Institution: The University of Edinburgh
Unit of Assessment: 4
Title of case study: I: Defining the scale and demographics of technology-mediated crimes and illegal images of children, leading to new international accord and changes to sentencing guidelines

1. Summary of the impact (indicative maximum 100 words)

Impact: Research defining the victim demographics and mode of online grooming led to the joint coordination of a G8 meeting and subsequent Declaration, formation of a Global Alliance and input into international sentencing procedures.

Significance: As a result of formal policy, legislative changes, and advice given to people who work with children, more child victims of online pornography are protected and supported; more perpetrators are identified, prosecuted and sentenced appropriately.

Beneficiaries: Vulnerable and abused children; governments and non-governmental organisations; teachers, youth and social workers; the police and judiciary.

Attribution: Quayle, UoE, led the underpinning research and was the main co-ordinator for expert content at the G8 and Global Alliance meetings.

Reach: Worldwide; 48 countries on five continents have committed to the goals of the Global Alliance. The work has informed legislative proposals and sentencing in USA, Japan and Russia. 80 million child pornography images were identified between 2002 and 2012.

2. Underpinning research (indicative maximum 500 words)

Research by Dr Ethel Quayle (Senior Lecturer In Clinical Psychology, UoE, 2008–present) provided the first baseline of the demographics of child victims of technology-mediated sexual crimes that elucidated the gender, age and ethnicity of these children. These demographics can be used as a measure of future changes in victimisation, and inform policy and practice in relation to victim identification [3.1].

While cases of sexual contact offences against children appear to be decreasing in most countries this is not the case for technology-mediated sexual crimes. There is a substantial body of research on offender characteristics, but little investment in research on victims, and none that has used extant police data. This crime has no geographical boundaries in terms of image production, distribution and viewing and, outside of practitioner knowledge, little was known about the age, gender and ethnic distribution of these children [3.2].

Baseline demographics of sexual abuse images of children
In collaboration with the Child Exploitation and Online Protection Centre (CEOP) UK, UoE researchers undertook an analysis of the CEOP database of sexual abuse images of children [3.1]. This was completed through examining a random sample of images from the UK database of unique images secured through the seizure of collections obtained from UK offenders. The data highlighted that children who were sexually abused or exploited, and whose images of the abuse were distributed on the internet, were most likely to be white, westernised, pubescent and pre-pubescent females. However, substantial numbers of Asian children are also targeted and have their images collected by male offenders. The resulting data provided evidence of gender bias with this form of abuse and formed the first baseline of demographic information to inform future trends in online abusive practices. Importantly, it provided the first evidence for concerns about technology-mediated crimes against children in Asia, whose images are largely obtained and exchanged by white, westernised males. With the changes in internet penetration, and the global nature of these offences, it is centrally important to record the changing demographics of these

children, to provide evidence for future capacity-building for legislation, law enforcement and collaborative investigation, and support across national boundaries [3.3].

Role of abusive images in online luring of children
Quayle, with Dr Emily Newman (Lecturer, UoE, 2006–present) and the Canadian Centre for Child Protection, analysed confirmed reports of online luring (grooming) of children, including an analysis of chat-log data between offenders and children. This has highlighted the role of abusive images in the offending process using real-time data as opposed to self-reports. Supported by the Risk-taking Online Behaviour Empowerment Through Research and Training (ROBERT) grant from the Europa Safer Internet Programme (€400K, 2010–12: PI, Council for the Baltic Sea States; Co-I, Quayle, UoE), UoE researchers conducted interviews with young people who had been groomed online and sexually assaulted offline, focus groups with children thought to be vulnerable, and interviews with offenders [3.4].

Self-generated sexual internet content
A second grant from the Europa Safer Internet Programme, Self-Produced Images and Risk Taking (SPIRTO; €412K, 2013–2015: PI, Quayle, UoE) builds on the analysis of the CEOP database to provide an evidence base for self-generated sexual content by young people. The UoE team has worked with Interpol to complete an analysis of the International Child Sexual Exploitation database (4300 cases), and completed a further analysis of UK cases obtained from the International Child Sexual Exploitation image database (ICSE-DB) hub at CEOP, along with a case file analysis of young people who have self-generated content.

3. References to the research (indicative maximum of six references)

3.1   Quayle E, Jones T. Sexualised images of children on the Internet. Sex Abuse. 2011;23:7–21. DOI: 10.1177/1079063210392596.

3.2   Quayle E, Ribsil K (eds). Understanding and Preventing Online Sexual Exploitation of Children. London: Routledge, 2012. [Available on request.]

3.3   Quayle E, Lööf L, Palmer T. Child Pornography and Sexual Exploitation of Children Online. (series editor, Doerk J). End Child Prostitution, Child Pornography and Trafficking for Sexual Purposes (ECPAT): Bangkok, 2008. [Available on request.]

3.4   Reports from the ROBERT project (http://www.childcentre.info/robert/new-and-publications/).

4. Details of the impact (indicative maximum 750 words)

Pathways to impact
Illegal images of children online are an enormous problem and one that is growing globally: 80 million online child pornography images were identified between 2002 and 2012. Having performed the first systematic analysis of the characteristics of children involved in indecent images, Quayle and colleagues engaged in a substantial programme of activities to disseminate the findings at national and international conferences and workshops for key policy makers, third sector agencies and law enforcement bodies. This included a keynote address and thematic report at the Third World Congress against Sexual Exploitation of Children and Adolescents, Rio de Janeiro (2008), presentations to the Council of Europe (2008) and European Parliamentary Groups (2013), and the Virtual Global Taskforce (2013). Quayle is a board member of the Prevention Policy Committee at the National Center for Missing and Exploited Children in the US, providing expertise on victimisation.

Impact on international policy
Quayle was tasked by the Chief of the Child Exploitation and Obscenity Section, United States Department of Justice, to co-convene a G8 meeting in 2009 at the University of North Carolina. Quayle's expert presentation at the meeting described the only specific victim-related research in this area. The meeting led to the publication of a book [3.2], endorsed by the US Department of Justice, that has been used by specialist police forces, the judiciary, child protection workers and non-governmental organisations (NGOs). The G8 meeting also led to the Law Enforcement

Projects Subgroup (LEPSG) Declaration of Ministers, 2009 [5.1]. This Declaration instigated the development of legislative proposals in both Japan and Russia to criminalise possession of indecent images of children.

A further outcome of the G8 meeting was the later establishment of the US Department of Justice and European Commission-hosted Global Alliance Against Child Sexual Abuse Online [5.2]. Quayle was an invited expert at the initiating ministerial conference in December 2012 [5.3]. The outcome of the Global Alliance was that 27 EU Member States and 21 other countries gave a formal agreement to enhance efforts to identify victims and ensure they receive the necessary assistance, support and protection; enhance efforts to investigate cases and identify and prosecute offenders; increase public awareness; and reduce the availability of child pornography online. To achieve these shared policy targets, participants also committed to pursue a number of operational goals, to indicate what specific actions would be taken to reach them, and to commit to implement them.

By virtue of this work, Quayle became a member of the Child Online Protection (COP) initiative, formed in 2008 by the United Nations' International Telecommunications Union. The COP initiative is an international collaborative network for action. In conjunction with UN agencies and other partners, it actively promotes the online protection of children and young people worldwide by providing guidance on safe online behaviour. As part of this initiative Quayle co-authored "Guidelines for Parents, Guardians and Educators" (launched in Geneva in 2009) [5.4]. This is available in English, French, Spanish, Arabic, Chinese and Russian through a wide network of UN and European Commission bodies as well as all of the leading NGOs. It forms part of four sets of guidelines that are used by developing countries to formulate policies adapted to their cultural context to provide a safe online environment for children.

The UoE research also underpinned input into US legislative procedures. Quayle was one of two non-US invited experts on an advisory panel for the US Sentencing Commission (July 2011) [5.5], to assist in providing guidance for a revision of sentencing of child pornography offenders in the US. This meeting informed the Report to the Congress: Federal Child Pornography Offenses (2012) [5.6] that will form the basis of new sentencing guidelines.

Impact on practitioners and society
Quayle is a board member of the Prevention Policy Committee at the National Center for Missing and Exploited Children in the US, providing expertise on victimisation. The foundation provides expert services to national police forces on internet victim issues, and provides professional training for police, social workers and child protection agencies.

UoE research by Quayle has underpinned practical advice given to social workers, teachers, police, youth workers, residential workers and psychologists. For example, Quayle presented findings related to adolescence, new technologies and sexual behaviour at the "New Technologies and Child Protection: Challenges and Solutions" WithScotland conference, Tulliallan, March 2013 [5.7]; she also gave a presentation on sexting at the "Cyberbullying: A practical approach" meeting, Dublin, March 2013. Both events attracted much media attention in the UK and Ireland, e.g., The Herald, for which Quayle provided a comment [5.8]. Quayle also provided an expert comment for an article on the BBC news website in 2011 when Lincolnshire Police announced that it had broken up a web-based news group that sold and distributed images of child sex abuse [5.9].

5. Sources to corroborate the impact (indicative maximum of 10 references)

5.1 The risk to children posed by child pornography offenders. G8 Justice and Home Affairs Ministers (2009).
http://www.justice.gov/criminal/ceos/downloads/G8MinistersDeclaration20090530.pdf. *[Ministers' Declaration in wake of G8 meeting.]*

5.2 Global Alliance to fight online child abuse. European Commission (December 2012).
http://ec.europa.eu/commission_2010-2014/malmstrom/news/archives/2012/12/20121204_en.htm

[Corroborates formation of Global Alliance.]

5.3 Letter from the Director, Directorate A: Internal Security, European Commission General Home Affairs Directorate (2012). Available on request. *[Invitation to Quayle to present at the Ministerial Conference to initiate the Global Alliance Against Child Sexual Abuse Online]*

5.4 Guidelines for parents, guardians and educators on child online protection (2009). http://www.itu.int/osg/csd/cybersecurity/gca/cop/

5.5 Letter from the Deputy Director, United States Sentencing Commission (2011). Available on request. *[Thanks Quayle for expert presentation to US Sentencing Commission panel].*

5.6 Report to the Congress: Federal Child Pornography Offenses (2012). United States Sentencing Commission. http://www.ussc.gov/Legislative_and_Public_Affairs/Congressional_Testimony_and_Reports/Sex_Offense_Topics/201212_Federal_Child_Pornography_Offenses/ *[Report to Congress to inform sentencing guidelines.]*

5.7 New Technologies and Child Protection: Challenges and Solutions. WithScotland conference programme (March 2013). http://withscotland.org/download/new-technologies-and-child-protection-challenges-and-solutions.doc. *[Details of practitioners' conference at which Quayle presented.]*

5.8 Children as young as eight exchanging sexual images. The Herald (1st March 2013). http://www.heraldscotland.com/news/home-news/children-as-young-as-eight-exchanging-sexual-images.20380803 *[Media article containing comment by Quayle.]*

5.9 Studying the web's impact on sex offenders. BBC news website (25th July 2011). http://www.bbc.co.uk/news/technology-14234281. *[Media article containing comment by Quayle.]*