



Australian Government

Australian Institute of Criminology

Trends & issues in crime and criminal justice

ISSN 1836-2206 (Online) | ISBN 978 1 922478 02 3 (Online)

No. 623 April 2021

Abstract | This report provides the world's first systematic review of criminal justice responses to child sexual abuse material (CSAM) offending. The systematic search identified 20,820 records, yielding eight eligible impact evaluations. Six studies focused on policing and two on the judicial arm of the criminal justice system. No correctional impact evaluations met our inclusion criteria.

We qualitatively synthesise the evidence and use an evidence and gap map to visualise the current state of the evaluation evidence. Future research needs to prospectively design and rigorously evaluate evidence-informed interventions that are specifically tailored to CSAM offending.

Criminal justice responses to child sexual abuse material offending: A systematic review and evidence and gap map

Elizabeth Eggins, Lorraine Mazerolle, Angela Higginson, Lorelei Hine, Kerryann Walsh, Michelle Sydes, James McEwan, Georgia Hassall, Scott Roetman, Rebecca Wallis and John Williams

Reducing child sexual abuse material (CSAM) offending is a pervasive concern for the criminal justice system, with global offending increasing in reach, magnitude and severity (Fortin & Proulx 2019; Ly, Dwyer & Fedoroff 2018; Seto et al. 2018; Simon, Luetzow & Conte 2020). Although difficult to estimate prevalence on a global scale, a point of consensus in the literature is that as young people's access to the internet has grown, there has been a concomitant rise in CSAM offending (Fortin & Proulx 2019; Henshaw, Darjee & Clough 2020; Henshaw, Ogloff & Clough 2018), defined as the production, dissemination, access and possession of material depicting abuse and/or sexual exploitation of children (Greijer & Doek 2016). Prevalence estimates range from 1.7 percent to 4.2 percent (Dombert et al. 2016; Seto et al. 2015), with the number of available materials in the millions and rising each year along with reported incidents (Bentley et al. 2019; Carr 2017; Internet Watch Foundation 2020).

Child Sexual Abuse Material
Reduction Research Program

While in many ways the impacts of CSAM offending are similar to those of contact child sexual abuse, CSAM victimisation is considered a unique form of trauma with chronic impacts due to the continued availability of materials (Canadian Centre for Child Protection 2017; Gewirtz-Meydan et al. 2018; Hanson 2017; National Center for Missing & Exploited Children 2019; von Weiler, Haardt-Becker & Schulte 2010). To address this crime and its far-reaching impacts, it is vital to identify and synthesise the evidence base of robust evaluations of criminal justice approaches to CSAM offending to determine which policies and practices are effective and which are not.

Empirical research in the area of CSAM largely focuses on offender and offending typologies and risk factors (Brown & Bricknell 2018; Garrington et al. 2018; Houtepen, Sijtsema & Bogaerts 2014; Krone 2004; Ly, Dwyer & Fedoroff 2018; Merdian et al. 2013; Steely et al. 2018). There is also an emerging body of intervention research on practices to counter CSAM offending (eg Brennan et al. 2019; Cohen-Almagor 2013; Krone et al. 2020; Lilley 2017; Ly, Dwyer & Fedoroff 2018; Quayle & Koukopoulos 2018; Smallbone & Wortley 2017; Wortley & Smallbone 2012), yet there is a clear gap in the CSAM literature. To date, there has been no comprehensive and robust synthesis of the types and effectiveness of criminal justice responses to CSAM offending.

Research into countering CSAM offending is complicated by a range of factors. First, there is a lack of common definitions and terminology across jurisdictions and research (Garrington et al. 2018; Henshaw, Ogloff & Clough 2017; Krone & Smith 2017). Terms such as 'child exploitation material', 'child sexual exploitation', 'child pornography', 'online and offline sexual offending', and 'child sexual abuse material' are used interchangeably throughout the literature. Second, conducting research, detecting CSAM offending and countering CSAM offending are complicated by the use of information communication technologies and the internet, which play a key role in the growth and diversification of CSAM offending (Beech et al. 2008; Davidson et al. 2020; Henshaw, Darjee & Clough 2020; Wager et al. 2018).

Third, a large proportion of CSAM is accessed, downloaded and shared online, facilitated by the anonymity afforded to offenders on the darknet and other encryption techniques (Balfe et al. 2015; Brown & Bricknell 2018; Haasz 2016; Simon, Luetzow & Conte 2020; Steel et al. 2020). Fourth, there is ongoing debate about whether CSAM offenders and offending are distinct from contact child sex offenders or offending (for reviews see Babchishin, Hanson & Hermann 2015; Henshaw, Darjee & Clough 2020; Henshaw, Ogloff & Clough 2017, 2018; Krone et al. 2020; Perkins et al. 2018; Soldino, Carbonell-Vayá & Seigfried-Spellar 2019; Steely et al. 2018; Tener, Wolak & Finkelhor 2015). This debate has likely resulted in CSAM-specific offences and offenders being subsumed under other types of child sex offences and offenders in the existing research (Henshaw, Ogloff & Clough 2017). Fifth, given the nature of CSAM offending, interventions that involve criminal justice practitioners are likely to span different settings, involve multiple agencies, and require modifications to the approaches used to respond to offline or physical child sex offending (Henshaw, Darjee & Clough 2020; Henshaw, Ogloff & Clough 2017, 2018; Martellozzo 2013; McKibbin, Humphreys & Hamilton 2017; White et al. 2018; Wild et al. 2019).

Collectively, these issues have implications for locating evidence on criminal justice responses to CSAM offending. One major issue is that evaluations of these interventions extend beyond traditional criminal justice literature repositories to span multiple disciplines (eg information technology, education, psychology), which makes this research significantly less accessible to practitioners and policymakers. To provide a comprehensive evidence base to inform best practice (Brennan et al. 2019), a thorough and meticulous approach is needed to locate and assess the available evidence. Therefore, we conducted a rigorous systematic review of the effectiveness of criminal justice responses to CSAM offending, and generated an evidence and gap map of the evaluation evidence across the policing, courts and corrections arms of the criminal justice system.

Our review aimed to examine the following research questions:

- How effective are criminal justice responses to CSAM offending when implemented by:
 - policing agencies and practitioners;
 - judicial agencies and practitioners;
 - correctional agencies and practitioners; or
 - multiple criminal justice agencies?
- Does the effectiveness of criminal justice responses to CSAM vary according to the type of intervention, geographical location, research design or outcome measures used in evaluation studies?
- Which interventions, outcomes, geographical locations and criminal justice sectors have been rigorously evaluated, and where are the evidence gaps?

Method

Our review adopts the methodological approach endorsed by Liberati et al. (2009) and the Campbell Collaboration (www.campbellcollaboration.org). In addition to a traditional systematic review, we visualise the state of the evidence using an interactive evidence and gap map of the studies deemed eligible for our review. Evidence and gap maps (EGMs) systematically and visually present research evidence on a particular topic via a matrix that maps the state of the evidence, including identifying where evidence is missing (Snilstveit et al. 2016).

Search strategy

We systematically searched a comprehensive range of sources to identify studies for our review. The Global Policing Database (www.gpd.uq.edu.au) and Corrections Database—both built and maintained by the University of Queensland—were the primary search sources for policing and correctional research. These two databases are built by systematically searching over 85 academic databases and repositories of research, and then systematically screening this research for quantitative impact evaluations in the area of policing and corrections, broadly defined (see www.gpd.uq.edu.au and Sydes et al. 2018). For these two databases, we used a highly sensitive search comprising 32 terms related to ‘child’ and 38 terms representative of CSAM.

In addition, we implemented further systematic searches to capture studies in law and judicial literature and allied disciplines such as information technology, psychology and education. We searched a total of 67 additional academic databases, journals, and grey literature repositories (eg CSAM-related websites, research centres and agencies). For these additional searches, we iteratively piloted search strategies to arrive at one that balanced sensitivity and specificity. The final search string comprised search terms across four categories:

- child ($n=12$ terms);
- CSAM ($n=58$ terms);
- criminal justice ($n=114$ terms); and
- evaluation ($n=23$ terms).

As a final step, we harvested references from all eligible studies and conducted forward citation searches on all eligible studies and studies included in harvested reviews. The technical report (available from the authors on request) provides a detailed record of the search strategy.

Inclusion criteria

To be included in our review, each document captured by the systematic search needed to meet all inclusion criteria, outlined below.

Research time frame and setting

To provide the most up-to-date synthesis of literature, studies were included in our review only if: (a) they were published between January 2000 and December 2018, and (b) they reported on impact evaluations conducted between January 2000 and December 2018. Given the global nature of CSAM offending, we included studies conducted in any country.

Population

To provide a comprehensive synthesis of the evaluation literature on criminal justice responses to CSAM offending, a broad range of study populations were considered eligible for our review, including:

- criminal justice practitioners (police, courts, corrections);
- CSAM victims (aged under 18 years, all genders); and
- CSAM offenders (all ages and genders).

Interventions

To be eligible for inclusion in our review, studies must have reported on an impact evaluation of a criminal justice intervention or approach that aimed to address CSAM offending. We defined a criminal justice ‘approach’ to include any strategy, technique, therapy, activity, campaign, training, directive, funding initiative or organisational change that involved the criminal justice system in some way (other agencies or organisations may also have been involved). Criminal justice system involvement was broadly defined as:

- criminal justice system initiation, development or leadership of the intervention;
- criminal justice system staff or populations as recipients of the intervention;
- criminal justice system practices as the focus or target of the intervention; or
- the criminal justice system delivers or implements the intervention.

As noted above, in the search strategy, we also attempted to reflect the variation in terminology and associated definitions. We adopted the jurisdiction-specific yet sufficiently broad definition of CSAM used by Queensland’s *Child Exploitation and Dangerous Drugs Amendment Act 2013* (s 207A). CSAM is:

...material that, in a way likely to cause offence to a reasonable adult, describes or depicts a person, or a representation of a person who is, or apparently is, a child...

(a) in a sexual context, including for example, engaging in a sexual activity; or

(b) in an offensive or demeaning context; or

(c) being subjected to abuse, cruelty or torture.

We defined ‘material’ congruent with this legislation, to include ‘anything that contains data from which text, images or sound can be generated’ (s 207A), which can be generated remotely via telecommunications channels (eg live webcam or peer-to-peer networks via internet and mobile phones). We defined a ‘child’ to be a person aged under 18 years. We specifically defined CSAM offending to include downloading, soliciting, producing, transmitting, viewing and distributing CSAM. (A comprehensive list is in the technical report, available from the authors on request.)

Study designs

Our review included a select range of rigorous study designs that allowed for reliable conclusions to be made about intervention effectiveness. Eligible comparison conditions and/or groups included no treatment, placebo, ‘business-as-usual’, waitlist control, or an alternative treatment.

Randomised control trials (RCTs) are considered the gold standard for evaluating intervention effectiveness. While other study designs are considered less causally robust, they can be appropriate to include in reviews of interventions conducted in contexts in which RCTs may not be feasible, such as in criminal justice settings (Weisburd 2000). In the absence of RCT evidence, strong quasi-experimental studies that have attempted to minimise threats to internal validity can be included to provide preliminary causal evidence for the effectiveness of an intervention (see Farrington 2003; Shadish, Cook & Campbell 2002). Our review included studies that used the following research designs:

- systematic reviews (with or without meta-analyses);
- randomised control trials;
- matched or unmatched control group designs with or without pre-intervention measures in addition to post-intervention measures;
- long time-series designs without a comparison group, with at least 25 pre- and post-intervention observations; or
- short time-series designs with a comparison group, with at least 10 pre- and post-intervention observations.

We planned to conduct moderator analyses by study design, to assess the impact of study design on results; however, we found too few studies to permit this type of analysis.

Outcomes

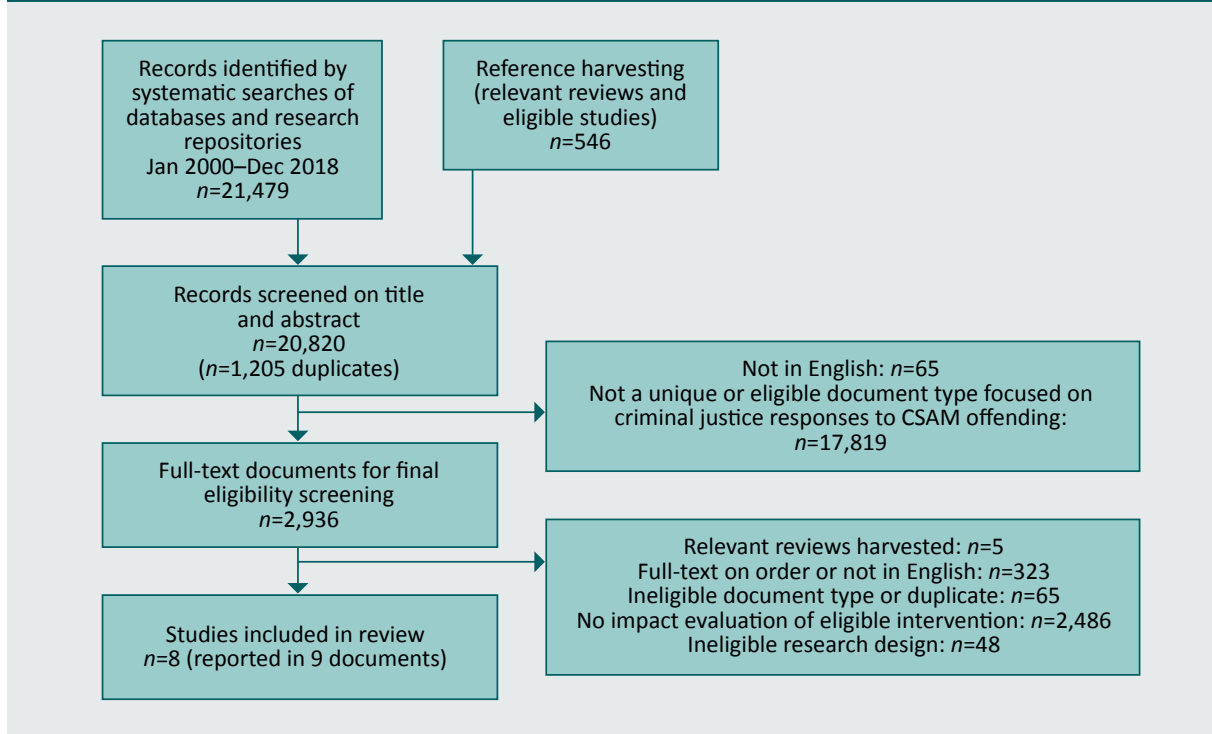
To provide a comprehensive synthesis of the current literature, we placed no restrictions on the types of outcomes used to evaluate criminal justice responses to CSAM offending.

Results

Search and screening

The systematic searches identified 22,809 records, which were imported into *SysReview* (review management software, Higginson & Neville 2014) and screened by five review authors (EE, LH, JM, SR, GH) to determine their eligibility for inclusion in the review. Prior to independent screening, all staff undertaking screening completed (a) training based on standardised screening guides; and (b) a test-set of screenings that were assessed by the first author to ensure consistent decision-making. In addition, regular meetings were held to discuss inclusion or exclusion of research that could not be unequivocally excluded by the screener. We harvested and screened potentially eligible studies from the reference lists of four reviews relevant to the topic as well as from the reference lists of all eligible studies, resulting in another 514 records. Figure 1 provides a Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flowchart for the attrition of records through the systematic screening stages. Eight studies (reported in 9 documents) were deemed eligible for our review.

Figure 1: PRISMA flow diagram



Summary and synthesis of eligible studies

The final corpus of eight studies contains varied interventions and outcomes, meaning that meta-analysis of study effects was not possible. In addition, not all studies reported sufficient data to calculate standardised effect sizes. Accordingly, the following sections provide a qualitative synthesis of the eligible studies with comment on the magnitude of the intervention effect. Given the diverse nature of the studies and lack of quantitative syntheses using standardised effect sizes, caution is needed when comparing the effectiveness of the criminal justice responses to CSAM offending summarised in our review. We refer readers to the technical report (available from the authors on request) which contains a risk of bias assessment for the included studies.

Time frame, settings, research designs and criminal justice sectors

The eight eligible studies spanned 2003 to 2017. Five were conducted in the United States, two were conducted in Europe (across multiple locations), and one was conducted in the United Kingdom. The review located no randomised controlled trials. All studies used unmatched control group designs, and some study authors enhanced the rigour of their findings by using multivariate models to control for confounding variables. Most studies examined the policing arm of the criminal justice system ($n=6$), only two focused on courts or judicial agencies, and there were no correctional or multiagency studies.

Policing interventions

Six studies, reported in seven documents, quantitatively evaluated the impact of police interventions for addressing CSAM offending. The studies captured a range of interventions and outcomes, with four studies drawing on self-reported exposure to interventions via surveys and two studies directly testing applied interventions. Based on a survey of 168 law enforcement practitioners in the United States, Marcum and colleagues (2010, 2011) examined two intervention approaches in their study. Specifically, they examined whether the numbers of CSAM investigations and arrests in 2007 and 2008 were affected by either the presence or absence of a designated cybercrime task force/department, or the receipt of training for cybercrime investigations. The authors found that having a designated cybercrime task force/department significantly increased the number of CSAM investigations and arrests. (While exact figures were not provided, analysis showed a significant Beta weight in a regression model.) In comparison, specialised training in cybercrime did not significantly increase CSAM investigations or arrests in 2008, but it did significantly increase arrests in 2007. Despite the lack of significance, the effects were in the expected direction, whereby training was associated with an increase in arrests. The authors suggest that training in isolation may be insufficient to lead to arrests, particularly if police departments lack the resources to support CSAM investigations, if the training is not focused entirely on CSAM, or if the quality of the training is variable.

In a similar study, Wells (2003) surveyed US law enforcement agencies to identify a sample of 532 cases pertaining to internet sex crimes against children and examined whether investigative training affected rates of arrest, search, seizure, or other law enforcement actions. Of the 191 officers who answered the training question on the survey, 35 reported completing no training, 122 reported completing training, and 34 reported that they were not sure of the training they had completed. Wells found that officers who had completed training and those who had not were equally likely to make arrests in internet sex crime cases but more likely to conduct searches (90% versus 83%) and to seize computers (89% versus 74%).

Davidson et al. (2017) used survey data from police in the United Kingdom, Ireland, Italy and the Netherlands to examine the impact of police training in computer-mediated crimes against children (CMCAC). Sixty-one percent of respondents ($n=776$) had not completed any training, and 39 percent had completed either specialised or general training in the area ($n=482$). The authors found that police officers who completed specialised training were more prepared in the area of CMCAC than those who received general training or none. In addition, officers who received specialised or general training were more knowledgeable about national legislation in the area (97% and 96% respectively) than those who had not received training (43%). This same pattern of results was found for knowledge of international legislation in the area of CMCAC.

Brady (2017) focused on the implications for police practitioners of investigating CSAM offending. Using survey data collected from US Internet Crimes Against Children Task Force staff ($n=433$), Brady examined whether working undercover impacted levels of secondary traumatic stress, burnout and compassion satisfaction. Compassion satisfaction was defined as the enjoyment someone receives from accomplishing their professional roles and responsibilities. Using regression models which controlled for a range of other factors, Brady found that working in an undercover role significantly improved staff compassion satisfaction. (Exact figures were not provided, but analysis showed a significant Beta weight in regression model.) However, Brady did not find that working undercover significantly impacted secondary traumatic stress or burnout, which may have been due to mitigating factors such as support systems outside of work and positive coping strategies that were found to be inversely related to stress and burnout in the study sample.

Peersman and colleagues (2016) worked with law enforcement agencies in Europe to develop and evaluate live software (iCOP) that integrates artificial intelligence and machine learning to automate the identification of CSAM in peer-to-peer networks. Using data previously classified by law enforcement practitioners, the authors tested a range of different machine learning algorithms to ascertain which approach would provide the most precise recognition in practice. The authors found that support vector machines were superior to Naïve Bayes and logistic regression algorithms.

In the final policing study, Bourke and colleagues (2015) examined the tactical use of a polygraph at varying time points after first contact with police in the context of CSAM offending (the day of the search warrant, 3–4 days after the search warrant was executed, 1–5 days after the search warrant was executed). Using a sample of 127 CSAM suspects with no known history of contact sexual offences, the authors found that a higher proportion of suspects polygraphed three to four days after the execution of the search warrant (61%) disclosed offences compared to offenders polygraphed on the day the search warrant was executed (56%) or one to five days later (54%).

Judicial or legislative interventions

Two studies quantitatively evaluated the effect of judicial or legislative interventions for addressing CSAM offending. In the United Kingdom, Alison and colleagues (2012) used a survey of citizens ($n=227$) and police officers ($n=60$) to examine whether two different types of 'expert' profiles of CSAM offenders influenced guilty judgements. Respondents were asked to rate the guilt of an 'orthodox' and 'unorthodox' CSAM offender according to a pre-prepared profile on a scale from zero percent (not guilty at all) to 100 percent (certain he is guilty). They were then presented with an expert's profile that matched either the 'orthodox' or 'unorthodox' offender and again asked to rate the perceived guilt of the offender. The authors found that respondents considered the suspect less guilty and adjusted their guilt rating to a lower percentage on the scale for the suspect who best aligned with the expert profile they were provided compared to the suspect who was incongruent with the expert profile.

Buzzell (2007) used data from the US National Prosecutors Survey ($n=2,341$) to determine whether a range of factors predicted whether a legal practitioner had prosecuted a CSAM case. Of relevance to our review is the finding that having a budget for expert consultation was associated with more CSAM prosecutions than having no budget for expert consultation. This finding remained even after controlling for other potentially confounding variables (eg community context).

Correctional interventions

No studies quantitatively evaluated the effectiveness of a correctional intervention for addressing CSAM offending using an eligible research design. Although some eligible interventions were identified, these interventions were either not evaluated or were evaluated using ineligible (less rigorous) research designs (Dervley et al. 2017; Gillespie et al. 2018; Middleton, Mandeville-Norden & Hayes 2009). Numerous studies evaluated the impact of correctional interventions for sex offenders; however, very few specified the type of sex offender participants. When study authors did specify the types of sex offenders in their samples, none examined the impact of the intervention separately for CSAM offenders specifically.

Multiagency interventions

No studies quantitatively evaluated the effectiveness of a multiagency intervention for addressing CSAM offending. Although eligible interventions were identified, these interventions were either not evaluated or were evaluated using ineligible (less rigorous) research designs (eg Davidson et al. 2009, 2011; Dooley et al. 2011).

Evidence and gap map

We constructed an evidence and gap map (EGM) that plots the eight eligible studies across nine intervention or criminal justice sector categories by a range of outcomes and types of populations. Intervention/sector categories included training for police, cybercrime task forces, undercover agents, automated software, polygraph examinations, use of expert profiles, budgets for consulting experts, correctional responses, and multiagency responses. This does not represent the full breadth of possible criminal justice responses to CSAM offending (see, for example, Baines 2019; DeMarco et al. 2018 for overviews).

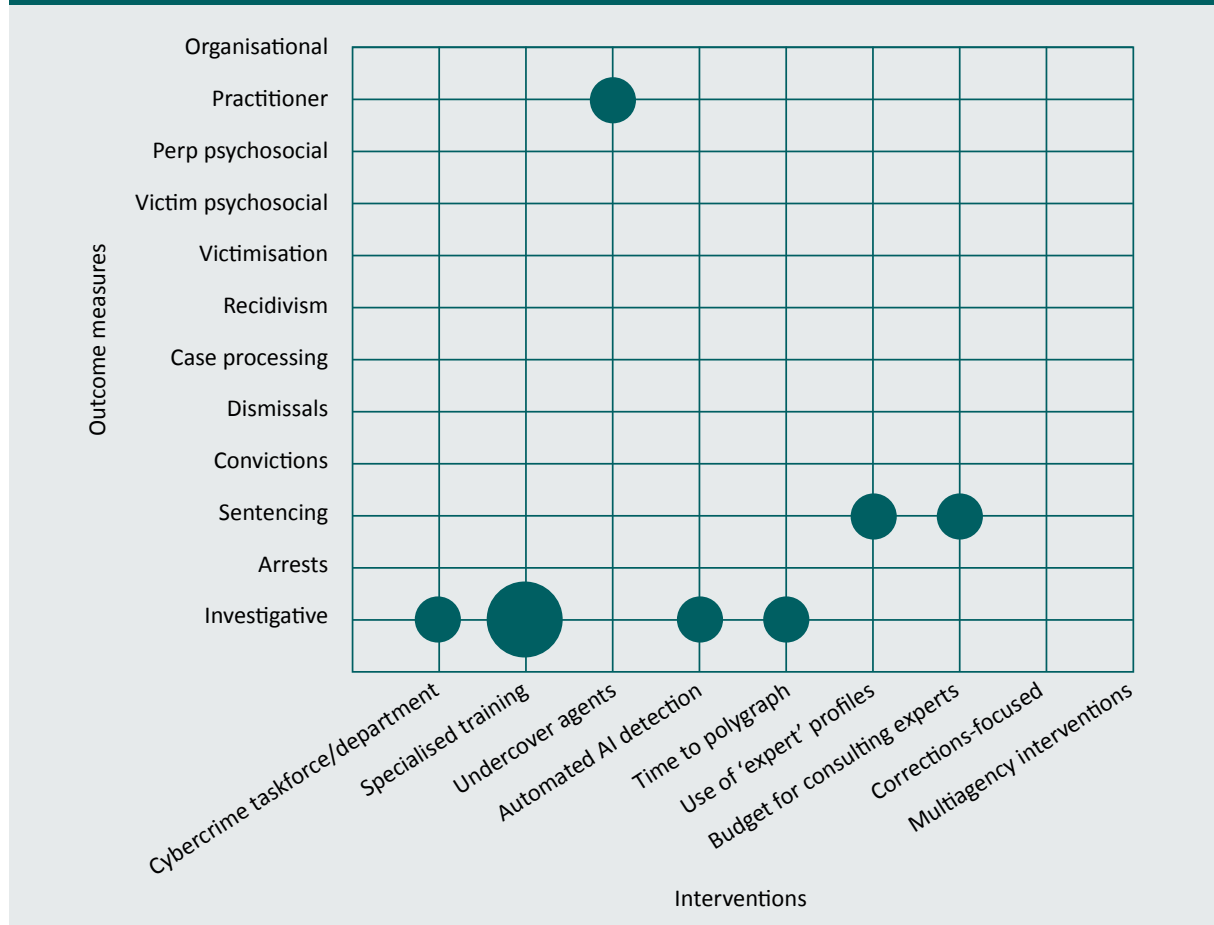
The EGM in Figure 2 maps the eight studies eligible for our review. Dots on the graph show where the outcome and intervention categories intersect. The size of the dot represents the number of studies for that particular intervention and outcome. Specifically, small dots represent one study and the larger dot represents three studies. Spaces without dots indicate an absence of evaluation research, highlighting areas requiring further research.

To construct this static version of the EGM, studies were categorised by their intervention and outcome category and then plotted on a bubble graph in Microsoft Excel. The intervention categories were coded as they appear below. We used 12 outcome categories, as defined in the technical report (available on request). These categories broadly capture the most common measures used within the criminal justice research literature and specific outcomes relevant to CSAM offending (eg creation, possession or sale of CSAM).

The EGM illustrates the dearth of evidence across all criminal justice sectors, particularly for corrections and responses involving either more than one criminal justice agency or a criminal justice agency and another type of agency (eg health, education, information technology).

Although we had intended to also map the evidence using study populations, we do not include this dimension here because all but one study used practitioner populations. Hence, another significant gap in the impact evaluation evidence is studies focusing on victims of CSAM offending, CSAM offenders, and broader populations that may assist in primary prevention of victimisation using interventions informed by evidence from criminal justice responses, such as parents, teachers, school counsellors and general practitioners (eg Cohen, Edberg & Gies 2011; Davidson et al. 2011; Davidson & Martellozzo 2008). The EGM also illustrates substantial gaps in the types of outcomes used to measure intervention effectiveness, with the majority of studies falling in the investigative category.

Figure 2: Evidence and gap map of evaluation evidence for criminal justice responses to CSAM offending



Note: AI=artificial intelligence

Discussion

We provide the world's first systematic review of the evidence base for impact evaluations of criminal justice responses to CSAM offending. We implemented a rigorous search and review methodology to identify and synthesise any assessment of a criminal justice response to CSAM offending that had been evaluated using any type of outcome measure. We aimed to include studies involving a range of different populations (eg offenders, practitioners, victims) that were published between January 2000 and December 2018.

Our findings demonstrate a general lack of robust impact evaluations of criminal justice responses to CSAM offending. Only eight studies met eligibility criteria for our review, six of which fell within the policing sector of the criminal justice system. The other two related to the judicial arm of the criminal justice system. We identified no eligible impact evaluations of either correctional responses to CSAM or multiagency responses with at least one criminal justice partner. We also identified no randomised controlled trials, which are generally considered the gold standard for establishing whether an intervention is effective.

The evidence for policing interventions covers a range of different approaches that have been evaluated using an equally diverse range of outcome measures. The evidence suggests that training in the area of CSAM can have a variable impact on police arrest and investigative practices, and a positive impact on police practitioners' knowledge of national and international legislation. Other promising approaches include having a specialised policing task force to increase CSAM arrests and investigations, strategically using polygraph to increase offender disclosures, and using automated software to identify CSAM. It is unclear whether police officers working undercover in the context of CSAM investigations affects their wellbeing, but it does not seem to reduce their level of job satisfaction. Caution needs to be exercised, however, when examining most of the above findings, as they are drawn from surveys asking police about their previous training rather than prospective impact evaluations.

The evidence for judicial or legislative responses to CSAM is sparse. One study suggests that variations in the use of expert testimony in CSAM trials can influence jury decision-making. Another study suggests that allocating funding to prosecutors to enable consultation with experts may increase the number of CSAM prosecutions. Although there were promising correctional and multiagency approaches captured by our systematic search and screening, none of these has been rigorously evaluated (see, for example, Davidson et al. 2009, 2011; Dooley et al. 2011).

Our EGM visually summarises both the existing evaluation evidence for criminal justice responses to CSAM offending and the gaps in CSAM evaluation research. Aside from the clear gaps in the corrections sector and limited research in other criminal justice sectors, there are also substantial gaps in evaluation evidence across key populations and outcomes relevant to CSAM offending. For example, we identified no eligible evaluations focused on victims of CSAM offending or harm reduction, very few focused on offenders, and no studies that measured the impact of interventions on important outcomes such as recidivism, psychosocial outcomes for victims and perpetrators, convictions or sentencing.

We note that our review captured a large body of evaluation research in the area of child sexual offending more broadly. During the systematic screening process, we identified evaluation studies that often specified the types of sex offenders or victims in their samples—including CSAM offenders—yet these studies did not examine the actual impact of the intervention on these populations. Research suggests the characteristics, contexts and aetiologies of contact, non-contact, mixed and CSAM-only offending are different but overlapping (DeMarco et al. 2018; Henshaw, Darjee & Clough 2020; Krone et al. 2020; Ly, Dwyer & Fedoroff 2018; Merdian et al. 2013; Neto et al. 2013). As such, it was not appropriate to include and synthesise these studies with studies focused purely on CSAM offenders. For example, existing intervention models in the area of child sex offending may not translate directly to CSAM offending and its consequences (Henshaw, Ogloff & Clough 2017, 2018; Ly, Dwyer & Fedoroff 2018; Merdian et al. 2020). In light of this, it will be important for future evaluation research to prospectively design and rigorously evaluate evidence-informed interventions that are tailored to the nature of CSAM offending and offenders (eg Beier et al. 2016; Henshaw, Ogloff & Clough 2017, 2018; Perkins et al. 2018; Proeve & Wolf 2019).

Overall, the existing intervention literature in the area of CSAM is largely descriptive, with potentially promising interventions evaluated with low-quality research designs that do not reliably establish effectiveness (see also Gallo 2020; Perkins et al. 2018). This is despite ongoing and resounding calls for robust evaluations to inform policy and practice since the formation of the US Internet Crimes Against Children Task Force in 2001 (National Research Council 2013; US Department of Justice 2016). Without a rigorous evidence base, policymakers and practitioners are unable to make reliable decisions about what criminal justice responses are effective in addressing CSAM offending and, potentially, what may be harmful. Ultimately, our review reveals scarce evaluation research, which limits the ability to holistically address CSAM offending and operationalise the Australian Centre to Counter Child Exploitation's four pillars of 'prevent, prepare, pursue and protect'.

References

URLS correct as at November 2020

Alison L et al. 2012. When do we believe experts? The power of the unorthodox view. *Behavioral Sciences & the Law* 30(6): 729–748

Babchishin KM, Hanson RK & Hermann CA 2015. The characteristics of online sex offenders: A meta-analysis. *Sexual Abuse* 23(1): 92–123

Baines V 2019. Online child sexual exploitation: Towards an optimal international response. *Journal of Cyber Policy* 4(2): 197–215

Balfe M, Gallagher B, Masson H, Balfe S, Brughla R & Hackett S 2015. Internet child sex offenders' concerns about online security and their use of identity protection technologies: A review. *Child Abuse Review* 24(6): 427–439

Beech AR, Elliott IA, Birgden A & Findlater D 2008. The internet and child sexual offending: A criminological review. *Aggression and Violent Behavior* 13(2008): 216–228

Beier KM 2016. Proactive strategies to prevent child sexual abuse and the use of child abuse images: Experiences from the German Dunkelfeld Project. In H Kury Redo S & Shea (eds), *Women and Children as Victims and Offenders: Background, prevention, reintegration*. Switzerland: Springer: 400–524

- Bentley H et al. 2019. *How safe are our children? 2019*. London: National Society for the Prevention of Cruelty to Children
- Bourke ML et al. 2015. The use of tactical polygraph with sex offenders. *Journal of Sexual Aggression* 21(3): 354–367
- Brady PQ 2017. Crimes against caring: Exploring the risk of secondary traumatic stress, burnout, and compassion satisfaction among child exploitation investigators. *Journal of Police and Criminal Psychology* 32(4): 305–318
- Brennan M et al. 2019. *Best practice in the management of online sex offending*. Plymouth: International Working Group for the Prevention of Online Sex Offending
- Brown R & Bricknell S 2018. What is the profile of child exploitation material offenders? *Trends & issues in crime and criminal justice* no. 564. Canberra: Australian Institute of Criminology. <https://aic.gov.au/publications/tandi/tandi564>
- Buzzell T 2007. The effects of organisational and community context on local prosecution of computer child pornography cases. *Criminal Justice Studies* 20(4): 391–405
- Canadian Centre for Child Protection (CCCP) 2017. *Survivors' survey: Executive summary 2017*. Winnipeg, Manitoba: CCCP
- Carr J 2017. A brief history of child safety online: Child abuse images on the internet. In J Brown (ed), *Online risk to children: Impact, protection and prevention*. Chichester, UK: John Wiley & Sons: 5–22
- Cohen MI, Edberg MC & Gies SV 2011. Final report on the evaluation of the SAGE Project's LIFESKILLS and GRACE Programs. <https://www.nsvrc.org/publications/final-report-evaluation-sage-project's-lifeskills-and-grace-programs>
- Cohen-Almagor R 2013. Online child sex offenders: Challenges and countermeasures. *Howard Journal of Criminal Justice* 52(2): 190–215
- Davidson J et al. 2020. Exploring policing and industry practice in the prevention of online child sexual abuse. In I Bryce & W Petherick (eds), *Child sexual abuse: Forensic issues in evidence, impact, and management*. Cambridge, Massachusetts: Academic Press: 657–677
- Davidson J et al. 2017. *Enhancing police and industry practice: EU child online safety project*. https://www.mdx.ac.uk/__data/assets/pdf_file/0017/250163/ISEC-report-FINAL.pdf
- Davidson J et al. 2011. *Online abuse: Literature review and policy context*. European Online Grooming Project. <https://pdfs.semanticscholar.org/514d/6c44b24a5c0f27ee543360ee4b449d56739f.pdf>
- Davidson J et al. 2009. *Evaluation of CEOP ThinkUKnow internet safety programme and exploration of young people's internet safety knowledge*. <https://eprints.mdx.ac.uk/5976/>
- Davidson J & Martellozzo E 2008. Protecting vulnerable young people in cyberspace from sexual abuse: Raising awareness and responding globally. *Police Practice and Research* 9(4): 277–289
- DeMarco J, Sharrock S, Crowther T & Barnard M 2018. *Behaviour and characteristics of perpetrators of online-facilitated child sexual abuse and exploitation: A rapid evidence assessment*. London: NatCen Social Research. <https://www.basw.co.uk/resources/behaviour-and-characteristics-perpetrators-online-facilitated-child-sexual-abuse-and>
- Dervley R, Perkins D, Whitehead H, Bailey A, Gillespie S & Squire T 2017. Themes in participant feedback on a risk reduction programme for child sexual exploitation material offenders. *Journal of Sexual Aggression* 23(1): 46–61
- Dombert B et al. 2016. How common is men's self-reported sexual interest in prepubescent children? *Journal of Sex Research* 53(2): 214–223

- Dooley J, Thomas L, Falconer S, Cross D & Waters S 2011. *Educational evaluation of Cybersmart Detectives: Final report: Presented to the Australian Communications and Media Authority (ACMA)*. Perth: Child Health Promotion Centre, Edith Cowan University. <https://ro.ecu.edu.au/ecuworks2011/862/>
- Farrington DP 2003. Methodological quality standards for evaluation research. *The ANNALS of the American Academy of Political and Social Science* 587(1): 49–68
- Fortin F & Proulx J 2019. Sexual interests of child sexual exploitation material (CSEM) consumers: Four patterns of severity over time. *International Journal of Offender Therapy and Comparative Criminology* 63(1): 55–76
- Gallo A 2020. Treatment for non-contact sexual offenders: What we know and what we need. *Sexual Addiction & Compulsivity* 27: 149–163. <https://doi.org/10.1080/10720162.2020.1751359>
- Garrington C, Rickwood D, Chamberlain P & Boer DP 2018. A systematic review of risk variables for child abuse material offenders. *Journal of Forensic Practice* 20(2): 91–101
- Gewirtz-Meydan A, Walsh W, Wolak J & Finkelhor D 2018. The complex experience of child pornography survivors. *Child Abuse & Neglect* 80(2018): 238–248
- Gillespie SM et al. 2018. An evaluation of a community-based psycho-educational program for users of child sexual exploitation material. *Sexual Abuse: A Journal of Research and Treatment* 30(2): 169–191
- Greijer S & Doek J 2016. *Terminology guidelines for the protection of children from sexual exploitation and sexual abuse*. <http://luxembourgguidelines.org/english-version/>
- Haasz A 2016. Underneath it all: Policing international child pornography on the dark web. *Syracuse Journal of International Law and Commerce* 43(2): 353–380
- Hanson E 2017. The impact of online sexual abuse on children and young people. In J Brown (ed), *Online risk to children: Impact, protection and prevention*. Chichester, UK: John Wiley & Sons: 97–122
- Henshaw M, Darjee R & Clough J 2020. Online child sexual offending. In I Bryce & W Petherick (eds), *Child sexual abuse: Forensic issues in evidence, impact, and management*. Cambridge, Massachusetts: Academic Press: 85–108
- Henshaw M, Ogloff J & Clough J 2018. Demographic, mental health, and offending characteristics of online child exploitation material offenders: A comparison with contact-only and dual sexual offenders. *Behavioral Sciences & the Law* 36: 198–215
- Henshaw M, Ogloff J & Clough J 2017. Looking beyond the screen: A critical review of the literature on the online child pornography offender. *Sexual Abuse* 29(5): 416–445
- Higginson A & Neville R 2014. SysReview [Systematic Review Management Software]. Brisbane, Australia: University of Queensland
- Houtepen JABM, Sijtsema JJ & Bogaerts S 2014. From child pornography offending to child sexual abuse: A review of child pornography offender characteristics and risks for cross-over. *Aggression & Violent Behavior* 19(2014): 466–473
- Internet Watch Foundation 2020. *The why, the how, the who and the results: The Internet Watch Foundation annual report 2019*. Cambridge, UK: Internet Watch Foundation
- Krone T 2004. A typology of online child pornography offending. *Trends & issues in crime and criminal justice* no. 279. Canberra: Australian Institute of Criminology. <https://aic.gov.au/publications/tandi/tandi279>
- Krone T et al. 2020. Child sexual abuse material in child-centred institutions: Situational crime prevention approaches. *Journal of Sexual Aggression* 26(1): 91–110
- Krone T & Smith RG 2017. Trajectories in online child sexual exploitation offending in Australia. *Trends & Issues in crime and criminal justice* no. 524. Canberra: Australian Institute of Criminology. <https://aic.gov.au/publications/tandi/tandi524>

- Liberati A et al. 2009. The PRISMA Statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: Explanation and elaboration. *Annals of Internal Medicine* 151: W65–W94
- Lilley C 2017. UK Policy responses and their international relevance. In J Brown (ed), *Online risk to children: Impact, protection and prevention*. West Sussex: John Wiley & Sons: 189–215
- Ly T, Dwyer RG & Fedoroff JP 2018. Characteristics and treatment of internet child pornography offenders. *Behavioral Sciences & the Law* 36(2): 216–234
- Marcum CD, Higgins GE, Freiburger TL & Ricketts ML 2010. Policing possession of child pornography online: Investigating the training and resources dedicated to the investigation of cybercrime. *International Journal of Police Science & Management* 12(4): 516–525
- Marcum CD, Higgins GE, Ricketts ML & Freiburger TL 2011. An assessment of the training and resources dedicated nationally to investigation of the production of child pornography. *Policing: A Journal of Policy and Practice* 5(1): 23–32
- Martellozzo E 2013. *Online child sexual abuse: Grooming, policing and child protection in a multimedia world*. New York: Routledge
- McKibbin G, Humphreys C & Hamilton B 2017. “Talking about child sexual abuse would have helped me”: Young people who sexually abused reflect on preventing harmful sexual behavior. *Child Abuse & Neglect* 70 (August): 210–221
- Merdian HL, Curtis C, Thakker J, Wilson N & Boer DP 2013. The three dimensions of online child pornography offending. *Journal of Sexual Offending* 19(1): 121–132
- Merdian HL, Perkins DE, Dustagheer E & Glorney E 2020. Development of a case formulation model for individuals who have viewed, distributed, and/or shared child sexual exploitation material. *International Journal of Offender Therapy and Comparative Criminology* 64: 1055–1073. <https://doi.org/10.1177/0306624X17748067>
- Middleton D, Mandeville-Norden R & Hayes E 2009. Does treatment work with internet sex offenders? Emerging findings from the Internet Sex Offender Treatment Programme (i-SOTP). *Journal of Sexual Aggression* 15(1): 5–19
- National Center for Missing & Exploited Children (NCMEC) 2019. *Captured on film: Survivors of child sex abuse material are stuck in a unique cycle of trauma*. Alexandria, Virginia: NCMEC
- National Research Council 2013. *Confronting commercial sexual exploitation and sex trafficking of minors in the United States*. Washington, DC: National Academies Press. <https://doi.org/10.17226/18358>
- Neto ACA, Eyland S, Ware J, Galouzis J & Kevin M 2013. Internet sexual offending: Overview of potential contributing factors and intervention strategies. *Psychiatry, Psychology and Law* 20(2): 168–181
- Peersman C, Schulze C, Rashid A, Brennan M & Fischer C 2016. iCOP: Live forensics to reveal previously unknown criminal media on P2P networks. *Digital Investigation* 18(2016): 50–64
- Perkins D, Merdian H, Schumacher B, Bradshaw H & Stevanovic J 2018. *Interventions for perpetrators of online child sexual exploitation: A scoping review and gap analysis*. Child sexual exploitation perpetrators research programme, report 5. Ilford: Centre of Expertise on Child Sexual Abuse
- Proeve MJ & Wolf G 2019. Professional reports for sentencing courts: Recommendations for reporting on child exploitation material offenders’ risk of recidivism and prospects for rehabilitation. *Psychiatry, Psychology & Law* 26(6): 868–885
- Quayle E & Koukopoulos N 2018. Deterrence of online child sexual abuse and exploitation. *Policing* 13(3): 345–362
- Seto MC, Buckman C, Dwyer RG & Quayle E 2018. *Production and active trading of child sexual exploitation images depicting identified victims*. Alexandria, Virginia: National Center for Missing & Exploited Children
- Seto MC et al. 2015. Viewing child pornography: Prevalence and correlates in a representative community sample of young Swedish men. *Archives of Sexual Behavior* 44(2015): 67–79

- Shadish WR, Cook TD & Campbell DT 2002. *Experimental and quasi-experimental designs for generalized causal inference*. Boston: Houghton Mifflin
- Simon J, Luetzow A & Conte JR 2020. Thirty years of the convention on the rights of the child: Developments in child sexual abuse and exploitation. *Child Abuse & Neglect*. Advance online publication. <https://doi.org/10.1016/j.chiabu.2020.104399>
- Smallbone S & Wortley R 2017. Preventing child sexual abuse online. In J Brown (ed), *Online risk to children: Impact, protection and prevention*. West Sussex: John Wiley & Sons: 143–162
- Snilstveit B, Vojtkova M, Bhavsar A, Stevenson J & Gaarder M 2016. Evidence and gap maps: A tool for promoting evidence informed policy and strategic research agendas. *Journal of Clinical Epidemiology* 79: 120–129
- Soldino V, Carbonell-Vayá EJ & Seigfried-Spellar KC 2019. Criminological differences between child pornography offenders arrested in Spain. *Child Abuse & Neglect* 98. <https://doi.org/10.1016/j.chiabu.2019.104178>
- Steel CMS, Newman E, O'Rourke S & Quayle E 2020. A systematic review of cognitive distortions in online child sexual exploitation material offenders. *Aggression & Violent Behavior* 51. <https://doi.org/10.1016/j.avb.2020.101375>
- Steely M, Bensel TT, Bratton T & Lytle R 2018. All part of the process? A qualitative examination of change in online child pornography behaviors. *Criminal Justice Studies* 31(3): 279–296
- Sydes M, Eggins E & Mazerolle L 2018. *What works in corrections? A review of the evaluation literature*. Brisbane: Queensland Corrective Services
- Tener D, Wolak J & Finkelhor D 2015. A typology of offenders who use online communications to commit sex crimes against minors. *Journal of Aggression, Maltreatment & Trauma* 24(3): 319–337
- US Department of Justice 2016. *National strategy for child exploitation prevention and interdiction: A report to congress*. <https://www.justice.gov/psc/file/842411/download>
- von Weiler J, Haardt-Becker A & Schulte S 2010. Care and treatment of child victims of child pornographic exploitation (CPE) in Germany. *Journal of Sexual Aggression* 16(2): 211–222
- Wager N et al. 2018. *Rapid evidence assessment: Quantifying the extent of online-facilitated child sexual abuse: Report for the Independent Inquiry into Child Sexual Abuse*. <https://www.iicsa.org.uk/document/rapid-evidence-assessment-quantifying-extent-online-facilitated-child-sexual-abuse>
- Weisburd D 2000. Randomised experiments in criminal justice policy: Prospects and problems. *Crime & Delinquency* 46(2): 181–193
- Wells M 2003. *Law enforcement dilemmas in the investigation of internet sex crimes against minors* (Doctoral thesis). University of New Hampshire, Durham, UK
- White C et al. 2018. “Tell, tell, tell again”: The prevalence and correlates of young children’s response to and disclosure of an in-vivo lure from a stranger. *Child Abuse & Neglect* 82: 134–143
- Wild T, Fromberger P, Jordan K, Müller I & Müller J 2019. Web-based health services in forensic psychiatry: A review of the use of the internet in the treatment of child sexual abusers and child sexual exploitation material offenders. *Frontiers in Psychiatry* 9: 763
- Wortley R & Smallbone S 2012. *Internet child pornography: Causes, investigation, and prevention*. Santa Barbara, California: Praeger

Elizabeth Eggins is a Research Fellow at the University of Queensland (UQ) School of Social Science and Australian Research Council (ARC) Centre of Excellence for Children and Families over the Life Course.

Lorraine Mazerolle is a Professor of Criminology in the School of Social Science at UQ and Chief Investigator with the ARC Centre of Excellence for Children and Families over the Life Course.

Dr Angela Higginson is a Senior Lecturer in Criminology in the School of Justice, Queensland University of Technology (QUT), and an Australian Research Council DECRA fellow.

Lorelei Hine is a senior research assistant in the School of Social Science at UQ.

Kerryann Walsh is a Professor in the Faculty of Education at QUT, and a senior member of QUT's Childhood Adversity Research Group.

Dr Michelle Sydes is a Research Fellow in Criminology at the UQ School of Social Science.

James McEwan, Georgia Hassall and Scott Roetman are research assistants in the School of Social Science at UQ.

Rebecca Wallis is an Associate Lecturer at UQ's TC Beirne School of Law.

John Williams is an Associate Professor and Deputy Director in the UQ School of Information Technology and Electrical Engineering.

This project is part of the AIC's Child Sexual Abuse Material Reduction Research Program, funded under section 298 of the Commonwealth *Proceeds of Crime Act 2002*.

General editor, *Trends & issues in crime and criminal justice* series: Dr Rick Brown, Deputy Director, Australian Institute of Criminology. Note: *Trends & issues in crime and criminal justice* papers are peer reviewed. For a complete list and the full text of the papers in the *Trends & issues in crime and criminal justice* series, visit the AIC website at: aic.gov.au

ISSN 1836-2206 (Online)

ISBN 978 1 922478 02 3 (Online)

©Australian Institute of Criminology 2021

GPO Box 1936
Canberra ACT 2601, Australia

Tel: 02 6268 7166

Disclaimer: This research paper does not necessarily reflect the policy position of the Australian Government

aic.gov.au