contact offense has been committed.

[30] UN General Assembly (1989), "Convention on the Rights of the Child" Res. 44/25 of 20 November 1989, entered into force on 2nd September 1990, Article 19 and 34.

[31] Council of Europe (2011), "Protecting children from sexual violence – A comprehensive approach", Strasbourg: Council of Europe Publishing Editions.

[32] Jones, V., and Skogrand, E. (2006), "Visible evidence - forgotten children. The need for a child protection and children's rights focus in identifying children who have been sexually abused for the production of child abuse images", Brussels: Save the Children.

[33] Ito, M., Baumer, S., Bittani, M., Boyd, D., Cody, R., Herr, B.,Tripp, L. (2009), "Hanging Out, Messing Around, Geeking Out: Living and Learning with New Media", Cambridge, MA: MIT Press; Phippen, A. (2017), "Children's online behaviour and safety: Policy and rights challenges", London: Palgrave Macmillan.

[34] Martin, J., and Alaggia, R. (2013), "Sexual abuse images in cyberspace: Expanding the ecology of the child", *Journal of child sexual abuse*, 22(4), 398-415.

[35] Phippen, A. (2012), "Sexting: An Exploration of Practices, Attitudes and Influences". Retrieved from: https://www.nspcc.org.uk/globalassets/documents/research-reports/sexting-exploration-practices-attitudes-influences-report-2012.pdf.

Online child sexual abuse and exploitation traditionally occur in the production, exchange, viewing and sale of CSAM/CSEM, or when children and young people are solicited to engage in sexual acts via online technologies.[36] Moreover, online sex offending behaviour frequently involves other activities and media, which accompany or facilitate the commission of abuse and exploitation. For example, in describing the functions of ICT for the online child sex offender, Gillespie outlined several such additional practices, e.g. engaging in sub-criminal, sexualised communication with children, or accessing textual or audio depictions of sexual activities involving children.[37] The increasing use of mobile devices, social media, online gaming, cloud computing, live streaming and encryption technologies has made it easier for offenders to create and access CSAM/CSEM for private use, exchange or commercial gain. The consummate potential for abuse offered by these technologies has been underscored by an apparent diversification of strategies for the sexual abuse and exploitation of children and young people in the online environment in recent years. These mediums are commonly used to plan child sexual abuse and exploitation activities and to engage in deviant fantasies in virtual worlds,[38] to purvey sexual images of children for financial gain through the sexual coercion and extortion of children,[39] and even to commit violent sexual offences involving murder.[40] These developments have raised legitimate concerns about the danger that online child sexual abuse and exploitation presents to children, attendant challenges in the detection and management of online offenders and, critically, the task of identifying and supporting victimised children. Paradoxically, ICT offers an unprecedented window into the abusive and exploitative experiences of children, making the plight of victims more visible,[41] yet these same online dimensions both exacerbate victim experiences of abuse and exploitation, and enable complex modus operandi that make the identification of victims yet more challenging than ever before.[42]

In spite of protective legislation and policy in many state parties to the 1989 United Nations Convention on the Rights of the Child, together with increased intervention on the part of the public, private and third sectors, children and young people continue to be sexually abused and exploited through technology. The net effect of this situation is that increasing numbers of sexually abused and exploited children are being visually recorded, and these records are being distributed worldwide. Recent years have seen substantial international increases in the numbers of arrests and convictions for CSAM crimes in some countries.[43] Notable in this context is young people's increasing use of technology as a mechanism for sexual expression, and an associated increase in the rate of convictions for youth-perpetrated CSAM offences that has been observed in some quarters.[44] These increases have been attributed to a range of factors, including an increase in the use of ICT to support anonymous access to CSAM by individuals with a sexual interest in children,[45] increased availability of CSAM,[46] an increasing law enforcement focus on the detection of these

[36] Quayle, E. (2008), "The COPINE project", *Irish Probation Journal*, 5, 65-83.

[37] Gillespie, A. A. (2012), "Child Pornography: Law and Policy", London: Routledge.

[38] Mann, B. L. (2009), "Social networking websites–a concatenation of impersonation, denigration, sexual aggressive solicitation, cyber-bullying or happy slapping videos", *International Journal of Law and Information Technology*, 17(3), 252-267; Reeves, C. (2013), "Fantasy depictions of child sexual abuse: The problem of age play in Second Life", *Journal of Sexual Aggression*, 19(2), 236-246.

[39] Europol (2017), "Online Sexual Coercion and Extortion as a Form of Crime Affecting Children". Retrieved from: https://www.europol.europa.eu/publications-documents/online-sexual-coercion-and-extortion-form-of-crime-affecting-children-law-enforcement-perspective.

[40] Carr, J. (2011), "The Internet dimension of sexual violence against children. In Council of Europe", (Eds.), *Protecting children from sexual violence – A comprehensive approach*, 221-288, Strasbourg: Council of Europe Publishing Editions.

[41] Holland, G. (2005), "Identifying victims of child abuse images: An analysis of successful identifications". In E. Quayle and M. Taylor (Eds.), "Viewing child pornography on the Internet: Understanding the offence, managing the offender, helping the victims", 75-90, Dorset: Russell House Publishing.

[42] Netclean (2016), "Ten important insights about child sexual abuse: The Netclean report 2016". Retrieved from: https://www.netclean.com/the-netclean-report-2016/.

[43] Crown Prosecution Service (2014), "Violence against women and girls crime report 2013-14". Retrieved from: http://www.cps.gov.uk/publications/docs/cps_vawg_report_2014.pdf.

[44] Phippen, A., and Brennan, M. (2016), "The New Normal? Young People, Technology and Online Behaviour", *NOTA News*, 80, 11-12.

[45] Seto, M. C. (2013), "Internet sex offenders", Washington, D.C.: American Psychological Association.

[46] Akdeniz, Y. (2016), "Internet child pornography and the law: national and international responses", London: Routledge.

offences[47] and increasing use of technology by young people for sexual purposes.[48] These increases have presented challenges of caseload and case complexity to professionals in law enforcement, victim identification, social care, education, victim support and elsewhere, particularly in relation to the implementation of effective and protective law enforcement strategies, offence management, and other support interventions for those implicated in these offences.[49]

The phenomenon of OCSE presents an established and increasing challenge to these competent authorities and duty bearers – one that demands an informed response from policymaking and practitioner communities. However, the available knowledge and literature on the issue is somewhat siloed, and routinely fails to address the needs of victims of OCSE. In the context of intervention, priority has been given to crimino-legal aspects of online CSAM/CSEM, to matters of law enforcement and offender management, and to approaches that emphasise the management of digital manifestations of online child sexual abuse and exploitation as a problem of illegal content. Thus, insofar as knowledge generation is concerned, there has been a significant concentration of effort in the development of empirical research on the characteristics, risks and management needs of adult offending populations. Notwithstanding this effort, this body of research remains equivocal, and sometimes contradictory, with a notable absence of professional consensus around a theoretical or empirical framework to support effective assessment and management of this cohort, or the prevention of their offences. By contrast, and at least historically, victims have too often been regarded as collateral damage, whose identification was held secondary to the apprehension of suspects.[50] It is therefore unsurprising that little is formally known of the plight of the victims of CSAM/CSEM. Comparatively little knowledge is available concerning the phenomenon of online victimisation, its effects on children, avenues to their identification, recovery, or to the prevention of their exploitation and abuse. All the while, the available empirical evidence suggests that existing efforts to combat the problem of OCSE have enjoyed but limited success, as the scale of this problem, and attendant demands on the criminal justice system, appear to be increasing.[51]

This situation is grave, and has been complicated by a range of recent developments that have exacerbated victims' experiences of abuse and exploitation, while creating additional barriers to their identification. Furthermore, these developments have extended thresholds for vulnerability to online sexual exploitation and abuse to encompass cohorts of children who, heretofore, may not have been considered at particular risk of victimisation. The following sections, while not exhaustive in their scope, recount several such developments, and consider the particular challenges they present to those charged with the identification and management of victims of online child sexual abuse and exploitation.

2.1.2 Live online child sexual abuse

Live online child sexual abuse has invited substantial international concern for a number of reasons, such as the financial exploitation arising from transnational offender-victim interactions.[52] This practice involves sexual activity with a child that is transmitted live through online streaming services and viewed by others from a remote location. Its viewers, who may dictate how the acts should be carried out, and/or pay for the streamed sexual activities, may commission this form of abuse. Thus, live online child sexual abuse can involve multiple forms of child sexual abuse and exploitation,

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47 Eke, A. W., Seto, M. C., and Williams, J. (2011), "Examining the Criminal History and Future Offending of Child Pornography Offenders", *Law and Human Behavior*, 35(6), 466-478.

48 Quayle, E., and Cooper, K. (2015), "The Role of Child Sexual Abuse Images in Coercive and Non-Coercive Relationships with Adolescents: A Thematic Review of the Literature", *Child and Youth Services*, 36(4), 312-328.

49 Brennan, M., Merdian, H. L., and Perkins, D. (2017), "Online Sex Offending and Risk Management". In H. Kemshall and K. McCartan (Eds.), "Contemporary Sex Offender Risk Management", Volume II, 113-146, Cham: Palgrave Macmillan; Kimball. K. A. (2011), "Losing Our Soul: Judicial Discretion in Sentencing Child Pornography Offenders", *Florida Law Review*, 63(6), 1515-1548; von Weiler, J., Haardt-Becker, A., and Schulte, S. (2010), "Care and treatment of child victims of child pornographic exploitation (CPE) in Germany", *Journal of Sexual Aggression*, 16(2), 211-222.

50 Quayle, E. (2008), "The COPINE project", *Irish Probation Journal*, 5, 65-83.

51 Hamilton, M. (2011), "The child pornography crusade and its net-widening effect", Cardozo Law Review, 33, 1679-1732.

52 Virtual Global Taskforce (2015), "2015 VGT Child Sexual Exploitation Environmental Scan", The Hague: Europol.

e.g. prostitution, sexual 'performances', and the production of CSAM/CSEM.[53] What is new in this context is that contact sexual abuse can now be carried out remotely, with perpetrators engaging in highly interactive or personalised forms of sexual abuse and exploitation.

The presentation of live online child sexual abuse deserves particular consideration in the context of policing and management efforts. This form of online offending closely resembles a contact sexual offence; while the offender in question may not physically touch the child, the streamed contact sexual abuse of the child often occurs at the direction of the offender, thereby blurring the distinction that could traditionally be drawn between contact sexual offence and offences involving CSAM/CSEM.[54] Moreover, live online child sexual abuse may also create significant challenges for intervention, particularly in the recovery of digital evidence, and effective identification and management of victims in remote locations.[55] Unless, for example, an offender records the stream of the broadcast abuse, live streaming may leave little trace on the offender's device. From the victim's perspective, the forms of attendant abuse and exploitation are manifold, and exacerbated, with abusers acting simultaneously in local and remote locations at the time of their abuse. These victims are also vulnerable to other serious human rights abuses. Indeed, a recent report by the United Nations Office of Drugs and Crime[56] has pointed to a shift in 'child sex webcam centres' from the Philippines to Thailand, further to a series of operations by the Philippine authorities to combat this problem. So great has been the rise in child trafficking for the purposes of sexual exploitation in 'child sex webcam centres', that the authors report demand for children is outstripping supply in the Mekong region.

Live online child sexual abuse offences can create challenges for accurate classification and management of victims and offenders, both in research and public protection efforts. Notably, in the latter context, the phenomenon of live online child sexual abuse presents substantial challenges for victim identification interventions, and creates a greater dependence on the quality of joint victim identification law enforcement operations between the host jurisdictions of offenders and victims.

2.1.3 Child sexual exploitation material (CSEM) vs. child sexual abuse material (CSAM)

The preponderance of research and intervention efforts to combat online child sexual abuse and exploitation have concentrated on the issue of child sexual abuse material (CSAM), as defined and proscribed in relevant international legislatures.[57] Notwithstanding the apparent problem of CSAM, which depicts obvious and explicit forms of child sexual abuse and exploitation, some concern has been expressed in relation to less egregious, sexualised depictions of children that fall within the category of child sexual exploitation material (CSEM). CSEM depicts children in a sexualised manner or context, yet it does not meet the threshold for legal prescription in many countries.

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[53] Luxembourg Guidelines (2016), 46.

[54] A Swedish citizen was convicted of 'online rape; to 10 years of prison for sexually grooming online teenagers from the UK, US and Canada by a court in Uppsala in Olsen, J. M. (2017), "Swedish man convicted over 'online rape' of teens groomed into performing webcam sex acts", *Independent*, 1 December 2017. Retrieved from http://www.independent.co.uk/news/world/europe/online-rape-conviction-bjorn-samstrom-grooming-webcams-sex-acts-victims-uk-us-canada-uppsala-court-a8086261.html.

[55] Brennan, M., Merdian, H. L., and Perkins, D. (2017), "Online Sex Offending and Risk Management". In H. Kemshall and K. McCartan (Eds.), "Contemporary Sex Offender Risk Management", Volume II, 113-146, Cham: Palgrave Macmillan.

[56] United Nations Office of Drugs and Crime (2017), "Trafficking in persons from Cambodia, Lao PDR and Myanmar to Thailand". Retrieved from: https://www.unodc.org/documents/southeastasiaandpacific/download/2017/TiP_to_Thailand_20_Oct_2017.pdf.

[57] Including the Convention on the Rights of the Child (CRC),the Optional Protocol to the Convention on the Rights of the Child on the sale of children, child prostitution and child pornography (OPSC), the Council of Europe Convention on Protection of Children against Sexual Exploitation and Sexual Abuse, the Council of Europe Convention on Cybercrime and the Directive 2011/92/EU of the European Parliament and the Council of 13 December 2011 on combating the sexual abuse and sexual exploitation of children and child pornography.

These materials have been variously described as 'Non-extreme Child Exploitation Material'[58] 'Child Erotica'[59] or depictions in the 'Grey Area'[60] – with a range of debates on-going in relation to their role and significance in the sexual abuse and exploitation of children.

These debates have turned around an array of complex issues, including, for example, the conflict between proponents of freedom of artistic and personal expression versus those who argue that CSEM is intimately associated with the sexualisation, sexual exploitation or abuse of children. Relatedly, a tension exists in debates between the need to protect the sexual agency of children, or more specifically, their right to a normal cycle of sexual development in adolescence, and the need to protect children from early, and other harmful forms of sexualisation, particularly as mediated through ICT. There is a risk that the free availability of this material may promote a culture, which normalises the sexualisation of children, thereby putting other children at risk of harm. Although often legal, CSEM may (re)traumatise victims, compromise children's human dignity and expose victims to harassment or further exploitation and abuse, particularly in situations where it is 'self-generated'. At the same time, there is a danger that such content further promotes the sexualisation of children, encourages further sexual exploitation or abuse of children, and creates more demand for itself.[61] By way of illustration, Save the Children Europe[62] reported that images recovered online evidenced the contention that a proportion of the children exploited in CSEM available on 'child erotica' or 'modelling' sites had also been sexually abused in the production of illegal CSAM. Furthermore, it is worth noting anecdotally that many series of illegal CSAM also contain CSEM, and vice versa. This presents a challenge to law enforcement because the presence of CSEM depicting a child, which may not yet be illegal according to some national laws, does not necessarily imply that there has been no abuse of that child, or that there is no associated CSAM depicting that child.

Notwithstanding these debates, little is formally known of the characteristics and experiences of children depicted in this broad category of CSEM, particularly from an empirical perspective. The risks recounted above are grave, and underscore the requirement to improve our understanding of the relationship between forms of CSEM that may be legal in some jurisdictions and more explicit and illegal depictions of child sexual abuse and exploitation. Such understanding would, inter alia, inform current debates concerning the legitimacy of such materials, and whether or how this imagery should be managed and regulated in the collective international effort to combat the sexual abuse and exploitation of children. More specifically, in the context of victim-centric intervention, such knowledge would enable international law enforcement and other professional groups to target interventions towards problematic categories of CSEM.

2.1.4 'Youth-produced sexual imagery'

'Youth-produced sexual imagery' can broadly be divided into two main categories: sexual materials depicting children which are truly self-produced by the depicted child/ren and materials which are produced and/or shared online through, for example, criminal enticement by a third party. Without evidence or a report of criminal enticement by the victim or other person, it can be challenging for law enforcement to reliably distinguish between these two categories of imagery.[63]

58 Watters, P. A., Lueg, C., Spiranovic, C., and Prichard, J. (2013), "Patterns of ownership of child model sites: Profiling the profiteers and consumers of child exploitation material", *First Monday*, 18 (2). Retrieved from: http://www.firstmonday.dk/ojs/index.php/fm/article/view/4300/3409doi:10.5210/fm.v18i2.4300.

59 Lanning, K. V. (1987), "Child Molesters: A Behavioral Analysis for Law-Enforcement Officers Investigating Cases of Child Sexual Exploitation", Washington, DC: National Center for Missing and Exploited Children, 19. Retrieved from: https://files.eric.ed.gov/fulltext/ED307532.pdf.

60 i-KiZ. (2015), "Combat of the Grey Areas of Child Sexual Exploitation on the Internet", 9. Retrieved from: http://www.i-kiz.de/wp-content/uploads/2016_I-KiZ_Grey_Areas.pdf.

61 *Ibid*.

62 Save the Children Europe Group. (2005), "Position paper regarding online images of sexual abuse and other internet-related sexual exploitation of children". Retrieved from: https://resourcecentre.savethechildren.net/node/1782/pdf/1782.pdf.

63 NCMEC (2016), "Trends identified in CyberTipline sextortion reports". Retrieved from: http://www.missingkids.com/content/dam/ncmec/en_us/documents/sextortionfactsheet.pdf.

Significant concern has been expressed about the abusive and exploitative potential of 'youth-produced sexual imagery' and wider sexting practices for children and young people.[64] These concerns have become all the more acute in the face of recent empirical evidence which suggests that sexual materials produced by children have become firmly embedded in the larger corpus of CSAM/CSEM in circulation.[65]

Sexting may be broadly understood as the exchange of sexually explicit material via ICT,[66] typically encompassing picture, video and textual content. While most research and public discourse on this phenomenon has addressed the problematic aspects of children's sexting behaviours, sexting behaviour can function as a form of flirting and adolescent experimentation, and to enhance a sexual relationship.[67] Notwithstanding, substantial concerns have been expressed around the permanence of the imagery that is produced in the context of sexting activities and its potential to lead to long-lasting and harmful consequences for children and young people.[68] Particular focus has been given to legally problematic materials produced in the course of sexting exchanges, which have been described as 'youth-produced sexual images', or 'pictures created by minors (age 17 or younger) that depict minors and that are or could be child pornography under applicable criminal statutes'.[69]

Law enforcement, education, and social care professionals work with children whose formative sexual experiences are based upon such imagery.[70] Problematically, many children perceive little wrong with the redistribution of sexually explicit images of their peers, or pressuring another child to producing and sharing a sexual image of themselves.[71] At country level, schools in the United Kingdom have reported increasing experiences of cases featuring prepubescent children involved in the production or exchange of 'youth-produced sexual imagery'.[72] Here, the concern is not alone the production and dissemination of 'youth-produced sexual imagery' at increasingly young ages, but the associated problems of sexual abuse and exploitation of younger-age children that can result from this behaviour.

The longer-term implications of this scenario are unclear, but can be linked to increasing criminal justice system engagement with children and young people as 'perpetrators' of CSAM/CSEM-related offences. A recent Freedom of Information request to the UK's Ministry of Justice by Phippen and Brennan[73] demonstrated a year-on-year increase (2010-2015) in the number of prosecutions of 18-24 year olds under section 1 of the UK's Protection of Children Act 1978. Indeed, a general increase in such offences was observed across this 5-year period where the perpetrator was a minor.[74] This data indicates an increasing number of youth CSAM/CSEM users becoming engaged with law enforcement and the criminal justice system. Here the need for accurate classification and victim identification is particularly acute, given the complexity of some case presentations involving minors, where the distinction between victim and perpetrator is difficult to

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[64] College of Policing (2016), "Briefing note: Police action in response to youth produced sexual imagery ('Sexting') – Version 1.0", 2. Retrieved from:
http://www.college.police.uk/News/College-news/Documents/Police_action_in_response_to_sexting_-_briefing_(003).pdf.

[65] Quayle, E., Svedin, C. G., and Jonsson, L. (2017), "Children in identified sexual images – who are they? Self and non-self-taken images in the International Child Sexual Exploitation image database (ICSE DB) 2006-15". *Child Abuse Review*.

[66] Yeung, T.H., Horyniak, D.R., Vella, A.M., Hellard, M.E., and Lim, M.S. (2014), "Prevalence, correlates and attitudes towards sexting among young people in Melbourne, Australia", *Sexual health*, 11(4), 332-339.

[67] Cooper, K., Quayle, E., Jonsson, L., and Svedin, C.G. (2016), "Adolescents and self-taken sexual images: A review of the literature", *Computers in human behavior*, 55, 706-716.

[68] Houck, C. D., Barker, D., Rizzo, C., Hancock, E., Norton, A., and Brown, L. K. (2014), "Sexting and sexual behavior in at-risk adolescents", *Pediatrics*, 133(2), 276-282; Lunceford, B. (2011), The new pornographers: legal and ethical considerations of sexting. In B. E. Drushel and K. German (Eds.), "The Ethics of Emerging Media: Information, Social Norms, and New Media Technology", 99-118, New York, NY: Continuum International Publishing Group.

[69] Wolak, J., and Finkelhor, D. (2011), "Sexting: A typology", New Hampshire: Crimes Against Children Research Center, 2.

[70] Phippen, A. (2017), "Children's online behaviour and safety: Policy and rights challenges", London: Palgrave Macmillan.

[71] Phippen, A., and Kennedy, C. (2017), "Sexting and sexting behaviour – "Oh you're all children, children do silly things. You'll be fine. Get over it!", *Entertainment Law Review*, 28(6), 191-197; Phippen, A., and Brennan, M. (2016), "The New Normal? Young People, Technology and Online Behaviour", *NOTA News*, 80, 11-12.

[72] Phippen, A. (2018), "Sexting Culture and Practice in the U.K.: Moving the Conversation On", Exeter: South West Grid for Learning / U.K. Safer Internet Centre.

[73] Phippen, A., and Brennan, M. (2016), "The New Normal? Young People, Technology and Online Behaviour".

[74] Phippen, A., Brennan, M., Agate, J. and Leward, J. (2018), "Sexting and Revenge Pornography: Legal and Social Dimensions of a Modern Digital Phenomenon", London: Routledge, forthcoming publication.

make. This cohort is at particular risk of falling through the cracks for victim identification, particularly where child subjects of 'self-generated' CSAM/CSEM are classified as perpetrators rather than victims. The victim-blaming attitudes towards those featured in exploited 'self-generated' material that prevail among young people, responses that emphasise the illegality of 'sexting' practices with frequent recourse to prosecution, and attendant reluctance for victims to report, act as major barriers to victim identification and assistance in these cases.[75]

One obvious consequence of the variable presentation of sexting behaviours is that the cases that come to the attention of law enforcement are highly varied in presentation and context. Cases range from comparatively benign activities (e.g. where sexual materials are produced and shared in the context of a romantic adolescent relationship), to instances of explicit criminal harm (e.g. where a child is coerced into producing the material). Therefore, an on-going challenge remains: that of reliably distinguishing sexting behaviours and engagements with youth-produced imagery where some form of criminal harm is apparent, and where there is a public interest in sanctioning and managing the perpetrators.

Outside of cases of illegal adult involvement, there may be a public interest in criminal sanction in a proportion of peer-perpetrated sexting cases, e.g. where the case features coercion and other exploitative dimensions, or the exploitation and abuse of prepubertal children. Indeed, the online sexual extortion of children has emerged as a substantial challenge in these investigations. Online sexual extortion activities targeting children occur at the intersection of a number of criminal behaviours, including financial extortion, sexual grooming and online solicitation, and may bear the characteristics of one or all of these offences. This apparent overlap can give rise to conceptual confusion regarding the nature of online child sexual extortion, the criminal offences that may be implicated in this activity, and present challenges to reporting, victim identification, and other management interventions.[76] For example, a recent US survey of youth implicated in cases of sexual coercion and extortion determined that only 13% of victims reported their case to law enforcement.[77]

Notwithstanding, some efforts have been made in literature and practice to provide frameworks for the identification of criminal cases, and to guide intervention planning.[78] Moreover, the UK National College of Policing has also issued guidance to avert disproportionate use of prosecutorial responses.[79] The guidance proposes that case officers should seek, for example, to distinguish incidents of distribution of youth-produced sexual material with 'malicious intent', or with evidence of 'coercion'. However, the victim identification potential of guidance is limited in that the relevant features of the incidents such as 'malicious intent' or 'coercion' are not well defined for investigative purposes.[80]

2.1.5 The impact of CSAM/CSEM on its victims

These examples given in the previous section, offer some preliminary insights into the current nature and scale of online child sexual abuse and exploitation, with attention to key challenges to victim identification and other intervention. Notwithstanding the need to step up the scale and quality of victim-focused interventions, comparatively little work has been undertaken to advance an empirical understanding of the experiences of the subjects of CSAM/CSEM. Consequently, little, if anything, is understood of the ontology of this victimisation, the impact and sequelae of online child sexual abuse and exploitation, and the attendant victim issues that the international community should

[75] Brennan, M., and Phippen, A. (2018), "Youth-Involved Sexual Imagery – A Better Term to Challenge Blame Culture in Youth Sexting Cases?", *Entertainment Law Review*.

[76] Brennan, M., Merdian, H. L., and Perkins, D. (2017), "Online Sex Offending and Risk Management".

[77] Wolak, J., Finkelhor, D., Walsh, W., and Treitman, L. (2018), "Sextortion of Minors: Characteristics and Dynamics". *Journal of Adolescent Health*, 62(1), 72-79.

[78] Crown Prosecution Service (n.d.), "Guidelines on prosecuting cases involving communications sent via social media". Retrieved from: http://www.cps.gov.uk/legal/a_to_c/communications_sent_via_social_media/; Wolak, J., and Finkelhor, D. (2011), "Sexting: A typology".

[79] College of Policing, "Briefing note: Police action in response to youth produced sexual imagery ('Sexting') – Version 1.0".

[80] Phippen, A., and Brennan, M. (2017). "'Doing more' to end sexting - facts, fictions and challenges in the policy debate on young people's sexting behaviour", *Entertainment Law Review*, 28(3), 91-96.

address in its work to identify victims of CSAM/CSEM, to help them to access justice, and to support their recovery. Comparatively little data on victim impact and experience is available to inform the work of criminal justice stakeholders – for example, in assessments of offence severity, in support of sentencing and other management interventions. This situation continues to present serious consequences for victims, and directly compromises their potential to access justice, and otherwise realise their fundamental rights. By way of example, it has been alleged that the lack of conclusive data around the harmful impact of the dissemination of CSAM/CSEM has impeded victims' success in US restitution proceedings against individuals charged with possession of images of their abuse.[81]

The challenges and complexities now presented by online child sexual abuse and exploitation are not simply attributable to the unprecedented volumes of CSAM/CSEM in circulation, or the ease with which such imagery may be accessed and exchanged. As suggested above, these also extend to the additional abusive dimensions associated with CSAM/CSEM and fast-changing forms of online victimisation, such as live online child sexual abuse.

The difficulties in distinguishing the particular impact of a child's involvement in CSAM/CSEM from the effects of other abusive and exploitative practices have long-since been established.[82] Evidently, children depicted in CSAM/CSEM are almost routinely the subjects of sexual abuse and exploitation, whether perpetrated in domestic settings, or in other forms of sexual exploitation of children (SEC), such as children exploited in prostitution and trafficking. Indeed, victims of CSAM/CSEM may be sexually exploited in one, several or all of these ways.[83] In her seminal model of child sexual exploitation, Itzin[84] demonstrated the highly integrated nature of the myriad forms of child sexual abuse and 'pornographic exploitation', building upon Kelly's[85] conceptualisation of sexual violence as a continuum. Itzin depicted the relationship between the various intra-familial, extra-familial and commercial forms of child sexual abuse and exploitation as inextricably linked to each other within this continuum, each with the potential to give rise to the production of CSAM/CSEM. This paradigm highlights the fluid transitioning that can occur between one form of abuse or exploitation and another in the production of CSAM/CSEM, and attendant difficulties in isolating the effect of a specific abusive experience (e.g. the recording of the abuse) from another (e.g. involvement in trafficking or online solicitation) on the child. In the context of this study, focus is given to this specific manifestation of the wider problem of child sexual abuse and exploitation, namely that involving the recording of sexual abuse and exploitation in images and/or videos.

While sparse, the available evidence lends substantial support to the view that victims of online child sexual abuse routinely experience additional harmful effects. Notwithstanding the seemingly intractable relationship that exists between the effects of sexual abuse and exploitation and its material manifestations (i.e. CSAM/CSEM) on victims, the available literature has consistently distinguished heightened feelings of anxiety, shame and powerlessness as being associated with the production of CSAM/CSEM.[86] Nyman posited that ICT has both enabled and democratised CSAM/CSEM production and exchange, while simultaneously exacerbating the harmful effects of

[81] Laird, L. (2012), "Pricing Amy: Should Those Who Download Child Pornography Pay the Victims?", *American Bar Association Journal*. Retrieved from: http://www.abajournal.com/magazine/article/pricing_amy_should_those_who_download_child_pornography_pay_the_victims/?utm_source=rss&utm_medium=topics&utm_campaign=criminal+justice.

[82] Creighton, S. J. (2003), "Child pornography: Images of the Abuse of Children", London: NSPCC Research Department; Kelly L., Wingfield R., Burton S., and Regan L. (1995), "Splintered lives". Retrieved from: http://www.barnardos.org.uk/splintered_lives_report.pdf.

[83] Cooper, S. W. (2012), "The impact on children who have been victims of child pornography: Testimony before the U.S. Sentencing Commission". Retrieved from: https://www.ussc.gov/sites/default/files/pdf/amendment-process/public-hearings-and-meetings/20120215/Testimony_15_Cooper.pdf; Svedin, C. G., and Back, K. (2003), "Why Didn't They Tell Us? Sexual Abuse in Child Pornography", Stockholm: Save the Children.

[84] Itzin, C. (1997), "Pornography and the organisation of intrafamilial and extrafamilial child sexual abuse: developing a conceptual model", *Child Abuse Review*, 6(2), 94-106.

[85] Kelly, L. (1988), "Surviving sexual violence", Cambridge: Polity Press.

[86] Cooper, S.W. (2005), "Medical analysis of child pornography". In S.W. Cooper, R. Estes, A. Giardino, N. Kellogg, and V. Vieth (Eds.), "Medical and Legal Aspects of Child Sexual Exploitation", Saint Louis: GW Medical Publishing, 213-242, St Louis, MO: G.W. Medical Publishing; Hunt, P., and Baird, M. (1990), "Children of Sex Rings", *Child Welfare: Journal of Policy, Practice, and Program*, 69(3), 195- 207; Silbert, M. H. (1989), "The effects on juveniles of being used for pornography and prostitution". In D. Zillman and J. Bryant (Eds.), "Pornography: Research Advances and Policy Considerations", Hillside, NJ: Lawrence Erlbaum; von Weiler, Haardt-Becker and Schulte "Care and treatment of child victims".

CSAM/CSEM victimisation.[87] In cyberspace, there is potential for renewed viewing, multiplication and onward dissemination of this imagery.[88] Once disseminated online, CSAM/CSEM may become imbued with a perpetual quality making it difficult to retrieve, though considerable efforts have been invested more recently in initiatives such as Project Arachnid,[89] which help to reduce the online availability of CSAM and break the cycle of abuse.

What is understood of the particular sequelae of online child sexual abuse and exploitation has largely been observed and documented at the level of third sector support organisations and forensic or therapeutic services that engage with this cohort of victims. Many professionals in these sectors have reported that the production of abusive imagery introduces an additional dimension to the abuse and subsequent trauma experienced by victims.[90] Nyman described this as the dual trauma of pornographic exploitation – not alone have these children have been made vulnerable, sexually abused and exploited, they experience additional trauma that accompanies the knowledge that the abuse itself has been documented and made available to an indeterminable audience.[91] This view lends support to Zurbriggen, Pearce and Freyd's account of the impact of recording child sexual abuse on its victims.[92] Within the paradigm of 'betrayal trauma theory', Freyd proposed that child victims will experience additional harm transcending that which results from the actions being photographed.[93] This harm may come as a result of the dissemination of the image, wherein the publication or exhibition of the image may be perceived as a further betrayal of the child's trust, or an invasion of their privacy, leading to greater feelings of traumatisation. It is therefore unsurprising that the existence of recordings of the sexual abuse and exploitation of a child have been suggested to act as a further barrier to disclosure, reducing the likelihood of disclosure and sometimes preventing it altogether.[94] Nowhere is this theme more obvious than in cases of exploited production and dissemination of 'youth-produced sexual imagery'. Here, societal victim-blaming tendencies, personal feelings of guilt and violation, and punitive responses to child subjects of the imagery function to silence victims, while feelings of self-blame may become integrated into the victim's self-concept.[95]

The formal knowledge base around the impact of CSAM/CSEM victimisation is sparse, and relies heavily on anecdote and clinical experience, with the effect that many clinicians feel inept in the selection of suitable therapeutic models to support clinical work.[96] In most therapeutic contexts, technology is not the primary focus of the intervention. Rather, clinicians work to help the victim deal with the immediate trauma, feelings of guilt, betrayal and shame.[97] Notwithstanding, there is a growing awareness of the aggravating influence on the psychological sequelae experienced by CSAM/CSEM victims. A review of clinical interactions with CSAM/CSEM victims identified that this cohort frequently experienced psychological sequelae that transcend traditional diagnoses of post-traumatic stress disorder, anxiety and depression seen in victims of traditional forms of

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[87] Nyman, A. (2008), "Abused online", Linköping, Sweden: BUP Elefanten (Child and Adolescent Psychiatric Unit) and the County Council of Östergötland.

[88] Quayle, E. (2008), "The COPINE project", *Irish Probation Journal*, 5, 65-83.

[89] Canadian Center for Child Protection, "Project Arachnid".

[90] Loof, L. (2005), "Global Issues and Regional Co-operation in Fighting Child Exploitation". In E. Quayle and M. Taylor, (Eds.), "Viewing child pornography on the Internet: Understanding the offence, managing the offender, helping the victims", 151-160, Dorset: Russell House Publishing; Palmer, T. (2005), "Behind the screen: Children who are the subjects of abusive images". In E. Quayle and M. Taylor, (Eds.), "Viewing child pornography on the internet: Understanding the offence, managing the offender, helping the victims", 58-74; Svedin C. G., and Back, K. (1996), "Children who don't speak out", Stockholm: Save the Children.

[91] Nyman, "Abused online".

[92] Zurbriggen, E. L., Pearce, G. E., and Freyd, J. J. (2003), "Evaluating the impact of betrayal for children exposed in photographs", *Children and Society*, 17(4), 305-320.

[93] Freyd J.J. (1994), "Betrayal-trauma: traumatic amnesia as an adaptive response to childhood abuse". *Ethics and Behavior*, 4, 307–329; Freyd, J.J. (1996), "Betrayal Trauma: The Logic of Forgetting Childhood Abuse", Cambridge, MA: Harvard University Press; Freyd, J.J. (2002), "Memory and dimensions of trauma: terror may be 'All-too-well remembered' and betrayal buried". In J.R. Conte (Ed.), "Critical Issues in Child Sexual Abuse: Historical, Legal, and Psychological Perspectives", 139-173, Thousand Oaks, CA: Sage.

[94] Svedin and Back, "Children who don't speak out"; Loof, "Global Issues and Regional Co-operation in Fighting Child Exploitation".

[95] Brennan and Phippen, "Youth-Involved Sexual Imagery".

[96] Von Weiler, Haardt-Becker and Schulte, "Care and treatment of child victims".

[97] Nyman, "Abused online".

child sexual abuse and exploitation. CSAM/CSEM victims may also present with non-delusional paranoia, attributable to an inability to assure victims that images of their abuse may be removed from online circulation and destroyed.[98] In a similar vein, Loof described a series of particular effects associated with CSAM/CSEM victimisation: victims often fear that they will appear complicit in the abuse, especially if they are made to pose or smile in the pictures; they may experience a loss of control associated with the online distribution of images of their abuse, and difficulties in achieving closure where victims understand that evidence of their abuse will be forever in online circulation.[99] These anxieties often manifest in a series of challenges in therapeutic settings; impotence regarding disclosure of the abuse, as well as heightened feelings of shame, culpability and responsibility that are more challenging to resolve due to the perpetual quality of CSAM/CSEM.

2.1.6 The need for metrics and the challenge of quantification

Understanding the true scale, nature and impact of online child sexual abuse and exploitation is highly desirable, particularly in the interests of victim-centred policy-making and advocacy, yet it remains an elusive pursuit. This is due, *inter alia*, to a range of persistent challenges to the development of incidence and prevalence estimates, and a lack of an integrated, standardised approach to the development of reliable statistical information.

While the scale of the problem can be hinted at with the landmark number of 10,000 identified victims recorded in the ICSE Database by 2017,[100] there may be no way at present to estimate the real number of victims. Nevertheless, the available evidence overwhelmingly points to the fact that many more unidentified victims of CSAM/CSEM exist than those who are identified, with yet more unidentified children coming to the attention of law enforcement on a daily basis. These observations can also be seen in the context of the growing volumes of CSAM/CSEM and related data with which law enforcement around the world have to contend.

Indeed, it is widely acknowledged that many millions of child sexual abuse images are currently in online circulation.[101] Thus far, it has proved impossible to ascertain with any certainty how many unique CSAM/CSEM files are in existence or what numbers of children are implicated in this activity. Unfortunately, one major challenge to identifying this number is that there is new content being created and shared every day. However, the volumes of CSAM/CSEM materials processed by international law enforcement and other competent agencies serve as a useful indicator, and, considered together, number in the tens of millions. For example, NCMEC reports that its Child Victim Identification Program (CVIP) staff has reviewed almost 200 million images and videos since its inception in 2002.[102]

Estimates derived from materials seized by law enforcement in the context of their investigative activities are particularly useful in the sense that they give us some insight into the volumes of materials currently known to law enforcement, with attention to the number of unique CSAM/CSEM files archived from seized law enforcement collections. Moreover, these data attest to the scale of the challenge law enforcement is experiencing in the context of its investigative and prosecutorial activities, and in their joint efforts with civil society and the private sector to detect, block and remove access to CSAM/CSEM online.

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98 Cooper, "The impact on children who have been victims of child pornography".

99 Loof, "Global Issues and Regional Co-operation in Fighting Child Exploitation".

100 Interpol (2017), "Interpol network identifies 10,000 child sexual abuse victims". Retrieved from: https://www.interpol.int/News-and-media/News/2017/N2017-00.1

101 Carr, J., and Hilton, Z. (2011), "Combating child abuse images on the internet – international perspectives". In J. Davidson and P. Gottschalk, (Eds.), "Internet Child Abuse: Current Research and Policy", 52-78, Abingdon: Routledge.

102 NCMEC (2017), "Preventing crimes against children: assessing the legal landscape: Hearings before the Subcommittee on crime, terrorism, homeland security, and investigations committee on the judiciary, House of Representatives, 115th Cong (2017) (Testimony of John Shehan, National Center for Missing and Exploited Children)". Retrieved from: https://judiciary. house.gov/wp-content/uploads/2017/03/John-Shehan-Testimony-Crimes-Against-Children-House-Judiciary-Committee-final.pdf.

In the context of this study, one of the most insightful indicators of the challenge of the scale that CSAM/CSEM presents to international law enforcement derives from the number of CSAM/CSEM files retrieved and housed by investigating law enforcement in national or international CSAM/CSEM databases. Cataloguing unique CSAM/CSEM files in these centralised repositories allows investigators to quantify known material that has been accessed by a collector, to profile collections of media files in support of sentencing and other management, and critically, to distinguish CSAM/CSEM files that contain new or previously unseen sexual victimisation (and other information) from those already present in the database. As of August 2017, the library of seized collections maintained by Queensland State Police (Argos) contained approximately 19 million files. Of that number, it was estimated that 5.3 million were CSAM/CSEM-related files, comprising 2.1 million illegal (under local law) CSAM and CSEM files and 3.2 million legal but potentially related files.[103]

Notwithstanding the value of these indications, a number of caveats to the utility of these figures remain. The numbers of unique CSAM/CSEM files that may be retrieved and catalogued by investigators will vary in accordance with a range of factors, including the intensity of domestic operational activity in the online child exploitation sphere, or the differing qualities of the sexual depictions proscribed in domestic legislation. In almost every case, the files in question need to be confirmed by a trained investigator (or investigators) as conforming to the definitions of CSAM (or CSEM, where relevant) established in the laws of their jurisdiction. This situation can create substantial 'backlogs' in the categorisation of seized CSAM/CSEM, within national and international databases alike. Furthermore, while unique images housed in law enforcement databases will each maintain a unique hash signature or 'digital fingerprint' for that image, overlaps in the depicted content can still occur. There may be overlap between representations of abuse depicted CSEM files identified as 'unique' by law enforcement given that these files may be produced in close proximity to each other be edited (and hash signatures therefore changed) by CSAM/CSEM offenders. For example, offenders may produce morphed, pasted, cropped or 'cut-out' versions of the original image, or may refocus or otherwise alter the size and format of an image. New developments in the detection of visually similar images such as PhotoDNA[104] have improved this situation somewhat, but PhotoDNA is not used universally, and thus these caveats remain.

The figures described here underscore several major challenges to the quantification of CSAM/CSEM and the classification of victim data at the level of international law enforcement. Evidently, international law enforcement is grappling with the sheer scale of the challenge that processing of CSAM/CSEM and related case data presents. It was recently reported that the 'average' CSAM/CSEM seizure now contains between 50,000 and 500,000 images,[105] with new seizures being made daily. Meanwhile, NCMEC has reported that the volume of received CyberTipline reports relating to online child exploitation has risen dramatically – from over 1.1 million reports in 2014 to more than 8.2 million reports in 2016.[106] This trend shows little sign of abating. In 2017, NCMEC received more than 10 million CyberTipline reports, apparently attributable to a dramatic growth in the number of reports it is receiving from Electronic Service Providers.[107] This challenge of scale is further complicated by a range of challenges to reliable classification of CSAM/CSEM within and between law enforcement databases – such as the duplication of hash information due to minor changes in file characteristics, and differing definitions of CSAM/CSEM across jurisdictions, with attendant variations by jurisdiction in the categories of CSAM/CSEM-related information archived by law enforcement for the purposes of prosecution.

103 Griffiths, P., Personal communication with author, 18 August 2017.

104 Microsoft (2015), "Microsoft's PhotoDNA: Protecting children and businesses in the cloud". Retrieved from: https://news.microsoft.com/features/microsofts-photodna-protecting-children-and-businesses-in-the-cloud/.

105 Netclean (2017), "The Netclean report 2017".

106 Newman, J., Personal communication with author, 8 January 2018; NCMEC, "Preventing crimes against children".

107 *Ibid*.

2.1.7 Children in the images

There exists a small but growing increasing body of empirical data on the characteristics and experiences of children depicted in CSAM/CSEM. Typically, these studies have been conducted by competent agencies charged with the management of CSAM/CSEM, and in the context of a very small number of police-academic collaborations, where researchers have been granted mediated access to these collections, and where the reported data was distilled from the materials proper and/or their associated case files.

Early analyses of offender collections seized by law enforcement[108] suggested that the preponderance of files in seized CSAM/CSEM collections featured Caucasian girls of westernised appearance; according to both above-cited analyses Asian children comprised the second most common ethnic group represented in the image collections. These trends were latterly borne out in the findings of the first systematic study of a randomised selection of sexual images retrieved from a UK police database (ChildBase). Here, Quayle and Jones determined that the odds of CSAM/CSEM featuring female versus male children were about 4 to 1, while the odds of an image featuring white children rather than non-white children were about 10 to 1.[109] While white children dominated the sample, again Asian children featured second most commonly in the images, followed by Hispanic-Latino and black children.

Further information on the profile of victims derives from analyses of cases where child victims have been identified from the imagery.[110] Seto, Buckman, et al. performed an analysis of identified victims notified to NCMEC by U.S. law enforcement over a three-year period (July 1, 2011 to June 30, 2014).[111] Their data set comprised 1,965 cases involving one victim and one offender (one relationship) and 633 cases involving 'multiple relationships' between victims and offenders. In the one relationship subgroup, victims were predominantly white (85%), pubescent (61%), female (76%) with non-familial relationships (74%) with white (86%) male (98%) offenders. In terms of the relationships between victims and offenders, the review of the one relationship subgroup established that most children (64%) were abused by someone known to them – either in their nuclear family (11%), extended family (16%) or a non-family member known to the child (37%). Similarly, in the multiple relationship subgroup, victims were again prominently female (62%) with non-familial relationships (59%) to male (82%) offenders. The higher proportions of white girls depicted in CSAM/CSEM cases reported here is consistent with other, recent studies of identified cases in other jurisdictions. In their analysis of the characteristics of 687 cases of identified UK children Quayle, Svedin and Jonsson reported that approximately two-thirds of children depicted in the cases were female and 93% were white.[112]

In so far as proportions of 'self-generated' or 'youth-produced' sexual imagery have been categorised in these national studies of identified CSAM/CSEM cases, all have supported the contention that this material has become more prevalent in identified CSAM/CSEM cases. NCMEC reported that 9% of its 1,048 identified CSAM/CSEM series featured 'self-produced'[113] content.[114] However, it should be noted that these identified cases were limited to those series which had been 'actively traded' online,[115] and in many 'self-produced' CSAM/CSEM cases, the produced content were not widely distributed. Quayle, Svedin and Jonsson reported that 44.3% of identified UK cases were self-taken, with 34.4% produced in a coercive and 9.9% in a non-coercive relationship.[116]

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[108] Baartz, "Australians, the Internet and technology-enabled child sex abuse"; Carr, "Internet traders of child pornography".

[109] Quayle and Jones, "Sexualised Images of Children on the Internet".

[110] NCMEC, (2017), "Once the Shutter Snaps: From Victimisation to Restitution", Paper presented at the Crimes Against Children Conference, Dallas, TX; Seto, Buckman, *et al*, "Production and Active Trading of Child Sexual Exploitation Images".

[111] *Ibid*.

[112] Quayle, Svedin and Jonsson, "Children in identified sexual images".

[113] 'Self-produced' is the term used by NCMEC and includes those victims who have produced and distributed images of themselves.

[114] NCMEC, "Once the Shutter Snaps".

[115] NCMEC flags a series as "Actively Traded" if files from the series have been seen in prior CyberTipline and/or CRIS exams five or more times. At this time, pertains to NCMEC systems only. Of the 9,536 series entered into the CVIP system as of June 30th, 2017, only 1,048 series (11%) have been deemed Actively Traded.

[116] Quayle, Svedin and Jonsson, "Children in identified sexual images".

These authors reported that the prevalence of 'self-taken' imagery is not a recent phenomenon in identified cases in the UK. Since 2010, the number of 'self-taken' images each year has exceeded more than 40% of the total number of images in the UK (ICSE-connected) Database.

Analyses of CSAM/CSEM have also attended to the abusive and exploitative experiences of children depicted in the imagery. Perhaps the staff of the COPINE at University College Cork, Ireland conducted the first comprehensive analysis of sexual victimisation depicted in online CSAM/CSEM. In this seminal study, Taylor, Holland and Quayle attempted to identify the scope of abusive and exploitative activity that was featured within CSAM/CSEM in order to create an objective measure of the different levels of sexual victimisation within the images.[117] The resulting 10-point 'COPINE Scale', latterly subjected to an assessment of reliability and construct validity by Merdian, Thakker, Wilson and Boer,[118] identified that a broad spectrum of victimisation was apparent within CSAM/CSEM. Depicted victimisation ranged from Level 1 – 'indicative' imagery, at the lowest end of the continuum (featuring non-sexual images of children in swimming costumes, family albums or other licit settings where the context or the manner in which the picture was organised by the collector indicates inappropriateness), through Level 6 – 'Explicit Erotic Posing', where an explicit emphasis on the genital areas of a child was apparent, to Level 10 – 'Sadistic/Bestial' at the extreme end of the continuum, where children were depicted in an act of sexual torture or in a sexual act with an animal.

Moreover, the severity of sexual victimisation has also been categorised with attention to other paraphilias in the imagery. In this context, the depiction of other 'problematic paraphilias' – themes of sexual deviance related to illegal or non-consensual activity such as bestiality, coercive sex or necrophilia[119] – are significant in that they aggravating factor in the child's abusive or exploitative experience, and provide important corollary information in the assessment of the nature and severity of the child's victimisation. For example, in its recent analysis of the severity of sexual victimisation depicted in actively traded series,[120] NCMEC reported that 83% of its analysed series contained images depicting close-up exposure of the child's genitalia and/or anus; 60% of the series contained images depicting manual stimulation; 38% of the series contained images depicting oral copulation, and 48% of the series contained images depicting anal and/or vaginal penetration.[121] Other paraphilic themes also featured prominently in the depicted abuse and exploitation of children, with 8% of the series containing images depicting bondage and/or sadomasochism, 24% of the series depicting ejaculation, urination and/or defecation and 1% of the series containing images depicting bestiality.

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[117] Taylor, M., Holland, G., and Quayle, E. (2001). "Typology of paedophile picture collections", *The Police Journal*, 74(2), 97-107.

[118] Merdian, Thakker, Wilson and Boer, "Assessing the internal structure of the COPINE scale".

[119] Hammond, Quayle, *et al*., "An examination of problematic paraphilic use".

[120] NCMEC flags a series as "Actively Traded" if files from the series have been seen in prior CyberTipline and/or CRIS exams five or more times.

[121] NCMEC, "Once the Shutter Snaps".

3 Methodology

3.1 Research context and rationale for the methodology

The premise of this study was a shared recognition by both ECPAT and INTERPOL of the paucity of empirical data on the victimisation of unidentified children depicted in CSAM/CSEM, and of the inconsistent response of international law enforcement agencies to this problem. However, a number of fundamental constraints and considerations were identified at the outset of the project. These included the following:

1   The ICSE Database is, primarily, an operational tool for victim identification, and the data stored therein is primarily archived by INTERPOL staff and certified users from connected countries and agencies. In this sense, the data archived within the database is collected for the investigative purposes rather than empirical analysis.

2   The quality of the data retained within the ICSE Database itself. This is, in part, due to the voluntary nature of submissions to the ICSE Database by countries and agencies, for whom this task is usually in addition to their day-to-day work. This observation is not intended to undermine the primary importance attached to victim identification for ICSE-connected countries and agencies; rather, it reflects the reality of the competing demands that feature in many policing contexts where victim identification is undertaken.

3   The apparent ethical considerations involved in any study of CSAM/CSEM cases.

These considerations rationalised the methodological approach adopted in this study. They are recalled here, in the interests of transparency, and as a prelude to a description of the methodology adopted in the study.

Early in the project, ECPAT's research lead and INTERPOL reached the conclusion that the data that could be extracted from the ICSE Database and made available to ECPAT on unidentified victim cases would be insufficient to achieve the objectives of the project.

As a result, a formal agreement under strictly controlled data sharing and handling conditions was reached to grant supervised access by ECPAT's research lead to CSAM/CSEM together with its associated case data in the ICSE Database. It was decided that ECPAT's research lead would act as a third party to undertake data collection at INTERPOL.

A research protocol validated by a Technical Working Group (TWG), appointed to oversee the study, complemented this agreement. Together, these documents comprised the framework for the execution of data collection and broader research-related activities.

3.1.1 Ethical considerations

This study raised many complex ethical issues for the research team, particularly from the perspective of child rights. This report applies a broad framework in its appraisal of the major ethical issues the project raised, as well as the attendant ethical provisions that were established in the project to respond to these issues. Specifically, the framework addresses the following key areas:

• Ethical justification and scope of the research;

• Benefits and harms to research subjects;

• Ethical issues in the research design;

• Respect for research subjects and informed consent; and

• Protection of research staff.

It is important to note that the considerations and provisions described here do not exhaustively describe the framework of ethical issues addressed in the project design and activities. A supplementary description of the ethical provisions of the project may be referenced at Appendix A.

A framework comprising the above-mentioned themes formed the basis of an independent review of the ethical dimensions of the project, performed by a sub-group of the Technical Working Group (TWG). This review was undertaken in advance of the data collection phase of the project. A copy of this review may be accessed at Appendix B.

3.1.2 Ethical justification and scope of the research

The ultimate aim of the study is to serve as a tool to advocate for states to allocate the needed resources to identify child victims of sexual abuse and exploitation. To contribute to the production of a set of metrics and address the situation of this specific vulnerable and exploited group of children, it was necessary to access and analyse data contained in the ICSE Database, as noted above. The scope of the research was therefore limited to, and defined by, the available data.

3.1.3 Benefits and harm to research subjects

The requirement described above to access and code data from CSAM/CSEM series recalled a series of ethical challenges in the management of CSAM/CSEM data in law enforcement contexts, and issues of possible revictimisation, as highlighted by authors such as Palmer[122] and Quayle.[123] These challenges relate to the victims' awareness that their abuse has been discovered and viewed by law enforcement, and their inability to determine whether, or under what conditions, their imagery is used to support law enforcement activity. While there may be justification for certain practices, such as acquiring evidence for prosecution or for the identification of victims, there is a more fundamental apprehensiveness about how law enforcement's concern with victim identification and offender apprehension can supersede and invalidate the needs, wishes and interests of child subjects of these materials.[124]

To respond to these issues, the Collaboration Agreement between the partners, together with a research protocol detailed the data that would be accessed by ECPAT's research lead, and the conditions under which this data would be accessed, handled and applied in the context of the project. Central to these arrangements was:

- The anonymised extraction of case data from the database, such that no personal or identifying data relating to the child subjects of this study would be released to non-law enforcement members of the research team in the process of data collection or analysis;

- The agreement that any visual analysis of CSAM/CSEM data could only be conducted under highly controlled conditions and by suitably experienced researchers; and

- The exclusion of non-distributed series from the sample made available to ECPAT's research lead for visual analysis. These series are afforded special protections within international law enforcement databases to ensure no inadvertent distribution of the series and revictimisation of the featured child victim. They were therefore considered ineligible for inclusion in the visual analysis component of the study.

3.1.4 Ethical issues in the research design

The project did not require direct engagement with children. However, in view of the major project objectives, the project required access to sensitive (i.e. personal and law enforcement-sensitive) information pertaining to individual cases of unidentified victims of online CSAM/CSEM housed in the ICSE Database.

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[122] Palmer, "Behind the screen".
[123] Quayle, "The COPINE project".
[124] *Ibid*.

While the Collaboration Agreement and research protocol ensured that accessed data were not linkable to identified individuals, there remained ethical risks which called for careful and systematic attention to privacy and confidentiality: (1) to child victims, including in the event that they might later be individually identified; (2) to national and international law enforcement sources of the CSAM/CSEM and related data, and (3) to the safety and well-being – and potentially the reputation – of the organisations and researchers participating in the study. These concerns called for thorough and systematic protection and management of the research data at all stages, as well as the thorough documentation of the chain of permissions required to access and analyse the data throughout the project.

3.1.5 Respect for research subjects and informed consent

This study involved an analysis of case records of seized CSAM/CSEM series, featuring unidentified victims uploaded by law enforcement agencies around the world to the INTERPOL ICSE Database. Given the unidentified status of these cases, it was not possible to secure the informed consent of the children whose case data was analysed in this research. However, this did not negate the research partners' duty of care to the needs and interests of unidentified children whose data featured in the study.

In view of the fact that the research was not directly performed with INTERPOL personnel or ICSE Database users for sample 1 and 2, the traditional informed consent process used for research with human subjects was not required. However, as 'data administrators' or 'gatekeepers' to the data relating to unidentified victims in the ICSE Database, the consent of the national specialised units connected to the ICSE Database was sought in order for their case-related data to be included in the study.

3.1.6 Protection of research staff

As with any study with victims of sexual violence, issues of researcher abreaction, trauma and safety were substantial concerns. ECPAT's research lead and sole analyst of the CSAM/CSEM series was a psychologist with many years of experience working directly with CSAM/CSEM and related cases, both in research and victim identification contexts. Thus, she maintained working familiarity with the strategies and supports to be set in place to safeguard her mental health and wellbeing in the research process.

Notwithstanding, researching accounts of pain and trauma can affect researchers, both physically and emotionally. This reality confers a duty of care to support researchers in identifying, managing and, where possible, preventing, vicarious trauma. The research was conducted in accordance with best research practice in this domain, as established, for example, under the guidance of the Sexual Violence Research Initiative.[125] By ensuring support from a mental health professional and controlling the circumstances in which ECPAT's research lead was able to access the case data at INTERPOL; ECPAT, the TWG and the lead researcher worked to ensure that the research was designed to mitigate any risks to the research lead.

3.2 Data

3.2.1 Analytic approach and sample development

The study proceeded in two parts. Part 1 of this analysis comprised two samples (Sample 1 and Sample 2), developed from case records housed in the ICSE Database. The sample to support Part 2 of the analysis was drawn from a series of consultations held in November 2017 with international law enforcement active in the investigation of online child sexual abuse and exploitation.

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[125] Sexual Violence Research Initiative, "Who we are". Retrieved from: www.svri.org.

For Part 1 Sample 1, the media file (image or video) formed the unit of extraction and analysis. The rationale for this decision was that a substantial proportion of media uploaded to the ICSE Database were not grouped into series by ICSE users, meaning that analysis at media level would ensure the inclusion of all unidentified victims of CSAM/CSEM in the ICSE Database. In addition, certain types of case information is recorded in the ICSE Database at the level of the media file, rather than at series level. Nevertheless, while necessary, using the image as the unit of analysis presented some limitations given, for example, that the same child may be depicted in many images recorded in the ICSE Database.

In the case of Part 1 Sample 2, the particular limitations on the types of data archived by ICSE-connected users in relation to unidentified children required the use of a mixed methodology. This involved a visual analysis of a sample of unidentified CSAM/CSEM extracted from the ICSE Database, based on a categorisation framework of *a priori* themes. For this sample, the research team was keen to ensure that the victim's experience was documented to the fullest extent possible, to accommodate the limitations of the data forms available to the project, and to counter the above-described limitations to the use of individual media files as the unit of analysis. Thus, in the visual analysis of Sample 2, the series formed the unit of analysis, in order to accommodate these limitations and more faithfully represent the characteristics of unidentified victims depicted in the ICSE Database.

The project's data collection and sample development activities are described in the sections that follow.

3.2.2 Part 1 Sample 1: Case metadata for all unidentified and identified media files in the ICSE Database

In the case of Sample 1, a sample development instruction was formally issued to INTERPOL in order to facilitate the extraction of case data for inclusion in the analysis. This extraction was made directly from the ICSE Database by INTERPOL's IT team using a bespoke extraction script, designed to accommodate the sampling instructions provided by ECPAT International. The sampling instruction encompassed details of the nature of the desired sample (i.e. all images and videos currently categorised within ICSE), as well as a list of specific fields of case information for each file that were collaboratively identified between ECPAT and INTERPOL in advance of formal data collection.

The following categories of information were extracted for each media file in the ICSE Database:

- "MediaID": an arbitrary number, assigned by INTERPOL for the purposes of the GII project, that uniquely identified each media file;

- "SeriesID": an arbitrary number, assigned by INTERPOL for the purposes of the GII project, that uniquely identified a series of images or videos, where the relevant media file had been grouped to a series within the ICSE Database;

- "InvestigationID": an arbitrary number, assigned by INTERPOL for the purposes of the GII project, that uniquely identified each 'investigation' initiated within ICSE, where the media file had been made the subject of an 'investigation' within the ICSE Database;

- "Offender Identified": whether the relevant media file featured an identified or unidentified offender;

- "Media Type": whether the relevant media file was in image or video format;

- "Suspected Country of Abuse" (Unidentified cases only): the country where categorising ICSE user suspected the abuse took place;

- "Place of Abuse" (Identified cases only): the city and/or country where the depicted victim was identified; and

- "First Submission Date": the date the relevant media file was initially uploaded to the ICSE Database by an ICSE user.

While the resulting, extracted sample of victim case data was relatively straightforward in its composition, the data extraction and sample development activities were not exclusively researcher led and were performed with the support of INTERPOL's IT team. Therefore, ECPAT's research lead liaised closely with INTERPOL's IT team in advance of making this request to finalise details of the sample profile, and to ensure mutual understanding of the sampling requirements, and their feasibility, before the sample was generated. Upon extraction, the content of each extracted category was reviewed by ECPAT's research lead and subjected to extensive cleaning, recoding and cross-checking within SPSS in preparation for analysis.

3.2.3 Part 1 Sample 2: Visual analysis of CSAM/CSEM series featuring unidentified victims

In the case of Sample 2, INTERPOL performed an initial extraction of anonymised case data for all distributed series in the ICSE Database. This extraction comprised the sampling frame from which the sample was developed. The information extracted for all distributed series in the database comprised a series of information fields pre-specified by the research team, and established in the Collaboration Agreement, for sample development purposes. In view of the partners' expressed commitment to extract and share the minimum amount of information necessary to fulfil the project objectives, the research partners only extracted those data fields required to formulate a random sample of unidentified video and image series, stratified by identification status. These fields were as follows:

- "MediaID": an arbitrary number, assigned by INTERPOL for the purposes of the GII project, that uniquely identified each media file;

- "SeriesID": an arbitrary number, assigned by INTERPOL for the purposes of the GII project, that uniquely identified a series of images or videos, where the relevant media file had been grouped to a series within the ICSE Database;

- "Media Type": whether the relevant media file was in image or video format;

- "Victim Identified" (identification status): whether the relevant media file featured an identified or unidentified child; and

- "First Submission Date": the date the relevant media file was initially uploaded to the ICSE Database by an ICSE user.

It is important to reiterate, given the research partners' concern to protect the subjects of non-distributed series from any inadvertent distribution of their data and risk of revictimisation, that this information was extracted for distributed cases only. Furthermore, notwithstanding its anonymised nature, given the sensitivity of the cases under scrutiny, the extracted data was provided to ECPAT's research lead via a secure, encrypted transfer, and stored and handled in similarly controlled conditions on the research lead's local machine over the duration of the project.

Further to this provision, a randomised, stratified sample of victim cases for inclusion in Sample 2 was developed from the sampling frame using a series of routines in Microsoft Excel. At this point, a sample development instruction, comprising the identifiers for those cases to be included in Sample 2 was formally issued from ECPAT's research lead to INTERPOL's IT team. The sampling instruction comprised a list of 1,000 series identifiers, drawn in a randomised, stratified fashion from the sample frame data using aforementioned sampling routines performed in Microsoft Excel. This sampling instruction facilitated the extraction of sample data (images, videos and supporting case metadata) by INTERPOL's IT team for inclusion in the analysis.

Once extracted and securely released to ECPAT's research lead, the case characteristics (e.g. victim age category; ethnicity; gender and number of victims) of a sample of CSAM/CSEM series were field-coded by ECPAT's research lead to a spreadsheet for later analysis with the assistance of the above-described categorisation framework. This component of the data collection was performed on duly authorised law enforcement premises. All visual materials (image and video series) were made available to ECPAT's research lead on an INTERPOL-issued computer, which was secured to prohibit any transfer of data to or from the computer in the course of the visual analysis (this machine was not networked or Internet-connected, it was stripped of file editing applications and all computer ports that could facilitate physical data transfer to and from the computer were disabled). As emphasised previously, no personal or identifying information pertaining to the subjects of the material was coded from the CSAM/CSEM series to the spreadsheet or otherwise removed from the authorised law enforcement premises during this data collection phase.

In some cases, it was necessary to exclude extracted series from the analysis. Series were excluded from the analysis where the ICSE CAC Team agreed that a given series was incorrectly categorised by a user (e.g. did not conform to INTERPOL-advised criteria for a series, or featured an adult), where the visual quality of the media files made it impossible to code the depicted content, or where errors in the extraction process meant that series content was incomplete or that media files were corrupted and could not be viewed by the researcher.

Further to the field-coding stage of the data collection process, the content of each coding category was reviewed by ECPAT's research lead, entered into SPSS and recoded and checked in preparation for analysis. This recoding was performed with the assistance of a Code Book, developed for use with SPSS software. A copy of the code book may be found at Appendix D.

3.2.3.1 A coding strategy for visual analysis: The categorisation framework

The categorisation framework was intended as a tool to collect descriptive information from the analysed CSAM/CSEM series. The data collected using this framework was drawn solely from the information available in the content of the CSAM/CSEM, i.e. the image and video files themselves. Given this factor, and the unidentified status of the analysed series, some limitations pertained to the kinds of information that could be reliably drawn from the reviewed data. Several of these limitations are described below, where the development of the coding framework is described.

In order to increase the reliability and validity of the categorisation framework, it was critical to consult widely within the field and to draw upon tried, tested, and where possible, validated, categorisation approaches for inclusion in the categorisation framework. A cross-section of academic and grey literature, policymakers, and various professionals working in the fields of victim identification law enforcement, clinical psychology, justice administration, and other fields, were consulted during its development. Critical in this context were the early discussions held between ECPAT's research lead and the Crimes Against Children Team at INTERPOL as well as other advisors, such as NCMEC's Child Victim Identification Program, who proposed categories for data collection from the material based on their professional practices and experiences of what information might be reliably coded from the image and video data (e.g. INTERPOL's baseline categorisation). These advisors also offered accompanying categorisation details, categorisation training to ECPAT's research lead (e.g. in categorising baseline material), and suggested extant knowledge gaps in terms of the characteristics of unidentified victims.

The resulting categorisation framework was designed to gather information on three major aspects of the content of each analysed image or video series:

- *Victim information* – within this section, information concerning the age, gender, ethnicity and number of depicted victims was collected;

- *Offender information* – within this section, information concerning the age, gender and ethnicity depicted offenders was collected; and

- *Nature and severity of depicted victimisation* – here, the following information was collected:
  - The severity of depicted victimisation, categorised in accordance with the 10-point COPINE Scale (Taylor, Holland and Quayle, 2001);
  - Instances where images of child sexual abuse (CSAM) and child sexual exploitation (CSEM) were produced and depicted together in a single series, i.e. where the series was both 'abusive and exploitative'; and
  - The type and prevalence of other problematic paraphilic themes depicted in the analysed series. In this context, problematic paraphilic themes were defined as those relating to illegal or non-consensual activity (e.g. Hammond et al., 2009).

A copy of the categorisation framework and descriptions of its constituent categories may be found at Appendix C.

It is important to note that the categorisation framework evolved in the early, pilot stages of the coding process, in accordance with the rater's experience of analysing the sampled series. A number of categories were removed in the course of the framework development. For example, while it was desirable to code for biastophilic (coercive sexual) themes within the analysed series, and to identify series featuring 'self-generated' images of children in the visual analysis, reliable categorisation of these themes on the basis of visual cues alone proved very difficult. In the case of the 'self-generated' category, it was not possible to reliably distinguish those cases where the imagery was generated of the child's own volition from those where exploitative and abusive influences (e.g. grooming, sexual extortion, etc.) may have incited a child to its production. Similarly, biastophilia could not be reliably coded from still images of abuse and exploitation – however forced, coercive sexual acts could be coded from videos where the full sequence of the sexual act, conversations and other audio cues were available to inform the biastophilic categorisation.

The levels of agreement between the raters for the framework categories (reliabilities) were measured by means of an assessment of inter-rater reliability. This is described at section 3.3.4, below.

3.2.4 Co-rating and estimates of inter-rater reliability

Given the novelty of the categorisation framework developed for use in the visual analysis component of the GII project, it was important to test of the reliability of the categorisation approach. The framework was tested by three co-raters, recruited from INTERPOL and two other European law enforcement agencies. These co-raters were proficient in the field of CSAM/CSEM image analysis, victim identification, and maintained working familiarity with the ICSE Database. One co-rater, a Criminal Intelligence Officer at INTERPOL, was released to the co-rating task by the INTERPOL Crimes Against Children Team. Both remaining co-raters were recruited to this task following a call for expressions of interest to suitably qualified experts, issued with the support of Europol.

All co-rating tasks were undertaken in secure conditions on INTERPOL premises, in identically controlled conditions to the research lead's own visual analysis of Sample 2, described at section 2.1.3.2, above. A random sample of 50 series was drawn from the 800 series coded by ECPAT's research lead, and securely provided to the co-raters for the purpose of their visual analysis. The levels of agreement between the raters for the framework categories (reliabilities) were measured by means of an assessment of inter-rater reliability using Kendall's tau (τ). The reliabilities were estimated by correlating across raters for each categorised variable and obtaining the average value. The advantage of this method is that it permitted comparability across all raters even though some of the categorised variables were ordinal rather than nominal.

A series of reliabilities for each category are provided in the table below.

Table 1: Reliability estimates by framework category

Variable (Framework Category)	Kendall's Tau Value (τ)
Victim Number	0.92
Victim Age	0.71
Victim Gender	1.00
Victim Ethnicity	0.64
Sexual Activity	0.94
Offender Number	0.96
Offender Gender	1.00
Offender Ethnicity	0.72
Other Paraphilia Present	0.87
Paraphilia Level	0.87
Abusive and Exploitative	0.69
Body Part Fetishism	–
Object Fetishism	1.00*
Sadomasochism	1.00*
Zoophilia	–
Transvestism	–
Voyeurism	–
Exhibitionism	1.00*
Necrophilia	–
Biastophilia	–

– No comparable instances of this paraphilia identified by the raters in the analysed series

* Complete agreement but based on too few incidences to compare

In interpreting any such reliability scores, it should be remembered that inter-rater discrepancies in the application of the categorisation framework (and therefore the reliabilities) may be attributable to a number of factors. The latter may include problems or differences in the quality of training provided to the co-rater on the nature and application of the framework, differences in the raters' subjective judgements of the analysed image or video characteristics, or problems in the inherent constitution of the framework categories.

Overall however, where it was possible to produce reliability estimates, scores indicative of good to perfect agreement could be observed between the four raters in the application of the categorisation framework. In only two instances (the categorisation of victim ethnicity and the identification of cases featuring both abusive and exploitative material), did the reliabilities fall to a threshold indicative of moderate inter-rater agreement/reliability. While this is not inherently problematic, it indicates increased discordance between the raters in their categorisation approaches for these variables.

The discordance between raters regarding the abusive and exploitative category may be linked to a tendency to categorise images and series in accordance with the baseline categorisation criteria (i.e. content depicting real, prepubescent children that would be illegal in most countries). While the categorisation thresholds for CSAM and baseline are very similar, the baseline category pertains to prepubescent children only, whereas the 'abusive' component of the 'abusive and exploitative' category pertains to children of all ages, whether prepubescent of pubescent. Regarding the moderate reliability estimate that emerged for the categorisation of victim ethnicity, it should be noted that the emergent reliabilities for the categorisation of victim and offender ethnicity comparatively low, when considered against the other values in the range. This suggests that categorisation of

ethnicity per se was perhaps more difficult for raters when compared to categorisation of other series characteristics. This suggestion may require further investigation, but qualitative feedback from two of the three co-raters on their use of the categorisation framework indicated that the ethnicity of victims and offenders was difficult to categorise where the facial features of victims and offenders were obscured from view, and that this was often the case. Moreover, this finding may reflect a tendency towards conservative rating in relation to the ethnic (i.e. not to ascribe any ethnicity if unsure), rather than any inherent inaccuracies across the raters in ascribing ethnic membership to victims and offenders.

In the case of the paraphilic categorisation, strong agreement was observed between the raters in the identification not only of instances of other problematic paraphilias in the data set (cf. 'Other Paraphilia Present'), but also, of the pervasiveness of problematic paraphilic themes in image series (i.e. 'Paraphilic Level'). However, estimates of reliability concerning the categorisation of specific paraphilias were challenging to obtain in this context given the dearth of instances of other problematic paraphilias in the analysed data set. In the case of seven paraphilias, no comparable instances of this paraphilia were identified by the raters in the analysed series that could support the development of estimates of reliability. In the remaining three, complete agreement was observed between raters but the estimates were based on too few incidences to compare.

3.2.5 Part 2: Law enforcement consultations – national perspectives on online child sexual exploitation and victim identification

Part 2 of the study involved a series of structured consultations (focus groups) with a broad pool of law enforcement agencies, active in the investigation of online child sexual abuse and exploitation but with differing levels of experience and expertise.

The law enforcement consultations took place in the course of the 2017 meeting of the INTERPOL Specialist Working Group on Crimes against Children. The consultations were led by ECPAT and INTERPOL, with translation support provided where required to facilitate the inclusion of a broad range of domestic law enforcement perspectives. National law enforcement attendees were invited to contribute to a series of structured consultations in written or verbal form. In all cases, this invitation advised prospective participants of the aims and objectives of the study, and the form of the consultation. Upon acceptance, participants were provided with an extensive informed consent briefing document that encompassed, inter alia, the research project background, the aims and objectives of the law enforcement consultation, the nature of the participant's expected contribution, the rights of the research participant (right to skip questions, to withdraw, etc.), information about the recording arrangements for the sessions, data handling arrangements, and confidentiality and anonymity considerations. This briefing concluded with a consent statement (see Appendix E). Each participant signed and returned a copy of the informed consent statement to the research team to support their participation in the research. The participants were presented with a series of structured questions (see Appendix F) and feedback was gathered in verbal and written format. The recorded feedback was transcribed and integrated with the written feedback. This consolidated data set comprised the sample for analysis.

3.3 Analysis

IBM SPSS software (v24) was used to support the re-coding and analysis of the data extracted from the ICSE Database.

Given the categorical format of the extracted data, they were analysed for frequency to obtain a general view of patterns of identified and unidentified victim cases, and law enforcement usage of the ICSE Database. In the case of Sample 2, a series of exploratory descriptive techniques (e.g. cross-tabulations and chi-square tests of independence) were used to interrogate the data further – in order to identify any major trends in the data and any significant interrelationships between the variables (e.g. gender and identification status).

The chi-square tests of independence were performed on cross-tabulated data – or data presented in a 'Contingency Table' – a matrix presentation of the frequency distribution of two or more (i.e. multiple) categorical variables. The main purpose of these analyses was to identify those instances where there a relationship (e.g. potential causality) was indicated between the analysed variables.

The feedback collected in the course of the national law enforcement consultations was subjected to an inductive thematic analysis[126] to identify major themes in the participants' responses.

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[126] Braun, V., and Clarke, V. (2006), "Using thematic analysis in psychology", *Qualitative research in psychology*, 3(2), 77-101.

Results and discussion

4.1 Sample 1: A descriptive profile of unidentified and identified media in the ICSE Database

4.1.1 Sample description

The extracted metadata for all images and videos within ICSE (Sample 1) comprised 1,081,241 media files. This record, extracted in May 2017, encompassed 466,091 media files depicting identified children, and 615,150 files depicting unidentified children.

One major caveat pertains to the number of files categorised as unidentified within the ICSE Database. As noted at the introduction, victim cases within the ICSE Database are created and administered on a voluntary basis by ICSE-connected countries and agencies. Where an ICSE-categorised unidentified child is subsequently identified, it is incumbent upon the responsible agency to update the ICSE Database record for the relevant file(s) so that the media are re-categorised as relating to an identified victim. While ICSE-connected agencies attempt to accommodate this requirement in their operational workflows, the resource limitations that pertain in national victim identification contexts mean that these agencies may not consistently update the identification status for their records in the ICSE Database. The net effect of this situation is that an unknown proportion of the cases and series categorised as unidentified within ICSE may have been identified since the time they were recorded in the ICSE Database, but the relevant record has not been updated to reflect the victim's subsequent identification. Thus, the number of unidentified series cited here is almost certainly an overestimate, and encompasses identified children whose records have not been updated within the ICSE Database.

4.1.2 Unidentified media (n = 615,650 media files)

Media type and series membership: 70.7% of unidentified media files recorded in the ICSE Database had been grouped to a series within the ICSE Database for the purposes of image analysis and victim identification, while almost 30% of unidentified victim files remained ungrouped. Unidentified media comprised 98.6% image files, and 1.4% video files.

Victim gender: For 27.5% of unidentified files recorded in the database, the gender of the depicted victim was unknown, or unrecorded by the ICSE user. In the 72.5% of cases where victim gender was recorded, 64.8% of unidentified media files depicted female children, 31.1% depicted male children and in 4.1% both male and female victims were depicted together in the relevant image or video file.

Offender identified: In over 94.4% of media files featuring unidentified children, both the victim and offender were recorded as unidentified by the ICSE Database user. However, in over 5.6% of cases, the offender was identified and known to law enforcement. While this percentage might at first appear comparatively small, it corresponds to 34,474 images or videos where the offender was known to law enforcement, but the depicted victim or victims remained unidentified.

Suspected country of abuse: A suspected country of abuse was recorded by ICSE users for 10.7% (65,606) of ICSE-categorised unidentified media files, with 72 countries recorded in the database as the suspected location of the child/children's abuse. In almost 90% of cases, the suspected country of abuse was unknown, or unrecorded by the ICSE user.

Table 2: Most commonly recorded suspected country of abuse for unidentified media

ICSE-categorised* Suspected Country of Abuse**	Frequency (%)
Eastern European country #1	20
Southeast Asian country #1	11
North American country #1	10.5
Western European country #1	7.4
Southeast Asian country #2	6.4
Eastern European country #2	4.3
Western European country #2	2.6
Latin American country #1	2.4
East Asian country #1	2.2
Western European country #3	2.2

* As categorised by ICSE Database users

** Country names have been intentionally anonymised

It should be noted that the suspected country of abuse may be recorded by users of the ICSE Database based on information they have available to them and/or their own knowledge. It should be seen as unconfirmed information, intended to support victim identification through various means. Each time this field is completed in the ICSE Database, the recorded 'suspected country of abuse' will, if connected to the ICSE Database, receive an alert to review the new information and assess whether the victim may be from their country. Furthermore, this designation serves to focus the attention of victim identification experts from a particular country or region or with knowledge of a particular language on the new information, in the hope that a more specific location could be determined. As such, with reference to Table 2, the countries recorded more frequently as the suspected country of abuse may be those most easily recognisable to victim identification experts, and most commonly associated with a large language group or region; these are not necessarily countries with a higher incidence either of child sexual abuse or of production of CSAM/CSEM.

In this context, the results regarding 'suspected country of abuse' are particularly useful as a way to identify areas for training and regions or countries that could be prioritised for connection to the ICSE Database.

4.1.3 Identified media (n = 466,091 media files)

Media type and series membership: Identified media files within ICSE Database comprised 99.2% image files, and 0.8% video files. 98.2% of identified media files in the ICSE Database were grouped into a series within the ICSE Database for the purposes of image analysis and victim identification, while the remaining 1.8% (8,381) identified victim files were ungrouped.

Victim gender: in the case of 2.2% of identified media files recorded in the database (10,041 cases), the gender of the depicted victim was unknown, or unrecorded by the ICSE user. In those cases where victim gender was recorded, 73% of identified media files depicted female children, 23.6% depicted male children and in 3.4% both male and female victims were depicted together in the relevant image or video file.

Offender identified: in over 94.7% of identified media categorised within the ICSE Database, both offender and victim had been identified. However, in 5.3% of cases the offender was unidentified or unknown to law enforcement.

Place of abuse: in almost 45% of cases the place of abuse of the identified series was unknown, or unrecorded by the ICSE user. There are 72 countries recorded in the database as the place of abuse of the identified child.

Table 3: Most commonly recorded place of abuse for identified media

ICSE-categorised* Place of Abuse**	Frequency (%)
North American country #1	15.2
Western European country #3	7.1
North American country #2	4.8
Central European country #1	4.4
Western European country #1	3.4
Western European country #4	1.6
Central European country #2	1.5
Eastern European country #3	1.4
Western European country #2	1.4
Western European country #5	1.3

*   As categorised by ICSE Database users

** Country names have been intentionally anonymised

It should be noted that the place of abuse is recorded by users of the ICSE Database based on confirmed information relating to identified cases (such as that obtained following the identification of a child and/or offender) about the location at which images or videos portraying the abuse were recorded. As such, with reference to Table 3, countries recorded more frequently as the confirmed location of abuse are in most cases countries with a strong track record in victim identification and a clear policy on uploading information on their national identified cases into the ICSE Database.

In other words, those countries most commonly recorded as a place of abuse for identified media may feature prominently as a result of the level of investment in victim identification activity and ICSE Database usage at country level, rather than indicating a higher incidence of child sexual abuse or production of CSAM/CSEM per se within that country.

Conversely, those countries recorded infrequently or not at all as the place of abuse in identified cases should not be considered to have a lower incidence of child sexual abuse or production of CSAM/CSEM. These may be countries that are not yet connected to the ICSE Database, countries that are not actively uploading and updating their cases in the ICSE Database, and/or countries without a victim identification programme.

In this context, the results regarding 'place of abuse' are also useful as a way to identify areas for training and regions or countries that could be prioritised for connection to the ICSE Database.

Discussion

The vast majority of media files housed within the ICSE Database were image rather than video files, notwithstanding the increasing prevalence of CSAM/CSEM videos in offender collections, and attendant challenges that processing this material present to law enforcement.[127] In the case of both identified and unidentified media, the comparatively low proportion of video files in the ICSE Database may be attributed, at least in part, to the recent introduction of video processing functionality within the ICSE Database, while images have been archived and processed within the database since 2009.

In terms of victim gender, perhaps unsurprisingly, girls were overrepresented as victims in unidentified and identified media alike, and were more heavily represented in the sample of identified media files. The proportions of female and male children identified across both groups are similar to those in analyses of identified series at national level[128] and seized image collections.[129] They are lower

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[127] Netclean, "Ten important insights about child sexual abuse".

[128] Quayle, Svedin and Jonsson, "Children in identified sexual images"; NCMEC, "Once the Shutter Snaps"; Seto, Buckman, *et al*, "Production and Active Trading of Child Sexual Exploitation Images".

[129] Baartz, "Australians, the Internet and technology-enabled child sex abuse"; Carr, A., "Internet traders of child pornography".

however than those identified in more recent studies of collated samples of identified and unidentified media drawn from national databases[130] and hotline data,[131] where the odds of the CSAM/CSEM depicting female versus male children were about 4 to 1.

It is difficult to draw direct comparisons with these due to the different sampling and case recording and categorisation approaches adopted in these studies. For example, on first glance, it would appear that a disproportionately high number of female victims were depicted in identified cases in the ICSE Database, relative to the proportions of female victims depicted in other studies of identified media. However, this could be a function of the fact that the analysis of victim gender for all identified media in the ICSE Database was advanced at the level of the individual media files in the database, whereas NCMEC used the identified child as unit of analysis when categorising victim gender. Similarly, the studies described here used a slightly different categorisation scheme for victim gender and do not encompass a 'male and female' gender category as we have used in the present study, where male and female victims are depicted together in a single image or video file. While this allows for a more discriminating analysis of the gender of victims depicted in identified and unidentified media in the ICSE Database, this difference in categorisation approach further limits the comparability of the ICSE-identified proportions for victim gender to other studies where a simpler male/female categorisation scheme was used.

In the case of 5.6% of unidentified media in ICSE, the offender implicated in the case was identified and known to law enforcement. This finding was striking because it translates to over 34,000 images or videos where the offender was known to law enforcement, but the depicted victim(s) remained unidentified. A number of reasons may account for this discrepancy. For example, these reasons may relate to the profile of the known or apprehended offender, to the form of offending in which the CSAM/CSEM was produced, or to delays and failures in communication and the passage of victim information between agencies. The latter may happen in cases where a law management agency in one jurisdiction, and whether connected to the ICSE Database or not, issues a request for victim information to another but is not ultimately provided with the requested information. As a result, the status of the victim cannot be updated with any degree of certainty as 'identified' in the ICSE Database.

Furthermore, law enforcement has witnessed substantial increases in offences of sexual coercion and extortion of children online,[132] where the acts of abuse and exploitation are perpetrated almost entirely online. In such cases, a single offender may victimise many children, across multiple jurisdictions, with the effect that law enforcement's capacity to identify or maintain full case records for all victims of a single offender may be limited. Similarly, apprehended offenders may minimise or otherwise refuse to disclose the true extent of their sexual offending behaviour against children, whether committed in a single jurisdiction or across borders. Indeed, law enforcement attest to the particular challenges that present in victim identification cases involving travelling sex offenders who offend in developing countries, where law enforcement capacity for victim identification in the destination country may be compromised, or where prolific offenders simply forget children they have victimized over the course of their offending. All of these conditions can limit law enforcement's ability to formally identify victims of CSAM/CSEM, even where the offender has been apprehended.

Similarly, the above-described incidence of cases featuring travelling offenders and the phenomenon of 'remote offending', where the acts of abuse and exploitation are perpetrated via online means, may account for the finding that for 5.3% of identified media in the ICSE Database, the offender was unidentified or unknown to law enforcement. Indeed, such cases are complex to resolve. Ultimately and despite the best efforts of law enforcement, it may never be possible to identify both offender(s) and child victim(s).

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[130] Quayle, E., and Jones, T, "Sexualised Images of Children on the Internet".
[131] Canadian Center for Child Protection, "Child Sexual Abuse Images on the Internet".
[132] Europol, "Online Sexual Coercion and Extortion as a Form of Crime".

There were substantial limitations on information available concerning the suspected or actual location of the depicted abuse in the ICSE Database. In almost 45% of cases, the actual place of abuse of the identified series was unknown, or unrecorded by the ICSE user. For unidentified media the suspected place of abuse was unknown in almost 90% of cases. While this outcome would be expected for unidentified media, owing to the lack of visual and other cues in the media files that would indicate where the abuse might have taken place, the absence of reliable location data for identified cases presents a major limitation to our understanding of the geographic scope problem. While there was a substantial problem with missing data in this category, it should be noted that a proportion of cases were classified as 'unknown' for the purpose of the analysis a result of incomplete or non-exploitable data (e.g. free text fields), rather than omission.

Where place of abuse was known, many of the most frequently named countries of abuse (Table 3) appear to conform to a pattern that reflects the duration and intensity of domestic operational activity in the sphere of victim identification in that country. However, this is not the case for all such countries. Others do not maintain similarly resourced victim identification capacity, and so suggest a disproportionate incidence of CSAM/CSEM victimisation in that region, although any such contention would require further investigation. This is especially true given that other factors, such as population density, and the number of connected Internet users by country may also influence these findings.

In the case of unidentified series, the suspected country of abuse may be a country that is not yet connected to the ICSE Database. This lack of data on some countries suspected of abuse further proves the need to promote ICSE access in all parts of the world. However, a number of caveats remain concerning the classification of the most commonly suspected countries of abuse in the ICSE Database. These classifications may be subject to a range of biases on the part of the categorising user. For instance, it may be that certain countries are recorded more frequently in the database as suspected locations of abuse as they are easily identifiable to the categorising officer. Similarly, certain countries may be overrepresented in this category given the tendency for categorising investigators to record the suspected location of abuse as the largest or most obvious country in a region (e.g. Latin America, Commonwealth of Independent States region). However, it is possible that the abuse was committed in another country with socio-cultural markers or language/accent that appear similar to an investigator unfamiliar with the region or language in question.

4.2 Sample 2: Visual analysis of unidentified series in the ICSE Database

4.2.1 Sample description

Sample 2 (n = 800 series) comprised 700 unidentified image series and 100 video series.

4.2.2 Victim profile

4.2.2.1 Victim age category and gender

It was not possible to identify the visible victim's gender in 0.5% of CSAM/CSEM series. In those series where victim gender could be identified, 64.4% were female, 30.5% were male, and 5% of series depicted both male and female children.

As shown in Table 4 below, the abuse and exploitation of prepubescent children was most commonly depicted in the analysed CSAM/CSEM series, in 56.2% of all cases. Pubescent children were depicted in just over one quarter (25.4%), and very young children (infants and toddlers) in 4.3% of CSAM/CSEM series. 14.1% of cases comprised children in multiple age categories. In some cases, this involved the case of long-term abuse and exploitation, where the same child was recorded at a number of developmental stages, for example, as an infant and then as a prepubescent child. Alternatively, this category involved series featuring multiple children of different

age categories (e.g. infants and pubescents). By far the most heavily represented cohort in this 'multiple age' category were series where prepubescent and pubescent children were pictured together – these comprised almost 80% of cases in the multiple age category.

Table 4: Age of visible victims in CSAM/CSEM series

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Very young	34	4.3	4.3	4.3
	Prepubescent	445	55.6	56.2	60.5
	Pubescent	201	25.1	25.4	85.9
	Multiple age categories	112	14.0	14.1	100.0
	Total	792	99.0	100.0	
Missing	Unknown	8	1.0		
Total		800	100.0		

4.2.2.2 Victim ethnicity

It was not possible to categorise victim ethnicity in 6.1% of the analysed series. Figure 4 shows that in those cases where ethnicity could be determined, the vast majority (76.56%) of victims depicted in the CSAM/CSEM sample were white. Hispanic-Latino was next largest ethnic category, comprising 10.12% of children, closely followed by Asian children (9.85%). Black children were least commonly represented in the analysed series, and were depicted in 2.13% of cases. A small proportion of the categorised series (1.33%) depicted children of multiple ethnicities.

Figure 4: Visible victim ethnicity

White **76.56%** (575)

Hispanic-Latino **10.12%** (76)

Asian **9.85%** (74)

Black **2.13%** (16)

Multiple victims-mixed ethnicities **1.33%** (10)
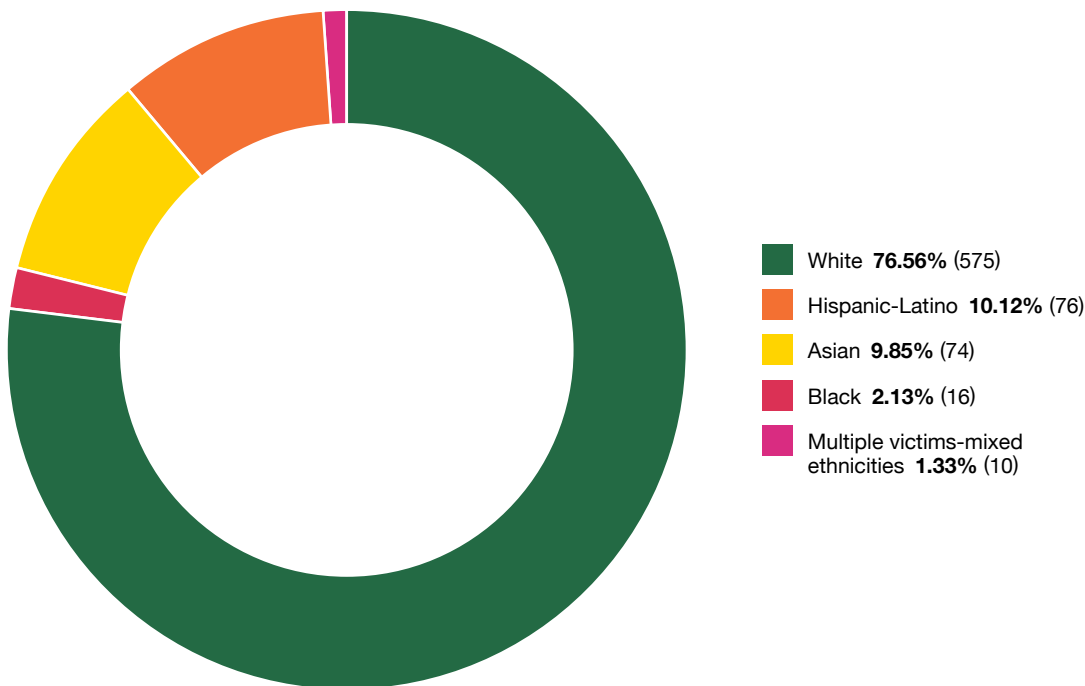
4.2.2.3 Number of children depicted in CSAM/CSEM series

Where it was possible to count the number of children featured in the series, it was apparent that the vast majority (71.6%) of series depicted and abuse and exploitation of a single victim, while two victims were depicted in 15.7% of series. A comparatively small proportion of cases (6%) featured five or more victims. In these cases, it was frequently established that while the series depicted at least five children, the overall number of victims could not be determined as reflected in Table 5.

Table 5: Number of visible victims

		Frequency	Percent	Valid percent	Cumulative percent
Valid	1 victim	556	69.5	71.6	71.6
	2 victims	112	15.3	15.7	87.3
	3 victims	34	4.3	4.4	91.6
	4 victims	18	2.3	2.3	94.0
	5 or more victims	47	5.9	6.0	100.0
	Total	777	97.1	100.0	
Missing	Unknown	23	2.9		
Total		800	100.0		

4.2.3 Offender profile

4.2.3.1 Gender of visible offenders

In well over half of cases (55.3%), it was not possible to identify the gender of the offender. Where offenders were visible, and their gender could be established, the vast majority (92.7%) of depicted offenders were male. Female offenders were most frequently depicted together with a male offender in the sample (5.5% of valid cases). Finally, 'solo' female offenders were depicted least frequently in the sample, in only 2% of analysed series. Solo female offenders appeared younger in age (some potentially in late adolescence or young adults) than those females depicted offending alongside a male counterpart. Where males and females offended together, the female was rarely seen to be recording the sexual activity; male offenders largely assumed the role of recorder, while the female offender was actively involved in the abuse of children.

4.2.3.2 Ethnicity of visible offenders

It was not possible to categorise the ethnicity of offenders in over three quarters (76.4%) of cases. Figure 5 below shows that where it was possible to categorise offender ethnicity, the vast majority 78.84% were white. A further 12.17% were Hispanic-Latino, with black and Asian offenders comprising the least commonly featured offender ethnicity in the sample (4.23% and 3.17% respectively).

Figure 5: Visible offender ethnicity

White **78.84%** (149)

Hispanic-Latino **12.17%** (23)

Black **4.23%** (8)

Asian **3.17%** (6)

Multiple victims-mixed ethnicities **1.59%** (3)
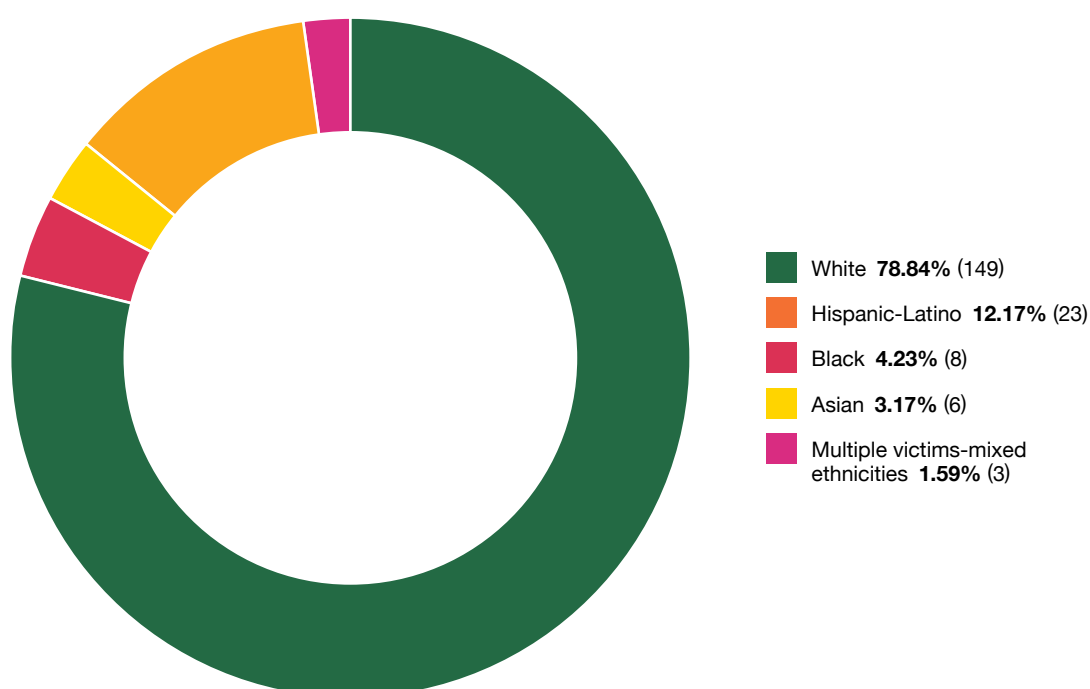
4.2.3.3 Number of offenders depicted in CSAM/CSEM series

In over half of the analysed series, it was not possible to count the number of offenders using the available visual information. In those cases where counting was possible, the vast majority of cases (93%) featured abuse or exploitation perpetrated by a single offender. Offending pairs featured in 6.4% of cases, while a very small proportion (0.3%) featured five or more offenders.

4.2.4 Profiles of sexual victimisation in CSAM/CSEM series

4.2.4.1 Severity of depicted sexual victimisation

CSAM/CSEM series depicting the sexual abuse of children (i.e. COPINE levels 6-10 inclusive) dominated the sample, comprising 84.2% of the analysed series. Only 15.2% of series comprised materials depicting sexual activity that was exploitative, but not abusive (i.e. COPINE levels 1-5). A substantial proportion of the analysed series (46.6%) depicted levels of sexual activity that fell at the higher end of the range (levels 8-10). These series necessarily depict the sexual abuse of a child involving an adult, where sexual activities ranged from adult-involved sexual assault involving manual touching through to sadomasochistic and bestial practices. A full description of the levels of sexual victimisation depicted in the media and the associated frequency with which they were depicted is provided at Figure 6 below.

Figure 6: A full description of the levels of sexual victimisation

Level 1	**1.63%**
Level 2	**0.13%**
Level 3	**1.63%**
Level 4	**3.63%**
Level 5	**8.77%**
Level 6	**16.42%**
Level 7	**21.18%**
Level 8	**8.02%**
Level 9	**31.45%**
Level 10	**7.14%**
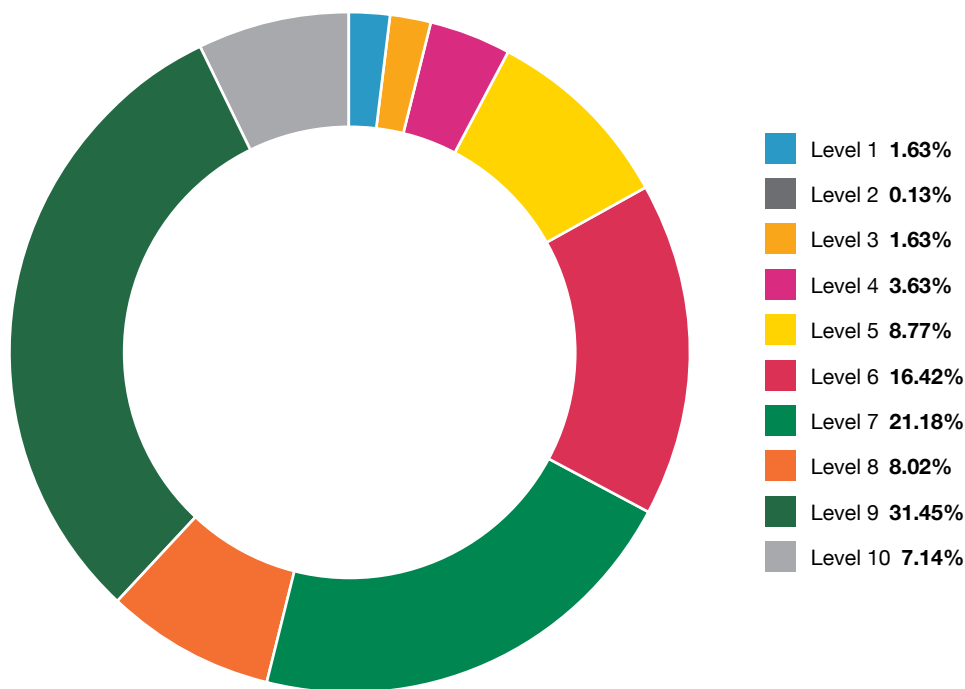
4.2.4.2 The relationship between abuse and exploitation materials in CSAM/CSEM series

This category refers to instances where images of child sexual abuse (CSAM) and child sexual exploitation (CSEM) were produced and depicted together in a single series, i.e. where the series was combining both 'abusive and exploitative' media. This category was only applicable to analysed image series. As may be seen at Table 6, below, over 61% of analysed image series were identified as being both abusive and exploitative in character.

Table 6: Abusive and exploitative CSAM/CSEM series

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Absent	272	34.0	38.9	38.9
	Present	428	53.5	61.1	100.0
	Total	700	87.5	100.0	
Missing	Not applicable	100	12.5		
Total		800	100.0		

4.2.4.3 Nature and severity of problematic paraphilic themes in CSAM/CSEM series

Problematic paraphilic themes in CSAM/CSEM series: In almost one third of analysed series (32.5%), another problematic paraphilic theme featured in the depicted sexual victimisation of the child. The most common problematic paraphilias depicted in the CSAM/CSEM series were 'inanimate object fetishism' (15.9%), 'voyeurism' (14.5%), 'biastophilia' (11% – videos only) and 'sadomasochism' (6.6%). Conversely, 'transvestism' and 'zoophilia' emerged as the least common problematic paraphilias, with 'transvestism' featuring in one (0.1%) and 'zoophilia' in three (0.4%) of the analysed series.

Table 7: Other paraphilic themes depicted in CSAM/CSEM series

Other Paraphilic Theme	Frequency (%)
Object Fetishism	15.9
Voyeurism	14.5
Biastophilia*	11.0
Sadomasochism	6.6
Urophilia/Coprophilia	3.3
Body Part Fetishism	1.3
Exhibitionism	1.0
Necrophilia	0.5
Zoophilia	0.4
Transvestism	0.1

*   Categorised from videos only

Level of other paraphilic theme depicted (image series only): Where the level or dominance of other problematic paraphilias in a series could be assessed, these themes were found to dominate the depicted victimisation (i.e. were present in over half of image) in 11.5% of cases.

4.2.5 Relationships between the categories

There was a significant association between sexual activity level and victim gender (Fisher, p = 0.00), with boys more likely to feature in extreme imagery (COPINE level 7-10), and girls more likely to be represented in imagery depicting moderate victimisation (COPINE level 4-6). The relationship between sexual activity level and victim age was also significant, (Fisher, p = 0.00), with very young children (infants and toddlers) more likely to feature in imagery depicting extreme sexual abuse involving an adult (COPINE level 8-10). Furthermore, the relationship between victim age and other paraphilic theme was significant x^2 (3) = 37.58, p < 0.01), with very young children more likely to be subjected to abuse and exploitation featuring an additional paraphilic theme, and pubescent victims were less likely to be subjected to such practices.

There was no significant association between the numbers of offenders in a series and the associated sexual activity level. However, of interest was the significant relationship that existed between offender gender and sexual activity level, x^2 (18) = 38.79, p < 0.05), with series where males and females depicted together more likely to feature the highest level of abuse (level 10).

4.2.6 Qualitative observations from the visual analysis of CSAM/CSEM cases

Given the need to adhere to the primary focus of the study, and the limits on the types of information that could be reliably coded on the basis of visual inspection alone, information on 'child model' and 'youth-produced' CSAM/CSEM series was not formally coded in the analysis by means of the categorisation framework. However, ECPAT's research lead maintained extensive field notes on these cases over the course of the visual analysis to support a qualitative description of the dominant characteristics of these series. A summary account of these observations is provided below.

4.2.6.1 Child 'modelling' sites

In the vast majority of cases, the analysed series from child modelling sites were abusive and exploitative in character, comprising both CSEM and CSAM. In some cases, particularly in larger series on 'popular' websites featuring more extensive abuse and exploitation of children, some highly explicit sexual activity (level 10) was depicted together with lower level CSEM and 'posing' images. This appeared to arise in cases where a particular child, depicted in lower level CSEM on the primary website was singled out for additional abuse. In some cases, this abuse was particularly egregious (e.g. depicting multiple offenders), and in a few cases this was linked through visual markers to other activities associated with the commercial sexual exploitation of children, such as the sale of child sex doll paraphernalia.

4.2.6.2 'Youth-produced sexual imagery'

In these cases, the depicted children appeared to have been solicited into recorded sexual activity, were 'self-generating' sexual material, or were otherwise involved in the production of 'youth-produced' sexual imagery. The task of categorising information from these cases on the basis of visual material alone was challenging, and required a conservative approach to case inclusion, but was made easier with video material, where fuller information on the context of production was available to the researcher.

The range of sexual activities depicted in 'youth-produced' series was substantial and ranged from more innocuous, nude or semi-nude 'selfies', through to 'self-generated' depictions of extreme sexual activity involving bestiality and sadomasochistic themes. Some apparent sexual extortion was evident in newer series, and in videos where children were visibly and aggressively coerced and instructed to perform solo or group sexual activities on camera. In many cases however, when relying on visual cues alone, it was near-impossible to determine with any level of reliability whether the imagery was in fact self-generated, coerced or otherwise solicited, or whether an adult or minor has coerced or otherwise solicited the depicted victim(s) into the production of the CSAM/CSEM. Noteworthy in these series was the visible context of production; while many images were produced in domestic settings, as would be expected, others appeared to have been produced in school settings, and featured uniformed students.

The levels of CSAM/CSEM production depicted in these cases were quite complex, and challenge the traditional simplistic distinction that has been drawn between content that is 'youth-produced' and offender-generated. Evidently, and as would be expected, much of the content appeared to have been produced by a child, in the form of still images or videos captured on their smartphone or computer, with obvious signs of 'self-generation' (e.g. where the child's hand or arm is visible holding the recording device in a self-generating position). In other cases, however, there were multiple levels of production apparent in the generation of the 'youth-produced' CSAM/CSEM. In many cases, the depictions of the victim 'self-generating' CSAM/CSEM appeared to be offender-generated, where the offender captured the stream of their online interaction with the victim, and the victim's 'self-generation' of CSAM/CSEM, via webcam and retained it in video or still format (e.g. in the form of screenshots). In the absence of further contextual data, it is unclear what the

underlying motivations for this behaviour might be. However, in a small number of cases (where this offender-victim interaction around 'self-generation' was recorded by the offender on video), it was apparent that these offender recordings were used for exploitative ends – to further blackmail and extort the depicted victim.

4.2.7 Discussion

Considered against NCMEC's analysis of identified actively traded series,[133] where 9% of all series featured the sexual abuse and exploitation of infants and toddlers,[134] a comparatively small frequency of very young children (4.3%) was identified in the current sample. This may be a function of different sampling and methodological approaches used between the studies, or that very young victims are given priority for victim identification intervention in case management contexts, or indeed that images depicting the abuse and exploitation of very young children are widely traded online, with the result that very young children are overrepresented in samples drawn from identified, actively traded series. This contention would seem to be supported by the findings of Quayle and Jones' analysis of a broader, random sample of CSAM/CSEM, which identified that as few as 0.7% of images of girls and 1.6% of images of boys featured very young children.[135] Notwithstanding, it is clear that the situation for very young victims of CSAM/CSEM is particularly acute – a formal association between victim age and the severity of depicted sexual victimisation was established in this analysis, with very young children (infants and toddlers) more likely to feature in imagery depicting extreme sexual abuse involving an adult (COPINE level 8-10).

Almost two-thirds of the unidentified series featured female victims exclusively, while male victims were depicted in over 30% of cases. This finding is consistent with that of another recent analysis of identified series drawn from a law enforcement database in the UK, in which girls were victimised in almost two-thirds of UK-identified series.[136] However, these percentages of depicted male victimisation are substantially higher than the proportions suggested in other analyses of national hotline data and UK law enforcement data, where male victims accounted for approximately 20% of the analysed sample in both cases.[137] This disparity should support the suggestion that the incidence of CSAM/CSEM cases involving male victims might be higher than believed. Indeed, a recent analysis of national helpline data points to the fact that significantly more boys than girls are reaching out for support related to cases of online child sexual abuse and exploitation.[138] It has been contended that law enforcement may maintain less favourable attitudes towards male children and sexual exploitation, with the result that CSAM/CSEM depicting female victims would be more likely to be interpreted as being illegal and actioned in investigative settings.[139] It is unclear whether this is a reality in law enforcement practice, but what is clear is that we must apply a degree of caution to the interpretation of reports on CSAM/CSEM victim characteristics, where there may be substantive differences in demographic information related to victims, such as victim gender. Importantly, and acknowledging that there is scant information available on the characteristics and experiences of CSAM/CSEM victims, we must avoid generalising from the findings of individual reports to all countries and situations. In this case, such a generalisation risks seriously underestimating the number of male children who have been abused and exploited in CSAM/CSEM production, and mis-characterising their plight in the context of intervention and advocacy efforts.

The substantial proportion of series for which it was not possible to determine with certainty the ethnicity of the victim(s) and/or offender(s) could be a reflection of several factors, including the nature of CSAM/CSEM and the challenges for investigators of determining ethnicity. However,

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[133] NCMEC flags a series as "Actively Traded" if files from the series have been seen in prior CyberTipline and/or CRIS exams five or more times.

[134] NCMEC, "Once the Shutter Snaps".

[135] Quayle and Jones, "Sexualised Images of Children on the Internet".

[136] Quayle, Svedin and Jonsson, "Children in identified sexual images".

[137] Canadian Center for Child Protection, "Child Sexual Abuse Images on the Internet"; Quayle and Jones, "Sexualised Images of Children on the Internet".

[138] Phippen, Brennan, *et al*. "Sexting and Revenge Pornography".

[139] Quayle and Jones, "Sexualised Images of Children on the Internet".

where it was possible to determine ethnicity, the mixed profile of white, Hispanic-Latino, Asian and black victims apparent in this analysis of unidentified series is consistent with a range of studies of victim characteristics in CSAM/CSEM conducted at national level.[140] However the findings of the present study stand apart from these national studies in that the proportion of white children depicted in ICSE Database content is substantively lower than the proportions of white children portrayed in CSAM/CSEM identified elsewhere. Studies documenting apparent victim ethnicity by the Canadian Centre for Child Protection[141] and in the UK[142] reported very high incidences of white victims in their samples – images of white children comprised 87% of the Canadian sample and 93% of images analysed in the UK study.

The comparatively high proportions of imagery depicting victims of other ethnicities identified in this analysis (Hispanic-Latino, 10%; Asian, 10%, black, 2%) likely reflects the diversity of ethnicities represented in the multi-national submissions to the ICSE Database. It also speaks to the value of connecting new countries and regions to the database in order to develop a more nuanced understanding of CSAM/CSEM victims' ethnic profiles. There remain substantial limitations in terms of geographical scope of the countries connected to, and actively engaged with, the ICSE Database – much of the uploaded content derives from countries in the 'Global North'. Much of Africa, and vast regions and countries of Asia and other parts of the 'Global South' are not directly engaged with the database, notwithstanding the fact that CSAM/CSEM likely originating from countries within this region are commonly implicated in identified and unidentified cases in the ICSE Database.

The value of connecting new, and more ethnically diverse regions was echoed by our law enforcement respondents, who were unanimous in their view that the ethnic profile of the cases within the ICSE Database was not consistent with their field experiences of policing CSAM/CSEM, and not sufficiently representative of the diverse victim and offender ethnicities implicated in CSAM/CSEM more generally. These law enforcement respondents further proposed that the addition of other countries and regions where underrepresented ethnic categories dominate the victim ethnicity category (e.g. Africa and Asia), would likely result in a more accurate distribution across ethnic groups. This could lead to a consequent rise in the representations of black, Asian, Hispanic-Latino (and potentially other) ethnic groupings in the victims' profiles.

Little is known about the producers of CSAM/CSEM, particularly where offender ethnicity is concerned.[143] Notwithstanding the contention that rates of child sexual abuse may be largely consistent across countries,[144] this is not yet reflected in the distribution of ethnicities depicted in unidentified series in the ICSE Database. The reasons for this underrepresentation of some ethnic groups in CSAM/CSEM producer profiles are almost certainly attributable to limited geographical scope in the profile of countries currently connected to the ICSE Database. However, they may also be more complex than this, and reflect regional variations in reporting propensity, Internet access, or differences between ethnic groups in their patterns of Internet and pornography use.[145] Notwithstanding, the broad consistency between the breakdown of ethnicities for offender and victim groups observed in this sample lends support to the notion that those engaged in the production of CSAM/CSEM maintain preference for victims of the same ethnicity, albeit with some deviation (e.g. in the case of travelling sex offenders).

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[140] Baartz, "Australians, the Internet and technology-enabled child sex abuse"; Canadian Centre for Child Protection, "Child Sexual Abuse Images on the Internet".

[141] Canadian Centre for Child Protection, "Child Sexual Abuse Images on the Internet".

[142] Quayle, Svedin and Jonsson, "Children in identified sexual images".

[143] Sheehan, V., and Sullivan, J. (2010), "A qualitative analysis of child sex offenders involved in the manufacture of indecent images of children", *Journal of Sexual Aggression*, 16(2), 143-167.

[144] Pereda, Guilera, et al. (1994), "The international epidemiology of child sexual abuse: A continuation of Finkelhor". *Child abuse and neglec*t, 33(6), 331-342.

[145] Quayle and Jones, "Sexualised Images of Children on the Internet".

This analysis also addressed the situation of unidentified children who are victimised by multiple offenders in CSAM/CSEM series. No association was observed between the number of offenders featured in unidentified CSAM/CSEM series and the depicted level of sexual activity, a finding that was somewhat unexpected given the potential for more egregious exploitation and abuse of a child where several adults are involved in the offending activity. However, there was some evidence to suggest that offending pairs, comprising male and female offenders, were more likely to perpetrate highly extreme forms of abuse and exploitation in CSAM/CSEM. There was significant relationship between offender gender and sexual activity level, with series where males and females depicted together more likely to feature the highest level of abuse (level 10).

This study appraised the nature and prevalence of other 'problematic paraphilic themes'[146] associated with illegal and non-consensual sexual activity in unidentified CSAM/CSEM. In the context of this study, these themes and activities (e.g. sadomasochism, bestiality, biastophilia, etc.) represented aggravating factors in the sexual victimisation of the child. A substantial proportion (11.5%) of analysed series featured a dominant problematic paraphilic theme that exacerbated the depicted child's experience of abuse and exploitation. Quite apart from additional abusive dimensions associated with victimisation involving these problematic paraphilic themes, this finding points to substantial and particularly dangerous offending cohort of CSAM/CSEM producers, characterised by a profile of multiple paraphilic interest, and who may merit rapid intervention in the context of victim identification, and other management and prevention efforts.

While there was no observed relationship between victim gender and the depiction of other problematic paraphilic themes in the sexual activity, the analysis did identify a significant relationship between the depiction of such themes and the age of the victim. Specifically, the analyses suggested that young children were more vulnerable to victimisation in CSAM/CSEM involving other problematic paraphilic themes. This tendency to perpetrate more severe abuses against very young children was further supported by an observed association between victim age and level of depicted sexual activity, where very young children were overrepresented in Level 10 sexual activities. The propensity for sexual offenders to engage in severe abuse and exploitation of very young children is unsurprising, given the developmental vulnerability and powerlessness of these children, and their attendant susceptibility to targeting by those with coercive and sadistic offending profiles.

4.3 Part 2: Law enforcement consultations – national perspectives on online child sexual exploitation and victim identification

Part 2 of the study consisted of a structured consultation (in the form of focus groups) with a broader pool of law enforcement agencies active in the investigation of online child sexual abuse and exploitation.

Participants in the national law enforcement consultation derived from a broad cross-section of countries and regions, with widely varying resourcing related to the investigation of online child sexual abuse and exploitation and victim identification at country level. Many countries from the Global North were represented, encompassing a number with long histories of victim identification and child exploitation investigation, as well as countries from the African region, the Middle East, Asia and Latin America. In some cases, the represented countries had no formal capacity for the investigation of online child sexual abuse and exploitation, and by extension, no formal victim identification capacity.

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[146] Hammond, Quayle, *et al*. "An examination of problematic paraphilic use".

4.3.1 Challenges and requirements in victim identification contexts

4.3.1.1 Resourcing: Challenges and requirements for enhanced victim identification capacity

Many consultation participants reported challenges at country level in terms of the availability of resourcing to support victim identification investigations, and bureaucratic obstacles to victim identification investigation. In terms of resourcing, consultation participants cited a lack of suitably specialised personnel, units and tools to engage in image analysis and other victim identification related activities, as well as forensic experts to perform reviews of police seizures, resulting in significant delays to victim identification investigations. Other countries cited a lack of access to the ICSE Database and NCMEC referrals in the form of "CyberTipline" reports as a significant obstacle to their ability to participate in the global victim identification effort, precisely because of the importance of these two sources of information.

In a similar vein, participants described bureaucratic challenges at country level as a hindrance to victim identification. These related to difficulties in maintaining fluid coordination between, and timely responses from, the relevant police units and ministries to obtain judicial decisions approving victim identification investigations, or in motivating all relevant police agencies to systematically share seized images/videos for submission to the ICSE Database. Several countries reported problems arising from the fact that their national contact points were not specialists in victim identification, or that the NCB or cybercrime unit administrating ICSE on behalf of the country did not work in an integrated fashion with sexual crime or human trafficking units to facilitate victim identification at the national level.

Latin America, Respondent 1: "ICSE is only used by cybercrime personnel from the capital and one other location but not by the Sexual Crimes Units or Human Trafficking Units. We need more capacity to use ICSE Database."

More generally, several participants noted a persistent offender focus and lack of victim-centric interest and understanding in their countries, at level of police investigations, judges and prosecutors, thus compromising the success of victim identification investigations.

At an international level, while the participants acknowledged that over 50 countries are already connected to the ICSE Database, there was agreement around the importance of connecting more countries to improve global victim identification capacity. Some persistent challenges in relation to the functionality and administration of the ICSE Database were noted. Several countries pointed to a need for clearly defined information on the national points of contact with responsibility for online child sexual abuse and exploitation crimes in each country, to facilitate between international cooperation and information exchange, particularly in countries that are not yet connected to the ICSE Database. The respondents also noted the lack of interconnectivity between the ICSE Database and other national databases as a significant limitation to its utility as a mechanism for coordinating victim identification investigations. Finally, it was suggested that the channels of communication and cooperation between international law enforcement should become more agile and effective, particularly within the ICSE Database. In this regard, a number of victim identification specialists referred to the need for a facility that could facilitate live interaction between investigators working on ICSE Database cases.

Several countries cited difficulties in ascribing victim characteristics for children of different ethnicity. An Asian country respondent described the challenges experienced in her unit in ascribing ages for children of different ethnicities (e.g. Caucasian/white or African-American/black children) in support of prosecution, and a need for training and information sharing at the level of international agencies to improve capacity in this area. Similarly, contributors from the Global North reported difficulties in ascribing ethnic origins and age categories to children from non-indigenous locations (e.g. Asian children whose characteristics of developmental maturation would differ from Caucasian children). This finding was echoed by a number of police officers from other regions, for example:

Latin America, Respondent 2: "In our investigations we see a lot of children with Anglo-Saxon and Asian characteristics, which sometimes makes it hard for us to determine whether or not they are minors. This is part of what makes international cooperation for VID (victim identification) so important."

By the same token, there was consensus among the participants that more countries from underrepresented regions within the ICSE Database should connect to the database in order to ensure better ethnic representation within the database.

4.3.1.2 Other domain challenges in victim identification contexts

Youth-produced sexual imagery

In broad terms, youth-produced sexual imagery was an established challenge for most of the law enforcement participants in the consultations, regardless of victim identification capacity at country level. The participants also cited the role and influence of specific social media platforms in the emergence of trends in the production of youth-produced sexual imagery in their respective jurisdictions, with regional variations in the online services implicated in these cases.

Northern Europe, Respondent 1: "After the Periscope[147] came out, it has become a serious problem. Lots of kids are using it and not knowing what they are doing, and parents are not controlling their Internet use, giving offenders a lot of opportunity to groom them or do almost anything."

They also noted their concern about the influence of social media on behaviour of younger, primary age children who were found to emulate the sexual behaviours of older children, and to produce and disseminate sexual content online.

Africa, Respondent 1: "Primary school children are becoming exposed and are becoming involved in sexual activity after seeing videos and mimicking this behaviour."

The participants described a further, emergent need to adapt their case management approaches to try to distinguish cases where criminal harm had occurred from those where it had not, with reference to the complexities and resourcing requirements this presented. Participants described the complex contexts of production that presented in cases involving youth-produced sexual imagery, where children may generate and share imagery of their own volition, or become involved in this practice under conditions of coercion, deception or extortion, whether peer or adult perpetrated. Several participants submitted that this presented an additional drain to already limited resources in victim identification settings because investigations were almost always required – the context in which the imagery was produced, or motivation for its production, criminal or otherwise, was often unknown and needed to be established so that victimised children could be identified and recovered.

> **NORTH AMERICA, RESPONDENT 1:**
>
> **"There's always concern about what's going on in this child's life that could lead her into this behaviour and this is what would need to be investigated."**

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[147] Live video streaming app for Android and iOS launched in 2015.

Victim identification responses to this phenomenon appeared to vary considerably between countries, with some participants reporting a lack of clearly defined national policy on the management of youth generated sexual material cases to guide law enforcement intervention. Several larger countries reported routine investigation of all cases where a child may be under 18, while others maintained no standardised investigative response to these cases. This variation extended to law enforcement policies and procedures for the recording of youth-produced sexual material cases in national CSAM/CSEM databases. France, for example, adopted a comparatively conservative approach, recording all cases apparently under 18 within its database as a conservative measure, unless information was available to demonstrate that the depicted subject was an adult. By contrast, one Northern European country only recorded case information pertaining to children aged 13 and under, despite the age of sexual consent being higher than this.

NORTHERN EUROPE, RESPONDENT 2:

"15 is the age of consent but we don't put anything in our own database that's over 13."

The participants reported varying engagement with social care and education sectors in the administration of their responses to cases involving youth produced sexual imagery, particularly in the provision of prevention programmes for children, aftercare such as counselling and other child and family support, and in the context of victim identification. In some cases (e.g. Ireland) the participants reported that they maintained good relationships with the schools, and that these functioned as an alternative reporting mechanism for the identification of children depicted in youth-produced sexual imagery, who may be identified at school level. However, in other jurisdictions, while this approach was considered desirable, its feasibility was complicated by the size and constitution of national police infrastructure – here the national police relied upon the local units receive case reports and manage the response. These reports were not routinely relayed to national units to facilitate a formal identification.

CENTRAL EUROPE, RESPONDENT 1:

"The trouble for us is it is completely local. When you go to a school, you have to go find the right school; you have to go locally and talk to local units. You have an identification when you have the feedback, we have trouble with cooperation even though our local units have the feedback."

Management of child sexual exploitation material

Many consultation participants referred to the legal status of CSEM in their jurisdictions and the inadmissibility of this material for prosecution purposes. By the same token, the participants reported an awareness of the association of this content with more severe forms of sexual abuse and exploitation at case level, and expressed substantial concerns around its relationship to sexual abuse and illegal CSAM, particularly materials depicted on 'child modelling websites'.

CENTRAL EUROPE, RESPONDENT 2:

"(Sometimes) we are in possession of the images, these modelling images and… 98% of these images are not illegal but then you have maybe 10 pictures where you have a focus on genitalia and this would be considered illegal."

Others reported how child modelling content can be used as an indicator of sexual interest in children, supporting law enforcement decisions to initiate an investigation or to prioritise a case for further investigation.

NORTHERN EUROPE, RESPONDENT 1:

"Modelling pics are good indicators, if you only find modelling pictures it just means illegal ones have not been found yet on the computer."

These accounts were consistent with the visual analysis of 'child modelling' series – and suggested that these series were frequently both abusive and exploitative in character, with occasional association between extreme portrayals of sexual victimisation of children depicted in 'child modelling' series, and financial exploitation. In the context of the law enforcement consultations, our law enforcement contributors suggested that this production of more extreme imagery can occur in cases where the site producer is financially incentivised or otherwise commissioned to produce more severe forms of CSAM/CSEM by an offender. Indeed, the association between financial motivation and more severe forms of CSAM/CSEM was visually apparent in a number of analysed 'child modelling' cases, where a small number of images of more extreme sexual abuse of child 'models' on the site were used to sell child sex doll paraphernalia.

5 Conclusions, findings and recommendations

In its original conception, the research component of the I-CARE Project sought to develop a key set of indicators relating to child sexual abuse and exploitation by developing a descriptive profile and a broad estimate of the number of unidentified children depicted in CSAM/CSEM stored in the ICSE Database. This information was considered essential in order to develop a picture of the situation and particular needs of unidentified victims of CSAM/CSEM and to inform and guide resource allocation to support an increase in rates of victim identification and to design and implement programmes of assistance and advocacy for child victims of abuse in the global context.

While this goal is highly desirable, and efforts to reach it could be furthered by the unique position and potential of the ICSE Database as a focal point for improving victim identification outcomes in the global context, there remain several fundamental challenges that should be considered and addressed, where appropriate, in future policy and programming. These challenges and opportunities are outlined below.

5.1 Conclusions – opportunities

5.1.1 The unique nature and potential of the ICSE Database

This study suggests that despite certain limitations and constraints, the ICSE Database housed at and administered by INTERPOL remains a unique source of data on CSAM/CSEM worldwide. It is uniquely positioned internationally to support INTERPOL's logical role as coordinator and host of global knowledge on CSAM/CSEM.

Indeed, the challenges of using the multi-country, multi-user-base of the ICSE Database must be addressed in the design of the next generation ICSE Database in order to overcome the issues faced in this study, such as those relating to categorisation and the inconsistency of data recorded using free text fields. Nevertheless, as an internationally-administered database with access provided to trained users from entities in any accredited INTERPOL member country, the ICSE Database is already an essential database for use in victim identification and deconfliction between law enforcement agencies and countries.

By extension, the specific victim identification and deconfliction role of the ICSE Database suggests that in order to develop a more comprehensive, integrated understanding of the situation of the victims of CSAM/CSEM, researchers would need access to a much larger data set comprising not only the current ICSE Database data but also more data in the ICSE Database and data from large national law enforcement and other relevant data sets around the world.

5.1.2 The resourcing of victim identification programmes

Through its analysis of the confirmed (identified cases) and suspected (unidentified cases) locations of abuse that are recorded in the ICSE Database by users worldwide, this study strongly suggests that resourcing of law enforcement victim identification programmes impacts positively on the identification of victims of CSAM/CSEM.

Conversely, lack of connection to the ICSE Database and lack of resourcing of victim identification programmes can result in gaps in data and knowledge on CSAM/CSEM in many countries around the world. This reduces the potential for victim identification across the entire global network, where the regional, national knowledge of a law enforcement agency with regards ethnicity, language, local culture and local places is not readily and systematically available to investigators from other countries.

5.2 Conclusions – challenges

5.2.1 The accuracy of a number

As suggested above and throughout this report, there are some fundamental limitations to the utility of an estimate of the number of unidentified victims of CSAM/CSEM based on analyses of law enforcement case data. These limitations include:

1. The CSAM/CSEM maintained in the ICSE Database and used for this study is limited to those materials seized and uploaded by international law enforcement in the course of their domestic investigations and operations. However, it has long since been suggested that these apprehended offenders constitute the 'tip of the iceberg'[148] and that many other CSAM/CSEM offenders, still undetected, move outside of the range of law enforcement and the criminal justice system.[149] These offenders may maintain their own victims and CSAM/CSEM collections, and may never be identified. This reality suggests that many more unidentified victims exist than we are currently aware of, and these victims may never come to the attention of law enforcement. This is compounded by the fact that victims of CSAM/CSEM constitute a subset of the overall group of child victims of contact sexual abuse and exploitation.

2. As stated, it is widely acknowledged that there are many more unidentified victims in existence than we are currently aware of, and that these victims may never come to the attention of law enforcement. This situation points to a need for law enforcement, civil society and other organisations to align and combine investigations, interventions and studies on online and 'offline' cases, instead of maintaining divisions between the responses to these types of crimes.

3. It is apparent that the phenomenon of 'youth-produced sexual imagery' (images and/or videos) now presents a substantive challenge to international law enforcement, both in terms of the detection and integration of this imagery with international image databases, and in the identification and classification of its victims. Indeed, the visual analysis of unidentified series carried out for this study supported the emerging consensus that this material has become a substantive component of the body of CSAM/CSEM in circulation (e.g. Carr, 2011; Internet Watch Foundation, 2015).

Anecdotal evidence from law enforcement further supports this contention and points to the challenges presented by this material. For example, in some countries a distinction is made by law enforcement between cases of sexual extortion or coercion and victim identification. The former might be initiated following a report made by the victim and/or another person to the local police, with the names and locations of victim and offender often already known; the victim is on average older in these cases and the motive for the act is normally financial, personal (driven by hate or revenge), or the result of simple misjudgement. In contrast, specialised victim identification teams would focus on CSAM that is seized, referred from another law enforcement agency or retrieved from online spaces and that is assessed to depict an unknown child being sexual abused. Although this distinction is based on objective assessment of the information available, it can also be complex to draw a clear line between sexual extortion/coercion and victim identification cases.

Despite this distinction, and while children have systematically reported the complex relationship that exists between 'self-generated' and coerced youth produced sexual material (e.g. Phippen, 2017), the difficulties in distinguishing offender-generated from 'youth-produced' sexual materials apparent in this study's visual analysis of unidentified series further supports the contention that youth subjects of 'self-generated' and 'youth-produced' imagery must continue to be engaged with the international victim identification effort, as well as within the wider law enforcement response.

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148 Beier, Ahlers, et al. (2009), "Can pedophiles be reached for primary prevention of child sexual abuse? First results of the Berlin Prevention Project Dunkelfeld (PPD)", *The Journal of Forensic Psychiatry and Psychology*, 20(6), 851-867.

149 Beier, Grundmann, et al. (2015), "The German Dunkelfeld Project: A pilot study to prevent child sexual abuse and the use of child abusive images", *The journal of sexual medicine*, 12(2), 529-542.

Children depicted in 'self-generated' or 'youth-generated' sexual imagery require continued intervention and protection from exploitation and abuse in victim identification investigations – a proposal echoed by Quayle, Svedin and Jonsson[150] based on the high incidence of sexual coercion apparent in their analysis of identified children featured in youth produced sexual imagery. This finding demonstrates the complex position of the depicted victim in these cases, and underscores their vulnerability to be perceived as perpetrators rather than victims in investigative contexts, and allied potential for exclusion from victim identification endeavours, or from recourse to support and assistance. It establishes an urgent requirement to develop evidence-led guidance and other strategies to support the international victim identification effort. The latter can be done by making reliable operational distinctions between sexting behaviours where some form of criminal harm is apparent (e.g. where coercion or extortion of the victim feature), and where there is a public interest in sanctioning and managing the perpetrators.

On a related point, the observed overlap between offender-generated and youth-produced sexual materials in contexts of CSAM/CSEM production invites some reconsideration of the terminology and labels used in professional contexts to describe these materials, such as 'self-generated', or 'youth-produced'. This is important in order to ensure that these descriptors do not mischaracterise the situation of those victimised in the production or use of 'youth-involved sexual material', or encourage inadvertent victim blaming and secondary victimisation in these cases.[151] Finally, interventions that emphasise the prosecution of those under the age of 18 engaged with youth produced sexual imagery and which emphasise the criminality of the act, may be counter-productive and serve as a disincentive to children's reporting, promote self-blaming and victim-blaming, and ultimately compromise victim identification potential. This situation further highlights the limitations of relying solely on law enforcement led strategies as a conduit to victim identification in cases involving youth produced sexual imagery, and speaks to the value of developing victim identification guidance and interventions for other duty-bearers such as teachers, child protection workers and parents who may encounter abused and exploited victims of youth-produced sexual material in the community.

5.2.2 Using the ICSE Database for the development of a global indicator

The architecture of the ICSE Database and, by extension any law enforcement database containing CSAM and/or CSEM and related data, should be designed to support and maximise the collection and exploitation of data for operational and investigative purposes, including victim identification.

However, quite apart from the broader contextual limitations to the utility of law enforcement data in developing indicators of the global situation and needs of unidentified victims of CSAM/CSEM, the relevance of the ICSE Database data to the project's objectives was limited by a number of operational constraints to the scope and quality of the unidentified victim data within this database. These included:

1   As of December 2017, 53 countries plus Europol and INTERPOL were connected to the ICSE Database, with many countries yet unconnected. While this number is far from insignificant, it does mean that the available information on unidentified children is limited to that which is made available by these connected countries and users, or provided to INTERPOL for inclusion in the database on behalf of a member country.

This situation invites the suggestion that the CSAM/CSEM case data within the ICSE Database is not sufficiently representative of unidentified victims and offenders in underrepresented regions containing populous countries such as in Africa, the Middle East, and Asia. It further suggests the continued need for focused programmes to develop connectivity to and capacity to use the ICSE Database in underrepresented regions. This is an essential part of efforts to build a more comprehensive, global profile of the situation of unidentified victims.

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[150] Quayle, Svedin and Jonsson, "Children in identified sexual images".
[151] Brennan and Phippen, "Youth-Involved Sexual Imagery".

Relatedly, given its global reach, the ICSE Database maintains unique international potential for the development of knowledge concerning a range of characteristics of unidentified CSAM/CSEM victims and their abusers, including ethnicity and age. While acknowledging that the non-recording of ethnicity in the ICSE Database is an intentional design feature due to the sensitive nature of this category of information, consideration could be given to the fact that investigators and analysts regularly face challenges when ascribing core visual characteristics such as age across ethnic groups. This in turn suggests the need to consider the systematic recording of victim ethnicity information in relation to identified and unidentified cases. The addition of any such feature to the ICSE Database would certainly require bespoke standards and training on ethnic ascription, and as suggested elsewhere in this report, it would be significantly facilitated by the expansion and diversification of the geographic coverage of countries with access to the ICSE Database.

2   The data extracted from ICSE-categorised unidentified media did not constitute a pure sample of unidentified victims, as it encompassed data relating to victims who had been identified, but whose records had not yet been recategorised as 'identified' by the database users. This issue is largely a function of the voluntary and *ad hoc* nature of ICSE Database use by connected countries internationally, where connected countries' capacity to administer these updates to victim identification status is limited by competing operational demands at national level, and where even the best resourced national victim identification teams maintain restricted capacity to mine historical unidentified records and update their identification status in the database.

While acknowledging the overriding imperative of ICSE continuing to be a tool to optimise global and national efforts to identify victims, this situation requires urgent redress. In particular, it will be important to build into future iterations of the database mechanisms that will allow for the ready and regular analysis of trends and to inform future programmes of research involving unidentified victims. In addition, it will be crucial to advocate for the interconnection of databases worldwide in order to facilitate expeditious updates to victim data, whether in support of investigations or research. Indeed, this process has already begun within the broader framework of the I-CARE project, of which this study forms an important component. The architecture of law enforcement databases containing CSAM and CSEM and related data should support data collection for operational and investigative purposes, including victim identification.

3   During the course of the analysis for this study, data entry inconsistencies (e.g. using free text fields) and omissions were apparent in the category information entered by individual users and by countries, which resulted in some data that could not be exploited for the purposes of this study. This underscores the importance of quality control and validation approaches in order to improve the integrity of the data archived within the ICSE Database. This can be done by improving internal ICSE-administered quality control procedures and standardising training by law enforcement on how to use case data entry in the ICSE Database. The quality of the archived data can also be improved by editing the design of the data entry interface (e.g. by reducing the number of empty field options and free-text data entry fields in the case submission forms); and/or by developing technology to facilitate and/or replace functions currently carried out by ICSE Database users.

4   The use of data for research must be taken into account in the next iterations of the ICSE Database. This could be through the recording of more fields of information, including on the types on cases contained in the database. This would allow deeper analysis to be conducted on cases and the context in which they are developed, for example in relation to the interaction between countries to work on and solve cases, and ways for INTERPOL to support law enforcement around the world to enhance the quality and outcomes of these interactions.

5.2.3 Lack of standardised or comparable categorisation approaches

More broadly, substantial challenges to comparability of the available information on CSAM/CSEM victims are apparent, which significantly limit the available knowledge base on the characteristics and experiences of the victims of CSAM/CSEM. These challenges largely pertain to differences in the sampling, case recording and data categorisation approaches that supported these studies.

For example, comparatively little is formally known of the specific situation of unidentified victims of CSAM/CSEM as many of the available studies are based on sampled of identified victims,[152] or comprise unspecified samples which appear to comprise data relating to identified and unidentified victims, whether drawn from national law enforcement databases,[153] or from national hotlines.[154] This situation is complicated by the use of different categorisation approaches in ascribing victim characteristics and experiences of victimisation, which prohibit meaningful comparison between studies. For example, the 2016 study of the Canadian Centre for Child Protection deployed the 5-point Sexual Maturity Rating scale for the estimation of victim age ranges,[155] while other studies have employed a 3-point approach to age range estimation.[156] Similar problems arise in the varying approaches that have been deployed in the categorisation of the sex of children depicted in CSAM/CSEM (with some studies encompassing mixed categories of males and females) and levels of depicted sexual activity. Furthermore, differences between the law enforcement classifications which might be used in future studies as indicators of offence severity in relation to CSAM/CSEM victimisation – for example, INTERPOL and NCMEC maintain differing operational definitions in relation to the extent to which a CSAM/CSEM series has been disseminated online, replying upon different classifications (i.e. 'traded' and 'distributed') to describe this status.

Over 30 years ago, the then US Attorney General used the term 'conceptual chaos' to characterise society's inadequate understanding of, and response to, victims of CSAM/CSEM.[157] Currently, the available evidence overwhelmingly points to the fact that many more unidentified victims of CSAM/CSEM exist than those who are identified, with yet more unidentified children coming to the attention of law enforcement on a daily basis. To this day, much conceptual confusion remains in relation to the situation of these children – there is no resourcing available to begin to estimate how many CSAM/CSEM files are known to law enforcement, or the number of children implicated in this content, or to develop a descriptive profile of these unidentified victims that comprehensively characterises their situation and needs.

Hence, while the inherent value of the small number of studies on the characteristics and experiences of victims of CSAM/CSEM produced to this day is undeniable, we continue to lack several key elements. These elements include:

1   A comprehensive, integrated understanding of the situation of these children, instead relying on piecemeal studies drawn largely from national databases to guide international advocacy and intervention; and

2   International consensus on a range of indicators (e.g. on victim characteristics and experiences, the quality of the response of victim identification law enforcement and other stakeholders) and measures that would facilitate the production of a standardised international assessment of the situation of these victims, and the quality of the international response to their identification and recovery.

5.3 Concluding remarks

In conclusion, there are significant challenges and opportunities associated with the effective measurement of CSAM/CSEM globally, and it is clear that this goal will require extensive consultation and engagement between the research community and gatekeepers of international repositories of CSAM/CSEM, whether drawn from law enforcement and/or hotline sectors. Any move towards

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[152] Quayle, Svedin and Jonsson, "Children in identified sexual images"; NCMEC, "Once the Shutter Snaps".
[153] Quayle and Jones, "Sexualised Images of Children on the Internet".
[154] Canadian Centre for Child Protection, "Child Sexual Abuse Images on the Internet".
[155] Cooper, "Medical analysis of child pornography".
[156] Quayle and Jones, "Sexualised Images of Children on the Internet"; Seto, Buckman, *et al*. "Production and Active Trading of Child Sexual Exploitation Images".
[157] Attorney General's Commission on Pornography (1986). "Attorney General's Commission on Pornography: Final report". Washington, D.C.: U.S. Department of Justice, 612.

the integration of the available data on unidentified CSAM/CSEM cases, and any harmonisation and standardisation of the associated categories of case data would take place against a complex backdrop, where many domestic law enforcement agencies do not maintain formal databases or archives of seized CSAM/CSEM. Alternatively, where they do, they may be governed by differing standard operating procedures for database administration, case recording procedures and categorisation approaches, or differing legal regulations governing the storage, handling or release of case-related information to other parties.

Notwithstanding, there is an apparent need both to harmonise approaches to the categorisation and sharing of information related to unidentified victims of CSAM/CSEM between databases internationally, and to facilitate the consolidation of a data set based as far as possible on common data standards, and that permits an analysis of the global situation of unidentified children.

Towards this goal, the present study offers a framework for the development of insights into the situation of unidentified victims of CSAM/CSEM. It also offers a categorisation approach that may be further developed and adapted to support the development of descriptive profiles of unidentified victims in future studies, together with a series of mechanisms for anonymised extraction and sharing of standardised data between information gatekeepers.

## 5.4 Recommendations for future policy and programming

The findings and conclusions of this study point to a number of recommendations that can be made not only in relation to improving the foundation for the development of a set of global indicators on CSAM/CSEM, but also in relation to potential areas for further research. These recommendations include:

1   Continue to increase the number of countries connected to the ICSE Database, and encourage regular use and updating and sharing of information submitted to it. This should be done within the bounds of law enforcement's capacity and resourcing, with a focus on the use of technology and other means to support and enhance rather than increase demands on investigators and analysts around the world;

2   Build on existing efforts to harmonise approaches to the categorisation of CSAM and CSEM across countries and between different jurisdictions;

3   Build on existing efforts to harmonise approaches to the sharing of case-related information on child victims of sexual abuse and exploitation within and between countries, and cooperation to identify victims, whether through the ICSE Database, or more broadly through meetings of experts and specialised investigators;

4   Facilitate the consolidation of a data set based on common data standards that can be recognised across countries and between different jurisdictions, which can be used for analysis of the global situation for unidentified children;

5   Build mechanisms into future iterations of the database that will allow for the ready and regular analysis of trends and to inform future programmes of research on child sexual exploitation and abuse. Also, explore with key technology partners the optimal use of existing and new technology to support victim identification;

6   Acknowledge the relationship between resourcing of victim identification programmes and the identification of child victims. This could be done by advocating for increased focus on child protection and victim identification in national policing plans/priorities;

7   Advocate for further interconnection of law enforcement databases worldwide;

8   Adopt a more holistic approach to the investigation and study of online and 'offline' crimes against children, instead of maintaining a separation between these increasingly interlinked online and offline realms of abuse and exploitation;

9   Share more information about general patterns of offending and victimisation with the public –
    in order to build awareness and advocate for the plight of victims; and

10 Develop comprehensive frameworks for more reliable categorisations of victim and offender
    characteristics such as ethnicity across regions and countries. This will feed into crimes statistics
    and other global indicators, such as those used with the sustainable development goals.

5.5 Recommendations for further research

1   A study of the shift in balance between images and videos, drawing on existing reports and
    the implications of increasing use of video for victimisation and victim identification;

2   Further development and validation of a series of data standards and an accompanying coding
    framework to facilitate the collection, collation and analysis of case data from CSAM/CSEM
    series from international CSAM/CSEM databases;

3   A study of the relationship between CSAM and CSEM in light of the finding that in over 61
    percent of analysed image series contained both CSAM and CSEM;

4   A study of young people and youth-involved sexual imagery to address key questions,
    such as the complexity of determining the status of the victims portrayed and more generally,
    the appropriate legal responses to this phenomena;

5   Comparisons of the identification rates of victims and offenders;

6   Comparisons of the identification rate among different age groups of victims;

7   Broader examination of the distribution of different COPINE rating levels within series, and any
    correlation with number of images in a series;

8   Comparative research on various types of online and 'offline' cases and the characteristics and
    experiences of the victims;

9   A study on the situation and context of male child victims depicted in CSAM and the possible
    underestimation of their numbers; and

10 Law enforcement-led research into successful techniques in victim identification and their
    implementation as a way to develop guidelines and ground rules to start investigating new cases
    and potentially to review cold cases.

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Appendices

Appendix A

Ethical Considerations

This study raised many complex ethical issues for the research team, particularly from the perspective of child rights; issues which merited explicit consideration in the context of research design, execution and in project reporting. This report applies a broad framework in its appraisal of the major ethical issues the project raised, as well as the attendant ethical provisions that were established in the project to respond to these issues. Specifically, the framework addresses the following key areas:

- Ethical justification and scope of the research;
- Benefits and harms to research subjects;
- Ethical issues in the research design;
- Respect for research subjects and informed consent; and
- Protection of research staff.

A framework comprising these themes formed the basis of an independent review of the ethical dimensions of the project, performed by a sub-group of the Technical Working Group (TWG). This review was undertaken in advance of the data collection phase of the project.

Ethical justification and scope of the research

As noted above, the project is intended to serve as a tool to advocate for States to allocate the needed resources to address the situation regarding sexual abuse and exploitation of children. In more specific terms, the partners intend to use the information and metrics contained within the GII to inform and guide decision-making processes related to legislation, law enforcement, policy and programmes, in raising public awareness, and to both monitor and measure progress in the field of victim identification.

The research is specifically oriented towards promoting the realisation of child rights, addressing the situation of a specific vulnerable and exploited group of children whose rights have been severely violated through sexual exploitation and abuse. This will be effected in a step-by-step manner, as initially the focus is to build knowledge of this gap in addressing the rights of unidentified victims, with the aim to strengthen the capacity to protect children and enable the realisation of their rights.

In order to produce the GII for this purpose, it was necessary to access and analyse data contained in the ICSE Database, as noted above. The scope of the research was therefore limited to, and defined by, the available data.

Given the intended objectives of the GII, every effort was made to assure the technical quality of the research, through: (a) the expertise and experience of the research team, (b) reviews of the literature and consultation with relevant organisations and experts, (c) close engagement with technical experts in the partner organisations (INTERPOL and ECPAT), and relevant national authorities as required), and (d) engagement of a multidisciplinary TWG for periodic monitoring and reference as needed.

Benefits and harms to research subjects

Early in the project consultations between the partners, it was established that the textual data available on unidentified victim cases in the ICSE Database would not furnish sufficient information to meet the objectives of the I-CARE Global Imperative Indicator project[158] – specifically the requirement to develop a descriptive profile of unidentified victims of CSAM/CSEM that would include, at minimum, information on victim age, gender and ethnicity. In view of these limitations, an emergent requirement to access and analyse CSAM/CSEM together with its associated case data in order to generate such a descriptive profile. These were identified as the only data sources available to the project that could furnish all of the profiling information in relation to unidentified victims required to fulfil the agreed project objectives.

This emergent requirement to access and code data from CSAM/CSEM series recalled a series of ethical challenges in the management of CSAM/CSEM data in law enforcement contexts, and issues of possible revictimisation, as highlighted by authors such as Palmer (2005) and Quayle (2008). These challenges relate to the victim's awareness that their abuse has been discovered and viewed by law enforcement, and their inability to determine whether, or under what conditions, their imagery is used to support law enforcement activity – irrespective of whether these are investigative or knowledge development activities, such as the GII project. This invites a series of questions around how these materials are accessed, stored and utilised by law enforcement and their associates for law enforcement purposes. While there may be justification for certain practices, such as acquiring evidence for prosecution or for the identification of victims, there is a more fundamental concern about how law enforcement's concern with victim identification and offender apprehension can supersede and invalidate the needs, wishes and interests of child subjects of these materials (Quayle, 2008). A key concern in the context of this protect, was that at the extreme end of such a continuum of law enforcement activity (whether law enforcement-facilitated or law enforcement-led), law enforcement may themselves revictimise or cause further harm to victims by virtue of their actions (Palmer, 2005).

In the context of this study, these issues highlighted a delicate and complex series of obligations that the research partners were required to reconcile in any analysis of CSAM/CSEM and its related data. This included, operating within the boundaries of relevant (e.g. data protection) legislation, while observing other ethico-legal duties to minimise the potential for any further harm to children by, for example, accessing the minimum amount of victim-related data necessary to fulfil the stated project objectives, and to set in place all possible provisions to prevent further image dissemination or any inadvertent revictimisation of the child in the research process.

Once the research lead and other ECPAT representatives had been fully apprised of the data sources that could be made available to the project, and had identified those data required to fulfil the project objectives, the relevant data to be included in the GII study were documented by ECPAT and INTERPOL under the auspices of a Collaboration Agreement between the agencies. This agreement, together with a Research Protocol, developed by ECPAT, detailed the data that would be accessed by ECPAT's research lead, and the conditions under which this data would be accessed, handled and applied in the context of the project. Central to these arrangements was the development of an iterative process between the partners for the anonymised extraction of case data from the database, such that no personal or identifying data relating to the child subjects of this study would be released to non-law enforcement members of the research team in the process of data collection or analysis.

Both agencies were in strong agreement that any visual analysis of CSAM/CSEM data could only be conducted under highly controlled conditions and by suitably experienced researcher under the auspices of a legally-binding research collaboration agreement, so that any research activity would not violate relevant ethical, legal and investigative responsibilities of the ICSE Database administrators, users, and the research partners, particularly the duty of care to protect the dignity and privacy of the children whose imagery may feature in any such analysis.

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[158] This was the working title of the project, which has since been revised.

Within the strategy, attention was paid to the types of data that could ethically be accessed by a third party for the purposes of analysis. Critically, it was considered that no non-distributed series would be included in the sample made available to the research lead for visual analysis. These series are afforded special protections within international law enforcement databases to ensure no inadvertent distribution of the series and revictimisation of the featured child victim, and were therefore considered ineligible for inclusion in the visual analysis component of the study.

Ethical issues in the research design

The GII project did not require direct engagement with children. However, in view of the major project objectives, i.e. to develop a descriptive profile of victims of CSAM/CSEM and related metrics and statistics from case-related data input to the ICSE Database, the project required access to sensitive (i.e. personal and law enforcement-sensitive) information pertaining to individual cases of unidentified victims of online CSAM/CSEM housed in the ICSE Database.

While the images/records were not, by definition, linkable to identified individuals – as the focus was deliberately on CSAM/CSEM concerning unidentified child victims – there remained ethical risks which called for careful and systematic attention to privacy and confidentiality: (1) to child victims, including in the event that they might later be individually identified; (2) to national and international law enforcement sources of the CSAM/CSEM and related data, and (3) to the safety and well-being – and potentially the reputation – of the organisations and researchers participating in the study. These concerns called for thorough and systematic protection and management of the research data at all stages.

The chain of permissions required to access and analyse the data was clearly and thoroughly documented: through the relationship between INTERPOL and national and regional law enforcement authorities, and the legally-binding written Collaboration Agreement between INTERPOL and ECPAT for this project. This agreement, the research protocol, and its supplements, described the conditions under which the data would be accessed and handled. Clear and strong provisions for data security were identified and designed into the ethical provisions and research design of the project. Special attention was given to the requirement for anonymisation of data, for the protection of the identities of all parties who might be identified by name (law enforcement personnel, victims, offenders and suspects).

Respect for research subjects and informed consent

This study involved an analysis of case records of seized CSAM/CSEM series, featuring unidentified victims uploaded by law enforcement agencies around the world to the INTERPOL ICSE Database. Given the unidentified status of these cases, it was not possible to secure the informed consent of the children whose case data was analysed in this research, (which would include relevant 'assent' of children themselves). Because the data being analysed were secondary, and did not pertain to identified individuals, these issues, (which apply mainly to research involving primary data collection with identifiable persons) are not directly relevant to the present study. However, the research lead and research team were in strong agreement that this situation did not negate the research partners' duty of care to the needs and interests of unidentified children whose data featured in the study.

In view of the fact that the research was not directly performed with INTERPOL personnel or ICSE Database users, the traditional informed consent process used for research with human subjects was not required. However, as 'data administrators' or 'gatekeepers' to the data relating to unidentified victims in the ICSE Database, the consent of the national specialised units connected to the ICSE Database was sought in order for their case-related data to be included in the study. Moreover, in view of the significant ethical and legal issues that attach to the analysis of data relating to such cases, the principles of methodological rigour, research accessibility, and full transparency and mutual understanding of the research process became particularly critical. It was important that all partners understood and agreed upon the nature of the research and the requirements for this study, the attendant rationale for the methodological approach, the forms of data to be collected and analytical treatments to be applied, data sharing and handling arrangements as well as the publication and dissemination arrangements for the resulting findings and attaching classification levels (e.g. restricted versus public).

Protection of research staff

As with any study with victims of sexual violence, issues of researcher abreaction, trauma and safety were substantial concerns. In this case, it was distinctly beneficial to the project that the research lead (and sole analyst of the CSAM/CSEM series) was a psychologist, with many years of experience working directly with CSAM/CSEM and related cases, both in research and victim identification contexts. Thus, she maintained working familiarity with the strategies and supports to be set in place to safeguard her mental health and wellbeing in the research process. Notwithstanding, researching accounts of pain and trauma can impact researchers, both physically and emotionally. The effects of being indirect witnesses of trauma and abuse can result in secondary traumatic stress or vicarious trauma – the transformation of the researcher's inner experience as a result of empathetic and/ or repeated engagement with sexual violence survivors and their trauma material (Pearlman and Saakvitne, 1995). These effects may be associated with a range of adverse consequences, including burnout and compassion fatigue, which quite apart from their obvious consequences for the affected individual, can prove detrimental at project level.

Experiences of researching pain and trauma may impact on different researchers in different ways. This impact may vary widely, in accordance with a host of factors, such as the nature of the trauma the researcher is exposed to, the degree or the extent of this exposure, the researcher's personal characteristics, history, resilience and capacity for adaptive coping, the research methods used, the researcher's support systems, and the context in which they do their research.

This reality confers a duty of care, not alone upon researchers themselves, but upon research teams, research contractors, research managers, sponsors and supporting organisations to respond to the impact of researching sensitive topics and to develop to strategies to support researchers in identifying, managing and, where possible, preventing, vicarious trauma. Therefore, the research lead and her colleagues ensured that the research was conducted in accordance with best research practice in this domain, as established, for example, under the guidance of the Sexual Violence Research Initiative: www.svri.org/. More specifically, in view of these considerations, the research was designed to mitigate against the dynamic risks to the researcher's welfare that could be managed in the research context – e.g. the setting in which the sensitive data collection (CSAM/CSEM coding) was undertaken, her access to support, and minimising the degree of exposure to sensitive and potentially distressing CSAM/CSEM. For example, ECPAT, with support from INTERPOL, ensured that the research lead met with a suitably qualified mental health professional as frequently as was required throughout the research process. CSAM/CSEM coding was limited to the minimum amount of material required to fulfil the project objectives, and was conducted in a secure, supportive and controlled environment – i.e. INTERPOL's Crimes Against Children Unit, where the ICSE Database is housed and administrated. In terms of environmental controls, it was important that the researcher took regular breaks in the coding process, held reflective discussions with other INTERPOL Crimes Against Children Team members and management in her experience of on-site CSAM/CSEM coding, and enjoyed informal collegiate support, as well as access to more formal INTERPOL occupational health supports while on site in France during the coding process.

It is also important to stress that the research lead was not expected to maintain sole responsibility for her own welfare – rather she operated within a network of supports, which were designed to offer the assistance and supervision she required throughout the research process. As a contractor to ECPAT, and a research partner to INTERPOL, the researcher, her contracting organisation, the research partners and the TWG each assumed explicit roles in and responsibilities in ensuring the wellbeing of the research lead, and worked together to manage this project risk.

In view of the significance of the risk of researcher abreaction in this project, it was deemed important for the research lead to remain in contact with the research partners and/or the TWG on her experiences of sensitive project work. In the interests of project quality, and discharging the research partners' duty of care towards the researcher, compliance with these protective arrangements was managed transparently, as an explicit ethical dimension of the project, and was monitored by the TWG.

Appendix B

I-CARE Global Imperative Indicator (GII) Project

Research on Unidentified Victims Portrayed in Child Sexual Abuse and Exploitation Material stored in the International Child Sexual Exploitation (ICSE) Database housed at INTERPOL

Ethics Review of the Research Protocol

Sean Hammond and David Parker, 2 June 2017 (Updated 12 June 2017)

This report summarises our review of the ethical dimensions of the ECPAT International-INTERPOL I-CARE GII Project research protocol (RP). The review takes into consideration the relevant comments on the draft RP circulated by the GII Project Manager. The initial version of the report submitted to the Technical Working Group (TWG) in its meeting of 12 June 2017 has been updated to reflect feedback by the research team and the TWG discussion.

We have reviewed the GII Project research protocol carefully. In view of the multiple and complex ethical issues raised by this study in the perspective of child rights, the following generic framework for ethical review has been applied:

- Ethical justification and scope of the research;

- Ethical issues in research design;

- Respect for research subjects and informed consent;

- Benefits and harms to research subjects;

- Protection of research staff;

- Conflicts of interest; and

- Application of ethical standards and procedures.

Our review concludes that the RP is well developed, and that the relevant ethical issues are identified and are fully addressed. Some points were noted where greater clarity in the presentation would be useful; these have been largely addressed in the revised version of the RP, and subsequently in the TWG discussion. A few points are highlighted for consideration and ongoing attention by the research team and the TWG.

1 Ethical justification and scope of the research

The protocol explains well the expected overall benefits of the research for the GII and the application of its findings, namely (a) to assess the universe of unidentified victims of sexual exploitation of children (SEC) documented in images and video media (child sexual abuse materials/child sexual exploitation materials, or CSAM/CSEM); (b) to establish a framework, platform and baseline for overall monitoring; (c) to drive advocacy and public awareness, and (d) to develop metrics and related tools in support of law enforcement and public action against CSAM/CSEM and SEC across countries. Significant benefits are anticipated from the proposed research to enhance understanding and strengthen evidence-based approaches to address SEC – by national law enforcement and justice systems, relevant international entities, and other stakeholders including ultimately families and communities who are supported by these systems. This in turn is foreseen to lead to concrete benefits for current and potential child victims of sexual abuse, as the scope and depth of the phenomenon continue to increase.

As summarised in Section 12.2 of the research protocol: *"The GII will serve as a tool to advocate for States to allocate the needed resources to address the situation regarding sexual abuse and exploitation of children. In more specific terms, the information and metrics contained within*

the GII will guide decision-making processes related to legislation, law enforcement, policy and programmes, raise public awareness, and both monitor and measure progress in the field of victim identification."

Comments from reviewers under the 'Objectives of the GII' are noted, including suggestions for increased clarity on the practical application of the GII.

In view of the scale and seriousness problem being addressed, it is clear that the proposed research approach is justified. As described in the protocol and other project documentation, I-CARE represents the first major effort to develop this monitoring/ assessment platform and evidence base, with few if any significant institutional or academic precedents. The data required for the study are not available from other sources; the protocol explains how the data needs have been determined, and minimum requirements have been identified and agreed with the participating law enforcement entities. These steps include assurance of the validity and suitability of the data by the organisation providing it (INTERPOL on behalf of national law enforcement bodies).

The protocol describes a sound approach to assure the technical quality of the research, through (a) the expertise and experience of the principal investigator, (b) review of the literature and consultation with relevant organisations and experts, (c) close engagement with technical experts in the partner organisations (INTERPOL and ECPAT, and relevant national authorities as required), and (d) engagement of a multidisciplinary Technical Working Group for periodic monitoring and reference as needed.

The research is specifically oriented to promoting the realisation of child rights, addressing the situation of a specific vulnerable and exploited group of children whose rights have been severely violated through sexual exploitation. This will be effected in a step-by-step manner, as initially the focus is to build knowledge of this gap in addressing the rights of unidentified victims, with the aim to strengthen the capacity to protect children and enable the realisation of their rights. The principle of social equity will be specifically served as available evidence suggests that child victims of SEC, and those portrayed in CSAM/CSEM, come disproportionately from poor and vulnerable population groups.

2 Ethical issues in research design

The research design calls for secondary data analysis on children, drawing on CSAM/CSEM images and video media in the ICSE database, including related metadata supporting information from law enforcement sources. The data to be analysed are highly sensitive and legally protected, subject to specific restrictions on their use. As summarised in section 12 of the protocol (page 10), *"... in view of the major project objectives, i.e. to develop a descriptive profile of victims of CSAM/CSEM and related metrics and statistics from case-related data input to the ICSE Database, this project will require access to sensitive (i.e. personal and law enforcement-sensitive) information pertaining to individual cases of unidentified victims of online CSAM/CSEM housed in the ICSE Database."*

While the images/records are not, by definition, linkable to identified individuals – as the focus is deliberately on CSAM/CSEM concerning unidentified child victims – there remain ethical risks which call for careful and systematic attention to privacy and confidentiality: (a) to child victims, including in the event that they might later be individually identified; (b) to national and international law enforcement sources of the CSAM/CSEM and related data, and (c) to the safety and well-being – and potentially the reputation – of the organisations and researchers participating in the study. These concerns raise the need for thorough and systematic protection and management of the research data at all stages.

These considerations appear to have been systematically thought through and appropriate risk mitigation measures identified.

The chain of permissions required to access and analyse the data is clear and well documented, as prescribed by the relationship between INTERPOL and national law enforcement authorities, and the provisions of the written agreement between INTERPOL and ECPAT for this project.

Section 12.4 of the RP describes the conditions under which the data will be accessed and handled, and the protocols which will be in place. However, one TWG reviewer found that the 'data handling description in the cooperation plan is not detailed enough'. The authors' response to this was to refer to the INTERPOL-ECPAT cooperation agreement. It might also be appropriate to incorporate the relevant provisions of the referenced agreement in the RP itself, to facilitate any future review.

Clear and strong provisions for data security are identified, and were further amplified during the TWG meeting, including the plan for destruction of the data that is be maintained off-site by the researcher. Of particular note, the review of CSAM/CSEM images and video takes place only on the INTERPOL premises; no copies of offending media are held off-site. We, and the full TWG, were satisfied that this adequately meets requirements for protection of this data.

Special attention is given in the RP to the requirement for anonymisation of data, for protection of the identities of all parties who might be identified by name (law enforcement personnel, victims, offenders and suspects). These issues are well addressed.

We noted nonetheless that the RP lacks some details about the actual content and form of the database. The presentation by INTERPOL and follow-up discussion provided extensive information in this regard. In addition, reviewers commented on a lack of clarity around the 3 samples to be analysed. During the TWG meeting the research team and TWG members authors provided detail on the size and contents of the samples. That information, and the subsequent discussion, satisfied the TWG and serves to address this aspect of ethical review. We recommend that the database and samples be adequately described in the final version of the RP.

Section 12.5 of the RP indicated that a paper-based/desk review of legal and ethical issues will be conducted by the partners in advance of any data sharing or collection activities. The Project Manager clarified that this refers to the present ethical review. It will be useful to ensure that this reference is clear in the final version of the RP. In addition, the heading of this section refers to "third party review"; it should be clarified in the RP that the TWG constitutes the 'third party' for this purpose.

The research process is further subject to formal review and approval by the partner organisations, in the context of the project Cooperation Agreement. This provision provide extra assurance regarding the ethical and legal issues concerned.

Wider ethical issues concerning access to CSAM/CSEM depicting individual children are well discussed in Section 12.1, paragraph 2, including potential conflicts between law enforcement objectives in using CSAM/CSEM and the needs, wishes and interests of the child subjects. This concern is addressed, including for the need to set in place *"all possible provisions to prevent further image dissemination or any inadvertent revictimisation of the child in the research process."* It will be valuable to document the provisions that are ultimately taken in this respect as a guide for future research in this area.

In summary, we consider that a high level of data protection will be achieved. However, given the content and sensitivity of the data, and the pioneering nature of this research, it will be essential for the reports and publications emanating from the project to include (as appropriate) descriptions of the data, its sources, and the procedures that were followed to ensure privacy and confidentiality.

3 Respect for research subjects and informed consent

As explained in Section 11, because the data being analysed are secondary, and do not pertain to identified individuals, these issues (which apply mainly to research involving primary data collection) are not directly relevant to the present study.

In particular, informed consent (which would include relevant 'assent' of children themselves) is not a possible to obtain. Permission to use the data on individual children is addressed by the data access and handling procedures which have been described, under the responsibility of national and

international law enforcement authorities. The protocol indicates that *"…as 'data administrators' or 'gatekeepers' to the data relating to unidentified victims in the ICSE Database, the consent of the national specialised units connected to the ICSE Database will be sought in order for their case-related data to be included in the study"*.

Measures to ensure privacy and confidentiality have been discussed above in relation to anonymisation procedures. These are considered to be adequate for the protection of children's rights.

As a matter of respect for the children whose images are depicted in the CSAM/CSEM, to the extent possible, the findings should be presented and disseminated in such a way as to be as useful as possible to the child victims, through the duty bearers who are the principal beneficiaries of this research. This includes any regional/national tailoring or focus of findings that might emerge in the course of the research. As an overall principle (page 10), the lack of ability to obtain informed consent *"does not negate the research partners' duty of care to the needs and interests of unidentified children whose data will feature in the study."*

Regarding research design, the protocol includes a clear statement (pp. 10-11) on the importance of transparency and mutual understanding of the research process by all partners, including regarding the data collection, analysis, data sharing and handling, and publication and dissemination arrangements.

Experience suggests that this process may benefit from a variety of approaches to explaining the research and its different elements to different audiences, with periodic updates and checking to confirm adequate understanding and agreement at each stage, potentially including initially a 'plain-language' (simplified/summary) version of the research protocol.

Issues of quality control were raised by reviewers, and the research team have provided a detailed response. The agreement to update the RP on this matter is welcome.

4 Benefits and harm to research subjects

The principle is fundamental that research involving human subjects should to the extent possible be designed to maximise benefits and avoid or minimise harms to those subjects. While this consideration applies most strongly to the subjects of primary data collection, it is relevant also to the subjects of secondary data analysis. In this case, as discussed in relation to the ethical justification for this study, the overall intent is to strengthen knowledge, tools and capacity of law enforcement authorities and other stakeholders to address the challenge of unidentified child victims of sexual exploitation. All the specific measures to ensure maximisation of these benefits cannot be identified at this point; it might only be encouraged for the researchers to maintain a focus on the use of the findings for victim identification and promoting access to justice of victims, and for the identification and successful prosecution of perpetrators of SEC, as well as the broader aim to provide evidence for advocacy for increased resources and focus on the crime.

As described above, the protocol addresses the potential for 'revictimisation' of child victims as a result of access to CSAM/CSEM-related data concerning individual children. In Section 12.1, the protocol gives assurance that research partners will *"operate within the boundaries of relevant (e.g. data protection) legislation, while observing other ethico-legal duties to minimise the potential for any further harm to children…"*

Given the sensitive nature of the subject being addressed, there is a further potential ethical risk that research findings may reflect negatively on vulnerable populations. This requires attention to the content and wording of reports. The protocol outlines the review procedure for the two official reports, through the TWG and the partner organisations (INTERPOL and ECPAT) to address this risk. In this process, special attention must be given to the distinction between restricted-use and public versions of the reports.

5 Protection of research staff

This research project carries a particular risk of trauma to the researcher(s) who will be analysing data, in viewing CSAM/CSEM images and reading descriptive material. The protocol identifies the specific risks, noting that the principal investigator has experience in this area and is knowledgeable of the strategies and supports required for her safety and wellbeing. It appears that she will be the only individual directly accessing this content directly. The extent of risk remains unknown, but Section 12.3 carries assurance that *"the research is conducted in accordance with best research practice in this domain, as established, for example, in the guidance of the Sexual Violence Research Initiative: www. svri.org/"*. In view of the significance of this risk, it will be relevant for the Principal Investigator to remain in contact with the partner organisations and/or the TWG on her experience in this regard.

6 Conflicts of interest

Conflict of interest is often addressed as an ethical consideration in research. No actual or potential conflicts of interest have been identified or raised in relation to the research team or to others involved with the research, and, thus, it is not considered to be a risk. However, as a matter of form the RP might include an explicit statement regarding conflict of interest applying to the principal investigator and other members of the research team. Publications emanating from the research might include a similar statement, in an appropriate form. Alternatively, the partners may determine that this issue is not relevant for this project.

7 Application of ethical standards and procedures

Normally research directly or indirectly involving children, particularly where it addresses sensitive issues, is subject to established procedures for ethical review, through an Institutional Review Board (IRB) or similar panel. In this case, the research does not fall under the purview of an academic institution, and neither of the partner organisations (INTERPOL and ECPAT) has an established process for ethical review or ready access to an IRB. Accordingly, the partner organisations and research team have agreed to apply an ad-hoc ethical review procedure through the TWG.
As described in the RP, the partners would carry out *"a paper-based review of the ethical issues attaching to this project with the oversight of the TWG. Key ethical issues to be addressed in this review include guidelines for data collection and data management with attention to:*

- *Legal and ethical management of victim and offender related data;*

- *Confidentiality and anonymity;*

- *Data security;*

- *Children's rights (e.g. the child's right to privacy);*

- *Minimisation of harm and distress to research participants; and*

- *Access to support.*

Together, this documentation will be used as the guiding template for all research-related activities conducted by the partners. The compliance of the partners with this framework will be monitored regularly."

An ethical review sub-committee was established, composed of two members experienced in this area. This review has been prepared as an input to the TWG's validation of the RP. Ethical issues identified by the TWG would be addressed by the research team, and should be monitored over the course of the research project.

This is judged to be a sound approach, including the oversight role that is noted for the TWG to monitor these and any other ethical issues arising during the research.

In its discussion the TWG noted several issues that were of a distinctly legal nature. It might be useful to include a headed paragraph or two in the RP specifically addressing the legal issues, rather than having them embedded in the general text and mixed with ethical considerations, to make it clear that they have also been properly considered.

Conclusion

In conclusion, the RP is judged to address the key ethical issues very well, in sections 11 and 12. It may be considered to reorganise these sections using the headings in this report or a comparable structure. In addition, a few points have been noted for follow-up attention by the research team and the TWG.

We wish to thank the research team for their presentation and explanations, and the TWG for its full and useful discussion of the ethical dimensions of this project.

Appendix C

Sample 2: Key to coding categories for analysed series

Visible victim age

Very young: An infant or toddler

Prepubescent: Lack of visual evidence of the onset of puberty

Pubescent: Onset of puberty is evident, e.g. with visible pubic hair, development/darkening of genital areas, or breast development in females

Multiple age categories: Series depicts multiple victims in different age categories (e.g. very young and pubescent). Alternatively, the series depicts same victim, recorded in multiple age categories (e.g. as an infant and as a prepubescent child)

Unknown: Victim age(s) cannot be determined from the visual evidence

Visible victim number

One: One visible victim

Two: Two visible victims

Three: Three visible victims

Four: Four visible victims

Five+: Five or more visible victims

Unknown: Number of visible victim(s) cannot be determined from the visual evidence

Visible victim gender

Male: Only male victim/s visible

Female: Only female victim/s visible

Male and female: Both male and female victims visible

Unknown: Gender of the victim/s cannot be determined from the visual evidence

Visible victim ethnicity*

White: A person having origins in any of the original people of Europe

Black: A person having origins in any of the black racial groups of Africa

Asian: A person having origins of the original people of the far east, southeast Asia, or the Indian subcontinent including, e.g., Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippines, Thailand, and Vietnam

Hispanic or Latino: A person of Mexican, Puerto Rican, Cuban, South or Central American, or other Spanish culture of origin.

Multiple victims-mixed ethnicities: Multiple victims of more than one ethnic category are depicted

Unknown: Ethnicity of visible victims cannot be determined from the visual evidence (e.g. face/other key cues not visible)

* Ethnicity determined by skin tone and facial features in accordance with the categorisation Quayle and Jones (2011)

Depicted sexual victimisation level*

COPINE level 1: Indicative

COPINE level 2: Nudist

COPINE level 3: Erotica

COPINE level 4: Posing

COPINE level 5: Erotic posing

COPINE level 6: Explicit erotic posing

COPINE level 7: Explicit sexual activity

COPINE level 8: Assault

COPINE level 9: Gross assault

COPINE level 10: Sadistic/bestiality

Unclear sexual activity: Level of depicted sexual activity cannot be determined from the visual evidence

* Sexual victimisation levels determined by highest ranking image/sexual activity in a series and in accordance with the categorisation framework described by Taylor, Holland and Quayle (2001, p.101)

Offender gender

Male: Only male offender/s visible

Female: Only female offender/s visible

Male and female: Both male and female offenders visible

Unknown: Gender of the offender/offenders cannot be determined from the visual evidence

Offender ethnicity*

White: A person having origins in any of the original people of Europe

Black: A person having origins in any of the black racial groups of Africa

Asian: A person having origins of the original people of the far east, south east Asia, or the Indian subcontinent including, e.g., Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippines, Thailand, and Vietnam

Hispanic or Latino: A person of Mexican, Puerto Rican, Cuban, South or Central American, or other Spanish culture of origin.

Multiple offenders-mixed ethnicities: Multiple offenders of more than one ethnic category are depicted

None: No offender is visible

Unknown: Offender/s visible but ethnicity of visible offender/s cannot be determined from the visual evidence (e.g. face/other key cues not visible)

* Ethnicity determined by skin tone and facial features in accordance with the categorisation Quayle and Jones (2011)

Other paraphilic theme

Body part fetishism: e.g. focus on foot, hair, hands, etc.

Inanimate object fetishism: e.g. focus on shoes, nylons, dildos/sex toys, smoking, etc.

Urophilia/coprophilia: focus on urination or defecation

Sadomasochism: focus on bondage, torture, BDSM themes, or the subject otherwise being subjected to pain

Biastophilia*: focus on coercive sexual activity, e.g. involving explicit force, threats or non-compliance

Zoophilia/bestiality: focus on sex and animals, where animals are involved in sexual activity with humans

Transvestism: focus on cross-dressing

Voyeurism: focus on surreptitiously taken images/videos, e.g. 'up skirt' and hidden camera imagery

Necrophilia: focus on sex and death, including photo-shopped or staged death photos, images of autopsies and murder crime scenes.

Exhibitionism: focus on 'flashing', or exposing oneself (most commonly the genitals) to another

* Videos only

Other paraphilic theme: Level*

Present and few: <50% of the image series

Present and extensive: ≥50% of the image series

None

* Image series only

Abusive and exploitative*

Present: Images depicting sexual activity ≥ COPINE level 6 present in a single series together with images depicting sexual activity ≤ COPINE LEVEL 5

Absent: Images in a series depict sexual activity ≥ COPINE level 6 only or sexual activity ≤ COPINE LEVEL 5 only

* Image series only

Appendix D

Sample 2: SPSS codebook

Description of Variable	SPSS Variable Name	Coding Instructions
SERIES IDENTIFIER	SERIESID	Unique arbitrary number to identify each series
VICTIM NUMBER	VICNO	0 = Unknown 1 = 1 victim 2 = 2 victims 3 = 3 victims 4 = 4 victims 5 = 5 or more victims
VICTIM AGE	VICTAGE	0 = Unknown 1 = Very Young 2 = Prepubescent 3 = Pubescent 4 = Multiple age categories
VICTIM GENDER	VICGENDER	0 = Unknown 1 = Male 2 = Female 3 = Male and Female
VICTIM ETHNICITY	VICETHNICITY	0 = Unknown 1 = White 2 = Black 3 = Asian 4 = Hispanic-Latino 5 = Multiple victims-mixed ethnicities
SEXUAL ACTIVITY	SEXACTIVITY	0 = Unknown 1 = COPINE Scale 1 2 = COPINE Scale 2 3 = COPINE Scale 3 4 = COPINE Scale 4 5 = COPINE Scale 5 6 = COPINE Scale 6 7 = COPINE Scale 7 8 = COPINE Scale 8 9 = COPINE Scale 9 10 = COPINE Scale 10
OFFENDER NUMBER	OFFNO	0 = Unknown 1 = 1 offender 2 = 2 offenders 3 = 3 offenders 4 = 4 offenders 5 = 5 or more offenders 6 = none
OFFENDER GENDER	OFFGENDER	0 = Unknown 1 = Male 2 = Female 3 = Male and Female

Description of Variable	SPSS Variable Name	Coding Instructions
OFFENDER ETHNICITY	OFFETHNICITY	0 = Unknown 1 = White 2 = Black 3 = Asian 4 = Hispanic-Latino 5 = Multiple offenders-mixed ethnicities
OTHER PARAPHILIA PRESENT	OTHPARAPHILIA	1 = present 0 = absent
OTHER PARAPHILIA LEVEL	PARALEVEL	0 = none 1 = present but few 2 = present and substantial
ABUSIVE AND EXPLOITATIVE	ABUSE-EXPLOIT	1 = present 0 = absent
OTHER PARAPHILIA BODY PART FETISHISM	BODYFET	1 = present 0 = absent
OTHER PARAPHILIA INANIMATE OBJECT FETISHISM	OBJECTFET	1 = present 0 = absent
OTHER PARAPHILIA SADOMASOCHISM	SADOMASO	1 = present 0 = absent
OTHER PARAPHILIA UROPHILIA/COPROPHILIA	UROCOP	1 = present 0 = absent
OTHER PARAPHILIA BIASTOPHILIA	BIASTOPHILIA	1 = present 0 = absent
OTHER PARAPHILIA ZOOPHILIA	ZOOPHILIA	1 = present 0 = absent
OTHER PARAPHILIA TRANSVESTISM	TRANSVESTISM	1 = present 0 = absent
OTHER PARAPHILIA VOYEURISM	VOYEURISM	1 = present 0 = absent
OTHER PARAPHILIA EXHIBITIONISM	EXHIBITIONISM	1 = present 0 = absent
OTHER PARAPHILIA NECROPHILIA	NECROPHILIA	1 = present 0 = absent

Appendix E

Informed consent form

The I-CARE Project and the Global Imperative Indicator Study

Background

The I-CARE Project and the Global Imperative Indicator Study. INTERPOL is currently coordinating the European Commission-funded project 'International Child Sexual Exploitation Database Connectivity and Awareness Raising Enhancements – I-CARE'. A key component of I-CARE is a quantitative and qualitative study conducted by ECPAT International on Child Sexual Abuse Material and case-related data that is internationally registered in the International Child Sexual Exploitation (ICSE) Database at INTERPOL. This study will produce a set of metrics on data in the ICSE Database.

The findings of the GII study will be made public in the form of a Global Advocacy Report in February 2018.

Prior to publication, an interim Global Advocacy Report will be produced as a basis for:

- Gathering qualitative (written and verbal) feedback from law enforcement on the interim findings
- Developing a detailed advocacy strategy for enhanced victim identification capacity based on the findings of the study

Why have you been asked to take part?

You have been asked to take part in this study because:

- You work in an area related to the investigation of sexual crimes against children (including but not only online crimes and victim identification),
- You have knowledge of the response to online Crimes against Children and/or victim identification in your country, and
- You are authorised to share non-confidential information about the situation in your country.

Do you have to take part?

Participation is voluntary. If you agree to participate you'll be given an information sheet about your participation in the project and asked to sign a consent form. You can skip questions. You can withdraw at any time even if you have agreed at first to participate. You can withdraw your permission to use your interview within two weeks of the interview; if you withdraw permission, then the interview will be permanently deleted, and your data will not be used in our analyses.

Will your participation in the study be anonymous?

Yes. Comments submitted to this study will only be associated with the country of the participant, and their identity to this study will be made anonymous. Your participation will not be disclosed to anyone outside the research partners. Written transcripts of the interviews will be anonymised. Your identity will not be revealed in the research reports. Any extracts from what you say that are quoted in the research reports will be entirely anonymous and you will be referred to by your country known only to the researcher.

What will happen to the information which you give?

Your data will be kept confidential throughout the study. It will be important to ensure that this research does not identify you, offenders, victims or their families. Rigorous data security and protection measures against direct or indirect disclosure of these identities will be built into all stages of the research process.

What will the participants' contribution be used for?

The main objective of participants contributions will be to provide context and nuance to the statistical findings of the study, ensure that recommendations made in relation to the operational response to child sexual abuse material are relevant to and appropriate for law enforcement, and help INTERPOL refine and prioritise its support for member countries to investigate online crimes against children.

I want to remain anonymous but can the contribution of my agency to this research be acknowledged in the research report?

Yes, we would be happy to acknowledge the important contribution of your agency to this research. This will be done with the written consent of an authorised agency representative.

What are the possible disadvantages of taking part?

It is not envisaged that there will be any negative consequences for you in taking part.

Has the researcher been vetted?

Yes, all members of the research team have been police vetted in accordance with the relevant national vetting procedures. Additionally, the research lead for the Global Imperative Indicator Study has been subjected to a security clearance.

Any further questions?

If you need any further information after the research interview, you can contact the Global Imperative Indicator Study research lead or project manager.

If you agree to take part in the study, please sign the consent form overleaf.

Consent statement

In order to participate in this research study, it is necessary that you give your informed consent. By signing this informed consent statement, you are indicating that you understand the nature of this research study, your role in this research and that you agree to participate in the research. Please consider the following points before signing:

The purpose of the study has been explained to me and I understand it.

I give permission for my contributions to the consultation to be recorded and such personal information as I have provided to be kept on record.

I understand that with the exception of my country, my identity will not be linked with my data in the research report, and that the information I provide will be treated as confidential.

I understand that I am participating voluntarily in this research project and that after any research project begins I may withdraw from it, even if I have first agreed to participate.

I have been given the name and contact information of an individual to contact if I have questions or concerns about the research.

Signing this consent statement certifies that you have read and understood the above information and agree to participate in this research study being conducted in association with ECPAT and INTERPOL.

_____

Signature of participant

_____

Print name

_____

Date

Appendix F

Participant feedback form

What, in your experience, are the biggest challenges to victim identification:
A in your country?
B internationally?

A in your country?

B internationally?

What resources* do you currently require to improve victim identification capacity in your country?

* Please list any required resources your country might require, e.g. more investigative/operational resources; better Information Technology support; connection to the ICSE Database; new or improved policy or legislation; working with national police management or government to help them prioritise victim-focused policing approaches; improvements in police standard operating procedures or performance measurement, national education and awareness campaigns, etc.

Please describe some examples of good practice in the field of victim identification (e.g. national awareness campaigns, police units, databases, projects, etc.)

Please feel free to describe examples of good practice at national or international level.

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